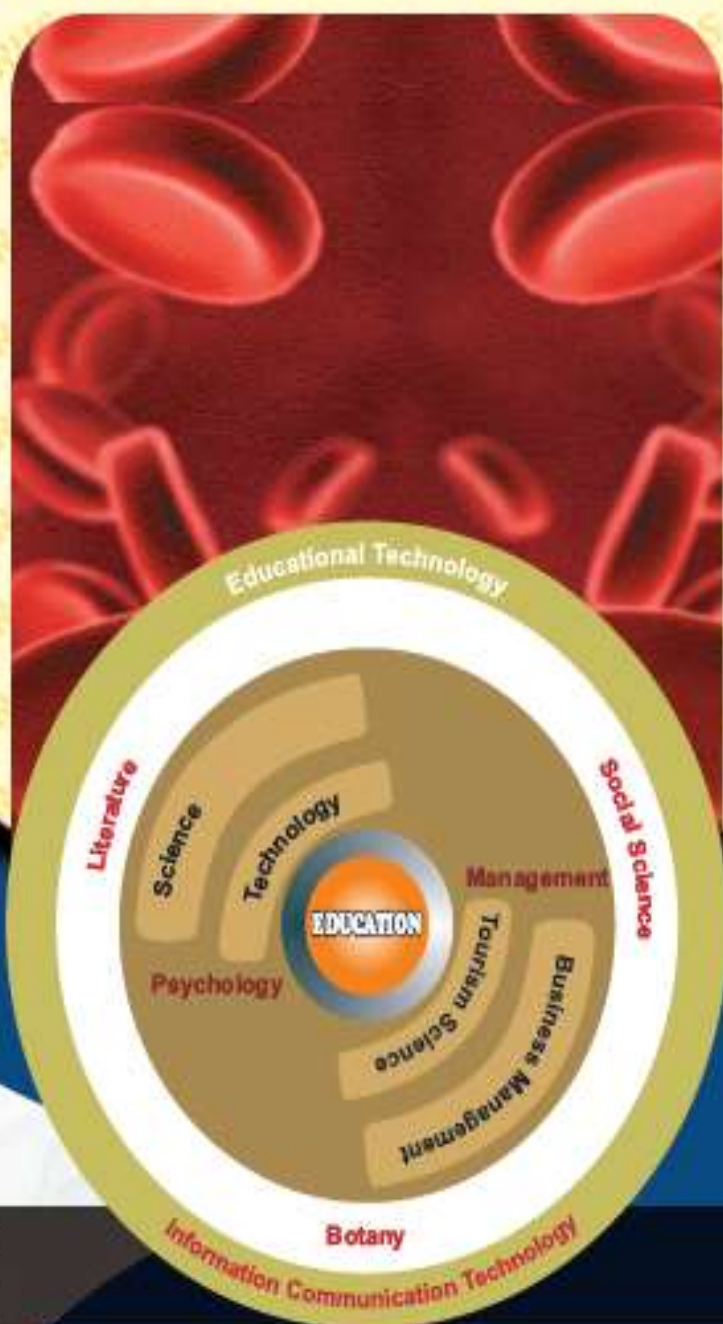




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**SPECIAL ISSUE ON "THE EDUCATOR'S TOOLKIT: UPSKILLING  
FOR 21ST CENTURY CLASSROOMS"**

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## **Editorial**

Education remains the cornerstone of human development and educators, its leading characters, even today. As Nelson Mandela remarked, “Education is the most powerful weapon we can use to change the world.” By investing in education, a nation invests in its own prosperity. By investing in educators, a nation truly flourishes.

However, educational landscape is changing exponentially – be it learner profiles or learning environments or learning systems. Technological advancements in current times have been either a primary reasons for these changes or have driven these changes. In such times, educators need to lead the transformation of the learning ecosystem by not only enhancing their individual teaching practices and competencies but also by recognizing their roles in the broader goal of societal transformation through education, and contribute to it consciously.

Skilling encompasses a multifaceted approach to professional development, addressing various dimensions that collectively enhance teaching effectiveness and student learning outcomes. To be able to navigate the complexities of the contemporary classrooms and stay relevant, it has always been imperative for educators to evaluate their personal toolkits and refurbish them from time to time through reskilling, upskilling or deskilling endeavours. With landscapes that are changing faster than ever before, educators need to invest more into themselves.

Recognizing this, KKCE organized a two-day international webinar titled “The Educator’s Toolkit: Upskilling for 21<sup>st</sup> Century Classrooms”. The event provided a platform for educators to not just skill up through the insightful talks, but also to share personal experiences and strategies for professional growth. Participants from India, Kenya, the UK, Armenia and other countries engaged in enriching discussions, sharing of insightful experiences and challenging traditional teaching methods whilst exploring innovative approaches.

The deliberations in the webinar led to raising of some thought-provoking questions that widened perspectives. We are indeed grateful to all the resource persons from across the globe, authors who shared their ideas and participants for their collective effort and astute contributions. We hope the two days have been instrumental in igniting a passion that will ensure that education continues to remain a dynamic and transformative force.

This special issue of the International Peer Reviewed and Refereed Scholarly Journal for Interdisciplinary Studies features papers authored by webinar participants focusing on the thrust areas of the webinar - skilling, upskilling and reskilling. These contributions reflect a global commitment to advancing education and adapting to the new age classrooms.

We extend our heartfelt gratitude to our management for their unwavering support, encouragement and above all, their faith in our academic pursuits. This initiative has reignited the passion for upskilling among many educators paving the way for a future where teaching methodologies will be continually adapted to the needs of the new generations of learners.

**Dr. Ruchi Mittal**

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## A STUDY ON THE IMPLEMENTATION OF ZERO-WASTE PRACTICES IN EXAMINATION SYSTEMS AND THEIR IMPACT ON EDUCATIONAL QUALITY

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### **Abstract**

*This study investigates how zero-waste techniques are incorporated into educational institutions' test systems and how this affects the standard of instruction. The study's primary goal is to evaluate how educational institutions are using waste reduction techniques into their examination procedures, such as digital assessments, using sustainable materials, and using less paper. The second goal is to analyze how these zero-waste techniques affect the examination environment as a whole, with a particular focus on how they affect student performance, focus, and well-being as well as the examination system's operational efficiency. The third goal is to determine the advantages and disadvantages of using zero-waste exam techniques, including implementation-related barriers as well as the long-term benefits for sustainability and education. By using a mixed-techniques approach, this study seeks to offer insightful information about how zero-waste practices might be successfully included into test systems, supporting more environmentally friendly teaching methods while preserving or raising academic standards. The results of this study will guide tactics for improving educational quality and environmental responsibility in the context of exams.*

**Keywords:** *Zero-waste Practices, Examination System, Educational Quality, Implement Barrier, Impact on Students Performance.*

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### **Introduction**

Examination systems play a pivotal role in educational assessment, yet their environmental impact is often overlooked. From printed exam papers to plastic packaging of materials, the examination process generates substantial waste. Simultaneously, educational systems worldwide face increasing pressure to improve the quality of education, ensuring that learning outcomes are optimized for students. The intersection of these concerns—sustainability in education and the quality of assessment—gives rise to a new paradigm: the integration of zero-waste principles in examination systems.

Zero-waste principles advocate for the elimination of waste by designing processes that conserve resources, promote recycling, and prioritize reuse. This paper explores how zero-waste practices could be implemented in educational assessment systems and examines their potential effects on the quality of education.

### **Digitalization:**

The Indian government is emphasising the importance of digitalization in every field especially in the mode of payment i.e banking system. Since 2014 the government has taken initiatives to inculcate saving habits amongst people and to increase the circulation of money in the economy via digital payments. Similarly, if proper training is provided and a systematic approach is adopted, digital examination systems can be effectively implemented. While there are challenges, digitalization in education and examinations can streamline processes and reduce waste, making assessments more efficient and eco-friendly.

**During COVID/Lockdown:**

The COVID-19 pandemic was a phase of uncertainty but also a period of adaptation. Online education and examination systems became the norm. While top MNCs have continued remote work, educational institutions quickly shifted to digital exams, albeit with challenges.

Errors in online examinations included reduced student seriousness, increased opportunities for cheating despite live supervision and diminished learning outcomes. Many students from the COVID batch struggled with fundamental concepts due to distractions at home during lectures and exams.

**Proposed Changes for Digital Exams:**

1. Exams should be digitized and should be conducted from college premises.
2. University-level initiatives should ensure digital tool availability
3. Educators should receive structured training on conducting digital exams effectively.

**Review of Literature**

The concept of zero-waste practices has gained significant attention across various sectors, including education. The integration of zero-waste principles in examination systems is an emerging field that seeks to enhance sustainability while maintaining or improving educational quality. This literature review examines existing research on zero-waste implementation in educational institutions, the impact of digital assessments and their implications for learning outcomes and administrative efficiency.

According to Smith and Brown (2021), educational institutions that adopt zero-waste policies experience a substantial decline in their carbon footprint, contributing to broader environmental conservation efforts. Similarly, a study by Green and Patel (2020) highlights the role of digital transformation in minimizing waste production while enhancing accessibility and efficiency in academic assessments.

Jones et al. (2019) indicate that digital assessments reduce paper waste by up to 90%, significantly lowering operational costs for institutions. Moreover, digital platforms facilitate automated grading and immediate feedback, improving the overall efficiency of the evaluation process (Taylor, 2022). However, challenges such as digital literacy, technological infrastructure, and cybersecurity concerns remain barriers to full implementation (Chen & Lee, 2021).

According to White et al. (2020), students who participate in digital assessments demonstrate higher engagement levels and improved test performance compared to those using traditional paper-based exams. Additionally, online assessments enable adaptive testing, which tailors questions to a student's proficiency level, thereby providing a more accurate measure of learning outcomes (Miller & Robinson, 2021).

According to Lopez (2023), policies promoting sustainable education practices, including paperless examinations, can foster long-term institutional sustainability. Moreover, incentives such as grants for technological upgrades and faculty training programs can further encourage the adoption of zero-waste strategies in examination systems (Anderson & Kim, 2020).

**Research Methodology****Primary Data Collection Methods:**

This research employs a qualitative case study approach, involving interviews with students and educators who have experienced online or zero-waste examination systems.

**Secondary Sources:**

- Shodhganga and Shodhgangotri

- LinkedIn articles and academic blogs
- Research papers and reports from educational institutions implementing digital exams

## **Data Analysis**

### **1. Awareness of Zero-Waste Practices in Educational Institutions:**

Out of the total respondents, 77% have heard of zero-waste practices being applied in educational institutions, while 23% have not, suggesting that awareness of zero-waste initiatives is relatively high among the surveyed individuals.

### **2. Feasibility of Reducing Paper Usage in Examinations:**

46% respondents believe reducing paper usage in exams is feasible within their institution, while 54% do not. This indicates a divided perspective, possibly due to concerns about digital infrastructure, institutional policies, or traditional exam practices.

### **3. Support for Digital Assessments to Minimize Paper Waste:**

92% respondents support digital assessments as a way to minimize paper waste. This strong support highlights a general inclination toward adopting digital solutions in examinations.

### **4. Current Use of Digital Tools to Reduce Resource Consumption in Exams:**

54% of the respondents reported that their institution currently uses digital tools, while 46% say otherwise. This suggests that while digital tools are being implemented in some institutions, there is still room for wider adoption.

### **5. Impact of Zero-Waste Initiatives on Environmental Footprint:**

All respondents (100%) believe that zero-waste initiatives in examination systems can significantly reduce the environmental footprint. This unanimous agreement underscores the perceived sustainability benefits of such practices.

### **6. Existing Measures for Recycling or Reusing Examination Materials:**

54% respondents are aware of measures in their institutions for recycling or reusing examination materials, while 46% are not. This indicates that while some institutions have recycling practices, awareness and implementation may not be widespread.

### **7. Availability of Technological Resources for Digital Assessments:**

69% of the respondents believe their institutions have adequate technological resources, whereas 31% do not. This suggests that while most institutions are equipped for digital assessments, some may still require infrastructure improvements.

### **8. Digital Assessments and Exam Fairness:**

85% respondents believe digital assessments can improve fairness by making exams more accessible. This indicates a widespread perception that digital tools can create a more level playing field for students.

### **9. Impact on Assessment Quality:**

77% of the respondents believe digital exams will maintain or improve assessment quality. This suggests confidence in digital examinations, though some may have concerns about their effectiveness compared to traditional methods.

### **10. Efficiency of Zero-Waste Practices Without Compromising Educational Quality:**

85% of the respondents believe zero-waste practices can improve efficiency without affecting educational quality. This highlights a general belief that sustainability and quality education can coexist.

### **11. Impact of Reducing Paper-Based Exams on Teaching & Learning Quality:**

85% respondents think reducing paper-based exams will improve the overall quality of teaching

and learning. This suggests that digital transitions may contribute to better educational experiences.

### **12. Student Performance in Digital vs. Paper-Based Exams:**

77% respondents believe students will perform equally well in digital exams. This indicates confidence in students' ability to adapt, though some still have reservations.

### **13. Challenges for Educators in Adopting Zero-Waste Practices:**

38% of respondents believe educators will face challenges, while 62% think otherwise. This suggests that while most believe educators can adapt, some foresee difficulties such as training or resistance to change.

### **14. Willingness to Adapt to Digital Assessments for Sustainability:**

92% of the respondents are willing to transition to digital assessments for sustainability. This high level of willingness suggests strong potential for institutional change.

### **15. Readiness of Students to Embrace Digital or Zero-Waste Examination Formats:**

69% of the respondents think students are ready for digital exams, while 31% believe they are not. This suggests that while most students may be prepared, some might require additional support or adaptation time.

### **Overall Takeaways**

- Strong support (92%) exists for digital assessments to minimize paper waste.
- A majority (77%) see digital assessments as fair and effective, but some (23%) have concerns.
- While (69%) believe institutions have adequate technology, some still highlight resource limitations.
- Educators' adaptation is seen as a potential challenge. 38% concerned.
- Student readiness is not universal, with 31% believing students may struggle to adapt.
- Institutions should focus on training educators, improving infrastructure and addressing student concerns to ensure a smooth transition.
- Environmental Impact Reduction
  - Significant reduction in paper waste observed in institutions implementing digital exams.
  - Use of sustainable materials led to cost savings and waste minimization.
- Stakeholder Perceptions of Educational Quality
  - Students preferred digital exams for convenience but raised concerns about fairness.
  - Educators noted a need for better training and monitoring tools to ensure exam integrity.
- Operational Efficiency and Feasibility
  - Institutions with strong IT infrastructure found digital exams more efficient.
  - Initial costs for implementation were high but decreased over time.

### **Recommendations**

- I. Implementation of Zero-Waste Practices in Examinations
  1. Digital Assessments: Reduce paper waste, improve administrative efficiency.
  2. Reuse of Examination Resources: Reuse printed exam papers for practice tests, repurpose test materials.
  3. Recycling and Sustainable Materials: Promote recycling of exam materials.
  4. Hybrid Exam Formats: Combine physical and digital assessments for flexibility.
  5. Behavioral Changes: Encourage students and staff to adopt zero-waste habits during exams.
- II. Policy Development: Establish guidelines for sustainable examination practices.
- III. Training and Support: Provide educators and students with resources to adapt.

- IV. Investment in Technology: Ensure equitable access to digital exam tools.
- V. Continuous Evaluation: Monitor zero-waste exam effectiveness and make improvements.

### **Impact of Zero-Waste Practices on Educational Quality**

1. Reduced Administrative Burden: Less reliance on paper, more focus on academic improvement.
2. Increased Digital Literacy: Prepares students for future digital work environments.
3. Enhanced Fairness and Accessibility: Features like speech-to-text aid students with disabilities.
4. Improved Critical Thinking due to shift from rote learning to conceptual understanding.

### **Conclusion**

Zero-waste practices in examination systems offer substantial benefits, including reduced environmental impact, increased efficiency, and enhanced educational outcomes. However, challenges related to technology access and stakeholder adaptation must be addressed to ensure a fair and effective transition.

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## HOW CAN EDUCATORS THRIVE DESPITE CHALLENGING TIMES? THIS IS WHAT I HAVE LEARNED

**Dr. Shamim Suryavanshi**

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### **Abstract**

*Teaching is an age-old profession and becoming an educator is not as ordinary a choice as it seems. I believe those who become educators are the chosen ones. They are special and are destined to make a huge impact. They are meant to be - and are - the original (OG) influencers - the kinds who shape the thoughts and actions of not just millions but generations. And they did so much before the advent of the current social media! Ironically, very few who embark on this highly rewarding and fulfilling career as young people go on to achieve their full potential. In this paper I reflect on my own tryst with not just upskilling but also reskilling and deskilling that drove my professional pathway from starting as a secondary school teacher to today being India's pioneering Positive Intelligence expert and contributing towards 21<sup>st</sup> century classrooms locally as well as globally as an independent professional. Further, I will also share five lessons that I learnt along the way that I believe can help educators advance their professional growth and therefore their influence and impact in the extremely complex world that we live in today; a world that needs competent and empathetic educators more than ever before.*

**Key words:** *educators, professional growth, skilling, reskilling, wellbeing*

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In keeping with the webinar objective, in this paper I will first share my personal experiences of upskilling, reskilling and deskilling as an educator in a career spanning almost three decades. I will then present the five big lessons that I have learnt along the way. These lessons are drawn from my own experience, my work with a wide range of educators as a coach and mentor, and from the emerging global thoughts on professional development and the wellbeing of individuals in the field of education and beyond. I hope my reflections and the lessons both put together inspire those reading this paper to forge ahead and strive to achieve their full potential and abundant professional growth despite all the challenges that the 21<sup>st</sup> century brings; and thrive in their careers and life irrespective of where they are at this point in time.

### **Revisiting Close to Three Decades of Being an Educator**

Beginning in Mumbai

I started my professional journey as a qualified secondary school teacher upon completion of my B.Ed. Within three years I got selected for the post of Academic Advisory Assistant - a post that was equivalent to the position of Vice Principal. The role entailed looking at the academics from KG to standard tenth. It also involved being responsible for the outreach efforts of the school. Even though it may sound great now, that was not the case. As I look back, I remember most days were long and nights were filled with tears. Getting into a leadership position and supervising changes at this extremely progressive but government aided school for conventionally trained teachers (most of whom were senior to me) was tough. What helped at this crucial juncture in my career was undoubtedly my first brush with upskill. In this period I was simultaneously pursuing my Master's in Education as well as a course in School Management at a highly acclaimed University Department. This gave me the much-needed confidence and skills and I was able to do justice to my responsibilities - both as a classroom teacher as well as a school leader.

My Master's in Education eventually led to my entry into Teacher Education. And it was then that I enrolled for a Post Graduate Diploma in Human Resource Management. Not only did this new

knowledge help me teach the paper on Education Management for B. Ed students, but it turned out to be a great asset as I transitioned from education to the field of corporate coaching as my professional life entered a different phase like it does for most educators (Day, 2012).

### **Moving to Hong Kong**

After 14 years as an educator in Mumbai having served in esteemed schools and teacher education colleges, I had to quit. I was married and had a daughter. The family had the opportunity to move to Hong Kong. And this was the point when I undertook my next major upskilling endeavor with the only aim that not only will I be relevant when I move back to Mumbai but will be able to use the knowledge and expertise thus gained while working on a PhD to further advance my career as an educator. Little did I know that this would also help me with my second skilling (Oakley, 2017).

I had chosen a cross-national comparative study for my doctoral research. I was to collect data via questionnaire from universities in Hong Kong as well. Gaining access to institutions began to appear formidable. I learnt the hard way the importance of having the “right connections” (locally known as *guanxi*) to obtain necessary permissions, a characteristic of Chinese Heritage Cultures (Suryavanshi, 2017). This was the time I realized the need to cultivate my *guano* (social contacts) to reach out. What did the trick at this juncture was not upskilling but reskilling.

I had enrolled for an Executive Diploma in Corporate Coaching at the University of Hong Kong. A decision taken with the intention of learning something new benefitted me in unexpected ways. The programme included a whole new range of skills. I learnt the skill of developing trust and rapport. I also learnt the skill of asking questions not as an educator but as a partner. I also learned the skill of listening. I could finally break the status quo vis a vis my research. Instead of questionnaires I did interviews. I had deep conversations comparing Teacher Education in India with that in Chinese Universities resulting in a beautiful thesis (Suryavanshi, 2021) and a new qualification.

### **Back to Mumbai**

With a PhD in Education along with a qualification and experience in Coaching, I opted to go solo as a self-employed professional when I returned to Mumbai in 2017. I felt this would ensure I reach my full potential as a professional. But this decision presented new challenges along with its perks. In a new avatar and working with people not just in the education sector but across the field meant that one could not rely on not just one degree but get better equipped. So once again I invested in learning about different Psychometric Tools, Models of Coaching and even the nuances of handling a business. At this stage I even understood the one skill that was my asset as a teacher was now coming in the way of my work as a Coach. I needed to deskill.

Coaching works when coaches listen. Deeply. Intently. As a teacher I am used to talking. I want to tell. I want to teach. I want to share my experiences. I want to offer solutions based on my vast experience. But the art and science of coaching is said to do its magic in silence. Here is where I am learning I need to consciously deskill. There is somewhere else that I need to deskill.

As an independent professional I need to advertise my work. But even after 10 years I feel extremely uncomfortable putting up work out there on social media. Once again, a need to acknowledge and deskill. I needed to let go of my reservations and show up. And then there is my inability to deskill my mindset vis a vis money. The educator in me still finds it awkward to ask for money for the work I do. We, as educators, do not charge for talking to our students. But slowly and steadily I am learning that my “talking” today is with professionals from all walks of life. And my inhibitions around asking

for money for my sessions will only lead to depriving people of what I can offer to them as my services. But this is not the end. It is an ongoing process of professional development with its highs and lows.

I learnt this and some other lessons that kept me going on my quest for professional development. Here are my personal top five.

### **The Five Big Lessons I Learnt Along the Way**

#### **Beware of Stuckness**

In the busyness of being a teacher one can easily forget to pay attention to one's own needs and feelings. And an unattended feeling of being stuck does not do any good to us as educators or our learners. The joy of teaching is replaced with boredom and frustration. So taking timely check-ins of where we are in our professional journey could be likely regular health checkups for our bodies. And for this reason here are four pointers (Helgesen and Goldsmith, 2019) worth keeping handy. According to them, stuckness manifests in different ways that are nevertheless interconnected:

- You feel something is preventing you
- You feel unable to get over circumstances that are conspiring to hold you down
- You feel as if what you are contributing is not recognized or appreciated and/or
- You feel people around you have no idea what you're capable of achieving

This being stuck can seem circumstantial, the result of your situation or the fault of someone who has power or leverage over you. While this may reflect a degree of truth it could be helpful to consider the ways you might be keeping yourself stuck. Research from the field of neuroscience, performance psychology, cognitive science and positive psychology (Chamine, 2012) all point towards our default mental patterns as the source of our great success and happiness and our biggest misery. Thus, a quick interception of the feeling of stuckness could provide a golden opportunity to uproot an unhelpful habit, behavior or attitude we have picked over the course of our personal and professional life by learning about how our brain works and how it can indeed be rewired for maximum resilience and beyond (Graham, 2013).

#### **Aim to Move From Resilience to Being Antifragile**

Resilience is our capacity to respond to pressures and tragedies quickly, adaptively and effectively. However, during all the challenges that an educator faces on a day-to-day basis, there is a need to go to the next stage and aim to become antifragile (Polowy, 2017).

The idea of antifragility suggests a different way of thinking about how organizations might respond to the challenge of major business disruption in ways that bring positive benefits. It reflects situations that require disorder or disruption to reach their full potential, and which benefit from stress (Taleb, 2012). I believe when an educator adopts a similar attitude they will greatly benefit. One way to do so is by adopting a Sage Perspective (Chamine, 2012). It is about accepting what is, rather than denying, rejecting, or resenting and then looking at how we can actively convert the bad situation or circumstance into a gift or an opportunity. Having taught this to many people from all walks of life, I can say with confidence that with practice sage perspective becomes a self-fulfilling prophecy eventually helping us move forward with a positive state of mind regardless of what comes our way.

#### **Strive to Become Ready for the Future**

Traditionally, career development has been thought of as having a T shaped trajectory (Oakley, 2017). A person trains to acquire one in-depth area of expertise, be it accounting, computer engineering or teaching. This deep expertise is then balanced by a variety of other, lesser "horizontal" skills – computer abilities, people skills, writing and editing skills. An alternate and perhaps a more prudent

approach in the highly uncertain times that educators are working today would be the  $\pi$  shaped approach to career building wherein two areas of deep knowledge are balanced by a modicum of knowledge and ability in other areas. This is what Oakley explains as second skilling. While in my case it happened without any prior thought, I do believe every educator must strive for it and thus be future ready. For example, an educator can explore a love for photography and train for it. At the end of it, second skilling isn't necessarily about a job- it's also about respecting your multifaceted ability to be good at different things.

### **Master your Money**

Universally, educators today are grappling with issues related to income fluctuations, job insecurity, insufficient retirement and healthcare benefits, and a lack of structured social security. Additionally, the demanding nature of the profession, time constraints, limited financial resources and lack of financial literacy often leads them to overlook their own financial wellbeing (Seth, 2023). Moreover there is a general lack of fundamental understanding of investments and financial planning in many. This I have seen time and again come in the way of professional growth. Despite decades in active work life I meet educators who are not able to pay for programmes that they really want to enroll in or learn. Then there are those who are tempted to acquire degrees from dubious universities just because it may cost less. Assuming that upskilling, reskilling and deskilling are a give-in for our professional growth as educators, having mastery over own money is a must for all educators. And if this was not enough reason, Covid-19 taught us valuable lessons in terms of not just our health and life, but also our income and wealth to let's talk about money and educate ourselves around it (Halan, 2023). Beyond their personal financial stability and improved quality of life, this will also add to an educator's confidence and ability to perform. And this brings me to the last but perhaps the most crucial lesson.

### **Put the Oxygen Mask of Yourself First**

All of us who chose to be educators are deeply empathetic human beings. We are in it because we feel and care. We take on the onus of helping raise the young ones of our species. And as if this inherent trait in us was not enough, our training as educators further reinforces in us the need to be empathetic. We celebrate our students' success and their efforts. We are the ones who are taught how important it is to appreciate others. And in today's scenario where teaching to many of us has time and again proven to be a thankless job, we have learnt to tug into our compassionate selves and forgive them for not even giving us our due respect. We are all great at this. What we lack and what is key for our own optimal wellbeing, relationships and performance is being equally if not more empathetic towards ourselves.

By virtue of simply being a teacher most of us tend to be harder on ourselves. With our constantly evaluating our students' work and encouraging them to do their best, we very often forget that we too are humans. Just like anyone else around us, we too have imperfections. At times when we are not able to give that lesson as we had planned, or not able to compare the way the head of our school had expected from us, or any such event - personal or professional, extending the same appreciation, compassion and forgiveness to ourselves could be the best gift we could give ourselves. Research shows that empathy for self does not make us weak but instead helps us recover from setbacks and helps us to quickly find lessons that we need to remember to get better at what we are doing (Chamine, 2012). Empathy recharges our batteries. It renews the vitality that is drained by both our own inner critique as well as the judgement levied on us by those around us. By putting the oxygen mask first on us we once again are ensuring our optimal professional growth and wellbeing.

## In Conclusion

As educators, by virtue of our own education along with our inherent talents as individuals coupled with our desire to make a difference in the world, we are capable of much more than we may be currently doing. In a world where it is extremely tough being in this profession, I hope my reflections and the lessons that I have drawn above help all of us have a fulfilling journey irrespective of where we are in our careers now. I also hope this paper sparks interest in researchers to explore more about the work and lives of educators adding to existing knowledge and understanding.

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## PARENTS' PERCEPTION AND EXPERIENCE OF INTEGRATING TECHNOLOGY TO DEVELOP 21ST CENTURY SKILLS

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### Abstract

*The integration of technology in education has transformed the learning landscape, necessitating development of skills that transcend traditional academic curricula. This study explores parents' perceptions and experiences of integrating technology to develop 21st Century Skills in their children. A quantitative survey design was employed, collecting data from 35 parents.*

*The findings reveal that parents overwhelmingly recognize the importance of developing 21st Century Skills, with 71.1% considering it very important for their child's future success. Parents are also generally confident that technology integration in the classroom will support this development with 84.2% being confident or very confident. However, concerns about potential negative effects, particularly on physical health, were prevalent with 62.8% expressing concerns.*

*The study provides valuable insights into the complex relationships between technology, parenting and education, informing strategies to harness technology in creating healthy and balanced learning environments. The results have significant implications for educational stakeholders including parents, teachers, and policymakers. The findings suggest that parents are eager to support their child's technology-enhanced learning experiences, but may require guidance and resources to do so effectively. Educators and policymakers must prioritize parental involvement and education, providing opportunities for parents to develop their own digital literacy skills.*

**Keywords:** *Technology Integration, 21st Century Skills, Parental Involvement, Digital Literacy, Physical and Mental Health, Digital Safety*

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### Introduction

The education sector has undergone a significant transformation from traditional to modern times, revolutionizing its landscape and settings. The integration of technology in education involves leveraging various technological tools, including virtual classrooms, to create an interactive and immersive learning environment that boosts student engagement and attainment of learning objectives. The 21st century has brought about a significant shift in the learning landscape, driven by rapid technological advancements. To thrive in this era, students must develop essential skills like critical thinking, creativity, and collaboration. Parents are crucial in shaping their children's educational journeys and outcomes.

As technology becomes increasingly integral to daily life, understanding parents' perceptions and experiences of using technology to foster 21st-century skills is vital. This study aims to delve into parents' views and experiences, exploring how they leverage technology to support their child's development. By examining parental perspectives, this research seeks to illuminate the complex relationships between technology, parenting, and education.

### Literature Review

1) Ja'Corie Maxwell, Jessica Kamp, Theresa Cullen in their study found that parents strongly support technology integration in schools, but have concerns about distractions, access to inappropriate content and impact on educational goals. To address these concerns, educators must communicate effectively



with parents about technology use, provide training, and balance technology with traditional activities.

2) A study by Eliana Maria Osorio-Saez, Nurullah Eryilmaz, and Andres Sandoval-Hernandez found that parents struggled with complex educational technology, hindering their involvement in children's learning during the COVID-19 pandemic. Despite this, many parents still use technology to support their children's education. The study highlights the need to support families in navigating educational technology, addressing perceived complexities and empowering parents with technological skills to enhance children's learning experiences and address the pandemic-exacerbated achievement gap.

3) Stephanie L. Callan investigated in his study that parents have high regard for technology integration in their children's classrooms, particularly valuing computers as vital for educational success. The study revealed that parents' familiarity with technology varies, with those in the education sector showing greater familiarity with tools like whiteboards. Moreover, parents emphasized the need for monitored technology use, age-appropriateness, and a balance between virtual engagement and physical activity and socialization. The study also highlighted a need for parental education on 21st-century skills, which most parents consider essential for success. Overall, parents believe technology has the potential to motivate children and enhance future success, but require guidance on how to effectively support technology-based learning.

4) Naqsheema Shireen Ali, Sofia Shireen N.K Ali, Dr (Mrs.) Flosy C. R. D'Souza in their study provided an overview about the modern economy's demands of students and teachers to develop skills to navigate information, analyze data, and collaborate. ICT plays a crucial role in teacher education, supporting educators and administrators. Effective ICT integration requires ongoing professional development, consideration of cultural context, leadership, and careful planning, ultimately enhancing teaching and learning outcomes.

5) A qualitative case study by Eric J. Vásquez investigated parental perceptions of technology integration in early elementary education, focusing on its impact on Language, Art and Mathematics. The study found that while most parents supported technology use, they also expressed concerns. Parents identified benefits such as improved basic skills, pronunciation, and letter and number identification. However, they also noted limitations including technology's inability to promote reading comprehension and maintain student attention during Math lessons. The study suggests that parents recognize the value of technology in supporting their children's learning at home, but further research is needed to understand the factors that contribute to successful academic performance.

### **The Conceptual Framework**

The conceptual framework for this study explores the intersection of parental involvement, technology integration, and 21st-century skills development. At its core, this framework recognizes that parents play a pivotal role in shaping their children's learning experiences and outcomes. The effective integration of technology into children's education is influenced by parents' involvement, which in turn impacts the development of essential 21st-century skills such as critical thinking, creativity, and collaboration.

### **Rationale of the Study**

The integration of technology in education has transformed the learning landscape, necessitating the development of skills that transcend traditional academic curricula. The World Economic Forum has identified critical thinking, creativity, communication, and collaboration as essential skills for success in the 21st century. Despite technology's growing importance in education,

there is a need to better understand parents' perceptions of technology's role in their children's education and how they facilitate 21st-century skills development.

Parents play a vital role in shaping their children's educational experiences and outcomes, and their involvement is crucial in supporting effective technology integration. This study aims to address the knowledge gap by exploring parents' perceptions and experiences of integrating technology to develop 21st-century skills in their children. The findings will contribute to a deeper understanding of the complex relationships between technology, parenting, and education in the 21st century.

### **Research Questions**

1. What are parents' perceptions of the role of technology in supporting their children's development of 21st-century skills?
2. How do parents involve themselves in their children's technology-based learning experiences?
3. What are the relationships between parental involvement, technology integration, and 21st-century skills development?

### **Research Methodology**

This study employed quantitative data collection and analysis methods.

### **Research Design**

The research design for this study was a survey design.

### **Sample and Sampling Technique Used**

For the purpose of this study, the opinions of parents were solicited, regardless of the grade level or educational stage of their children.

The study surveyed a group of 35 parents whose children attend various educational levels ranging from pre-primary to higher secondary sections. A convenient sampling method was used which involved selecting participants based on ease of access, and snowball sampling was used where existing participants refer others to participate.

### **Tools and Technique Used**

A standardized questionnaire using a 5-point rating system was used to collect data on parents' views and experiences with technology integration in education, specifically focussing on developing essential skills for the 21st century.

### **Data Collection Procedure**

Data collection was facilitated through online means, where the participants accessed and completed the questionnaire via the Google Forms platform.

### **Data Analysis**

The data reveals that parents overwhelmingly recognize the importance of developing 21st-century skills, with 71.1% considering it very important for their child's future success. Parents are also generally confident that technology integration in the classroom will support this development, with 84.2% being confident or very confident.

Despite this optimism, parents have concerns about the potential negative effects of technology integration, particularly regarding physical health, with 62.8% expressing concerns. Additionally, 47.4% of parents reported receiving updates about technology integration only occasionally or rarely, highlighting a need for improved communication.



Parents are generally satisfied with the current level of technology integration, with 73.7% reporting satisfied or very satisfied. They also recognize the benefits of technology-enhanced education, with 86.8% believing it is beneficial or very beneficial for academic achievement.

However, parents want to be involved in their child's technology-enhanced learning experiences, with 76.3% wanting to be involved or very involved. They also believe it is essential to receive training and support on technology integration, with 84.2% considering this important or very important.

Overall, parents are supportive of technology integration but have concerns that need to be addressed. They value the benefits of technology-enhanced education and want to be involved in their child's learning experiences.

#### Graphical Presentation of the Data

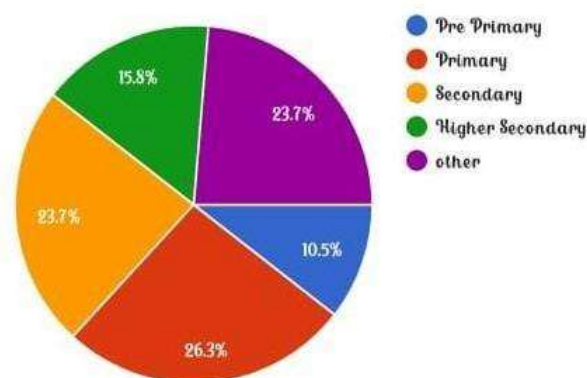


Fig 1. Parents of Children Enrolled at Various Educational Levels

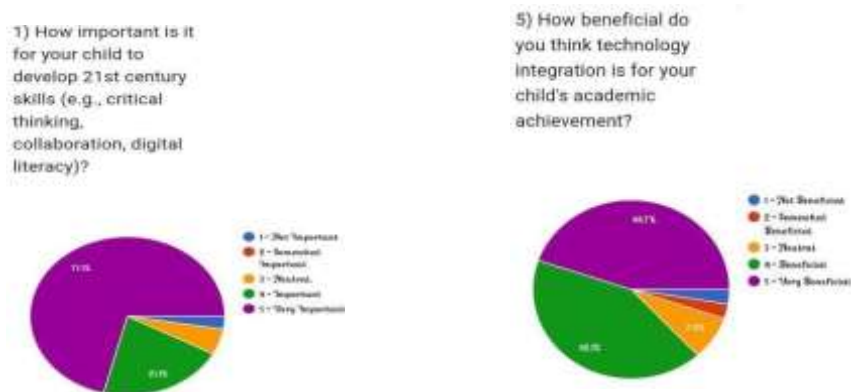


Fig 2. Parents' Responses to the Questions

## Findings and Discussions

### Findings

The study revealed that the majority of parents (71.1%) place a high value on developing 21st-century skills, recognizing their importance for a child's future success. Furthermore, most parents

(84.2%) expressed confidence in the ability of technology integration to support the development of these essential skills.

In terms of satisfaction, a significant majority of parents (73.7%) reported being satisfied or very satisfied with the current level of technology integration in their child's classroom. However, concerns about the potential negative effects of technology integration on physical health were prevalent, with 62.8% of parents expressing worries about this issue.

Notably, most parents (76.3%) expressed a desire to be involved or very involved in their child's technology-enhanced learning experiences, highlighting the importance of parental engagement in this area.

### **Discussion**

This study's findings underscore the crucial role of technology integration in education, as seen from a parental perspective. Parents overwhelmingly acknowledge the significance of developing 21st-century skills and express confidence in technology's ability to support this development.

However, parents also harbour concerns about the potential drawbacks of technology integration, particularly its impact on physical health. This underscores the need for educators and policymakers to proactively address these concerns and ensure that technology is integrated in a manner that fosters healthy and well-rounded learning experiences.

Furthermore, the study highlights the importance of parental involvement in technology-enhanced learning. While parents are eager to participate in their child's learning, they may require guidance and support to do so effectively.

Ultimately, this study provides valuable insights into parents' perspectives on technology integration in education, emphasizing the need for a collaborative effort between educators, policymakers and parents to ensure that technology is harnessed to create learning experiences that are not only effective but also healthy and balanced.

### **Conclusion**

The study shows that parents see the importance of using technology in education to develop skills needed for the 21st century. However, while they are hopeful about technology's benefits, they also worry about its effects on their children's physical health. To address these concerns, the study suggests that teachers, policymakers, and parents must work together to ensure technology is used effectively in schools. This includes involving parents, addressing health concerns and teaching digital literacy skills.

### **Recommendations**

1. Foster Collaboration: Encourage parents, educators and policymakers to work together, addressing concerns and ensuring seamless technology integration.
2. Empower Parents with Digital Literacy: Provide parents with training and support to develop their digital literacy skills, enabling them to effectively support their children's technology-enhanced learning experiences.
3. Promote Parental Involvement: Encourage parents to take an active role in their children's technology-enhanced learning, addressing concerns and providing guidance on effective support strategies.

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## TEACHER WELL-BEING IN HIGHER EDUCATION: THE ROLE OF INSTITUTIONAL TYPE AND EXPERIENCE

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### Abstract

*Teacher well-being is a crucial determinant of educational quality, directly impacting classroom engagement, student outcomes and institutional effectiveness. This study explores psychological well-being among college teachers in government and private institutions, examining how institutional differences influence teacher support systems. Using the Psychological Well-Being Scale (PWBS) by Sisodia & Choudhary (2005), data were collected from 100 college teachers (50 from government; 50 from private colleges) in Jammu. The study assessed five key dimensions of psychological well-being: Satisfaction, Efficiency, Sociability, Mental Health, and Interpersonal Relations. Results revealed that 91% teachers exhibited moderate level of psychological well-being and 9% reported high levels. Government college teachers scored significantly higher on Satisfaction ( $M = 39.2$ ,  $SD = 5.31$ ) compared to private college teachers ( $M = 36.4$ ,  $SD = 7.36$ ;  $t = 2.18$ ,  $p < 0.05$ ), suggesting stable and supportive work environment in government institutions. However, differences in Efficiency, Sociability, Mental Health and Interpersonal Relations were not statistically significant. Additionally, teachers with over 10 years experience reported significantly higher psychological well-being than those with less than 10 years experience ( $t = 3.10$ ,  $p < 0.01$ ). These findings highlight the role of institutional policies, job security and work environment in shaping teacher well-being. Government colleges, with structured employment benefits, provide greater stability and professional satisfaction, while private institutions, often characterized by contractual employment and performance-based evaluations, contribute to workplace stress. The study emphasizes the need for targeted interventions, including professional development programs, mental health support, and workload management strategies, to enhance teacher well-being across all institutional settings.*

**Keywords:** *Psychological Well-Being, Teacher Support, Government Colleges, Private Colleges, Teacher Satisfaction, Institutional Differences*

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### Introduction

The pedagogical efficacy of educational institutions is inextricably linked to the well-being of their faculty. Teachers, as primary agents of knowledge dissemination and student development, are subject to a complex interplay of professional demands and personal experiences that significantly influence their psychological health. While their contributions to student outcomes are widely acknowledged, their psychological well-being has often been relegated to a secondary concern despite compelling evidence demonstrating its direct impact on job performance, motivation and retention (Skaalvik & Skaalvik, 2016). Psychological well-being, defined as a multidimensional construct encompassing self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life and personal growth (Ryff, 1989), forms the bedrock of professional effectiveness. Consequently, the investigation of teacher well-being is not merely an academic exercise but a critical imperative for ensuring robust educational environments (Diener, 1997).

The organizational milieu within which teachers operate plays a pivotal role in shaping their psychological landscape. In the Indian context, a notable distinction exists between government and private colleges. Government institutions, characterized by structured employment frameworks, financial stability and tenure, ostensibly provide a more predictable and secure work environment (Liao, Wang & Wang, 2023). Conversely, private institutions, often driven by performance-based metrics, flexible workloads and competitive compensation packages may engender heightened levels of stress and perceived job insecurity (Ali & Kumar, 2022). Empirical evidence suggests that government

teachers tend to report higher levels of job satisfaction, attributed to the stability afforded by secure employment and standardized benefits, while teachers in private colleges may experience greater workplace stress stemming from contractual arrangements and performance-driven expectations (Kyriacou, 2001; Schleicher, 2018).

Research elucidating the dimensions of teacher well-being underscores the significance of factors such as job satisfaction, perceived efficacy, social connectedness, mental health, and interpersonal relationships (Sisodia & Choudhary, 2005). Educators exhibiting high levels of psychological well-being demonstrate enhanced resilience, professional commitment and a greater propensity for continuous professional development (Schleicher, 2018). Conversely, chronic stress, excessive workload and perceived deficiencies in institutional support are associated with burnout and diminished job satisfaction (Kyriacou, 2001). Moreover, teaching experience has been identified as a salient moderator, with experienced educators often reporting superior psychological well-being compared to their early-career counterparts, potentially due to refined coping mechanisms and increased institutional acculturation (Skaalvik & Skaalvik, 2016).

This study aims to investigate and compare the psychological well-being of teachers in government and private colleges in Jammu region, focusing on the differential impact of institutional support and organizational factors. Employing the Psychological Well-Being Scale (PWBS) developed by Sisodia & Choudhary (2005), this research seeks to elucidate the specific institutional variables that contribute to teacher satisfaction and overall well-being. The findings are intended to provide actionable insights for policymakers, educational administrators and institutional leaders, facilitating the development of evidence-based strategies to enhance teacher well-being, mitigate workplace stress and foster a more supportive academic environment. In an era characterized by the evolving demands of 21st-century education, prioritizing teacher well-being is not merely a matter of ethical concern but a strategic imperative for institutional excellence and improved student outcomes (OECD, 2020).

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

The psychological well-being of teachers is a crucial determinant of teaching effectiveness, job satisfaction and institutional success. Educators experiencing high well-being levels demonstrate greater motivation, resilience and student engagement, whereas those facing stress and burnout exhibit lower productivity and higher attrition rates (Skaalvik & Skaalvik, 2016). Differences in institutional policies, job security and workplace culture contribute to varying well-being levels between government and private college teachers. Government institutions typically provide stable employment, structured benefits, and lower workload pressures, leading to higher teacher satisfaction (Liao, Wang & Wang, 2023). In contrast, private colleges, often driven by performance-based contracts and increased workload expectations, expose teachers to greater stress and job insecurity (Liu & Zhang, 2021). Additionally, teaching experience significantly influences well-being, as educators with over 10 years of experience report better work-life balance and coping mechanisms than early-career teachers (Schleicher, 2018). Given these challenges, this study aims to identify psychological well-being disparities between government and private college teachers and explore institutional strategies for enhancing teacher support systems. Findings will provide valuable insights for policymakers, administrators and educational leaders to develop mental health programs, stress management initiatives and professional development opportunities tailored to educators' needs (OECD, 2020). Strengthening institutional support mechanisms can lead to improved teacher retention, job performance and overall student learning experiences. By examining factors influencing teacher well-

being, this research will contribute to evidence-based interventions, fostering a more sustainable and supportive educational ecosystem. The study underscores the urgent need for targeted policies to enhance teacher well-being, ensuring that educators receive the resources, recognition and support necessary to thrive in their profession while delivering quality education.

### **Objectives of The Study**

- To assess the overall psychological well-being of teachers working in government and private colleges with respect to key dimensions such as Satisfaction, Efficiency, Sociability, Mental Health, and Interpersonal Relations.
- To compare the psychological well-being of teachers in government and private colleges and analyze institutional factors contributing to well-being disparities.
- To examine the influence of teaching experience on psychological well-being, comparing early-career (less than 10 years) and experienced (more than 10 years) teachers.

### **Research Methodology**

This study employs a descriptive survey method to examine the psychological well-being of teachers in government and private colleges. The methodology outlines the research design, sample selection, tools used, data collection procedures, and statistical techniques applied for data analysis.

### **Research Design**

The study follows a comparative research design, aiming to analyze differences in psychological well-being between teachers working in government and private colleges. It also investigates the influence of teaching experience on well-being.

### **Sample and Sampling Technique**

A random sampling technique was used to select a total of 100 college teachers from five government and five private colleges in Jammu. The sample included 50 teachers from government colleges and 50 from private colleges, ensuring representation from both institutional types. Teachers with varying levels of experience (less than 10 years and more than 10 years) were included to examine the role of professional tenure in well-being.

### **Research Tool**

The Psychological Well-Being Scale (PWBS) developed by Sisodia and Choudhary (2005) was used to measure psychological well-being. The scale consists of 50 items assessing five key dimensions:

- Satisfaction
- Efficiency
- Sociability
- Mental Health
- Interpersonal Relations

The scale is reliable ( $\alpha = 0.87$ ) and valid (0.94), making it a suitable tool for measuring teacher well-being.

### **Data Collection Procedure**

Data were collected through a structured questionnaire administered to the selected teachers. Participation was voluntary, and respondents were assured of confidentiality. The survey was conducted in-person and online, ensuring accessibility for all participants.

### **Data Analysis**

The collected data were analyzed using descriptive and inferential statistical techniques:

Mean and Standard Deviation – To assess overall well-being levels.



t-Test – To compare well-being scores between government and private college teachers as well as between experienced and early career teachers.

### Findings

Objective 1: To assess the overall psychological well-being of teachers working in government and private colleges with respect to key dimensions such as Satisfaction, Efficiency, Sociability, Mental Health, and Interpersonal Relations.

**Table 1 Psychological Well-Being Levels of Government and Private College Teachers**

Level of Psychological Well-Being	Satisfaction	Efficiency	Sociability	Mental Health	Interpersonal Relations	Overall Well-Being
<b>Government (N=50)</b>						
<b>High</b>	6 (12.0%)	8 (16.0%)	1 (2.0%)	0 (0.0%)	1 (2.0%)	3 (6.0%)
<b>Moderate</b>	42 (84.0%)	40(80.0%)	49 (98.0%)	49(98.0%)	48 (96.0%)	47 (94.0%)
<b>Very High</b>	2 (4.0%)	2 (4.0%)	0 (0.0%)	1 (2.0%)	1 (2.0%)	0 (0.0%)
<b>Private (N=50)</b>						
<b>High</b>	3 (6.0%)	8 (16.0%)	1 (2.0%)	1 (2.0%)	3 (6.0%)	6 (12.0%)
<b>Moderate</b>	43 (86.0%)	37(74.0%)	49 (98.0%)	47 (94.0%)	45 (90.0%)	44 (88.0%)
<b>Very High</b>	4 (8.0%)	5 (10.0%)	0 (0.0%)	2 (4.0%)	2 (4.0%)	0 (0.0%)

### Interpretation

- Majority of teachers (both government and private) fall in the "Moderate" category for all well-being dimensions.
- Efficiency shows the highest variation, with 10.0% of private teachers and 4.0% of government teachers falling in the "Very High" category.
- Sociability remains consistently moderate (98.0%) across both groups, indicating that interpersonal engagement is stable regardless of institution type.
- Mental health in private teachers is slightly better, with 4.0% in the "Very High" category compared to 2.0% in government teachers.
- Overall well-being is slightly higher in government colleges (94.0% moderate vs. 88.0% in private colleges), but more private teachers fall in the "High" category (12.0% vs. 6.0%).

Objective 2: To compare the psychological well-being of teachers in government and private colleges and analyze institutional factors contributing to well-being disparities.

To examine differences in psychological well-being between government and private college teachers, a t-test for independent samples was conducted on the five dimensions of well-being measured using the Psychological Well-Being Scale (PWBS) by Sisodia & Choudhary (2005). The results are presented in Table 2 below.

**Table 2 Comparison of Psychological Well-Being Between Government and Private College Teachers**

Sr. No.	Area	College	N	Mean	S.D.	SEM	df	t-value
1.	Satisfaction	Govt.	50	39.2	5.31	0.75	98	2.18*
		Pvt.	50	36.4	7.36	1.04		
2.	Efficiency	Govt.	50	41.04	4.21	0.59	98	0.98
		Pvt.	50	40.06	5.61	0.79		
3.	Sociability	Govt.	50	36.2	3.72	0.52	98	0.28
		Pvt.	50	35.98	3.89	0.55		

Sr. No.	Area	College	N	Mean	S.D.	SEM	df	t-value
4.	<b>Mental Health</b>	Govt.	50	35.18	5.29	0.74	98	0.35
		Pvt.	50	35.22	6.05	0.85		
5.	<b>Interpersonal Relations</b>	Govt.	50	39.22	3.75	0.53	98	1.20
		Pvt.	50	40.12	3.68	0.52		
6.	<b>Overall Psychological Well-Being</b>	Govt.	50	190.84	18.51	2.61	98	0.73
		Pvt.	50	187.78	23.05	3.26		

*\*Significant at 0.05 level of significance*

### Interpretation

**Satisfaction:** A statistically significant difference was found ( $t = 2.18, p < 0.05$ ) in satisfaction scores, with government college teachers ( $M = 39.2, SD = 5.31$ ) reporting higher satisfaction than private teachers ( $M = 36.4, SD = 7.36$ ). This indicates that greater job security, structured employment benefits, and administrative support contribute to higher satisfaction levels in government institutions.

**Efficiency:** No significant difference ( $t = 0.98, p > 0.05$ ) was observed in efficiency levels between government ( $M = 41.04, SD = 4.21$ ) and private ( $M = 40.06, SD = 5.61$ ) college teachers suggesting that both groups maintain similar levels of professional competency.

**Sociability:** The sociability scores were nearly identical between government ( $M = 36.2$ ) and private teachers ( $M = 35.98$ ), with no significant difference ( $t = 0.28, p > 0.05$ ) implying that affiliation does not greatly impact a teacher's ability to engage socially with colleagues and students.

**Mental Health:** The difference in mental health scores was also statistically insignificant ( $t = 0.35, p > 0.05$ ) among government teachers ( $M = 35.18$ ) and private teachers ( $M = 35.22$ ) suggesting similarity in mental health challenges related to workload, stress and professional responsibilities.

**Interpersonal Relations:** Private college teachers ( $M = 40.12$ ) scored slightly higher than government teachers ( $M = 39.22$ ), but the difference was not significant ( $t = 1.20, p > 0.05$ ) suggesting that institutional type alone does not have a strong impact on interpersonal relationships.

**Overall Psychological Well-Being:** The overall well-being scores were slightly higher for government teachers ( $M = 190.84$ ) compared to private teachers ( $M = 187.78$ ), but the difference was statistically not significant ( $t = 0.73, p > 0.05$ ). This suggests that while job satisfaction differs, overall psychological well-being remains relatively stable across government and private colleges.

The study highlights that job satisfaction is significantly higher among government college teachers, while other well-being dimensions, including efficiency, sociability, mental health, and interpersonal relations, remain similar across institutions. This suggests that institutional policies and employment security impact satisfaction but may not drastically influence other aspects of psychological well-being. These findings underscore the need for institution-wide teacher well-being programs, particularly in private institutions, to improve job satisfaction and reduce stress-related challenges.

**Objective 3:** To examine the influence of teaching experience on psychological well-being, comparing early-career (less than 10 years) and experienced (more than 10 years) teachers.

To examine differences in psychological well-being between early-career (less than 10 years) and experienced (more than 10 years) college teachers, a t-test for independent samples was conducted on the five dimensions of well-being measured using the Psychological Well-Being Scale (PWBS) by Sisodia & Choudhary (2005). The results are presented in Table 3 below.



**Table 3 Comparison of Psychological Well-Being Based on Teaching Experience**

Sr. No.	Area	Experience	N	Mean	S.D.	SEM	df	t-value
1.	<b>Satisfaction</b>	<10 years	66	36.91	6.57	0.74	98	2.63 **
		>10 years	34	40.95	5.48	1.16		
2.	<b>Efficiency</b>	<10 years	66	36.65	5.00	0.56	98	3.59**
		>10 years	34	43.72	3.20	0.69		
3.	<b>Sociability</b>	<10 years	66	35.78	4.04	0.45	98	2.00*
		>10 years	34	37.18	2.48	0.52		
4.	<b>Mental Health</b>	<10 years	66	34.41	5.89	0.66	98	2.70*
		>10 years	34	38.00	3.61	0.77		
5.	<b>Interpersonal Relations</b>	<10 years	66	39.25	3.73	0.42	98	2.12*
		>10 years	34	41.13	3.41	0.72		
6.	<b>Overall Psychological Well-Being</b>	<10 years	66	186.01	21.15	2.39	98	3.10**
		>10 years	34	201.00	15.05	3.21		

\*Significant at 0.05 level of Significance, \*\* Significant at 0.01 level of Significance

### Interpretation

The comparison of psychological well-being based on teaching experience reveals statistically significant differences across various dimensions. The findings suggest that teachers with more than 10 years of experience exhibit higher levels of well-being than those with less than 10 years of experience. Satisfaction: Experienced teachers ( $M = 40.95$ ,  $SD = 5.48$ ) reported significantly higher satisfaction than early-career teachers ( $M = 36.91$ ,  $SD = 6.57$ ,  $t = 2.63$ ,  $p < 0.01$ ). This suggests that job familiarity, stability, and long-term professional development contribute to greater satisfaction among senior teachers.

Efficiency: A significant difference ( $t = 3.59$ ,  $p < 0.01$ ) was observed in efficiency scores, with experienced teachers ( $M = 43.72$ ,  $SD = 3.20$ ) outperforming early-career teachers ( $M = 36.65$ ,  $SD = 5.00$ ). This indicates that as teachers gain experience, they develop stronger teaching strategies, classroom management skills, and professional confidence.

Sociability: Teachers with more than 10 years of experience ( $M = 37.18$ ,  $SD = 2.48$ ) scored higher in sociability compared to early-career teachers ( $M = 35.78$ ,  $SD = 4.04$ ,  $t = 2.00$ ,  $p < 0.05$ ). This suggests that experienced teachers build stronger social and professional networks over time, enhancing their ability to interact with colleagues and students.

Mental Health: Experienced teachers ( $M = 38.00$ ,  $SD = 3.61$ ) demonstrated better mental health than early-career teachers ( $M = 34.41$ ,  $SD = 5.89$ ,  $t = 2.70$ ,  $p < 0.05$ ). This implies that teaching experience helps educators develop resilience, stress management skills, and coping mechanisms to handle workplace challenges effectively.

Interpersonal Relations: More experience teachers ( $M = 41.13$ ,  $SD = 3.41$ ) exhibited stronger interpersonal relationships compared to those with less experience ( $M = 39.25$ ,  $SD = 3.73$ ,  $t = 2.12$ ,  $p < 0.05$ ). This could be due to increased collaboration, mentorship roles, and familiarity with institutional culture over time.

Overall Psychological Well-Being: A significant difference ( $t = 3.10$ ,  $p < 0.01$ ) was found in overall well-being scores, with experienced teachers ( $M = 201.00$ ,  $SD = 15.05$ ) reporting higher overall

psychological well-being than early-career teachers ( $M = 186.01$ ,  $SD = 21.15$ ). This suggests that longer tenure contributes to greater emotional stability, professional fulfillment, and work-life balance.

The findings confirm that experience plays a crucial role in enhancing psychological well-being among teachers. Early-career educators face higher levels of stress, lower job satisfaction, and weaker interpersonal networks, which may lead to burnout and career instability. These results emphasize the need for structured mentoring programs, professional development initiatives, and institutional support to help early-career teachers build resilience and career satisfaction over time.

### Discussion

The psychological well-being of teachers is central to educational effectiveness, job satisfaction, and institutional stability (Skaalvik & Skaalvik, 2016). The findings of this study highlight significant differences in teacher well-being across institution type (government vs. private) and experience levels (early-career vs. experienced teachers).

The study confirms that government college teachers report higher job satisfaction than private college teachers ( $M = 39.2$  vs.  $M = 36.4$ ,  $t = 2.18$ ,  $p < 0.05$ ), aligning with previous research that attributes greater job security, structured employment benefits, and financial stability as key contributors to satisfaction in government institutions (Liao, Wang & Wang, 2023). In contrast, private teachers often face contractual employment, performance-driven evaluations, and high workload expectations, leading to increased workplace stress and lower satisfaction levels (Ali & Kumar, 2022). However, no statistically significant differences were observed in efficiency, sociability, mental health, or interpersonal relations, suggesting that institutional type does not drastically impact overall well-being beyond job satisfaction (Kyriacou, 2001; Schleicher, 2018).

The results also indicate that teaching experience plays a crucial role in shaping psychological well-being. Experienced teachers ( $\geq 10$  years) reported significantly higher satisfaction ( $M = 40.95$  vs.  $M = 36.91$ ,  $t = 2.63$ ,  $p < 0.01$ ), efficiency ( $M = 43.72$  vs.  $M = 36.65$ ,  $t = 3.59$ ,  $p < 0.01$ ), and mental health ( $M = 38.00$  vs.  $M = 34.41$ ,  $t = 2.70$ ,  $p < 0.05$ ) than early-career teachers ( $< 10$  years). These findings align with Schleicher (2018), who emphasizes that experienced teachers develop stronger coping mechanisms, greater professional confidence, and improved work-life balance over time. Early-career teachers, on the other hand, often struggle with institutional expectations, job insecurity, and stress-related burnout, underscoring the need for mentorship programs, professional development initiatives, and institutional support systems (OECD, 2020).

Moreover, the findings reflect the theoretical model of psychological well-being proposed by Ryff (1989), which underscores self-acceptance, autonomy, environmental mastery, and interpersonal relationships as essential components of well-being. The moderate levels of well-being reported across most dimensions suggest that while teachers generally maintain psychological stability, certain institutional and career-stage-related factors influence specific well-being aspects. Given the growing demands of 21st-century education, the findings reinforce the necessity for educational institutions to prioritize teacher well-being as a strategic imperative rather than a secondary concern (Diener, 1997).

### Conclusion

This study highlights key disparities in the psychological well-being of government and private college teachers while also emphasizing the critical influence of teaching experience. The findings confirm that government teachers experience significantly higher job satisfaction than their private counterparts, largely due to greater job stability and structured employment policies. However, other

well-being dimensions remain similar across institutions, suggesting that teacher effectiveness and social engagement are not significantly affected by institutional type.

Furthermore, experience significantly impacts teacher well-being, with senior educators reporting higher satisfaction, efficiency, and mental health than early-career teachers. This highlights the importance of institutional interventions to support early-career educators, who face greater stress, workload challenges, and job insecurity (Skaalvik & Skaalvik, 2016). Institutions must implement structured professional development programs, stress management workshops, and mentorship initiatives to enhance teacher well-being at all career stages.

Given the critical role of educators in student learning and institutional growth, teacher well-being must be prioritized as an essential policy concern. Future research should explore longitudinal studies on teacher well-being, incorporating qualitative insights and intervention-based approaches to develop comprehensive well-being frameworks in higher education (OECD, 2020). By fostering a culture of institutional support, educational policymakers can create a more resilient, motivated, and effective teaching workforce, ultimately enhancing student success and institutional excellence.

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## UNDERSTANDING TEACHER TRAINEES' PERCEPTIONS ON WELL-BEING AND PROFESSIONAL DEVELOPMENT: A CASE STUDY

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### Abstract

*The evolving educational landscape of the 21st century necessitates that educators balance pedagogical expertise with personal well-being to achieve sustained professional success. This case-study examines the perceptions of 50 teacher trainees regarding their well-being and professional development in the context of contemporary classroom challenges. Employing a mixed-methods approach, data were collected through surveys and focus group discussions. The findings reveal that 72% of trainees acknowledge the critical role of well-being in effective teaching. However, 64% feel inadequately prepared to manage stress and maintain a work-life balance. Furthermore, 68% believe professional development programs should encompass mindfulness practices, technological proficiency—particularly in AI—and collaborative learning models. Additionally, 75% of respondents strongly needed targeted training in digital tools, classroom management, and emotional resilience. This study underscores the necessity for educational institutions to integrate holistic well-being initiatives alongside opportunities for skill enhancement. The findings suggest that equipping future educators with strategies for mental health, adaptability, and technological competence will enhance their personal and professional effectiveness. Ultimately, the research highlights the importance of aligning teacher wellness with skill development to cultivate dynamic, inclusive, and future-ready learning environments.*

**Keywords:** Well-being, Professional Growth, Teacher Trainees, 21st-Century Classrooms, Technology

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### Introduction

Teacher trainees are pivotal to the future of the education sector, making their well-being and professional development essential areas of focus. The journey to becoming an educator is both fulfilling and challenging, necessitating that trainees manage academic obligations, practical experiences, and personal growth. As they transition from students to educators, they face various challenges that can impact their overall well-being and professional development. In this context, well-being encompasses physical, emotional, mental, and social health, all of which are vital for effective engagement in teacher training programs (Seligman, 2011). Conversely, professional development involves the acquisition of teaching competencies, classroom management skills, pedagogical strategies, and reflective practices that foster growth as educators (Darling-Hammond et al., 2017). The relationship between well-being and professional development is reciprocal; a positive state of well-being enhances engagement in learning, while professional growth contributes to a sense of accomplishment and job satisfaction (Day & Gu, 2010).

Understanding the perceptions of teacher trainees regarding their well-being and professional development is essential as it offers valuable insights into their experiences during training. Many teacher trainees encounter significant stress due to the demands of coursework, teaching practicums, and the pressure to meet institutional expectations (Kim & Roth, 2011). Contributing factors such as workload, insufficient support, financial constraints and classroom challenges can exacerbate stress and anxiety, adversely impacting their overall well-being (Schleicher, 2018). Furthermore, social and

emotional elements, including peer relationships, mentorship experiences, and self-efficacy, significantly influence their views on teaching as a career (Tait, 2008). When trainees experience positive mental health and emotional stability, they are more inclined to engage in professional learning opportunities, take initiative in their practice, and cultivate resilience in the face of challenges (Jennings & Greenberg, 2009). In contrast, poor well-being can lead to burnout, disengagement, and even attrition from the teaching profession (Skaalvik & Skaalvik, 2017).

Professional development is a critical element of teacher training that significantly influences the effectiveness of future educators. Teacher education programs are designed to provide trainees with the essential theoretical knowledge and practical skills necessary for successful teaching. However, the quality of professional development opportunities varies based on institutional resources, curriculum design and the availability of mentorship programs (OECD, 2019). Practical experience, including teaching practicums, peer collaboration, and constructive feedback from experienced educators plays a vital role in enhancing trainees' confidence and competence (Feiman-Nemser, 2001). When teacher trainees perceive their professional development as meaningful and supportive, they are more likely to cultivate a strong professional identity and a commitment to lifelong learning (Caires et al., 2012). Conversely, inadequate training, insufficient mentorship, or ambiguous expectations can undermine their confidence and enthusiasm for the profession (Kelchtermans & Ballet, 2002).

Despite the growing emphasis on teacher well-being and professional development within educational discourse, there remains a significant gap in understanding how teacher trainees perceive these aspects. Existing literature primarily focuses on in-service teachers, often overlooking the unique experiences of trainees in the formative stages of their careers (Schuck et al., 2018). Investigating the perspectives of teacher trainees can yield valuable insights into the effectiveness of current teacher education programs and identify areas for enhancement. This research aims to explore teacher trainees' perceptions of their well-being and professional development, examining the factors that influence their experiences and the available support systems. By analyzing these perspectives, this study seeks to inform policies and practices that promote the holistic development of future educators, thereby contributing to a sustainable and effective teaching workforce. Understanding these perceptions is crucial for designing teacher education programs that foster both personal and professional growth, ensuring that trainees are well-prepared to enter the teaching profession with confidence and resilience.

### **Review of Literature**

In their seminal study, Patel and Rodriguez (2024) investigated the intersection of digital competencies with the professional development and well-being of teacher trainees. Through a longitudinal analysis of 89 pre-service teachers across three university programs, they identified emerging technological stressors unique to contemporary teacher preparation. Their findings revealed that while technology integration initially induced anxiety among trainees, structured mentorship in digital pedagogy significantly alleviated stress levels and enhanced instructional confidence. The researchers concluded that "technological proficiency and psychological well-being operate in a reciprocal relationship for teacher trainees navigating increasingly digital classrooms" (Patel & Rodriguez, 2024). This research offers critical insights into the necessity for professional development to evolve in order to address the technological dimensions of teacher preparation.

Zhang and Williams (2024) conducted a qualitative investigation into the impact of engagement with culturally responsive pedagogy on teacher trainee identity formation and psychological well-being. Their study involving 34 pre-service teachers indicated that trainees who developed strong



competencies in culturally responsive practices reported increased professional confidence and reduced anxiety regarding teaching diverse student populations. Notably, they found that "authentic community engagement experiences proved more impactful for both pedagogical development and professional well-being than traditional coursework alone" (Zhang & Williams, 2024). This research emphasizes the importance of integrating community-connected experiences into teacher preparation programs.

The transformative impact of mentorship was investigated in Oliveira and Kent's (2024) large-scale study of mentorship structures across teacher preparation programs. Their analysis of 418 teacher trainees revealed that multi-tiered mentorship models—incorporating peer mentorship alongside expert guidance—significantly enhanced both professional development and psychological well-being. Particularly noteworthy was their finding that "cross-institutional mentorship networks provided trainees with diverse perspectives that enhanced adaptability and reduced professional isolation" (Oliveira & Kent, 2024). Their research emphasizes the importance of reimagining traditional mentorship approaches to better support the development and retention of teacher trainees in the profession.

In the context of post-pandemic education, Nguyen and Thompson's (2023) research examined how trauma-informed approaches to teacher preparation influence trainee well-being and professional readiness. Their mixed-methods study of 112 teacher candidates across four preparation programs found that explicit training in trauma-informed pedagogy significantly enhanced trainees' perceived preparedness while reducing professional anxiety. The researchers noted that "trainees equipped with trauma-informed frameworks reported 37% higher self-efficacy scores when working with vulnerable student populations" (Nguyen & Thompson, 2023). This cutting-edge research underscores the necessity of preparing teachers for the complex socio-emotional landscapes of contemporary classrooms.

Recent research by Johnson et al. (2023) explored the multidimensional nature of teacher trainee well-being during the post-pandemic educational landscape. Their mixed-methods study of 127 pre-service teachers revealed significant correlations between perceived institutional support and psychological resilience. The researchers found that teacher trainees who reported higher levels of well-being demonstrated greater classroom efficacy during practicum experiences. Particularly noteworthy was their finding that "trainees who engaged in structured wellness programs showed 24% higher retention intentions than those without such support" (Johnson et al., 2023). This research highlights the critical importance of embedding well-being frameworks within teacher preparation programs.

Morales and Khan (2022) conducted a comprehensive mixed-methods study examining the relationship between digital self-efficacy and psychological well-being among teacher trainees during the transition to hybrid learning environments. Their research with 156 pre-service teachers across six preparation programs found that trainees with higher digital self-efficacy reported significantly lower levels of anxiety and higher levels of professional confidence. The researchers highlighted that "institutional support for digital skill development emerged as the strongest predictor of both trainee well-being and instructional confidence" (Morales & Khan, 2022). Their findings revealed that intentional integration of technology across preparation coursework—rather than isolated technology courses—yielded the strongest outcomes for trainee well-being and professional development. This research provides critical insights into preparing resilient educators for increasingly digital educational landscapes.

In their influential study, Davidson and Rojas (2021) investigated the impact of embedded mindfulness practices on teacher trainee stress management and professional identity formation. Their longitudinal analysis of 94 pre-service teachers found that structured mindfulness interventions integrated throughout teacher preparation significantly reduced reported stress levels and enhanced classroom management self-efficacy. Particularly noteworthy was their finding that "trainees who engaged in regular mindfulness practices demonstrated greater cognitive flexibility when navigating challenging classroom scenarios" (Davidson & Rojas, 2021). This research highlights the potential of mindfulness-based approaches to simultaneously address teacher trainee well-being and professional development, offering a promising direction for holistic preparation programs.

Exploring the social dimensions of teacher development, Chen and Washington (2020) examined how collaborative inquiry and professional learning communities impact the well-being and pedagogical growth of teacher trainees. Their qualitative study involving 67 pre-service teachers revealed that structured collaborative inquiry experiences fostered both professional competence and psychological resilience. The researchers found that "trainees who regularly engaged in collaborative reflection reported significantly higher levels of professional belonging and reduced feelings of isolation" (Chen & Washington, 2020). Their findings highlight the importance of intentionally structured collaborative experiences in teacher preparation programs, challenging traditional individualistic approaches to professional development. This research underscores the critical role of community-based learning in supporting sustainable teacher development.

### **Need and Significance**

Understanding teacher trainees' perceptions of well-being and professional development is crucial for cultivating a resilient and effective teaching workforce. The transition from student to educator can be challenging, requiring trainees to manage academic coursework, teaching practices, and the pressures of adapting to real-world classroom environments. These challenges can significantly impact their mental, emotional, and physical well-being, which in turn affects their capacity to engage in professional learning and development. High levels of stress, insufficient support systems, and pressures to meet institutional expectations can lead to burnout, diminished motivation, and even early attrition from the teaching profession. Therefore, addressing the well-being of teacher trainees is essential to ensure they develop the emotional resilience, confidence, and job satisfaction necessary for a sustainable teaching career.

Simultaneously, professional development is vital in shaping trainees into competent educators. It encompasses the acquisition of teaching methodologies, classroom management strategies and reflective practices that prepare them to navigate diverse learning environments. However, the effectiveness of professional development often depends on the quality of mentorship, practical experience, and institutional support provided during training. When trainees perceive professional development as meaningful and well-structured, they are more likely to engage actively, develop a strong professional identity, and transition smoothly into their roles as teachers. Conversely, inadequate training, lack of mentorship, and unclear expectations can undermine confidence, hindering trainees' ability to apply theoretical knowledge effectively in practice.

The significance of this study lies in its potential to inform policy and institutional reforms aimed at enhancing teacher education programs. By examining the experiences and perceptions of teacher trainees, this research can highlight key areas requiring improvement. Educational institutions and policymakers can then leverage these insights to implement targeted interventions. Furthermore,

understanding these perceptions can aid in reducing early-career teacher attrition by ensuring that trainees enter the profession equipped with the necessary skills, confidence and emotional preparedness.

Additionally, this study contributes to addressing a gap in existing literature as much of the research on teacher well-being and professional development focuses on in-service teachers rather than those in training. Recognizing and addressing the unique challenges faced by teacher trainees can lead to more effective educational frameworks that not only prepare them for the profession but also support their long-term career satisfaction. Ultimately, a well-supported and well-trained teaching workforce results in improved student learning outcomes, enhanced classroom experiences and a more sustainable education system. By prioritizing both well-being and professional growth, this study underscores the need for a holistic approach to teacher education—one that nurtures educators not only as professionals but also as individuals whose health, confidence, and job satisfaction are integral to their success.

### **Purpose of the Study**

The study aims to explore teacher trainees' perceptions of well-being and professional development in the context of contemporary educational challenges. It seeks to assess their awareness of well-being strategies, stress management, and work-life balance while identifying gaps in training programs. Additionally, the research investigates the need for integrating mindfulness, technological proficiency and hands-on professional development initiatives to enhance teacher preparedness. By understanding these perceptions, the study provides insights into improving teacher education programs, ensuring a holistic approach that fosters both personal well-being and professional competence for future educators.

### **Research Methodology**

This case study explores teacher trainees' perceptions of well-being and professional development at one of North India's oldest private teacher education colleges. Using a mixed-methods approach, it examines their awareness of stress management, work-life balance, and professional growth needs, highlighting the necessity of integrating well-being and upskilling programs into teacher education. The sample consists of 50 teacher trainees from the same institution, which has implemented well-being initiatives and upskilling programs. Among the participants, 96% were female and 4% male, with 60% from urban backgrounds and 40% from rural areas. Additionally, 70% were postgraduates and 30% were graduates, while 75% had prior teaching experience, such as tutoring.

Data was collected using two primary tools: a structured survey questionnaire and focus group discussions (FGDs). The survey gathered quantitative insights regarding trainees' awareness of well-being strategies, stress management techniques, and professional development needs. Likert-scale responses assessed key aspects such as emotional resilience, work-life balance and AI integration. FGDs were conducted with a subset of participants to explore qualitative perspectives on the challenges they face and their expectations from professional development programs.

The collected data was analyzed using descriptive statistics for the quantitative component, which identified key trends and percentages, while thematic analysis was applied to qualitative responses to extract emerging patterns. Ethical considerations were strictly adhered to, ensuring voluntary participation, informed consent, anonymity, and confidentiality. This methodological framework provides valuable insights for enhancing teacher education programs by addressing both well-being and professional competency gaps.



## Results and Findings

The findings of the study are structured around key research questions, combining quantitative data with qualitative insights gathered through focus group discussions. The responses of teacher trainees highlight critical gaps in teacher education programs regarding well-being and professional development while emphasizing the need for more structured interventions.

### Teacher Trainees' Perception of Well-Being in Effective Teaching:

A significant 72% of teacher trainees acknowledged that well-being is crucial for effective teaching. Participants emphasized that emotional and mental well-being directly influences classroom engagement, teaching effectiveness and student-teacher relationships. Many trainees reported that stress, anxiety and emotional exhaustion negatively affects their ability to foster a positive and engaging learning environment. However, they noted that teacher training programs rarely address well-being as a core component, focusing instead primarily on pedagogy and content delivery.

One participant highlighted, *"If we are not emotionally balanced, we cannot create a positive learning environment for students."* Another trainee added, *"Teacher burnout affects student learning. A stressed teacher can never be fully present in the classroom."* These responses indicate the strong belief among teacher trainees that prioritizing well-being is not just beneficial for educators but also crucial for student success. Participants expressed the need for institutional support in embedding well-being strategies into teacher education programs rather than treating them as optional or secondary concerns.

### Challenges in Stress Management and Work-Life Balance:

Managing stress and maintaining a healthy work-life balance emerged as a significant concern among teacher trainees, with 64% reporting that they feel ill-equipped to handle stress in both their professional and personal lives. Many trainees indicated that they struggle with overwhelming workloads, extensive lesson planning and the need to adapt to constant changes in curriculum and technology. Additionally, managing student behavior and expectations was identified as a major stressor, as many trainees felt unprepared to handle conflicts and maintain classroom discipline.

One trainee stated, *"We are taught pedagogy but not how to handle the daily emotional stress of teaching."* Another participant elaborated, *"The pressure of planning, assessment, and managing student behavior is overwhelming, and we need better coping strategies."* The findings indicate that the lack of structured well-being programs in teacher training contributes to burnout, reduced motivation, and high emotional fatigue. Trainees called for more workshops and courses focused on stress management techniques including mindfulness, time management, and psychological well-being strategies.

### The Need for Holistic Professional Development:

The study found that 68% of teacher trainees emphasized the importance of holistic professional development, integrating well-being practices with essential teaching skills. Many participants highlighted the need for a multidimensional approach to training that incorporates mental health strategies, technological proficiency, and collaborative learning models into teacher education.

Several trainees voiced concerns about the growing expectations to integrate AI and digital tools in classrooms without sufficient training. One participant shared, *"We are expected to use AI and digital tools in classrooms, but we don't get hands-on training on how to integrate them effectively."* Similarly, many trainees highlighted the value of collaborative learning models in reducing stress and improving peer support. Another trainee remarked, *"Collaborative teaching strategies can reduce*

*workload and help us support each other, but we rarely get opportunities to practice them."* These findings suggest that teacher training programs should evolve to include practical, hands-on learning experiences that build technological competence and emotional resilience simultaneously.

### **Expectations for Targeted Training in Key Professional Skills:**

Seventy-five percent of teacher trainees indicated a need for targeted training in essential professional areas including digital tools, classroom management, and emotional resilience. Many trainees recognized the potential of AI and digital tools in education but expressed a lack of practical experience in effectively integrating them into their teaching practices. Participants also highlighted classroom management as a critical area needing focused training, as they frequently face challenges with discipline, student engagement and conflict resolution.

One trainee commented, *"AI in education is exciting, but without proper training, we might misuse it or not use it at all."* Another participant stressed the need for experiential learning stating, *"We need real-life case studies and role-playing exercises to practice classroom management, not just theoretical discussions."* Emotional resilience was also a key area of concern, with many trainees expressing difficulties in handling criticism, managing student behavior and maintaining motivation. They strongly recommended that teacher education programs prioritize emotional intelligence training alongside pedagogy and subject expertise.

### **Recommendations and Suggestions**

Based on the findings of the study, the following recommendations and suggestions are proposed to enhance the well-being and professional development of teacher trainees:

#### *Embedding Well-Being Programs in Teacher Education*

- Teacher education programs should integrate structured well-being modules that focus on stress management, emotional resilience and work-life balance.
- Institutions should introduce mandatory well-being workshops covering mindfulness techniques, mental health awareness and coping strategies for professional challenges.
- Regular counseling sessions and peer support groups should be established to provide a safe space for trainees to discuss challenges and seek guidance.

#### *Providing Hands-On Training in Digital and AI Integration*

- Teacher training institutions should offer practical workshops on AI and digital tools to prepare trainees for technology-enhanced teaching.
- Hands-on simulation-based training should be introduced to demonstrate real-world applications of AI and digital platforms in the classroom.
- Collaboration with EdTech companies can provide teacher trainees access to the latest technological advancements and classroom implementation strategies.

#### *Strengthening Classroom Management Training*

- Teacher training programs should include case studies, role-playing exercises, and scenario-based learning to enhance classroom management skills.
- Workshops on student engagement strategies should be designed to equip trainees with effective discipline techniques and conflict resolution methods.
- Institutions should introduce mentorship programs where experienced educators guide trainees in handling real classroom challenges.

*Developing a Holistic Professional Development Framework*

- Teacher education should adopt a blended learning approach combining theoretical knowledge with practical, hands-on experiences.
- Collaborative learning models such as peer teaching and co-teaching should be promoted to enhance teamwork and shared problem-solving.
- Industry and school collaborations should be established to provide trainees with real-world teaching experiences before they enter full-time professional roles.

*Addressing the Emotional and Psychological Needs of Teacher Trainees*

- Emotional intelligence training should be integrated into the curriculum to help future educators develop self-awareness, empathy and resilience.
- Institutions should conduct regular stress management and mental health awareness programs tailored for teacher trainees.
- A work-life balance policy should be introduced in teacher training institutions to encourage self-care practices among future educators.

*Restructuring Professional Development Programs*

- Professional development initiatives should go beyond theoretical content and focus on practical skill-building in key areas such as technology integration, inclusive education and pedagogical innovations.
- Training programs should include interactive workshops, internships and school immersion experiences to provide real-world exposure.
- Periodic assessments and feedback mechanisms should be implemented to refine and improve teacher training programs based on trainees' needs.

**Conclusion**

The study emphasizes the need to reform teacher education by incorporating well-being initiatives, technological proficiency and practical professional development. Institutions should proactively prepare teacher trainees for the evolving educational landscape by offering comprehensive training that supports their personal and professional growth. By implementing these recommendations, educational institutions can help develop resilient, adaptable and future-ready educators capable of creating engaging and supportive learning environments for students. This holistic approach will better equip future educators with the essential skills to foster inclusivity and engagement in the classroom, ultimately enhancing their professional development and promoting student success.

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## PERCEPTION OF STUDENT-TEACHERS ON THE USE OF AI TOOLS FOR LEARNING: A MIXED-METHOD STUDY

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### Abstract

*Artificial Intelligence (AI) is reshaping the educational landscape. It has the potential to be used for teaching-learning and evaluation. Features of AI platforms offer the ability to automate routine tasks, design customized learning experiences and provide instant feedback. Learners can take responsibility for their learning and explore the areas of their interest. AI can provide data-driven insights and thus guide learners on their learning journey. Besides personalized learning, AI can provide immediate answers to queries, suggest extra reading material and quizzes for self-evaluation. AI-based chatbots are very user-friendly and have gained popularity due to their natural language processing system. Concerns about the use of AI in education also exist and questions about credibility, plagiarism and lack of human-to-human interaction are often discussed. Despite this, one needs to accept the fact that AI is revolutionising education. This study is an attempt to find the perception of student-teachers towards the use of AI for learning. The tool to collect data was prepared by the researchers. Data was collected from 55 student-teachers of F.Y.B.Ed and S.Y.B.ED of the two-year B.Ed programme. The participants have used AI platforms for learning, self-assessment and research. They had definite perceptions and identified benefits of use of AI related to cognitive, affective and behavioural aspects. They reported that AI tools were engaging and interactive and helped to understand complex content. The participants also opined that indiscriminate use of AI might reduce critical thinking. Thus, while AI in education promotes self-learning and offers personalized learning experiences, one needs to be cautious about over-dependence on AI.*

**Keywords:** Artificial Intelligence, Student-teachers' Perception, Self-learning, Personalised Learning, Instant Feedback, Customised Learning Experiences.

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### Introduction

Artificial Intelligence (AI) has proved itself helpful for educators in various ways offering ways to automate administrative tasks, provide feedback, enhance content creation and delivery. It can help teachers grade assignments, monitor student progress, customize curriculum and identify learning gaps. It is also beneficial in creating more engaging and interactive lessons using tools such as chatbots, simulations and gamification. It enables teachers to collaborate with peers and experts across the world, thus sharing best practices and resources. Learners feel empowered to take charge of their own learning as it provides personalized and adaptive pathways, support and feedback. It helps learners to develop critical skills such as problem-solving, creativity, communication through interactive and immersive experiences. Kyoungwon Seo et al. (2021) have emphasized how AI systems offer effective support for online learning and teaching, including personalizing learning for students, automating instructors' routine tasks, and powering adaptive assessments. The idea of "Artificial Intelligence" dates back thousands of years when inventors made things called "automata" which were mechanical and moved independently without human intervention. Alan Turing published his work "Computing Machinery and Intelligence", which experts used to measure computer intelligence. The term "Artificial Intelligence" was coined in 1955 when John McCarthy held a workshop at Dartmouth. Ido Roll et al. (2016) have studied how the field of AI in education has undergone significant development over the years. AI in education has helped build "faster classrooms". According to him when the human teacher



supports more than merely domain knowledge, but also life-long skills and interaction with peers; when the teacher leaves the comfort of her home or classroom and meets the learner under her conditions; when the teacher deviates from textbook problems and supports the learner in her life problems; then, perhaps, the teacher becomes a mentor. Cecilia Ka Yuk Chan et al. (2023) in their study have emphasized taking students' perceptions into account. Understanding students on their willingness and concerns regarding the use of AI tools can help educators and policymakers better tailor AI technologies to address students' needs and concerns.

It will help to better integrate these technologies into the learning process, ensuring they complement and enhance traditional teaching methods. This integration can lead to improved learning outcomes, as students will be more likely to adopt a deeper approach to learning when they perceive AI as a valuable and supportive resource.

### **Need for the study**

The importance of Artificial Intelligence in education is multifaceted and rapidly evolving. It offers a dynamic and evolving landscape that enhances the learning experience, making it more personalized, efficient, and accessible for students. Integrating Artificial Intelligence in education represents a profound shift in how learning is structured, offering unprecedented opportunities to enhance both teaching and learning experiences. As the field of AI continues to evolve, it holds the potential to enable adaptive learning systems that cater to the unique needs of each student, thus improving student-teacher engagement in classrooms and learning outcomes. The need for the study of AI's role in education is critical as it provides insights into how automation and intelligent systems can support teachers in administrative tasks, create and plan more efficient curricula, and facilitate effective feedback from students. Student-teachers are key stakeholders in education, it is imperative to study their perceptions and thoughts concerning integrating AI in education. Thus, the researcher aims to study the perception of student-teachers on how AI in education is purposeful, inclusive, and aligned with the goals of holistic education.

### **Statement of the Problem**

To study the Perception of Student-Teachers on the Use of AI Tools for Learning: A Mixed-Method Study.

### **Operational Definitions**

Operational definitions help to establish a clear framework for the study and prevent ambiguity in interpretation of terms used in the study. The operational definitions of terms related to the study are given below.

Perception in this study refers to the attitudes and beliefs of prospective teachers with respect to benefits of AI for learning related to cognitive, affective and behavioural aspects. It also looks at critical concerns harboured by the prospective teachers regarding use of AI for learning.

Student-Teachers in this study refers to students currently pursuing Two Year B.Ed. programme in a Teacher Education Institution affiliated to University of Mumbai.

AI Tools for Learning refer to digital platforms and technologies like curipod, conker, magicschool ai that utilize artificial intelligence to facilitate teaching and learning processes by providing personalized feedback, interaction and adaptive learning experiences.

### **Research Questions**

Research questions are useful to give direction to a study, and they help to define the focus and scope of the study. The research question framed in the context of the study is as follows

1. What are the perceptions of prospective teachers regarding the benefits of AI tools for learning?
2. How do prospective teachers perceive the advantages and challenges of using AI tools for learning and teaching?

### **Objectives of the Study**

The objectives of the study are (i) to find the perception of student- teachers regarding benefits of AI tools for learning (ii) to analyse the experiences of student- teachers regarding the use of AI tools for learning.

### **Hypotheses of the Study**

Ho1: There is no positive or negative perception of student-teachers regarding the benefits of AI tools in learning with respect to (a) cognitive aspects, (b) affective aspects, (c) behavioural aspects (d) critical issues related to AI.

Ho2: The use of AI tools has no impact on the learning experience of prospective teachers.

Ho3: Student teachers do not have any concerns in the use of AI tools for learning.

Ho4: There is no positive or negative opinion among student-teachers regarding most of the beneficial features of AI tools used for learning.

Ho5: There are no specific recommendations that student-teachers have regarding use of AI tools for learning.

### **Methodology of the Study**

#### **Research Design**

This study follows a mixed research paradigm. Quantitative data was collected through a survey to ascertain the perceptions of prospective teachers regarding the benefits of AI tools in learning concerning (a) cognitive aspects, (b) affective aspects, (c) behavioural aspects (d)critical issues related to AI. Qualitative data was collected through open-ended questions that sought information regarding the perceived impact of the use of AI tools and challenges faced in the use of such tools. The prospective teachers also identified the features of AI tools that were beneficial to them and made recommendations regarding the use of AI tools. Thus, a mixed method of the convergent parallel design was used as both quantitative and qualitative data were collected simultaneously.

#### **Sample of the Study**

The sample of the study consisted of 55 student-teachers from FY.B.ED. and S.Y.B.ED. pursuing the Two-Year B.Ed programme from a suburban unaided Teacher Education Institute affiliated to the University of Mumbai. All the participants have used AI tools for learning about different topics of the curriculum. Some of these tools are Conker.ai for evaluation and creating quizzes, Curipod for interactive lectures, magicschool.ai for designing learning activities, quizzes and lesson planning. These AI platforms have been used to learn, evaluate and offer personalised feedback. The sampling technique followed was non-probability convenience sampling.

#### **Tools used for the Study**

For the quantitative data collection, a researcher-made rating scale with 20 statements was used to gather data regarding the perception of respondents regarding the benefits of AI tools in learning concerning (a) cognitive aspects, (b) affective aspects, (c) behavioural aspects, (d) critical issues related to AI. The tool was validated by experts. The reliability by split half method (using the Spearman-Brown formula) was found to be 0.91.

For the qualitative data, the respondents responded to the following questions:

- (i) In what ways has the use of AI tools impacted your learning experiences?



- (ii) What concerns do you have while using AI tools for learning?
- (iii) What features of AI tools do you find most beneficial and why?
- (iv) What recommendations would you give for improving the use of AI tools in teacher education?

### Data Analysis and Testing of Hypotheses

#### Analysis of Quantitative Data

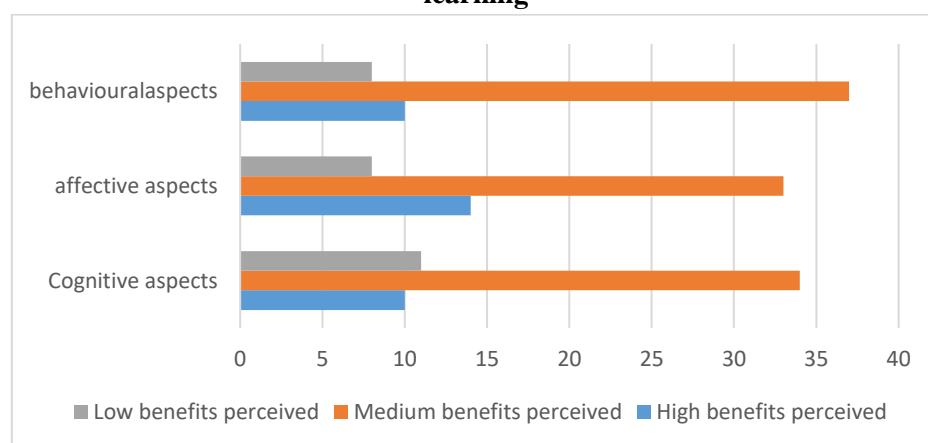
The quantitative data collected through the rating scale were first scored as follows: Strongly Agree (5), Agree (4), Neutral (3), Disagree (2), Strongly Disagree (1). All statements, being positively worded, followed the above scoring. Total scores were calculated for perception regarding benefits related to cognitive aspects, affective aspects, behavioural aspects and critical concerns regarding the use of AI in learning. The raw scores were then converted to z scores using the formula  $Z = \frac{X - \mu}{\sigma}$  where Z = z score, X = raw score,  $\mu$  = mean of the data set, and  $\sigma$  = S.D

Z-score was used to standardize data by measuring how far a data point is from the mean in terms of standard deviations. Z scores above 1 were considered as high, z scores between -1 to 1 were considered as medium, and those below -1 were considered as low. The data was subjected to further statistical analysis to test the hypotheses.

Ho1: There is no positive or negative perception of student-teachers regarding the benefits of AI tools with respect to (a) cognitive aspects, (b) affective aspects, (c) behavioural aspects (d) critical issues related to AI.

	Use of AI in learning with respect to		
	Cognitive Aspects	Affective Aspects	Behavioural Aspects
High benefits perceived (z score >1)	10 (18.18%)	14 (25.45%)	10 (18.18%)
Medium benefits perceived (-1 < z score < 1)	34 (61.81%)	33 (60%)	37 (67.27%)
Low benefits perceived (z score < -1)	11 (20%)	8 (14.54%)	8 (14.54%)
Total	55 (100%)	55 (100%)	55 (100%)

**Table 1: Classification of participants on basis of their perceived benefits regarding use of AI in learning**



**Figure 1**

The chi-square statistics for the three aspects are as shown below

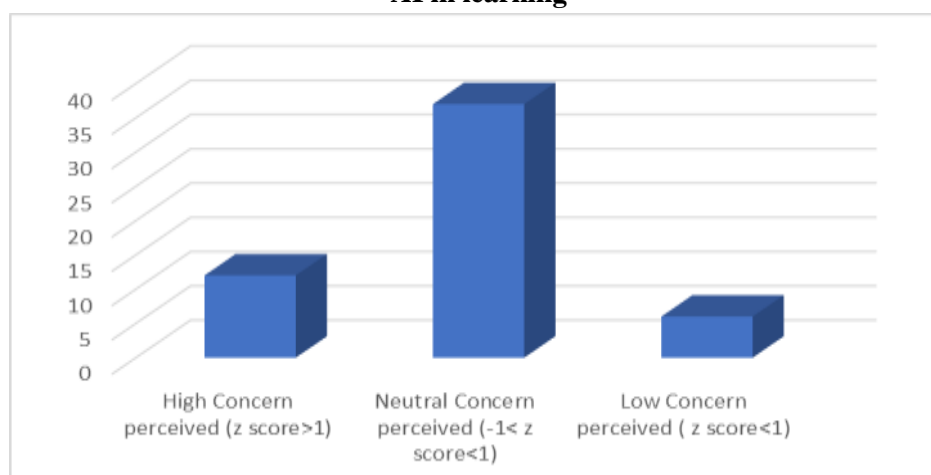
Perception regarding use of AI in learning with respect to	Chi-square statistics	P value
Cognitive Aspects	20.11	0.000043
Affective Aspects	18.58	0.0000923
Behavioural Aspects	28.62	0.00000061

**Table 2: Classification of participants based on cognitive, affective and behavioural aspects regarding use of AI in learning**

The p-values are less than 0.01 in all the above cases, the null hypothesis is rejected, and it can be said that student-teachers have a definite perception regarding the benefits of AI tools in learning for cognitive, affective and behavioural aspects.

Level of critical concerns regarding the use of AI for learning	N
High Concern perceived (z score>1)	12 (21.8%)
Neutral Concern perceived (-1< z score<1)	37 (67.27%)
Low Concern perceived ( z score<1)	6 (10.9%)
Total	55 (100%)

**Table 3: Classification of participants on the level of their critical concerns regarding the use of AI in learning**



**Figure 2: Graph showing the level of critical concerns perceived by student teachers regarding the use of AI for learning**

The chi square value for level of critical concerns regarding the use of AI in learning is 29.49. The p value is  $3.95 \times 10^{-7}$  thus indicating that the levels of critical concerns regarding use of AI for learning are not evenly perceived by the respondents. Hence the null hypothesis is rejected. It can be concluded that there is a definite perception among prospective teachers regarding the critical concerns related to use of AI for learning.

### Analysis of Qualitative Data

The qualitative data was analysed using thematic analysis. Thematic analysis attempts to find recurring themes within a data set. The responses to the open-ended questions were perused to identify which codes and themes emerged from the same.

Ho2: The use of AI tools has no impact on the learning experience of student-teachers

Participant responses to the question 'In what ways has the use of AI tools impacted your learning experiences?' revealed the following themes:

Ease of learning increased (24.1%), AI tools helped to understand concepts (18.3%), quick access to information (14.5%), personalised learning (12%). Themes like interactive learning (6%), AI helped in idea generation (8.1%) and AI impacted assessment and feedback (6.8%) were also identified.

Thus, making learning easier and helping to understand concepts were the most prominent themes. As all respondents have reported many benefits of the use of AI in learning, the null hypothesis is rejected.

Ho3: Student-teachers do not have any concerns about the use of AI tools for learning

The participants were asked, 'What concerns do you have while using AI tools for learning?' The most recurring themes with respect to concerns were misinformation and inaccuracy from AI tools (22.4%), AI hampered critical thinking (18.6%), unable to give the right prompts to the AI platform (14.7%), difficulty in understanding AI response (9.8%), lack of human touch (6.8%).

Analysis of the responses shows that the respondents were mostly concerned about accuracy of information, over dependence on AI and the possibility of reduction of human interaction. Thus, the null hypothesis is rejected and it can be said that student-teachers have concerns regarding use of AI tools in learning.

Ho4: There is no definite opinion among student-teachers regarding most of the beneficial features of AI tools used for learning.

The participants were asked to share their opinion on the features of AI that they find to be the most beneficial.

The most recurring theme concerning beneficial features of AI in education were personalized learning and instant feedback (25%), improving time efficiency and helpful in automation (20%), creative content generation (15%), research assistance (10%), accessibility and availability (8%), gamification and interactive learning (7%), smart search and quick responses (5%), enhanced decision making and productivity and use of natural language dialogue (5%).

Analysis of the responses shows that respondents find AI tools beneficial in enhancing learning and productivity through personalized feedback, helping in creative content generation, efficient time management, and interactive learning. They also provide quick research assistance, smart search, and adaptability to individual needs, while automating repetitive tasks and improving decision-making, making them invaluable for both teachers as well as students.

Ho5: There are no specific recommendations that student-teachers have regarding the use of AI tools for learning.

The prospective teachers were asked what recommendations they had regarding the use of AI. 40 of the 55 participants gave multiple recommendations. After categorising the responses, the main themes that emerged are as follows. 50% of participants emphasised that teachers need training regarding the use of AI. 27.5% of participants recommended that teachers use AI-based learning, interactive simulations to make learning engaging. 27.5% of participants recommend that AI tools should be accessible to all, and the accuracy of the tool must be ensured. 10% of participants have reiterated that over-dependence on AI should be avoided. 7.5% of participants have recommended the use of AI for targeted or personalised learning. 7.5% of participants recommend the use of AI for blended and collaborative learning.

Analysis of the student's responses include key recommendations that suggest comprehensive training for teachers in AI, ensuring ethical use, and integrating AI with traditional

teaching methods. Additionally, suggesting making AI tools more accessible, fostering, and enhancing AI features for lesson planning and assessments.

### Discussion of the Results

The analysis of quantitative data indicates that student- teachers have a definite perception regarding the benefits of AI tools in learning for cognitive, affective and behavioural aspects.

The analysis of qualitative data reveals that the student-teachers who used AI for their learning did come across challenges. They found AI to be impactful and yet were cautious regarding challenges like misinformation, credibility of information and lack of human interaction. Bearing in mind the pros and cons of the use of AI, it can be said that the use of AI for learning needs to be accompanied by critical thinking. Garrel and Mayer (2023) also support this view, saying that ‘uncritical and unreflective use of AI tools is risky.’

Qualitative data analysis points out that the participants have expressed concerns regarding over-dependence on AI and hampering of social interaction. This is also revealed in the quantitative data, where nearly 90% of participants have expressed high or medium concerns regarding the use of AI for learning. This view is corroborated by the study carried out by Gochen and Aydemir (2020), who point out that the drawbacks, like intuitive knowledge, may be suppressed if one over relies on AI.

### Conclusion

An overall outcome of the study shows that there is a positive perception regarding the use of AI due to easy accessibility, personalised feedback and a variety of learning experiences that AI can offer. At the same time, one should be aware of the possible pitfalls, such as inaccuracy due to limitations of the AI platform and a tendency to be overly dependent on AI. Prospective teachers should be adept at the use of AI, as it can help in providing customised learning experiences and can save time spent on routine tasks. However, caution needs to be exercised to ensure that the learners do not misuse AI or remain disconnected from teachers and peers due to AI.

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## UP SKILLING EDUCATORS: ENHANCING PEDAGOGICAL EXCELLENCE FOR THE 21ST CENTURY

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### Abstract

*The rapid advancement of technology, coupled with shifting educational paradigms, has necessitated a fundamental transformation in teaching methodologies. The role of libraries in this transformation is often overlooked despite their potential to support educators in adopting innovative pedagogies that cater to the needs of 21st-century learners. This article explores the evolving role of libraries in upskilling educators and how they can support the implementation of modern teaching strategies such as collaborative learning, blended learning and inquiry-based learning. Drawing upon current research and best practices, this paper highlights the tools, resources and professional development initiatives that libraries provide to foster innovative pedagogical practices in classrooms.*

**Keywords:** Innovative Pedagogies, Collaborative Learning, Blended Learning, Inquiry-Based Learning, Teacher Professional Development, Library Resources.

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### Introduction

The 21st century has ushered in an era where the traditional classroom model is no longer sufficient to meet the diverse needs of today's students. With the integration of technology into all aspects of life, there is a growing demand for educational approaches that promote critical thinking, creativity and digital literacy. Educators are expected to not only teach subject matter but also prepare students for a rapidly changing world.

In this context, libraries long known as bastions of knowledge are emerging as key players in supporting educators to meet these challenges. Libraries, in their modern form, are no longer confined to providing just books and journals. They are evolving into dynamic learning spaces equipped with digital tools, online resources and collaborative environments designed to enhance the teaching and learning experience. This article discusses the critical role libraries play in upskilling educators and promoting innovative pedagogies that meet the demands of the 21st century.

### Understanding 21st Century Pedagogies

21st-century pedagogy is defined by an emphasis on developing the skills students need to navigate a complex and interconnected world. This approach focuses not only on the acquisition of knowledge but also on the development of skills such as problem-solving, collaboration, communication, creativity and digital literacy. To achieve these goals, educators must adopt teaching strategies that transcend traditional lecture-based methods.

Some of the key innovative pedagogies that are gaining traction include:

- **Collaborative Learning:** This pedagogy emphasizes teamwork and peer interaction to foster deeper learning and the development of social skills.  
Example: Libraries can host collaborative study sessions or provide digital tools and shared research databases for group projects.
- **Blended Learning:** Blended learning combines traditional face-to-face learning with online instruction, offering students a more flexible and personalized learning experience.  
Example: Libraries can facilitate access to online courses or course materials.

- **Flipped Classroom:** In this model, students engage with learning materials at home (often through videos or online readings) and use class time for hands-on activities or collaborative problem-solving.  
Example: Libraries can provide access to video lectures or podcasts, as well as interactive spaces for group discussions and problem-solving activities during class time.
- **Inquiry-Based Learning:** This approach encourages students to explore topics through asking questions, conducting research and engaging in critical thinking.  
Example: Libraries can offer research skills workshops or provide access to specialized databases where students can explore topics and gather information
- **Game-Based Learning:** By integrating educational games and simulations, this approach aims to engage students in real-world scenarios making learning both fun and impactful.  
Example: Libraries can offer educational video games or host game shows that incorporate role-playing and problem-solving games designed to teach concepts in subjects like History, Math or Science.
- **Experiential Learning:** Experiential learning emphasizes learning through direct engagement in real-world experiences. Libraries support experiential learning by providing access to resources like case studies, journals, and internship opportunities.  
Example: Libraries can partner with local organizations to offer field trips, learning Projects.

To successfully implement these pedagogies, educators require new tools, resources and professional development. Libraries have emerged as vital support systems in this endeavour.

### **The Role of Libraries in Supporting 21st Century Pedagogies**

Libraries have traditionally been centres for acquiring information. However, in the context of 21st-century education, libraries are evolving into spaces that enable active learning, collaboration and innovation. Librarians can serve as pedagogical partners who provide educators with access to diverse resources, digital tools, and professional development opportunities.

1. **Access to Digital Resources:** The digital transformation of education means that teachers require access to a wide range of online resources, including databases, e-books, educational softwares and multimedia content. Libraries are instrumental in providing these resources ensuring that educators have the tools needed to design effective and engaging lessons. By offering curated content and guiding teachers to reliable sources, libraries help them stay updated with the latest trends in their subject areas.

In addition to providing access to digital content, libraries also assist in integrating technology into the classroom. From Learning Management Systems like Google Classroom to virtual reality tools for immersive learning, libraries are central to helping educators leverage digital tools to enhance teaching and learning.

2. **Professional Development and Training:** The shift to innovative pedagogies requires that educators develop new skills. Libraries can offer a variety of professional development opportunities that help educator's upskill and adopt modern teaching strategies. For instance, libraries can host workshops, webinars and training sessions on topics like:

- Using digital tools for blended learning
- Creating effective flipped classrooms
- Developing inquiry-based curricula
- Using technology for assessment and feedback

In addition to these formal training sessions, libraries can act as a resource hub offering books, articles and case studies that provide valuable insights into best practices and emerging pedagogies. These resources can guide educators in refining their teaching practices and integrating new methods into their classrooms.

3. Supporting Collaborative Learning Environments: Collaboration is a key component of modern pedagogies. Libraries provide physical and virtual spaces that support collaborative learning among students and educators. Makerspaces, learning labs and group study rooms are just a few examples of how libraries create environments that foster collaboration.

Moreover, libraries can assist educators in designing collaborative projects and activities that promote teamwork and peer-to-peer learning. For example, librarians can help teachers integrate Project-Based Learning (PBL) strategies by curating resources that students can use in their projects or facilitating the use of digital tools that enable real-time collaboration.

4. Promoting Inquiry-Based and Research-Oriented Learning: In inquiry-based learning, students are encouraged to ask questions, conduct research and seek answers independently. Libraries are ideally suited to support this approach by providing access to a wealth of information and guiding students in the research process. Librarians can assist educators in designing inquiry-based curricula, helping students formulate research questions, locate reliable sources and synthesize information.

Additionally, libraries can provide specialized resources, such as primary source documents, data sets and access to online databases that are essential for inquiry-based learning. Librarians also offer workshops on research skills helping students and teachers navigate academic databases, evaluate sources and critically engage with information.

5. Fostering Inclusive Learning: Innovative pedagogies prioritize inclusivity, ensuring that all students, regardless of background or ability, have access to meaningful learning experiences. Libraries are critical in creating inclusive environments by offering assistive technologies providing resources in multiple formats (e.g., audiobooks, e-books, braille) and curating materials that reflect diverse perspectives.

Libraries can also support educators in meeting the needs of students with different learning styles and abilities by providing tailored resources and teaching aids. By fostering inclusive learning, libraries help ensure that all students can benefit from the pedagogical innovations being implemented in classrooms.

6. Technology Integration and Training: Librarians can act as technology facilitators helping educators navigate the ever-growing digital landscape. Offering workshops and training sessions on digital tools like Google Classroom, Moodle or even Virtual Reality (VR) applications can significantly upskill educators in the use of technology. Furthermore, the library can provide a space for teachers to experiment with these tools, creating a collaborative environment for continuous learning.

### **Upskilling Educators for 21st Century Classrooms**

Educators must be equipped with a toolkit that allows them to effectively implement innovative pedagogies in the classroom. Librarians play a vital role in upskilling educators by providing ongoing professional development opportunities, offering access to resources and creating a culture of collaborative learning.

1. Professional Development Workshops: Librarians can organize workshops on various topics such as digital literacy, information management, technology integration and creative pedagogy. By offering



training on specific tools and methods, librarians help educators stay updated with the latest trends in teaching and learning.

2. Access to Educational Literature: Libraries offer access to research journals, teaching guides and pedagogical literature that can help educators stay informed about the latest developments in their field. Through curated booklists, newsletters and library resources, librarians can assist educators in identifying resources that can enrich their teaching practice.

3. Peer Learning and Communities of Practice: By fostering communities of practice among educators, libraries create an environment where teachers can share ideas, resources and strategies for effective teaching. Librarians can support these communities by providing a space for collaboration, organizing regular meetups, and facilitating knowledge sharing.

4. Assessment and Feedback: The role of librarians in assessing and providing feedback to educators on their pedagogical practices cannot be overstated. Libraries can collaborate with teachers to track student progress and evaluate the effectiveness of teaching strategies. Through surveys, evaluations and discussions, librarians can help teachers refine their approaches and better understand the needs of their students.

### Conclusion

As the educational landscape continues to evolve, the role of libraries in supporting innovative pedagogies has never been more crucial. Libraries are not just repositories of information; they are dynamic, flexible spaces that empower educators to embrace 21st-century teaching methodologies. By providing access to digital tools, offering professional development opportunities, supporting collaborative learning and promoting inquiry-based education, libraries help educators adapt to the demands of the modern classroom.

For educators to successfully integrate innovative pedagogies into their teaching practice, they must have access to the resources and support that libraries can provide. In doing so, libraries play a pivotal role in empowering educators, enhancing student learning and ensuring that education remains relevant and effective in the 21st century.

This paper presents the importance of libraries in supporting innovative pedagogies and highlights how they can contribute to upskilling educators for modern classrooms. It discusses the role of libraries as digital resource hubs, facilitators of technology integration, and collaborators in creating inclusive, dynamic and engaged learning environments.

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**SKILL DEVELOPMENT THROUGH SKILL-BASED TEACHING****Dr. Priti Sivaramakrishnan**

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**Abstract**

*Teaching is an art and a teacher ensures that through her teaching she draws the best from her students. The different policies attach a lot of importance to skills and suggest measures to equip students with 21<sup>st</sup> Century Skills. This study is an attempt to study how an Art-based intervention program helped in the achievement of students in the subject of Mathematics. The study also attempted to study the secondary school students' perception of the Art-based intervention program. The findings of the study revealed that students' achievement in Mathematics showed good improvement in Mathematics though there was no significant difference found in the perception of secondary school students towards the Art-based intervention program based on gender.*

**Keywords:** Mathematics, Art-Based Intervention, Symmetry, 3-Dimensional Shapes.

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**Introduction**

Teaching is an art and every teacher, with their unique capabilities and skills, ensures that the content is taught most suitably to their students. There exists a shift in teaching. There has been a great transformation over the years, from the traditional mode of teaching to activity-based teaching. A true teacher will always be passionate about teaching. Our great leader, Mahatma Gandhi, felt that only training students to read and write would not enhance the creative skills among children. (Geethika, 2021)<sup>1</sup>. The world is moving to a skill-based industry. Industries today hire young minds who possess competency in different skills. Various policies have emerged highlighting the importance of skills and ways to foster skills among students and hence teachers have a major role to foster these skills (Dede, 2010)<sup>2</sup>. This means that teachers have to integrate new ways of teaching.

**Skill-Based Teaching and Learning**

Foundational Literacies and Skills, Individual Productivity and Relations with others, Social-Emotional Well-Being, Ethics, Morals, Citizenship and Lifelong Learning were identified as the 21<sup>st</sup> Century Skills. The skills mentioned align with the skills highlighted in NCFSE 2023 which stresses that students of today should be curated and created in a way that will be more productive and useful for the economy. (NCFSE, 2023). The National Education Policy 2020 (NEP, 2020) also envisages that holistic learners are created who would possess 21st century life skills. This means teachers have a very important role to play in integrating skills while teaching. The two year B.Ed curriculum (University of Mumbai, (2012-2018)<sup>3</sup> has a subject called Drama and Art in Education. Through this paper the student teachers are taught how Art could be used to teach the content in the various school subjects. Different art forms like painting, cinema, music, theatre and literature could be used while mastering the content to students. This calls for art integrated teaching which means art integrated

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<sup>1</sup> Geethika, G. (2021). "Learning by Doing": Understanding the Gandhian Approach to Education. Journal of Polity and Society, 13(1).

<sup>2</sup> Dede, C. (2010). Comparing frameworks for 21st century skills. 21st century skills: Rethinking how students learn, 20(2010), 51-76.

<sup>3</sup> University of Mumbai. (2012-2018). Syllabus for two years bachelor of education programme. Retrieved from [B-Ed-2-Years-Syllabus.pdf \(sscoe.edu.in\)](https://sscoe.edu.in/B-Ed-2-Years-Syllabus.pdf)

learning. The National Institute for School Heads' and Teacher's Holistic Advancement has the responsibility to prepare teachers for holistic and competency-based teaching whereby music, dance and art could be used (Srivastava, 2023)<sup>4</sup>. Efforts are taken by government, teacher education colleges, schools and colleges to instill art integrated teaching and learning.

### **Art Integration and Skill Based Teaching**

Arts integration is "an approach to teaching in which students construct and demonstrate understanding through an art form. Students participate in a creative endeavor that links an artistic discipline with an additional subject area, thereby addressing the developing goals in both fields." (Silverstein & Layne, 2010). Students enjoy the process as they learn in a fun way. Integration of art in teaching leads to multidisciplinary teaching (National Art Education Association, 2021)<sup>5</sup>.

### **There are numerous benefits of Art Integrating teaching.**

1. Students enjoy the whole teaching process.
2. Students are actively involved in the teaching process
3. They learn by doing.
4. They learn to collaborate and work together.
5. They are able to think creatively.

### **Mathematics and Art Integration**

Mathematics by its very nature is creative, as there exists only one and one solution but there are different ways to arrive at the solution. Learning Mathematics through Art helps children to learn and comprehend Math in the most easy and unique ways. A simple example to this is the symmetry found in triangles, circles and quadrilaterals. Using origami paper would be a good way to make students understand the concept easily and at the same time improve their aesthetic sense. With this in mind, the present research used an Art Based Intervention Program to measure the Academic Achievement of Secondary Students in the subject of Mathematics. The sample for the study consisted of 30 students of Grade 6.

### **Art Based Intervention Program (ABIP)**

Before the Art Based Intervention Program was rolled out, the Academic Achievement of students in two topics - symmetry and 3D shapes was collected. The intervention was then conducted and a post test measuring their Academic Achievement in the two topics was collected. Two interventions were initiated and undertaken to introduce the concept of Art integration in Mathematics. The topic of symmetry and 3 Dimensional shapes was taught through the use of art. Both the topics were taught using origami paper. The topic of symmetry was taught by giving students origami paper and helping students understand the axis of symmetry. Students were subsequently provided with origami papers and instructed to illustrate the alphabet followed by an assessment of whether the letters they created exhibited symmetry. The second intervention was provided to help students understand the difference between 2D and 3D objects and understand its vertices, edges and faces. Origami paper was given to the students with the numbers written on the origami papers. The students had to cut them and based on it had to make a 2-D shape. After this paper cut outs were provided and from the 2D

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<sup>4</sup> Srivastava, P. (2023). Art integrated learning: An innovative and Inclusive approach to education. *International Education and Research Journal*, 9(7), 1-3.

<sup>5</sup> National Art Education Association. (2021). Position Statement on Arts Integration. Retrieved from <https://www.arteducators.org/advocacy-policy/articles/499-naea-position-statement-on-arts-integration>

paper students were asked to make 3-D shapes by providing step by step instructions. Through the activity, students were able to recognize vertices, faces and edges.

Both interventions provided hands on learning for the students as direct experiences were provided for them to learn about the concept.

### Objectives of the Study

1. To study the Achievement of Secondary School Students in Mathematics due to the Art Based Intervention Program.
2. To study the Secondary School Students' Perception towards Art Based Intervention Program in Mathematics on the basis of gender.

### Hypothesis of the Study

1. There is no change in the Achievement of Secondary School Students in Mathematics due to the Art Based Intervention Program.
2. There is no difference in the Perception of Secondary School Students towards Art Based Intervention Program in Mathematics on the basis of gender.

### Data Analysis

The first hypothesis was tested through the Achievement score in Mathematics between the pre-test and post-test. The second hypothesis was tested using Inferential Analysis

#### Hypothesis 1

1. There is no change in the Achievement of Secondary School Students in Mathematics due to the Art Based Intervention Program.

The graph indicates the Achievement scores of Secondary School Students in Mathematics before and after the Art Based Intervention Program. The graph clearly indicates that Art Based Intervention Program has made a significant impact in students' understanding of the two concepts. The post test scores of students have improved drastically which means that the Art Based Intervention has certainly made a great impact on students' understanding about Symmetry and 3 Dimensional shapes.

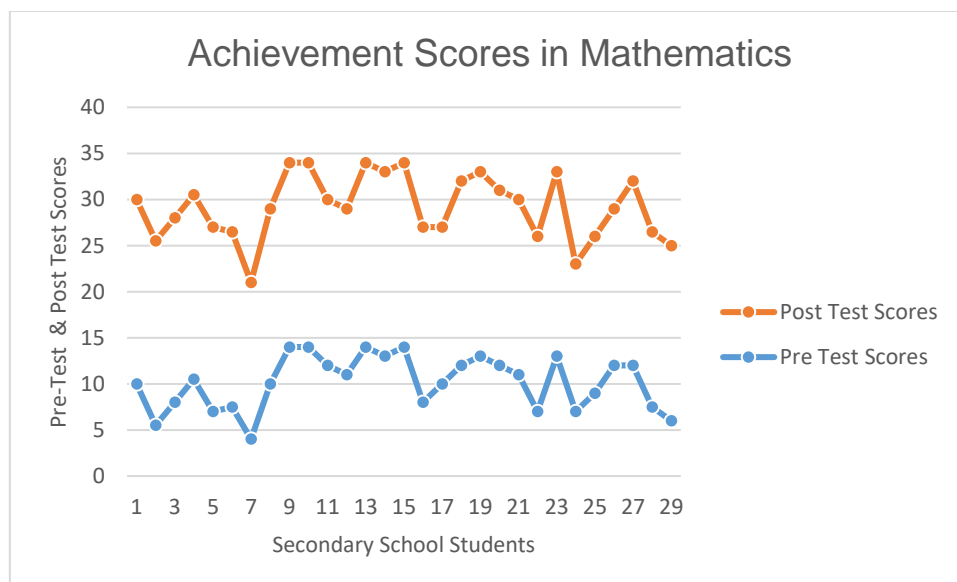


Figure 1.1 showing the Achievement scores of Secondary School Students in Mathematics

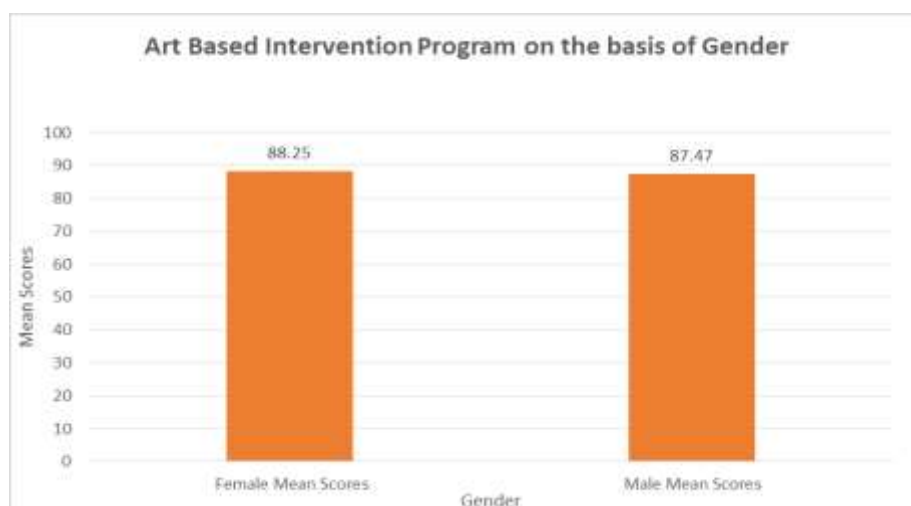
## Hypothesis 2

2. There is no difference in the Perception of Secondary School Students towards Art Based Intervention Program in Mathematics on the basis of gender.

Variable	Group	N	Mean	S.D.	Df	Tabulated Value	't' ratio	Los.
Perception towards Art Based Intervention Program	Male	12	88.25	9.26	27	At 0.01 level = 2.04	1.82	NS
	Female	17	87.47	10.51		At 0.05 level = 2.75		

## Interpretation of 't' test

The obtained value of 't' ratio for the secondary school students' perception towards art based intervention programs on the basis of gender is 1.82 which is less than the table value at 0.05 and 0.01 level. Thus, the 't' ratio is insignificant. Hence the null hypothesis is accepted.



**Figure 1.2 indicating the mean scores on Art Based Intervention Program on the basis of gender**

## Conclusion

There is a significant difference in the Secondary Student's perception towards Art Based Intervention Program on the basis of gender

## Discussion

Though the achievement scores in Mathematics for both genders increased significantly, the mean scores reveal that there is not much difference in students' perception towards the Art Based Intervention Program based on gender. This could be because both genders may be curious to learn through an Art Based Intervention Program. It could also be because most schools are co-ed so the difference is minimal. As both male students and female students interact well, the difference would be less as there would be better interaction between them. The students could have probably worked as a team and engaged in the Art Based Intervention Program which may have resulted in no difference in their perception towards the Art Based Intervention Program. The students would have enjoyed the

learning in a joyful and playful manner. This is supported in a study conducted by Pathak<sup>6</sup> where it was found that Math and Art go hand in hand to help children explore and learn in a playful manner and hence no difference in the perception scores among male and female students.

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<sup>6</sup> P. Geeta . *Improving Mathematical achievements through Art Integrated Learning: An Evaluative Study*.

## EXPLORING THE RELATIONSHIP BETWEEN STUDENT-TEACHER RELATIONSHIP AND TEACHER WELL-BEING

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### Abstract

*The student-teacher relationship plays a crucial role in shaping not only student outcomes but also teacher well-being. While extensive research has explored the impact of these relationships on student learning, relatively less attention has been given to their effects on teacher well-being. This study examines the influence of student-teacher relationships on teachers' well-being, considering factors such as job satisfaction, burnout and classroom environment. The study included 41 teachers from the primary and secondary. The tool used for the study was prepared by the researcher. The results indicate that a positive and supportive relationship with students can enhance a teacher's well-being whereas difficult student interactions, lack of respect or classroom conflicts can contribute to teacher burnout and emotional exhaustion. This research highlights the significance of fostering supportive and respectful classroom environments to enhance teacher well-being.*

**Keywords:** *Student-teacher Relationship, Teacher Well-being, Burnout, Job Satisfaction, Classroom Environment.*

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### Introduction

“Invest in our teachers, and our children will succeed.”

— Barack Obama

Teachers are the agents of change and insights in teacher wellbeing might add to the dissemination of intervention programs in schools (Lochman, 2003). Teachers are important adults in children's scholastic lives and there is some evidence that teacher wellbeing, at least indirectly, has significant effects on children's socio-emotional adjustment and academic performance (Hamre and Pianta, 2004; Malmberg and Hagger, 2009; Moolenaar, 2010; Roth et al. 2007). Teacher-student relationships characterized by conflict and mistrust have deleterious effects on children's learning (Hamre and Pianta, 2001). It is widely believed that personal relationships with children afford teachers internal rewards and give meaning to their work. Teacher-student relationships are often mentioned as one of the core reasons for staying in the profession (Hargreaves 1998; O'Connor, 2008).

Hargreaves (2000) conducted in-depth interviews with 60 teachers and found that relationships with students were the most important source of enjoyment and motivation. This was found for both primary and secondary school teachers, although the findings indicated more emotionally intense relationships in elementary than in secondary schools. Elementary teachers experienced both negative and positive emotions and referred more often to incidents of anger and frustration. Secondary teachers tended to describe personal relationships with students more in terms of acknowledgment and respect (Hargreaves 2000).

Teachers' relationship experiences with students were argued to be an important daily source of teacher emotion and cognition, potentially affecting a teacher's wellbeing (Spilt et al., 2011). Teachers who develop affectionate bonds with their students, who feel valued and rewarded by them and who have the feeling that this affective work deposits itself in effective learning for the students



(Hargreaves, 2000) should feel supported. Thus, teachers' wellbeing may profit from close relationships.

According to the Transactional Model of Stress and Coping (Lazarus & Folkman, 1984) the quality of student-teacher relationships influences teachers' appraisal of stressors and their coping mechanisms. Supportive relationships can mitigate perceived stress, enhancing coping efficacy. The Prosocial Classroom Model (Jennings and Greenberg, 2009) suggests that teachers' social and emotional competence, bolstered by positive student interactions, leads to better classroom management and student outcomes, thereby enhancing teacher well-being.

According to the Self-Determination Theory (SDT), Deci and Ryan (1985) proposed that individuals thrive when their basic psychological needs - autonomy, competence and relatedness are met. Positive student-teacher relationships enhance teachers' sense of relatedness, leading to greater job satisfaction and reduced stress (Klassen et al., 2012). Job Demands-Resources (JD-R) Model, (Bakker and Demerouti, 2007) suggest that job demands (e.g., classroom management challenges) and resources (e.g., supportive students) influence burnout and engagement. Strong student-teacher relationships act as a resource, buffering teachers against stress and increasing resilience (Hakanen et al., 2006). Research consistently finds that supportive student-teacher relationships results in teachers feeling connected with students and thus report higher job satisfaction and motivation (Spilt, Koomen, & Thijs, 2011).

Close and respectful relationships with students enhance teachers' sense of purpose and professional commitment (Hargreaves, 2001). Teachers who experience positive interactions with students report lower levels of emotional exhaustion and stress (Jennings & Greenberg, 2009). Conversely, strained relationships with students result in emotional exhaustion due to persistent classroom conflicts and student misbehavior which increase teacher stress and burnout (Skaalvik and Skaalvik, 2017). Teachers who struggle to build rapport with students may experience decreased confidence in their abilities, leading to job dissatisfaction (Friedman, 2006). Negative student interactions are a significant factor in teacher attrition, particularly in high-stress environments (Ingersoll, 2001).

Teachers who perceive emotional support from their students - manifested through respect, cooperation, empathy and appreciation report greater emotional resilience, job satisfaction and reduced levels of emotional exhaustion. A warm and trusting classroom environment provides emotional affirmation and validation, which is crucial in preventing burnout (Hamre & Pianta, 2001). According to Split et al. (2011), emotional closeness with students reduces stress and enhances teachers' emotional regulation, promoting long-term psychological health.

Positive student-teacher communication fosters mutual understanding, decreases classroom conflict and enhances instructional effectiveness. When students respond positively to teacher instructions, actively listen and participate respectfully, teachers are more likely to feel confident and in control of their classroom environment. This directly reduces stress and anxiety levels associated with behavior management and boosts job satisfaction (Davis, 2003; Jennings & Greenberg, 2009). Teachers who feel heard and respected by their students experience increased motivation and clarity in their teaching roles.

Student engagement, characterized by interest, attention and participation in learning activities, has been found to positively correlate with teachers' sense of accomplishment and professional purpose. A classroom where students are attentive and eager to learn encourages teachers to innovate, reflect and

remain committed to their profession. This reciprocal enthusiasm promotes job satisfaction and prevents professional stagnation (Roorda et al., 2011). Skaalvik and Skaalvik (2010) highlighted that student motivation significantly impacts teacher motivation, suggesting that teacher well-being is not only a function of workload but also of student responsiveness.

A respectful and cooperative classroom atmosphere reduces the emotional burden on teachers, lowering their stress and improving their work-life balance. Positive student behavior decreases the time teachers spend on disciplinary actions and increases instructional time, resulting in a more fulfilling teaching experience (Jennings & Greenberg, 2009). Split, Koomen, and Thijs (2011) noted that fewer student-teacher conflicts were associated with lower teacher burnout and higher overall well-being.

Teaching is a demanding profession that requires emotional investment, patience and resilience. Hence, the quality of interactions between teachers and students significantly influences the overall classroom experience. This study aims to examine how student-teacher relationships influence teacher well-being and identify factors that contribute to a supportive and healthy teaching environment.

### **Need of the Study**

The role of teachers extends beyond knowledge delivery to fostering relationships that shape student outcomes and classroom dynamics. However, these relationships also significantly affect teachers themselves. Positive student-teacher relationships can enhance teacher well-being by reducing stress and increasing motivation, whereas negative interactions can contribute to emotional exhaustion and job dissatisfaction.

The increasing prevalence of teacher burnout and attrition has raised concerns about the sustainability of the teaching profession. These focus on administrative workload, curriculum pressure and classroom management as stressors, but few have examined how daily student interactions impact teachers' well-being. Based on attachment and self-determination theories, positive educator-learner relationships are keys to the development of learners. This is because educators who guide and support learner behavior in academic and emotional terms build a social context in which learners feel secure, interconnected, independent, competent and motivated to learn, capable of personal growth (Aldrup et al., 2018). Many empirical studies are consistent with this assumption and show that educator proximity and educator influence are related to individual classroom outcomes, such as learner accomplishment, self-esteem, interest or effort (Wentzel et al., 2010; Scherer et al., 2016). This study seeks to fill this gap by exploring the direct and indirect effects of student-teacher relationships on teachers' emotional and professional experiences.

### **Statement of the Problem**

A study of relationship between Student-teacher Relationship and Teacher Well-being.

### **Variables of the Study**

Independent Variable: Student-Teacher Relationship

Dependent Variable: Teacher Well-being

### **Operational Definitions of the Terms**

- Student-Teacher Relationship - For the purpose of the present study, student- teacher relationship is defined as the dynamic and reciprocal relationship between students and teacher.
- Teacher Well-being - For the purpose of the present study, teacher well-being is defined as the overall emotional and psychological health of educators, influenced by their experiences in the classroom, work environment and interpersonal relationships with students.

**Aim of the Study**

To study the relationship between Student-Teacher Relationship and Teacher Well-being.

**Objectives of the Study**

1. To study the relationship between the overall Student-Teacher Relationship and Teacher Well-being.
2. To study the relationship between the mutual respect and trust dimension of Student-Teacher Relationship and Teacher Well-being.
3. To study the relationship between the emotional support dimension of Student-Teacher Relationship and Teacher Well-being.
4. To study the relationship between the learning environment dimension of Student-Teacher Relationship and Teacher Well-being.
5. To study the relationship between the conflict resolution dimension of Student-Teacher Relationship and Teacher Well-being.

**Null Hypothesis of the Study**

H1: There is no significant relationship between the overall Student-Teacher Relationship and Teacher Well-being.

H2: There is no significant relationship between the mutual respect and trust dimension of Student-Teacher Relationship and Teacher Well-being.

H3: There is no significant relationship between the emotional support dimension of Student-Teacher Relationship and Teacher Well-being.

H4: There is no significant relationship between the learning environment dimension of Student-Teacher Relationship and Teacher Well-being.

H5: There is no significant relationship between the conflict resolution dimension of Student-Teacher Relationship and Teacher Well-being.

**Research Design****Methodology**

The study adopted the descriptive method of correlational type.

**Sample of the study**

In the present study, the sample consisted of 41 teachers from St. Stanislaus High School, Bandra, situated in Greater Mumbai, affiliated to Maharashtra State Board of Secondary Education. The sample selected consisted of both males and females from aided as well as unaided schools.

**Sampling technique**

The present study adopted the stratified convenient sampling technique.

**Tools of Study**

The tool for the present study was developed by the researcher. The quantitative data collected through the 5-point Likert rating scale was first scored as follows: Strongly Agree (5), Agree (4), Neutral (3), Disagree (2) and Strongly Disagree (1). All statements being positively worded followed the above scoring and negative statements were scored in the reverse way. It comprised 30 statements under two categories: Student- Teacher Relationship and Teacher Well-being.

## Findings of the Study

**Table 1**  
**Correlation of Overall Student–Teacher Relationship (STR-TWB) and Overall Teacher Well-being (TWB)**

Variables	Mean	SD	Df	Calculated 'r'	Tabulated 'r'		LOS	Variance 100 r <sup>2</sup>
					0.05	0.01		
STR-TWB	42.90	4.28	39	0.58	0.087	0.114	0.01	34.68%
TWB	84.14	8.06						

## Findings and Conclusions

The obtained value of r (0.58) is significant at 0.01 level and therefore the null hypothesis is rejected. There is a significant relationship between the Mutual Respect and Trust dimension of Student-Teacher Relationship and Teacher Well-being.

## Interpretation of the Findings

The relationship between the overall Student–Teacher Relationship and Overall Teacher Well-being is positive but moderate. The variance of one variable shared with the other variable is only 34.68 % which means that a teacher high on Well-being need not necessarily also be high on Student-Teacher relationship and vice versa. Higher Student-Teacher Relationships need not necessarily mean higher Well-being and vice versa. They may be two independent variables which need to be studied separately.

**Table 2**  
**Correlation of Mutual Respect and Trust (MRT- STR) Dimension of Student Teacher Relationship and Overall Teacher Well-being (TWB)**

Variables	Mean	SD	Df	Calculated 'r'	Tabulated 'r'		LOS	Variance 100 r <sup>2</sup>
					0.05	0.01		
MRT- STR	17.56	2.40	39	0.58	0.087	0.114	0.01	34.09%
TWB	84.14	8.06						

## Findings and Conclusions

The obtained value of r (0.58) is significant at 0.01 level and therefore the null hypothesis is rejected. There is a significant relationship between the mutual respect and trust dimension of Student-Teacher Relationship and Teacher Well-being.

## Interpretation of the Findings

The relationship between the mutual respect and trust dimension of Student-Teacher Relationship and Teacher Well-being is positive but moderate. The variance of one variable shared with the other variable is only 34.09 % which means that a teacher high on well-being need not necessarily also be high on mutual respect and trust and vice versa. Higher mutual respect and trust need not

necessarily mean higher well-being and vice versa. They may be two independent variables which need to be studied separately.

**Table 3**  
**Correlation of Emotional Support (ES- STR) Dimension of**  
**Student Teacher Relationship and Overall Teacher Well- being (TWB)**

Variables	Mean	SD	df	Calculated 'r'	Tabulated 'r'		LOS	Variance 100 r <sup>2</sup>
					0.05	0.01		
ES- STR	8.78	1.12	39	0.44	0.087	0.114	0.01	19.61%
TWB	84.14	8.06						

### Findings and Conclusions

The obtained value of r (0.44) is significant at 0.01 level and therefore the null hypothesis is rejected. There is a significant relationship between the emotional support dimension of Student-Teacher Relationship and Teacher Well-being.

### Interpretation of the Findings

The relationship between the emotional support dimension of Student-Teacher Relationship and Teacher Well-being is positive but moderate. The variance of one variable shared with the other variable is only 19.61% which means that a teacher high on well-being need not necessarily also be high on emotional support and vice versa. Higher emotional support need not necessarily mean higher well-being and vice versa. They may be two independent variables which need to be studied separately.

**Table 4**  
**Correlation of Learning Environment (LE- STR) Dimension of**  
**Student-Teacher Relationship and Overall Teacher Well-being (TWB)**

Variables	Mean	SD	df	Calculated 'r'	Tabulated 'r'		LOS	Variance 100 r <sup>2</sup>
					0.05	0.01		
LE- STR	8.65	1.31	39	0.41	0.087	0.114	0.01	17.41%
TWB	84.14	8.06						

### Findings and Conclusions

The obtained value of r (0.41) is significant at 0.01 level and therefore the null hypothesis is rejected. There is a significant relationship between the learning environment dimension of Student-Teacher Relationship and Teacher Well-being.

### Interpretation of the Findings

The relationship between the learning environment dimension of Student-Teacher Relationship and Teacher Well-being is positive but moderate. The variance of one variable shared with the other variable is only 17.41% which means that a teacher high on well-being need not necessarily also be high on learning environment and vice versa. Higher learning environment need not necessarily mean

higher well-being and vice versa. They may be two independent variables which need to be studied separately.

**Table 5**  
**Correlation of Conflict Resolution (CR- STR) Dimension of**  
**Student-Teacher Relationship and Overall Teacher Well- being (TWB)**

Variables	Mean	SD	df	Calculated 'r'	Tabulated 'r'		LOS	Variance 100 r <sup>2</sup>
					0.05	0.01		
CR- STR	7.90	0.80	39	0.08	0.087	0.114	0.01	0.77%
TWB	84.14	8.06						

### Findings and Conclusions

The obtained value of r (0.08) is not significant at 0.01 level and therefore the null hypothesis is accepted. There is no significant relationship between the conflict resolution dimension of Student-Teacher Relationship and Teacher Well-being.

### Interpretation of the Findings

The relationship between the conflict resolution dimension of Student-Teacher Relationship and Teacher Well-being is weak and shows no relation to each other. The variance shared between the two variables is only 0.77%, indicating that a teacher's well-being is not necessarily associated with their conflict resolution skills and vice versa. A higher level of conflict resolution does not necessarily correspond to higher well-being, nor does greater well-being imply stronger conflict resolution skills. This suggests that the two variables may be independent and should be studied separately.

### Discussion of Results

The analysis of quantitative data indicates the following:

- i) There exists a moderate relationship between overall Student-Teacher Relationship and overall Teacher Well-being.
- ii) There exists a moderate relationship between mutual respect and trust dimension of Student-Teacher Relationship and overall Teacher Well-being.
- iii) There exists a moderate relationship between the emotional support dimension of Student-Teacher Relationship and overall Teacher Well-being.
- iv) There exists a moderate relationship between the learning environment dimension of Student-Teacher Relationship and overall Teacher Well-being.
- v) However the relationship between conflict resolution dimension of Student-Teacher Relationship and Teacher Well-being is found to be weak.

According to Davis (2003), effective communication fosters teacher-student trust. Jennings and Greenberg (2009), stated that positive communication reduces conflict and promotes well-being. Engaged students create more satisfying work environments for teachers (Roorda et al., 2011). Student motivation predicts teacher job motivation (Skaalvik & Skaalvik., 2010). According to Jennings and Greenberg (2009), positive student behavior lowers emotional exhaustion. Perceived support from students enhances teacher morale (Klassen and Chiu., 2010).

## Conclusion

This study highlights the importance of fostering positive student-teacher relationships to enhance teacher well-being. Addressing student-teacher dynamics can lead to improved job satisfaction, reduced burnout, and higher retention rates in the teaching profession. By fostering positive interactions, schools can create a supportive environment that enhances both teacher satisfaction and student learning outcomes.

This study provides insights into the overall well-being of teachers, emphasizing the role of student relationships in shaping it. A teacher's well-being is shaped by multiple interconnected factors. The literature consistently demonstrates that positive student-teacher relationships are a foundational factor in fostering teacher well-being. From emotional support and engagement to reduced conflict and mutual respect, the nature of daily teacher-student interactions directly influences teachers' emotional, psychological and professional health. As such, nurturing these relationships is not only essential for student success but also a strategic priority for teacher retention, effectiveness, and satisfaction.

Teachers who perceive their relationships with students positively tend to report higher levels of emotional well-being, satisfaction with their profession, and greater commitment to their schools. According to Day and Gu (2009), emotional rewards from student interactions are key motivators for many educators and contribute significantly to their professional identity and resilience. Teachers who feel connected to their students are more likely to stay in the profession and develop a sense of meaning in their work.

A supportive school environment, strong relationships and opportunities for growth all contribute to the overall well-being. Addressing these issues can enhance teacher retention, performance and overall happiness in the profession. It will help policymakers, school administrators and educators implement strategies to foster positive interactions and create a positive learning environment. A strong student-teacher relationship benefits both the student and the teacher, enhancing student learning while promoting teacher well-being. Prioritizing these connections can create a more sustainable and fulfilling teaching experience.

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**BEYOND THE CLASSROOM DOOR - OF TEACHERS, STUDENTS AND EXPERIENTIAL, PLACE-BASED LEARNING****Nati Kranot***Principal, Hadera Agricultural Farm School, Haifa**Lecturer, Gordon Academic College of Education, Haifa*

*\*\* This author is in a war zone and hence was subsequently unavailable for edits as suggested by the peer reviewer. But since he made an impactful presentation during the webinar, our team editorial decided to publish his article as it is\*\**

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**Abstract**

*The paper explores the transformative potential of outdoor, experiential and place-based learning as a meaningful alternative to traditional classroom-based education. Challenging the conventional image of the classroom - rows of desks oriented toward a teacher and blackboard, the author advocates for a pedagogy that moves beyond physical walls and embraces the surrounding environment as a dynamic and interactive learning space. Drawing on years of academic research and practical experience, the paper addresses the psychological and institutional barriers that prevent educators from implementing outdoor learning, including issues of control, structure, and lack of training.*

*The discussion differentiates between simply teaching outdoors and engaging in genuine outdoor learning, emphasizing the importance of student interaction with their environment. The paper outlines key benefits of this approach, including enhanced curiosity, experiential and interdisciplinary learning, development of social skills and a stronger connection to local communities through place-based education. By setting clear educational goals - such as spatial awareness, environmental engagement and collaboration educators can tailor outdoor experiences to be both relevant and impactful. Presented is a spectrum of activities, from conducting lessons in the schoolyard to neighborhood explorations and extended field trips, all aimed at fostering a deeper, more authentic engagement with the world. Ultimately, the paper underscores that profound learning begins with a simple but significant act - opening the classroom door and making that first step.*

**Keywords:** *Outdoor learning, Place-based education, Experiential learning, Educational goals, Engagement, Barriers*

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**Introduction**

Let us have a look at a generic picture of a classroom (drawn to my request by ChatGPT):



**The classroom design dictates the way of learning and pedagogy:**

It often features rows of desks facing the teacher's podium, thus limiting students' interactions with their peers and focusing on the source of knowledge - the teacher, the blackboard and the screen. While this setup aims to create a focused learning atmosphere, it might create a futile effort to learn about the world (being projected on the board, in our picture), while the real world is out there – beyond the classroom's closed door.

This paper provides a glimpse to the opportunities outdoor learning presents and goals it aims to achieve in enhancing students' educational experiences. It draws on years of research and practical experience in teaching outdoor learning concepts and practices to both teachers and teaching students.

**The First Step is the Hardest**

There is a growing recognition of the benefits of outdoor learning. However, not many teachers open the classroom door and take their students outside. Many educators feel that the structured environment of the classroom provides a sense of control and organization that outdoor settings cannot guarantee (Kranot, 2021; Tal et al., 2014; Orion & Hoffstein, 1994). Additionally, insufficient training in outdoor pedagogy can contribute to teachers' reluctance to utilize outdoor environments effectively, limiting their willingness to teach outside (Benson, 2018).

It was the COVID pandemic that increased the emphasis on outdoor spaces as safer alternatives to traditional classroom settings. Many schools adopted outdoor learning as a strategy to mitigate the risk of virus transmission while still facilitating social interaction among students. Furthermore, educators became more innovative in their approaches utilizing local parks and outdoor classrooms to deliver curricula while promoting physical distancing (Millward et al., 2024). Teaching outside is the first step. However, as shown in picture 2, it is not enough:



This is a **class learning outdoor** and it should not be confused with **outdoor learning**. The main difference between the two is that the former still retains the setting of a traditional indoor lesson, where students focus primarily on the teacher while ignoring their surroundings and each other. In contrast, outdoor learning emphasizes a connection to the students' environment - whether natural, urban or human - encouraging engagement with the setting and fostering meaningful interactions among students and their surroundings.

**Outdoor Pedagogic Opportunities**

Outdoor learning presents a wealth of opportunities that challenge traditional educational norms, some of which are:

- Promoting Curiosity: Outdoor learning encourages students to ask questions, seek answers

and engage in active inquiry which creates lifelong learners (Louv, 2005).

- **Experiential Learning:** Learning outside the classroom encourages hands-on experiences that foster deeper understanding through experiment in real-world contexts (Dewey, 1938 ; Kolb, 1984).
- **Interdisciplinary Learning:** Outdoor settings present opportunities for interdisciplinary learning where subjects like Science, Language, Art and Geography blend seamlessly (Ardoin et al., 2013).
- **Enhanced Social Skills:** Outdoor learning emphasizes collaboration and teamwork. Activities like team games, group projects and community service foster skills such as communication, problem solving and empathy (DeWitt & Storksdieck, 2008; Dillon et al., 2006).
- **Place Based Learning:** Place-based learning is an educational approach that emphasizes the importance of local environments and communities as integral aspects of the learning process. By engaging students with their immediate surroundings, it fosters a deeper connection to the community and enhances their understanding of local ecosystems, culture and history (Sobel, 2004). Outdoor learning often involves exploring these elements, allowing students to gain a broader perspective on their community and the diverse viewpoints that shape it (Beard & Wilson, 2013).

### Defining the Goals

To fully harness the potential of outdoor learning, it is essential to clearly define our objectives.

- Are we aiming to develop spatial awareness and orientation, such as understanding the city map and acquiring navigation skills?
- Do we seek to foster a deeper connection with their local environment? Or perhaps we wish to encourage collaboration and teamwork?



These clearly defined objectives will guide the activities and learning experiences we facilitate outdoors ensuring that the learning is not only meaningful but also deeply connected to the students' immediate environment.

For example: In the schoolyard, Observing a puddle after the rain and then tracking its evaporation, may provide a concrete and real understanding of the water cycle more than any presentation or diagram



Taking the students on a short trip to the neighborhood and engaging them in activity with an old water pool will introduce them to a unique characteristic of their urban environment and may spark their curiosity to learn more about its history and the people connected to it.

Hereby, I suggest a range of educational outdoor activities starting from conducting the original lesson outside the classroom through hands-on educational activities in the schoolyard, short tours in the neighborhood and in the city, up to longer trips and excursions.

These activities allow students to connect with their surroundings, learn about various topics in a practical manner, and develop social skills and awareness of their environment. While implementing outdoor learning may initially seem daunting, complex and confusing, it all begins with one action: taking the first step by opening the classroom door and stepping outside to engage with the real world. This action could lead to profound learning experiences and discoveries.

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## UPSKILLING PEDAGOGY OF HISTORY: INTEGRATING CRITICAL INQUIRY IN HISTORY TEACHING TO BUILD HISTORICAL THINKING SKILLS

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### **Abstract**

*21<sup>st</sup> century education aims to prepare students for tomorrow by focusing on developing higher-order thinking skills, so that they excel in an ever-changing global landscape. But the traditional way of teaching does not help to achieve this aim; especially when we talk about History as a subject. The conventional way of teaching History emphasizes more on remembering and stating dates, years, names and events. That is not the objective of teaching History. We teach history so that our students can develop and utilize the knowledge of History. To do this, History educators should focus on developing Historical Thinking Skills as the aim of teaching History. If we fail in this responsibility, we will be doing an injustice to these students. That is why upskilling the pedagogy of History is very crucial in the 21<sup>st</sup> century.*

**Key words:** Upskilling, 21st Century Education, Historical Thinking skills, Critical Inquiry, Evaluations

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### **Introduction**

*"The more you know about the past the better prepared you are for the future"*

*Theodore Roosevelt*

Knowing the past through History as a subject can prepare the learners for a better future. For this, History teaching should be more than just reading from the textbook. Teachers should be responsible for expanding and cultivating students' thinking skills through History teaching. For 21st-century History learners, certain outcomes are expected, such as being able to comprehend the world, the society and others. They should be able to deal with present issues and most importantly, the process of change over periods of time. Development of Historical Thinking Skills is what is necessary in History teaching. "Historical thinking" plays an important part in the philosophy and practice of History Education. (Seixas. P, 2015). For this, integrating critical inquiry in history teaching is crucial as that allows teachers to foster higher-order Historical Thinking Skills in students which results in making History Education more meaningful.

### **Upskilling Pedagogy of History**

The old way of History teaching is all about making students memorize the facts and making sure that they can recall them in exams. Teachers still do not really emphasize the aspect of guiding students to master some higher-order thinking skills. It has a challenge of how to add more present-day and diverse content in History teaching. Chronological instruction also makes it difficult for students to make connections across time. For this History educators need to teach History not chronologically but thematically or conceptually. Only remembering information of the past is not what we expect from 21st-century History learners. This is why upskilling of the Pedagogy of History has become crucial in today's time.

We need to shape our learners in such a way that they develop a global perspective, can critically analyze and evaluate information from multiple perspectives, develop research attitude and do not just simply believe in what is written in History textbooks. It is also important that they collaborate and communicate with fellow beings which is truly needed in today's world of globalization; and most importantly they should be able to find creative solutions for current social,

political and economic challenges. All this is possible if History teachers focus on developing Historical Thinking Skills as the ultimate outcome of history teaching.

**Historical Thinking:**

Historical Thinking is a process that is important and needs to be applied to students, especially while teaching History subject. Historical Thinking means gaining a deep understanding of historical events and processes through active engagement with historical texts while studying History. Students need to be prepared to participate actively in democratic discourse after studying History. Also, they must be able to use their new found historical knowledge in daily life.

“Historical Thinking Skills are a set of mental operational skills that includes the process of forming concepts, principles, understanding, problem-solving, decision making, investigation based on evidence and the ability to criticize and understand changes over time.” (Seixas, 1996)

The six "Historical Thinking Concepts" were created by The Historical Thinking Project, led by Dr. Peter Seixas of the University of British Columbia and educational expert Jill Colyer. (Seixas, P. and Morton, T., 2012). These six historical thinking skills suggest pathways for students to achieve a greater understanding of what has happened in the past, rather than rely on rote memorization.

**Following are the six Historical Thinking Skills.**

1. Establish the Historical Significance: To decide what is important to learn about the past and identify significant events that resulted in great change over long periods of time for large numbers of people.
2. Use Primary Source Evidence: This includes how to find, select, interpret and contextualize evidences from primary sources.
3. Identify Continuity and Change: Looking for change where common sense suggests that there has been none and looking for continuities where we assumed that there was change.
4. Analyze Cause and Consequence: Searching for causes, what were the actions, beliefs and circumstances that led to the consequences.
5. Take Historical Perspectives: Historical perspective-taking is the cognitive act of understanding the different social, cultural, intellectual and even emotional contexts that shaped people's lives and actions in the past.



6. Understand the Ethical Dimension of Historical Interpretations: Learning something from the past that helps us in facing the moral issues of today.

Ekecrantz, Parliden and Olsson (2015) stated that students need to be taught about the concept of Historical Thinking Skills to create a new perception and mind - that the subject of History is not something static and boring. According to Kitot, A. K. A., Ahmad, A. R., & Seman, A. A. (2010), the continuity of inquiry teaching in class will train and guide students to seek answers through thinking. Actually, students will be able to come up with a straightforward solution fast. Students' interest in History would tangentially rise as a result. Teachers should, however, design a classroom atmosphere that inspires students to learn by doing.

To build on the above six Historical Thinking Skills, we need to use Critical Inquiry-based methods of teaching History.

### **Integrating Critical Inquiry in History Teaching**

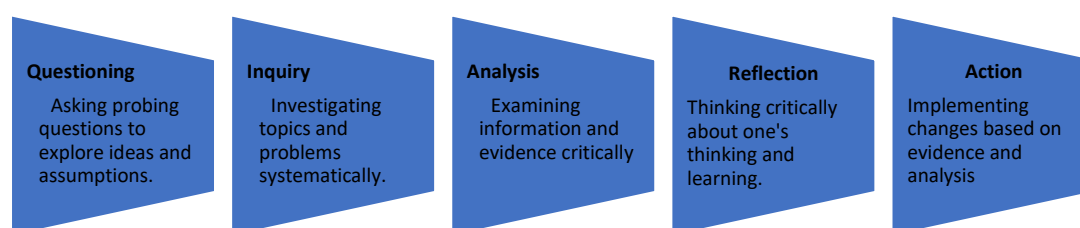
Critical inquiry is the act of obtaining and assessing information, ideas, and assumptions from various angles to provide well-reasoned analysis and knowledge, which leads to new ideas, applications and questions. Inquiry-based learning is a student-centered teaching approach that encourages pupils to ask questions and research real-world challenges. Zahara and Nik Azleena (2007) assert that teachers should be responsible for expanding and cultivating students' thinking skills through various teaching methods and techniques.

### **Elements of Critical Inquiry**

Critical Inquiry has some specific elements which leads to higher order thinking. The following methods involve the above elements and help to shape Historical Thinking concepts in students' mind:

- **Debates**

An excellent strategy for fostering critical thinking in students is to have debates in History classes. Students are compelled to consider both arguments closely when they discuss a topic. As a result,



### **The key elements of Critical Inquiry**

Various viewpoints are developed. It eventually aids in their development of Historical Thinking.

- **Field Trips**

Another activity to encourage inquiry-based learning is to take students on field trips. This will allow them to explore the primary sources and learn about the past through that. For instance, we may take them to the forts to examine the historical materials and learn about Shivaji's life.

- **Projects**

Another excellent approach for encouraging inquiry-based learning is through projects. Students are more likely to acquire, retain, and comprehend the content when they are given the opportunity to work on a project that is connected to the historical subject they are learning.

- **Group Work**

Students can exchange ideas and opinions with others when they collaborate in groups. They can have a greater understanding of History because of this practice.

- **Asking Open-ended Questions**

In the History classroom, posing open-ended questions encourages introspection and improves critical thinking abilities. By forcing students to look beyond the obvious and consider several angles of a subject, open-ended questions can aid in the development and practice of critical thinking abilities.

- **Analysis of Primary source**

It allows for independent interpretation and offers direct access to raw information, making them invaluable for accurate research. By studying primary sources, students can get a more detailed understanding of what caused past event and the consequences of that event.

- **Experiential learning**

Teachers intentionally engage students in first-hand experience and concentrated thought as part of the experiential learning philosophy and technique to expand students' knowledge, sharpen their abilities and make concepts more understandable.

- **Encouraging Research**

To encourage research in students, create a supportive environment, provide guidance opportunities, and highlight the value and benefits of research, while also recognizing and rewarding their achievements.

- **Flipped classroom**

A flipped classroom is a teaching approach where students engage with new material outside of class (e.g., through videos or readings) and then use class time for active learning, discussions, and problem-solving. This can be a very useful method to build higher-order thinking skills in students.

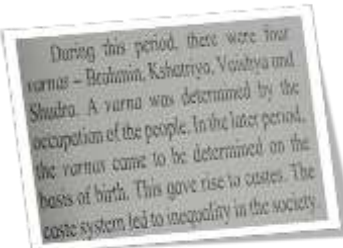
- **Discussion**


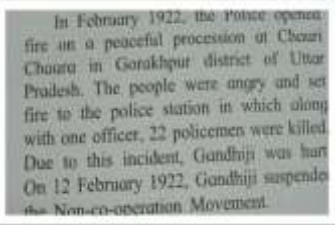

The discussion method of teaching involves a teacher facilitating a collaborative exchange of ideas among students, fostering critical thinking, and promoting active learning through open-ended questions and discussions

- **Cooperative Learning Strategies**

Under the direction of the teacher, students use the cooperative learning approach to collaborate in small groups to achieve a shared learning objective.

Here are some examples of different Critical Inquiry-based Methods that can be used to develop the six Historical Thinking Skills.

Topic	Critical Inquiry-Based Methodology	Questions to foster Inquiry	Builds following Historical Thinking skills
Varna System during the Vedic Period 	<ul style="list-style-type: none"> <li>● Cooperative Learning (Think Pair Share)</li> <li>● Debate</li> </ul>	<ul style="list-style-type: none"> <li>● What social problems do we face today because of the Varna System that prevailed during the Vedic period?</li> <li>● Topic for Debate - Need for Reservations in India</li> </ul>	<ul style="list-style-type: none"> <li>● Establish Historical Significance</li> <li>● Analyse Cause and Consequence</li> </ul>

<p>Satyagraha</p> 	<ul style="list-style-type: none"> <li>Source (Gandhi's letters)</li> <li>Analysis by Experiential Learning</li> </ul>	<ul style="list-style-type: none"> <li>What kind of person was Gandhi?</li> <li>What are the values Gandhi believed in?</li> </ul>	<ul style="list-style-type: none"> <li>Use primary source evidence</li> </ul>
<p>Non-Cooperation Movement</p> 	<ul style="list-style-type: none"> <li>Research</li> <li>Discussion</li> <li>Role Play</li> </ul>	<ul style="list-style-type: none"> <li>Why did Gandhi suspend the Non-co-operation Movement?</li> <li>What must be his motive behind it?</li> </ul>	<ul style="list-style-type: none"> <li>Take historical perspectives</li> <li>Understand the ethical dimension of historical interpretations</li> </ul>
<p>Gandhi's Role in South Africa</p> 	<ul style="list-style-type: none"> <li>Flipped Classroom (videos and reading references given to study followed by classroom Discussion)</li> </ul>	<ul style="list-style-type: none"> <li>What is the significance of Gandhi's life experiences in South Africa in the History of the Indian freedom struggle?</li> </ul>	<ul style="list-style-type: none"> <li>Establish Historical Significance</li> </ul>

### Conclusion:

To develop Historical Thinking Skills, History should be taught in such a way that students not only comprehend but also apply historical knowledge in real time. This type of reform is essential for History teaching methods. However, these ideas will not be realized unless comparable reforms in evaluation processes are implemented in history. As a result, new historical learning evaluations would need to be established in parallel with new History teaching methods.

Enhancing History pedagogy through the incorporation of Critical Inquiry into History instruction fosters the development of Historical Thinking Skills. This can transform 21st-century learners to be a better version of themselves - as students and as global citizens.

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## TEACHERS' PERCEPTIONS TOWARDS INTEGRATING ENVIRONMENTAL SUSTAINABILITY INITIATIVES IN PRIMARY AND SECONDARY SCHOOLS

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### Abstract

*Environmental Sustainability is becoming a growing issue globally. Deforestation, global warming, ice melting, pollution, waste management, loss of biodiversity, water scarcity and depletion of resources are some of the catastrophic challenges. Education plays a significant role in solving these problems by educating students to become environmentally responsible. The National Education Policy (NEP) 2020 also emphasises on the need for incorporating environmental literacy and sensitivity toward its preservation since teachers are the driving force of change toward sustainability.*

*This study explores teachers' perceptions towards environmental sustainability, focusing on waste management, water conservation, and energy conservation in schools. The research tool was prepared by the researcher and data was collected from 33 school teachers. The results of the study indicate a positive attitude of teachers towards environmental education with a favourable attitude towards waste management, water and energy conservation.*

**Key words:** *Environmental Sustainability, Teacher Perceptions, Waste Management, Water Conservation, Energy Conservation.*

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### Introduction

Environmental sustainability is a growing global issue to the world. Conservation and proactive measures are necessary to address these concerns and have a sustainable future. It is not only about maintaining natural resources but also about creating a culture of responsibility and environmental awareness, and hence it is a significant skill for the 21st century. In these unprecedented situations, we should empower students to become responsible environmental stewards through education.

As Nelson Mandela rightly said, "Education is the most powerful weapon that can be used to change the world." National Education Policy (NEP) 2020 highlights the importance of environmental awareness and conservation in the curriculum. However, according to Aarnio-Linnanvuori, unless the teachers themselves position themselves as engaged agents of transformation, they may not be able to promote environmental citizenship among the students. This emphasizes the importance of exploring teachers' attitudes, perceptions, and competencies towards sustainability education. Research has already shown the effect of environmental education on students' attitudes (Jaus, 1984) and the role of teachers in the environmental sustainability attitudes of students has also been explained (Said et al., 2003). Teachers' competences and motivation are crucial for effective sustainability education (Brandt et al., 2019). However, Pegalajar-Palomino et al. (2021) identified that although future teachers are dedicated to environmental concerns, they do not possess the professional competences required to apply sustainability education in the classroom successfully.

This research surveys teachers' understanding of environmental sustainability in schools based on waste disposal, water usage, and power conservation. As much as teachers are engaged in incorporating sustainability measures into their lesson plans, setbacks like poor institutional support and insufficiency

in training continue. This study underscores the need for targeted teacher training programs and policy initiatives to strengthen sustainability efforts in schools, ensuring that educators are well-equipped to guide students toward a more sustainable future.

### **Need of the Study**

Since the environmental problem is growing day by day across the world, there is a need to develop awareness among students in schools about how essential environmental sustainability is. School is an institutional platform for shaping good citizens. It is ever more crucial to include sustainability in school curriculum. It is needed to assess teachers' perceptions and attitudes towards sustainability.

Despite the growing awareness of sustainability, teachers' attitudes and willingness towards its integration in the curriculum still remains a major question. Factors like management, teacher preparedness, curriculum constraints and lack of resources affect its effectiveness. Understanding teachers' perspectives is a major need of the hour.

This study therefore assists to pull in teachers' attitudes and perceptions towards incorporation of Environmental Sustainability in the school.

### **Operational Definitions**

- **Environment Sustainability:** Environmental Sustainability implies to conserve natural resources and protect the environment. In this research, sustainability is measured by the extent to which schools implement practices in four key areas: environmental conservation, waste management, water conservation, and energy efficiency.
- **Waste Management:** In this research, waste management refers to the strategies and practices implemented in schools to reduce, segregate, recycle and properly dispose off waste materials.
- **Water Conservation:** The responsible management and use of water resources in schools to prevent wastage and ensure sustainable water availability through practices like rainwater harvesting, efficient water use and awareness programs.
- **Energy Conservation:** The implementation of strategies and practices to reduce energy consumption in schools through measures such as energy-efficient lighting, solar panel installations and student-led energy-saving initiatives.

### **Aim of the Study**

To study the perception of teachers towards integrating Environmental Sustainability in primary and secondary schools.

### **Objectives**

1. To examine teachers' perceptions of environmental sustainability in schools.
2. To study the perception of teachers towards the waste management dimension of environmental Sustainability.
3. To study the perception of teachers towards the Water Conservation dimension of environmental Sustainability.
4. To study the perception of teachers towards the Energy Conservation dimension of environmental Sustainability.

### **Methodology of the Study**

**Research Design:** The present study is a descriptive study using a survey method. A quantitative research design was adopted for this study. A structured questionnaire of 23 questions was prepared by the researcher. The questionnaire covered various sustainability aspects, including waste management,

water conservation and energy conservation.

**Sample and Sampling:** In the present study purposive sampling technique was employed for selecting the sample. 15 Secondary and 18 Primary School teachers from St. Louis Convent School, Andheri were chosen for the study.

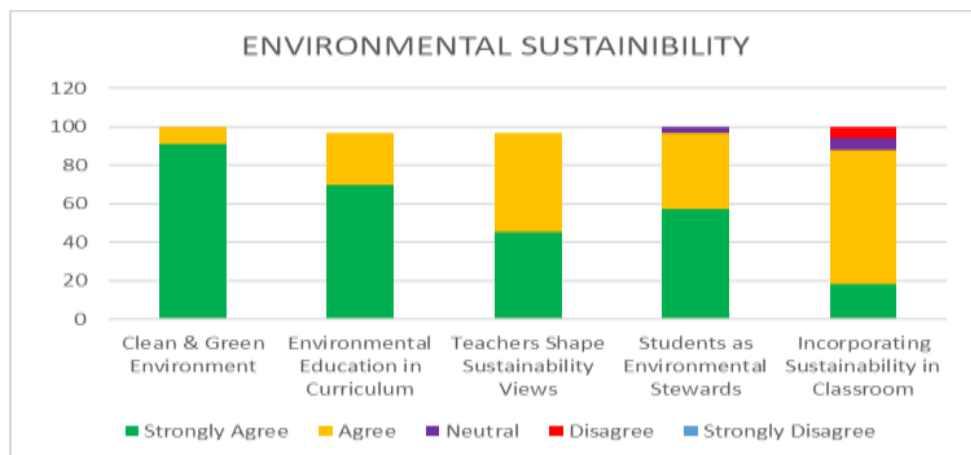
**Tool:** A 5-point Likert rating scale was used for the study. It comprised 18 statements. Each statement was followed by four alternatives viz strongly agree, agree, neutral, disagree, strongly disagree.

### Findings

#### 1. Teachers' Perceptions of Environmental Sustainability:

- 90.9% of respondents strongly agree and 9.1% agree that schools should provide a clean and green environment.
- 69.7% strongly agree and 27.3% agree that environmental education should be integrated into the curriculum.
- 45.5% strongly agree and 51.5% agree that teachers play a vital role in shaping students' views on sustainability.
- 57.6 % strongly agree and 39.4 % respondents agree that their students should be responsible Environmental stewards.
- 18.2% strongly agree and 69.7 % agree that they incorporate environmental sustainability activities in their classroom. Whereas 6.1% disagree that they incorporate practices in the classroom.

The above findings indicate strong teacher support for a green and clean environment. A majority are with the view that teachers play a vital role in shaping students' attitudes and that environmental education should be integrated in the curriculum. They believe that their students should be responsible environmental stewards of the 21<sup>st</sup> century. However, while most teachers incorporate sustainability activities in the classroom, a small percentage are not able to incorporate sustainability practices.



**Figure 1 showing Teachers' Perception of Environmental Sustainability**

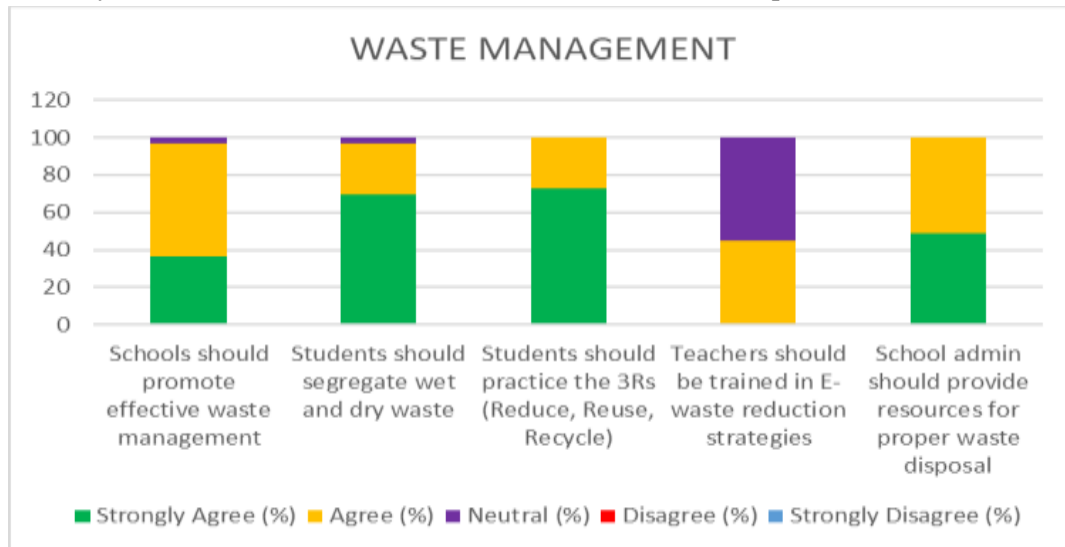
#### 2. Attitudes Towards Waste Management:

- 36.4 % strongly agree and 60.6 % agree that schools should promote effective waste management.
- 69.7% strongly agree and 27.3 % agree students should be encouraged to segregate wet and dry waste.
- 72.7% strongly agree and 27.3% agree that students should practices the 3Rs
- 45.2% agree that teachers should be trained in E-waste reduction strategies



- 48.5 % strongly agree and 51. 5% agree that school administration should provide sufficient resources for proper waste disposal.

The above findings state that all the teachers either strongly agree or agree to educate students about waste reduction. Majority of the teachers agree that schools should promote effective waste management programmes. Additionally, students should be encouraged to practice the 3Rs - reduce, reuse and recycle. Teachers are inclined to be trained into E-reduction practices.

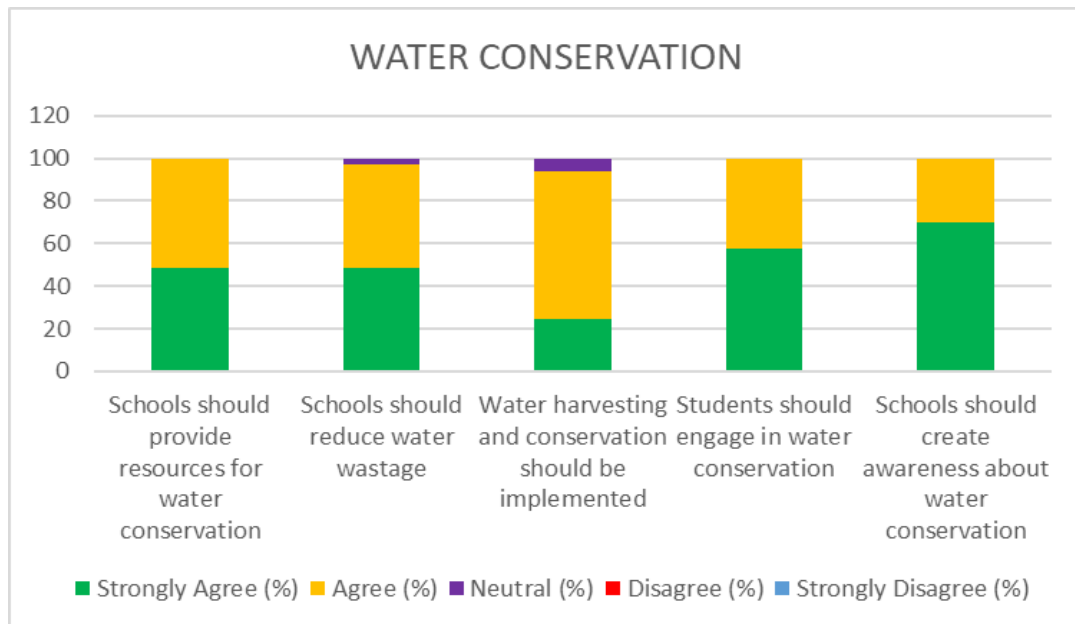


**Figure 2 showing Teachers' Attitudes Towards Waste Management**

### 3. Water Conservation Efforts:

- 48. 5% strongly agree and 51.5% agree that schools should provide sufficient resources for proper waste disposal.
- There is equal percentage who strongly agree (48.5%) and agree (48.5%) that schools should reduce water wastage.
- About conserving water and water harvesting, 24.2% strongly agree and 69.7% agree while 6.1% of respondents are neutral about it.
- 57. 6% strongly agree and 42.4% agree that students should be encouraged in engaging in water conservation.
- 69. 7% strongly agree and 30.3% agree that schools should create awareness about water conservation.

The above findings depict that schools should make sufficient provisions for disposal of waste water. The perception of teachers towards making provisions of water harvesting is largely agreeable. Perception towards reduction of water wastage is equally agreeable. Large numbers strongly believe in creating awareness of water conservation.

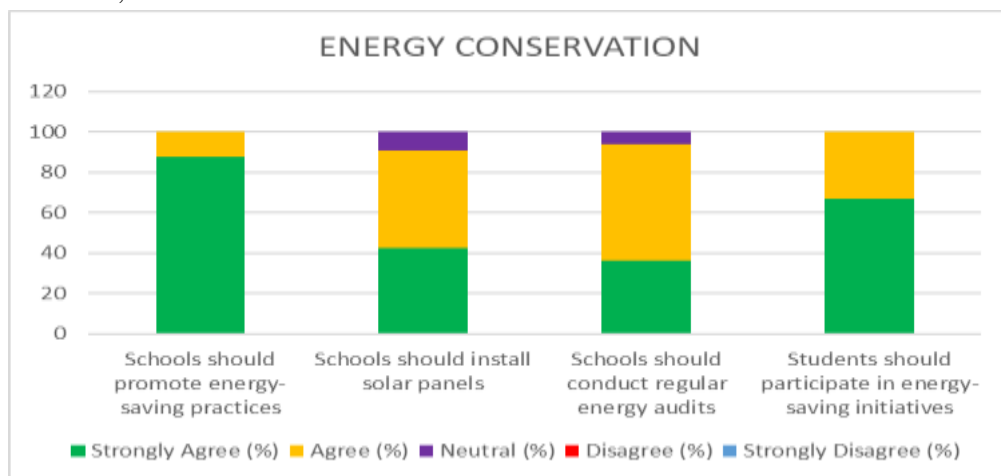


**Figure 3 showing Teachers' Perception Towards Water Conservation**

#### 4. Energy Conservation Awareness:

- 87.9% strongly agree and 12.1 % agree that schools should promote energy-saving practices.
- 42.4 % strongly agree and 48. 5% agree that schools should install solar panels while 9.1% are neutral.
- 36.4% strongly agree and 57.6% agree that schools should conduct regular audits to monitor electricity usage.
- 66.7 % strongly agree and 33. 3% that students should actively participate in energy-saving initiatives

The above findings state that the majority of teachers believe that schools should promote energy saving practices. A significant number of teachers strongly agree, however, some agree for the same. Meanwhile, a few teachers remain neutral.



**Figure 4 showing Teachers' Awareness about Energy Conservation**

## Discussions

This study focuses on the prime role played by teachers in encouraging environmental sustainability in schools. A vast majority of the teachers acknowledge the significance of having a green and clean school environment and incorporating sustainability principles within the curriculum. The statistics indicate that teachers are great champions of waste management strategies, especially segregation of waste and adoption of the 3Rs (Reduce, Reuse, Recycle). Teachers also show extensive endorsement of water conservation strategies such as reducing wastage and engaging pupils in active participation in conservation. Energy conservation also presents itself as an important area of concern with teachers recognizing the need for energy-saving measures, constant monitoring of electricity usage and the implementation of renewable sources of energy. Yet, while there is widespread agreement on the need for sustainability, certain teachers struggle to fully implement these measures in their classrooms.

In addition, the research indicates that although teachers are eager to apply sustainability programs, their efficacy is determined by school policy and administrative backing. Schools that place high value on sustainability through formal programs, sufficient resources and teacher training programs are more likely to promote long-term environmental awareness among students.

## Conclusion

This study highlights the vital role of teachers in integrating sustainability in primary and secondary schools. The findings show a positive perception of teachers for environmental education, but also a need for continuous learning and practical engagements in sustainability practices. To enhance their effectiveness teachers should have opportunities to expand their knowledge, interact with experts and participate in environmental initiatives such as creating green schools (Husian et al.,2020). Institutional support through training programs and resource allocation is essential.

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## REDEFINING EDUCATIONAL SUCCESS: COMPETENCY-BASED PEDAGOGY FOR THE 21ST CENTURY

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### Abstract

*The traditional education model, focused on standardized assessments and memorization, is being re-evaluated in favour of Competency-Based Pedagogy (CBP). This transformative approach emphasizes skill mastery and practical application over rote learning, allowing students to progress based on their knowledge and abilities rather than time spent in class. CBP accommodates diverse learning styles, promotes critical thinking and creativity, and prepares students for real-world challenges, fostering a lifelong love for learning. It aligns with modern educational goals by integrating formative assessments, performance-based tasks, and interdisciplinary projects that support deeper learning. Unlike traditional models, CBP emphasizes equity by accommodating diverse learning styles and providing individualized support to ensure every student meets essential competencies before advancing. Moreover, it leverages technology and innovative teaching methods to enhance student engagement and effectiveness. Despite its many benefits, implementing CBP has challenges, including teacher training, curriculum redesign and developing robust assessment frameworks. Moving away from traditional grading systems requires authentic evaluation methods to measure student competencies effectively. Additionally, institutional and policy-level reforms are needed to support the successful adoption of CBP in mainstream education.*

*This paper argues that Competency-Based Education (CBE) is not just a new educational model but a strategic tool for preparing students for the demands of the modern workforce. CBE enhances academic learning and workforce readiness by promoting 21st-century skills like collaboration, adaptability, and critical thinking. It prepares students for higher education and personal and professional growth. As education systems worldwide embrace more flexible and inclusive learning models, CBE provides a sustainable framework for empowering learners to thrive in an increasingly complex global landscape.*

**Keywords:** *Competency-Based Pedagogy, 21st-Century Education, Skill-Based Learning, Assessment Strategies, Holistic Development, Personalized Learning*

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### Introduction

Education is an incredible key that unlocks countless opportunities, paves the way for a brighter future, provides opportunities and allows individuals to make informed decisions. It equips people with the necessary skills and knowledge to navigate challenges and succeed in various aspects of life. The 21st century is marked by significant technological advancements, globalization and an evolving job market that demands a highly skilled and adaptable workforce. As we explore traditional educational paradigms, we can discover ways to better equip learners to overcome real-world challenges. Competency-based learning (CBL) has emerged as a transformative approach that aims to acquire and demonstrate specific skills and competencies over the traditional time-based progression. This educational model shifts the focus from seat time and credit hours to a student-centred approach that values mastery and performance, aligning education more closely with the demands of modern society (Modern Campus, 2024). Traditional education systems, which often focus on standardized testing and time-based progression, struggle to equip learners with the competencies necessary to thrive in this dynamic environment. Competency-based education (CBE) emerges as outcome-based learning that prioritizes skill mastery over seat time. It enables students to progress at their own pace based on demonstrated proficiency. CBE shifts the focus from rote memorization to critical thinking, problem-

solving, creativity, and collaboration, which are essential for success in the modern world. By fostering personalized learning experiences, real-world application of knowledge and continuous skill development, CBE prepares learners to meet the demands of an unpredictable future. The global emphasis on skills in industries necessitates a shift in educational systems to equip students with practical skills - CBE, a learner-centred approach fostering real-world competence and preparing them for the modern workforce. As industries around the globe progressively emphasize the importance of skills rather than mere credentials, educational systems must evolve to ensure that students are not just knowledgeable but proficient and prepared for the demands of the modern workforce. This shift necessitates a more hands-on, practical approach to learning that fosters real-world competence and equips students with the abilities needed to thrive in their chosen fields. CBE prioritizes mastery of skills and knowledge over time-based progression. Learners have access to high-quality learning experiences tailored to their individual needs. CBE addresses systemic barriers to access, resources, assessment fairness and instructional support to achieve equity. It bridges the gap between education and industry, ensuring skill development needed for career readiness, lifelong learning and adaptability.

### **Competency-Based Education (CBE)**

CBE is an outcome-based teaching, learning and assessment approach. It ensures students' proficiency in learning by demonstrating the knowledge, skills and attitudes required for dealing with real-life situations. It emphasizes the student's demonstration of learning outcomes and attaining proficiency in particular competencies in each subject. Teaching using a CBE methodology places the learner at the centre. It actively engages them in the learning process, empowering students and providing them with a meaningful and positive learning experience. CBE programs specify the learning outcomes or abilities students are expected to attain. These competencies are well-defined, measurable and frequently created with employers and industry experts to ensure they meet real-world requirements. The following are its main characteristics:

- **Clearly Defined Competencies**  
CBE programs specify the learning outcomes or abilities students are expected to attain. These competencies are well-defined, measurable and frequently created with employers and industry experts to ensure they meet real-world requirements.
- **Personalized Learning Paths**  
CBE allows students to select their learning routes based on prior knowledge and preferences. It promotes equity and provides differentiated support based on the students' diverse learning needs. It allows learners to work through the content at their own pace, taking the time to master each ability before moving on to the next.
- **Flexible Learning Environments**  
CBP is remarkably adaptable to various educational contexts including traditional classrooms, online platforms and blended learning models. This adaptability reassures educators, policymakers and academic researchers about its practicality in diverse settings. It effectively utilizes technology to provide students with access to resources, interactive learning materials and opportunities for collaboration and communication. Progress is determined by evidence of mastery rather than time spent in the classroom, making it a versatile and practical approach in diverse learning environments.
- **Competency-Based Assessments**  
CBE evaluates students' mastery of competencies using a variety of assessment approaches rather than traditional tests and exams. This approach promotes a sense of fairness and equity

among students, as it values their progress and understanding. It uses formative assessment, peer and self-assessment (where students reflect on their work and identify areas for improvement), projects, presentations, portfolios, simulations and practical demonstrations.

- **Continuous Feedback and Support**

CBP strongly emphasizes continuous feedback and support to help students identify areas for improvement and make necessary adjustments in their learning path. Teachers, mentors and peers all actively provide guidance and constructive feedback to support students' achievements ensuring each student receives personalized attention and support. This demonstrates the importance of individualized guidance in the learning process.

India's CBE approach is driven by significant policy reforms and large-scale programs integrating skill-based learning, industry alignment and flexible learning pathways. The NEP 2020, NSQF and CBSE initiatives are transforming education to focus on mastery of real-world competencies rather than just traditional learning.

### **Role of CBE in the 21<sup>st</sup> Century**

Education in the 21<sup>st</sup> century must educate students for a fast-changing labour market that prizes adaptability, creativity and problem-solving abilities. CBP meets these objectives by changing the emphasis from strict curriculum structures to flexible, skills-based learning (Le et al., 2014).

1. **Preparing Students for Work:** The traditional educational approach frequently leaves graduates unprepared for the workplace where practical skills, critical thinking and adaptability are essential. CBP closes this gap by incorporating real-world applications into the curriculum, ensuring students are prepared to face job issues effectively. Employers are increasingly looking for people with good communication skills, collaborative ability and problem-solving expertise—all of which CBP promotes (Darling-Hammond et al., 2020).

2. **Emphasizes Personalized and Inclusive Education:** CBP understands that every student learns differently and at their speed. Traditional education frequently fails to accommodate these variances resulting in discrepancies in student results. By providing personalized learning paths CBP guarantees that students have the support they require to achieve, fostering educational equity.

3. **Developing Critical Thinking and Problem-Solving Skills:** One of the most beneficial components of CBP is the emphasis on critical thinking and problem-solving skills. Instead of simply memorizing facts, students engage in inquiry-based learning, case studies and real-world problem-solving activities. These experiences prepare individuals to face complicated problems both academically and professionally.

4. **Using Technology to Promote Effective Learning:** CBP's integration of technology increases its effectiveness. Digital tools, online examinations and interactive learning platforms allow students to connect with knowledge in various ways. Some new ways that complement competency-based learning include flipped classrooms, project-based learning and gamification, all of which make education more engaging and relevant.

### **Strategies for Competency-Based Education**

- **Curriculum planning**

In a CBE framework, the curriculum must define and articulate the essential competencies required for student success. This involves identifying the specific knowledge and skills students need to acquire and developing measurable learning objectives that provide clear



benchmarks for achievement. The instructional materials and assessments should be continuously revised and aligned with these objectives to reflect the intended learning outcomes and effectively support each student's educational journey.

- **Scaffold Learning Progressions**

Develop a dynamic roadmap of learning progressions emphasizing the critical skills and knowledge necessary for students to master each competency confidently. Building on foundational concepts will provide a clear and effective pathway, simplifying complex ideas into manageable components for an enhanced and enjoyable learning experience.

- **Provide Differentiated Instruction**

Acknowledge that students possess diverse learning needs and varying readiness levels in diverse fields. Differentiate instructional approach by offering various strategies, materials and supports tailored to meet each student's unique needs. Provide opportunities for advanced challenges for those ready to explore deeper concepts while delivering targeted support to assist those struggling. Emphasize a personalized learning environment that considers each student's learning style and pace, fostering a more effective and engaging experience.

- **Promote Problem-Based Learning**

Engage students in a variety of problem-solving tasks that connect to real-world applications. Encourage them to tackle open-ended, complex problems that require critical thinking and the integration of multiple mathematical concepts, such as algebra, geometry and data interpretation. Create opportunities for collaborative group work where students can discuss their strategies, challenge each other's ideas and collectively develop solutions. Additionally, it provides structured formats for students to communicate their mathematical thinking, such as presentations, written reflections or digital portfolios to enhance their understanding and articulation of mathematical concepts.

- **Feedback**

Providing students with timely and comprehensive feedback is essential, emphasizing their competencies. Focus on clearly and precisely highlighting their problem-solving strategies, mathematical reasoning and communication skills. Encourage students to explore alternative approaches or solutions, thus fostering an environment where they feel supported and motivated to enhance their abilities.

- **Reflective Practice**

Encourage students to actively reflect on their mathematical learning and take charge of monitoring their progress. Empower them to develop strong metacognitive skills through self-assessment, goal-setting, and identifying effective strategies for improvement. Prompt students to analyze their problem-solving processes and confidently apply the lessons they have learned to tackle future mathematical challenges.

CBE prioritizes skill mastery over course completion and class time, ensuring learners advance based on practical knowledge application, unlike traditional education.

### **Future Directions and Recommendations**

1. **Expand Professional Development for Educators:** Teachers must receive ongoing training in competency-based instruction and assessment strategies. Professional development programs should focus on personalized learning, formative assessments, and the use of technology in CBE.



2. **Develop Clear Competency Frameworks:** Establishing standardized competency frameworks ensures consistency in implementation and evaluation. These frameworks should be aligned with real-world skills and workforce requirements.
3. **Leverage Technology for Personalized Learning:** Digital tools should be integrated into CBP to facilitate self-paced learning and real-time feedback. Adaptive learning technologies and AI-driven assessments can enhance personalized learning experiences.
4. **Promote Institutional and Policy Support:** Governments and educational institutions must recognize and validate CBP through policy changes and funding initiatives. Accreditation bodies should develop guidelines for assessing competency-based learning.
5. **Encourage Cross-sector Collaboration:** Partnerships between educational institutions, industries and technology suppliers can help CBP become more relevant and effective. Engaging employers in curriculum creation ensures that students learn skills in demand in the labour market.
6. **Enhance Student Support Services:** Schools and colleges should offer academic and career counselling to assist students in navigating competency-based learning pathways. Mentoring programs can help students set learning goals and track their progress.
7. **Conduct Research and Data Analysis:** An ongoing study into CBP implementation, student outcomes and best practices will help enhance and improve the model. Data-driven insights can help inform policy decisions and instructional enhancements.

### **Indian Policies and Programs for Competency-Based Education (CBE)**

India has made significant strides in adopting CBE through national policies and specialized programs. The focus is shifting from rote learning to skill-based, practical education to enhance employability and lifelong learning.

#### **A. National Education Policy (NEP) 2020**

The NEP 2020 is India's most comprehensive reform in education, emphasizing competency-based learning at all levels.

Key CBE Features in NEP 2020:

- Shift from rote memorization to conceptual understanding and critical thinking
- Competency-based assessments replacing traditional board exams
- Skill-based learning integrated with vocational training from Grade 6
- Flexibility in learning with multiple entry and exit options in higher education
- Outcome-based learning frameworks aligning with global standards

#### **B. National Skills Qualification Framework (NSQF) – 2013**

- A competency-based framework that integrates vocational education, technical education, and job skills.
- Levels from 1 (basic) to 10 (advanced competency skills), aligning with industry needs.
- Encourages Recognition of Prior Learning (RPL), allowing individuals to get certified for existing skills.

#### **C. Samagra Shiksha Abhiyan (SSA)**

- Focuses on competency-based learning at the school level.
- Emphasizes learning outcomes rather than syllabus completion.
- It includes Digital Infrastructure for Knowledge Sharing (DIKSHA), which provides teachers and students with competency-based resources.

**D. National Credit Framework (NCrF) – 2022**

- Students can earn credits for skills and competencies across school, higher education, and vocational training.
- Bridges formal education and skill-based learning.
- Supports multiple entry-exit pathways in higher education, enabling flexibility.

**E. New Assessment Reforms – PARAKH (2023)**

- PARAKH (Performance Assessment, Review, and Analysis of Knowledge for Holistic Development) is a national body under NEP 2020.
- Competency-based assessments replace traditional rote-based exams.
- Focuses on higher-order thinking skills, problem-solving, and application-based learning.

**2. Programs Implementing CBE in India****A. CBSE's Competency-Based Learning Programs**

- The Central Board of Secondary Education (CBSE) has introduced CBE across subjects.
- Schools follow a structured framework of Learning Outcomes aligned with Bloom's Taxonomy (Remembering, Understanding, Applying, Analysing, Evaluating, and Creating).
- Assessments focus on problem-solving, case studies, and practical applications rather than memorization.

**B. National Initiative for School Heads' and Teachers' Holistic Advancement (NISHTHA)**

- A capacity-building program for teachers to implement CBE in classrooms.
- Uses the DIKSHA platform for online training on competency-based teaching.

**C. National Programme on Technology Enhanced Learning (NPTEL)**

- A joint initiative by IITs and IISc to provide competency-based technical education online.
- Industry-aligned courses with certifications recognized by employers.

**D. Skill India Mission**

- Government program focusing on competency-based vocational training.
- This includes schemes like PM Kaushal Vikas Yojana (PMKVY), which provide certification in industry-specific skills.
- Encourages apprenticeships and hands-on training in various sectors.

**E. Atal Tinkering Labs (ATL) – NITI Aayog**

- An initiative under the Atal Innovation Mission (AIM) to develop STEM competencies among students.
- Hands-on learning with robotics, AI, and coding to promote skill-based education.

**F. SWAYAM and MOOCs for Higher Education**

- Online competency-based courses through the SWAYAM platform
- Provides certifications recognized for academic and professional growth.

**Conclusion**

Competency-based pedagogy (CBP) redefines educational success by prioritizing mastery, personalized learning and real-world application over traditional, rigid learning models. It is crucial for modern education, empowering students with 21st-century skills and competencies. It encourages student-centred learning through formative assessments, performance-based tasks and interdisciplinary projects, ensuring equity and diverse learning styles. As global education systems evolve, CBP presents a promising pathway to fostering critical thinking, collaboration and adaptability - skills essential for success in an ever-changing world. By adopting this approach, educational institutions can better equip

students for higher education, employment and lifelong personal and professional development. Policymakers, educators and stakeholders must collaborate to successfully implement this innovative pedagogy.

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## INCORPORATING TPACK INTO TEACHER EDUCATION: STRATEGIES FOR REVAMPING PEDAGOGICAL PRACTICES

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### Abstract

*The incorporation of the Technological Pedagogical Content Knowledge (TPACK) framework into Teacher Education is critical in the digital age matching with India's National Education Policy (NEP) 2020 and the National Curriculum Framework (NCF) 2023. This study investigates the importance of incorporating TPACK into teacher training programs and suggests techniques for integrating digital pedagogy to revitalise teaching practices. There is a severe lack of digital pedagogy initiatives in India's current teacher education curricula, which highlights the need for reform (Tondeur et al., 2012). According to Valtonen et al. (2018), there is a discussion of empirical research that shows how TPACK improves teaching and learning by enhancing teacher competences and improving student results. The article ends with recommendations for effective implementation, seeking to provide educators with the necessary skills to create engaging and future-ready learning environments.*

**Keywords:** TPACK, Teacher Education, Digital Pedagogy, Technology Integration, NEP 2020

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### Introduction

Technology's quick development has drastically changed a number of industries including education. Technology integration into teaching and learning processes is essential to preparing students for the challenges of the twenty-first century (Zhao & Frank, 2003). By highlighting the interaction between technology, pedagogy and subject knowledge, the Technological Pedagogical subject Knowledge (TPACK) framework provides a thorough method for accomplishing this integration (Koehler & Mishra, 2009). Supported by empirical data, this research examines the need to integrate TPACK into Teacher Education and suggests methods for reimagining traditional teaching methods through the use of digital pedagogy (Graham, 2011). It also looks at how Teacher Education programs are currently being run in India, emphasising the need for curriculum revisions and the dearth of efforts involving digital pedagogy (Mishra & Koehler, 2006).

### TPACK's Importance in Teacher Education

Mishra and Koehler (2006) created the TPACK framework, which highlights three fundamental elements necessary for successful instruction:

- Content Knowledge (CK): Mastery of the subject matter to be taught.
- Pedagogical Knowledge (PK): Understanding of teaching methods and strategies.
- Technological Knowledge (TK): Proficiency in using technological tools and resources.

TPACK, the confluence of these elements, stands for the expertise needed to successfully incorporate technology into instruction. For a number of reasons, TPACK must be incorporated into Teacher Education.

- Improving Teaching Effectiveness: Teachers that possess TPACK are able to create classes that successfully use technology, which raises student comprehension and engagement (Harris, Mishra, & Koehler, 2009).

- Adapting to Technological Advancements: Teachers who use TPACK are more equipped to modify their teaching strategies to include new platforms and tools as technology develops (Akyuz & Samsa, 2021).
- Adhering to Policy Requirements: Technological integration in education is emphasised by educational policies like India's NEP 2020 which forces teachers to create TPACK (Shulman, 1986).

### **The Present Situation of Indian Teacher Education Programs**

Digital pedagogy initiatives are severely lacking in India, according to a review of Teacher Education curricula. Technology-enabled learning programs are offered by organisations such as the National Institute of Technical Teachers' Training and Research (NITTTR) in Chennai, although they are not consistently incorporated into all Teacher Education programs. The development of TPACK among pre-service teachers is hampered by the lack of standardised digital pedagogy components in curriculum, which also limits their readiness to successfully incorporate technology into their future classrooms (Wang, Schmidt-Crawford, & Jin, 2018).

### **Supporting Empirical Data for TPACK Integration**

The benefits of incorporating TPACK into teacher preparation have been shown in numerous studies:

- Papanikolaou, Makri, and Roussos (2017) found that collaborative design-based lesson preparation can improve instructors' TPACK abilities. According to their findings, instructors' ability to incorporate technology into their lessons is improved by these cooperative tactics.
- Effect on Readiness of Pre-Service Teachers: Valtonen et al. (2018) investigated variations in the knowledge and preparedness of pre-service teachers to use ICT in the classroom. The study found that pre-service teachers' confidence and proficiency in integrating technology are greatly enhanced by focused TPACK development programs.
- TPACK Development Assessment: Wang, Schmidt-Crawford and Jin (2018) reviewed the research on TPACK development in pre-service teachers. According to their analysis, teachers' capacity to successfully incorporate technology is positively impacted by organised TPACK development programs.

### **TPACK-Based Techniques for Including Digital Pedagogy**

Using the TPACK framework, the following tactics can be used to successfully integrate digital pedagogy:

1. Professional Development Programs: Arrange training sessions and seminars aimed at enhancing instructors' pedagogical, technological and subject-matter expertise (Yeh, Chan, & Hsu, 2021).
2. Communities for Collaborative Learning: Provide forums for educators to exchange best practices, resources, and experiences in integrating technology (Zhang & Tang, 2021).
3. Redesigning the Curriculum: Include elements of digital pedagogy in teacher education programs (Tondeur et al., 2012).
4. Mentorship Programs: Assign new instructors to seasoned mentors who are skilled in TPACK (Wang et al., 2018).
5. Resource Access: Make certain that educators have the technology and resources they require (Valtonen et al., 2019).

### **Using TPACK to Revamp Pedagogical Practices**

Traditional teaching methods can change as a result of TPACK integration in Teacher Education in a number of ways:

- Student-Centered Learning: Instructors can create individualised, interactive lessons that meet the needs of each unique student (Harris et al., 2009).
- Collaborative Learning: Through online forums and group projects, technology helps students work together (Papanikolaou et al., 2017).
- Authentic Assessment: According to Graham (2011), digital tools make it possible to create tests that accurately represent real-world tasks.
- Adaptable Learning Environments: Flipped and blended learning paradigms are made possible by technology (Shulman, 1986).

### **Difficulties with TPACK Implementation**

Despite its advantages, there are a number of obstacles to TPACK integration in Teacher Education. Some of these are:

1. Opposition to Change: According to Akyuz and Samsa (2021), some instructors could be reluctant to embrace new technologies.
2. Resource Limitations: According to Zhao and Frank (2003), effective implementation may be hampered by limited access to technology resources.
3. Insufficient Training: Teachers may find it difficult to successfully integrate technology if they do not have the necessary professional development (Wang et al., 2018).

### **Implementation Challenges and Solutions**

According to recent research, there are certain obstacles that prevent Teacher Education programs from successfully integrating TPACK. Inequitable access to technology resources is caused by infrastructure limitations, especially in developing nations (Barksdale et al., 2021). Furthermore, teacher educators frequently display differing degrees of technological proficiency which impacts their capacity to serve as role models for successful technology integration (Tunjera & Chigona, 2020).

#### **Among the remedies for these implementation issues are:**

1. Structured Professional Development: Methodical training courses that integrate pedagogical applications and technological proficiency for teacher educators. Research indicates that educators' trust in integrating technology is enhanced by ongoing professional development (Maipita et al., 2023).
2. Collaborative Learning Communities: Studies show that TPACK implementation is improved by establishing networks of teacher educators who exchange resources and practices (Ye et al., 2024).
3. Policy-Level Support: Institutional guidelines that require and encourage the use of technology in teacher preparation programs. Research shows that systematic TPACK implementation is enhanced by well-defined policy frameworks (Salmi et al., 2023).

### **Prospects for TPACK Integration in the Future**

A number of crucial topics for improving TPACK integration in Teacher Education are highlighted by recent research:

- Artificial Intelligence Integration: Research shows that there are chances to improve teaching and learning experiences by integrating AI tools into the TPACK framework (Goldman et al., 2024).
- Context-Specific Applications: Studies show how crucial it is to modify TPACK



implementation to fit regional cultural norms and educational situations (Kyi et al., 2023).

- Assessment Innovation: creation of thorough assessment techniques to gauge pre-service teachers' proficiency in TPACK (Said et al., 2023).

### **Recommendations for Policy and Practice**

Based on the most recent research findings, the following suggestions are made to improve TPACK integration:

1. Create systematic frameworks for integrating technology into Teacher Education programs (Mihiretie, 2023);
2. Form alliances with technology providers and Teacher Education Institutions to guarantee access to up-to-date tools and resources (Burn et al., 2022);
3. Establish mentorship programs that pair pre-service teachers with seasoned educators; and
4. Incorporate real-world technology experiences into the curriculum for teacher development (Mäkipää et al., 2022).

### **Implications for Educational Policy**

- Technology integration competencies should be specifically included in the revised Teacher Education standards (Li et al., 2024).
- Creation of frameworks for assessments that gauge pedagogical proficiency using technology (Guzmán González & Vesga Bravo, 2023).
- The establishment of support networks for ongoing technology integration professional development (Thyssen et al., 2023).

### **Concluding Remarks and Suggestions**

To prepare teachers to handle the changing educational landscape, TPACK must be incorporated into Teacher Education. Institutions may boost student engagement, strengthen teacher competences and comply with legislative requirements such as NEP 2020 by incorporating digital pedagogy into Teacher Training programs. In order to ensure that Teacher Education programs give aspiring teachers the skills they need to integrate technology effectively, policymakers and educators must give structured TPACK development projects top priority going forward. Developing scalable models for TPACK deployment and evaluating their effects on teaching and learning outcomes should be the main goals of future research (Valtonen et al., 2019).

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## BUILDING PEDAGOGICAL PARTNERSHIP BETWEEN LEARNERS AND THE EDUCATOR THROUGH DISCURSIVE LEARNING ENGAGEMENT

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### Abstract

Contemporary pedagogy does not work on the premise of learner dependency on educator. Rather it purposefully builds meaningful pedagogical partnership between learners and the educator. A learning scenario where learners and the educator both have shared responsibilities effectively builds a learning community with collaborative goals and collective contributions. Discursive Learning Engagement is one such approach that can generate a highly democratic and participative learning environment in the classroom facilitated by the educator. The present paper is based on the classroom experiment and the experiences of a teacher-educator while exploring the value of creative pedagogical partnership with the student-teachers for promoting discursive learning engagement in the classroom. The paper underlines that the fun filled and participative discursive learning engagement provides greater opportunities to learners for expressing their views and ideas freely and enhances learner-educator partnership in the pedagogical process.

The paper highlights that innovative pedagogical approaches based on discursive learning engagement effectively break the monotony of routine lectures, ensure active learner-engagement in a unique way filled with interest and fun and also promotes student creativity, self-expression, critical thinking and argumentative skills.

**Keywords:** Pedagogical Partnership, Learner, Educator, Discursive Learning Engagement.

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### Introduction

*“What is the new pedagogy? It’s a partnership between teachers and students that produces deeper learning outcomes.”*

– Michael Fullan

Education is a two-way process and learning is an individual experience based on active engagement. The contemporary pedagogy therefore does not work on the premise of learner dependency on educator. Rather it purposefully builds meaningful pedagogical partnership between learners and the educator. Such a partnership generates authentic learning experiences and creates a community of learners with shared knowledge and collaborative contributions in the educative process. The new pedagogy thus values the potential of each learner as a learning resource and counts them as independent, responsible member of the learning community.

### Learner Autonomy – An Essential Element of Effective Learning

Learning cannot happen without willing participation of the learner in learning situation created by the educator. The learning goals therefore have to be collaboratively defined and collectively achieved by both learners and the educator. Learners should find value and personal relevance in the activities they are engaged in. Learning becomes effective when learners have freedom to take control of self-learning and contribute meaningfully.

### Pedagogical Partnership – A Healthy Practice of Building Community of Learners and the Educator

In such a learning scenario where learners and the educator both have shared responsibilities; it effectively builds a learning community with collaborative goals and collective contributions.

Pedagogical planning and execution are not dominated by educator alone but it becomes a healthy partnership between learners and the educator.

### **Discursive Learning Engagement – A Democratic and Participative Learning Engagement based on Learner Autonomy**

There are variety of approaches in education that value learner autonomy as well as learner contribution and their constructive engagement. Discursive Learning Engagement is one such approach. It can generate a highly democratic and participative learning environment facilitated by the educator. It underlines the term ‘discourse’ – i.e., meaningful conversation between the communities of learners – as a key element for learning engagement. It has the following key features:

- *Active participation:* Learners are not just listening but actively contributing their thoughts, perspectives and questions to the conversation.
- *Critical thinking:* Discourse encourages analysis, evaluation and questioning of information, promoting deeper understanding.
- *Social construction of knowledge:* Learners collaboratively build knowledge by sharing ideas and negotiating meaning with others.
- *Contextual understanding:* Discourse allows for the exploration of different perspectives and interpretations within a given context.

The present study is an outcome of classroom experiments and reflections of the author while exploring the value of creative pedagogical partnership with student-teachers for promoting discursive learning engagement.

### **Literature Review**

Kovalainen, M., & Kumpulainen, K. (2005) examined discursive practice in an elementary classroom to understand the process of collective meaning making and joint creation of knowledge. The study used socio-cultural and socio-linguistic approaches as a theoretical and methodological base and highlighted participation rights and responsibilities of the classroom members. Empirical data showed that classroom discourse provided a space for the students to take cognitive authority providing evidence for knowledge negotiations. The study recommended communicative participation in the meaning making process differed across the learning situations. Further, participants’ histories and experiences were some of the challenges underlined by the researchers in the joint meaning making in the classroom situation.

Lawson, M. A., & Lawson, H. A. (2013) reviewed students’ engagement research, policy and practices to understand the efficacy of students’ engagement research. The study underlined the need of such kind of research in the schools located in segregated, high poverty area and isolated rural communities. The study mentioned that students’ engagement research was conceptualized as a dynamic system of psycho-social constructs and a synergistic process. The study suggested developing of models that would be more expansive engagement focused covering the role of students’ family, peer and neighbourhood ecologies.

Weimer, M. (2015) discussed characteristics of learner-centered teaching and strategies for students’ engagement in the classroom. According to him in learner centered teaching, students are engaged by teachers even in hard, messy learning tasks. It allows students to think, evaluate and analyze arguments and to generate hypothesis. Learner centric teaching enabled students to reflect on their learning objectives. It motivates students to have control over learning processes thus encourage

collaboration in teaching learning process. Further, he discussed the pros and cons of implementation of learner centered teaching practices.

Gomoll, A. S., Hmelo-Silver, C. E., Tolar, E., Šabanović, S., & Francisco, M. (2017) conducted a study of a human-centered robotics curriculum enactment. They explored how the discursive features contributed to the process of problem-solving and enhanced deeper understanding and learning of the students. For instance using non-verbal and verbal discourses in the classroom encourages constructing arguments, allowing parallel interaction, increasing accountability among the students. The study recommended creation of joint problem-solving space in the classroom to engage students in discourse.

Jacobs, K. B., & Low, D. E. (2017) explored the potentials of multimodal texts as a strategy to engage students in critical inquiry around literacy and ELA assessments. Researchers used multimodal comics-form article within an ELA assessment course. The study found that use of multimodal texts helped to engage students in dialogic and critical form of inquiry around the topic of classroom discussion. The study recommended using similar texts or activities for students' discursive engagement in the classroom by teachers.

Mercer, N., Hennessy, S., Warwick, P. (2019) described the school based applied research named 'thinking together' influenced from the sociocultural theory of Vygotsky (1962). It discusses the connection between language and cognitive development postulated by sociocultural theory ('dialogic' pedagogy). The study concluded that teachers could promote use of language as a cultural and psychological tool for reasoning and learning. Thus students could learn for collective thinking and problem solving. The study indicated that teachers could use technology for such 'dialogic' pedagogy.

Sheninger Eric (2024) discussed the importance of classroom discourse in students' engagements. According to him it is an impactful way for fostering critical thinking and cognitive development. It enhances communication skills and builds a sense of community among the students. Author suggested that by creating opportunities for meaningful conversations teachers could create more engaging, inclusive and transformative learning for all students.

Pengjin Wang, Chao Yang, Yuyao Tong, Gaowei Chen (2025) studied students' perception of classroom discourse and uncovered the patterns of classroom talk. They did multimodal conversation analysis to find out the discrepancies between teacher's and students' situation. The study found that the teachers effectively used productive classroom talk and the students were discursively engaged in online lessons. The strategic use of talk by teachers' during online class helped build interest subjectivity among the students. The findings suggested designing of constructive tasks and using productive talk that would encourage students for elaboration and reasoning, so that students' cognitive processes could be attained for discursive engagement.

It is evident from the review of literature that a variety of studies have been carried out particularly abroad on classroom discourse; learner centered teaching strategies and discursive methods in the classroom. To explore various discursive learning engagement strategies in teacher education of India and their role in building pedagogical partnership between learners and the educator, this study was undertaken.

### **Rationale of the Study**

As educators of the 21<sup>st</sup> century, we often use variety of teaching-learning approaches in our routine educational practices that are constructivist and learner centered. Learner's active engagement is ensured through such approaches and the leaning outcomes too can be successfully achieved. However deep learning can happen when learners partner in the process of pedagogical planning and

engage in the discursive learning environment. The value of learner centric pedagogical approaches can be further enhanced if they are tuned for discursive learning engagement by seeking learner partnership in the pedagogical planning and execution.

The present research study is an attempt to design and execute discursive learning engagement strategies in the classroom set up in an interesting and fun-filled way. By means of its learning modules, the study will be helpful in building a greater learner partnership in pedagogical planning and in creating discursive learning engagement in the classroom. By seeking reflective feedback from the students about their learning engagement, the study will also evaluate the value of such participative pedagogical approaches.

### **Definition of the Terms**

- **Pedagogical Partnership**

“Pedagogical partnership is a collaborative, reciprocal process through which all participants have the opportunity to contribute equally, although not necessarily in the same ways, to curricular or pedagogical conceptualization, decision making, implementation, investigation, or analysis” (Cook-Sather, Bovill, and Felten 2014, 6-7).

For the present study *Pedagogical partnership* is used in a limited context of pedagogical planning and execution where learners as well the educator have a collaborative contribution.

- **Discursive Learning Engagement**

Discursive learning engagement refers to the active participation in a learning process where individuals actively engage in meaningful dialogue, discussion, and interpretation of information, essentially constructing knowledge through shared communication and critical reflection rather than passively receiving it.

For the present study, *Discursive Learning Engagement* refers to the creative, argumentative and fun-filled learning approach generated by the strategy: Panel Discussion as a Tele-show, “*Aapka B. Ed. Aapka Mat*” constituting collaborative contribution of both learners as well as the educator in pedagogical planning and execution.

### **Aim of the Study**

To explore the value of creative pedagogical partnership between learners and the educator through discursive learning engagement strategies.

### **Objectives**

1. To design and execute discursive learning engagement strategies in a teacher-education classroom set up, in an interesting and fun-filled way, for building pedagogical partnership between learners and the educator.
2. To evaluate the value of participative pedagogical approaches promoting discursive learning engagement through the reflective learner-feedback.

### **Methodology**

Single Group Pre-experimental design and a Descriptive Qualitative methodology is adopted in synthesizing the propositions of this research paper.

### **Data Collection and Sampling**

A sample of 47 student-teachers studying in second year of the two-year teacher training program i.e. Bachelor of Education (B. Ed.) Program of the University of Mumbai, India was chosen.

### Tools

- a) Instructional module based on selective topics from the theory paper ‘Contemporary India and Education’ of the B. Ed. syllabus (University of Mumbai) creatively designed to generate Discursive Learning Engagement.

The strategy used in designing this learning module included Panel Discussion as a Tele-show, “*Aapka B. Ed. Aapka Mat*”. (The whole activity is planned like a live television show incorporating the elements of humor and spontaneity. Teaching faculty plays the role of the Show Host moderating the tele-show while student-teachers are actively involved as resource panelists, studio audience and actors in tele-commercials that are used as fillers during the tele-breaks on the show).

- b) Learner-reflection on Discursive Learning Engagement in the classroom.
- c) Researcher’s personal diary of anecdotal records.

### Data Analysis Technique

Qualitative data analysis was carried out in following manner:

- a) Learner’s reflective feedback on the instructional learning module was coded and tabulated and the emerging values were extracted from their discursive learning engagement.
- b) Analysis of researcher’s diary of anecdotal records.

### Data Analysis

Values derived from students’ reflective feedback about their discursive learning engagement:

Sr. No.	Students’ reflective feedback	Values derived
1	Apt selection of topic, meaningful and enriching learning experience.	Relevance, Enrichment
2	Unique and creative content execution experienced for the first time.	Novelty, Creativity
3	Innovative methodology providing ample opportunities for student participation.	Innovativeness, Participation
4	Interesting approach, enjoyable experience that can never be forgotten.	Vividness, Impression
5	Balance maintained between education and entertainment	Infotainment
6	Activity had both beforehand preparation as well as element of surprise.	Preparedness, Spontaneity
7	Facilitated knowledge sharing and exchange of ideas.	Sharing, Cooperation
8	Posing questions for other participants and argumentation was fun.	Critical Inquiry, Argumentation
9	Experienced collaborative effect to learn academic content.	Collaboration
10	The strategy taught how to bring humor in a monotonous class interaction.	Humor, Pleasance

### Interpretation

Students’ reflective feedback uncovered the following aspects of the discursive learning strategy used during the experiment and underlined multiple associated values:

- 1) Content execution – Enriching, novel and creative, both planned and spontaneous
- 2) Methodology – Participative, innovative and impressive
- 3) Learning engagement – Active, humorous and fun-filled



- 4) Learning partnership – Collaborative, cooperative and argumentative

### Findings of the Study

1. The fun filled and participative discursive learning engagement provides greater opportunities to learners for expressing their views and ideas freely.
2. Learning strategies such as ‘Panel Discussion as a Tele-show’ enhances learner-educator partnership in the pedagogical planning and execution.
3. Innovative pedagogical approaches based on discursive learning engagement effectively break the monotony of routine lectures by ensuring active learner-engagement in a unique way filled with interest and fun.
4. Pedagogical approaches designed to seek discursive learning engagement also promote student creativity, self-expression, critical thinking and argumentative skills.

### Conclusion

Learners are the independent, responsible and contributory members of any educative process. As educators we need to value learner autonomy and build effective partnership with them in the whole pedagogical process. Participative learning environment generated through discursive learning engagement will be instrumental in successfully achieving this goal of 21<sup>st</sup> century educators.

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## COMPARATIVE STUDY OF TEACHER WELLBEING IN ICSE AND SSC SCHOOLS: A PERMA ANALYSIS

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### Abstract

*Teaching profession is often linked to high stress levels, weariness and inertia highlighting the crucial need for interventions that care for teacher well-being. This paper examines teacher well-being in ICSE and SSC institutions using Martin Seligman's PERMA model, which includes Positive Emotion, Engagement, Relationships, Meaning and Accomplishment. A total of 111 educators (52 from ICSE schools and 59 from SSC schools) completed a structured questionnaire. The results showed no significant differences in well-being between the two groups, likely due to similar working conditions and challenges. The study emphasizes the importance of supportive environments for teacher well-being and sets the stage for further research on workload management, school environment, and socio-economic factors.*

**Key Terms:** Teacher Well-being, ICSE and SSC School Teachers, PERMA model, Positive Psychology

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### Introduction

*"Taking care of yourself doesn't mean 'me first,' it means 'me too.'" - L.R. Knost.*

Teachers are called to be the architects of young minds. They skillfully guide and inspire their students to reach their fullest potential. Therefore, they must prioritize their well-being to continue encouraging and supporting their students effectively. A little self-care goes a long way. In today's fast-paced and challenging educational environment, the well-being of teachers is of utmost importance.

Teachers who experience high levels of well-being are more likely to be motivated, inspired and resilient which benefits their students and the larger school community. Nevertheless, the teaching profession is often linked to high stress levels, weariness and inertia, highlighting the crucial need for interventions that care for teacher well-being.

The PERMA model, developed by Martin Seligman, a pioneer of Positive Psychology, provides a wide-ranging framework for understanding and enhancing well-being. This model contains five domains: Positive Emotion, Engagement, Relationships, Meaning, and Accomplishment. It offers an organized approach to promoting well-being in various contexts, including education. This survey aims to understand and explore teacher well-being among SSC and ICSE school teachers through the lens of the PERMA model.

### Review of Literature

Joy C. Nwoko, Theophilus I. Emeto, Aduli E. O. Malau-Aduli, and Bunmi S. Malau-Aduli - (2023) conducted A Systematic Review of the Factors That Influence Teachers' Occupational Wellbeing. This review emphasized that emotion regulation, a supportive work environment and teacher self-efficacy are crucial for enhancing teachers' well-being. Conversely, negative work environments and feelings of marginalization or bullying contribute to teacher burnout. The study stands out for its robust research design and relational analysis. To support teacher wellbeing, it is essential to have a workplace environment with minimal bullying and marginalization. Fostering an atmosphere of respect, inclusion and mutual teacher support is necessary for promoting well-being.

Nurul Shuhada Sharif Mudin, Aslina Ahmad, and Pau Kee (2023) examined the Association of Stress on Well-being Among Teachers. Teacher stress is inversely related to teacher well-being. There is a negative correlation between stress and well-being among teachers, both directly and indirectly. Most teachers (77.30%) reported experiencing high-stress levels and low positive emotions at work, adversely affecting their health. The stress levels experienced by teachers also vary by gender, with some studies indicating that female teachers report higher perceived stress than male teachers, while other studies found the opposite.

Dr. Shazia Hasnain(2023) explored factors influencing teacher well-being and strategies for its promotion. The school environment, encompassing resource availability, professional development opportunities and transformational leadership significantly affects teacher well-being. Additionally, school principals and their emotional intelligence are crucial in impacting teacher well-being. Moreover, the overall school climate and the teachers' ability to design their job roles are vital for enhancing teacher well-being.

M. M. Sohail, Ahmed Baghdady, Jessica Y. Choi, Hy V. Huynh, K. Whetten, Rae Jean Proeschold-Bell Work(2023) examined Factors Influencing Teacher Wellbeing and Burnout in Schools: A Scoping Review. To promote teacher wellbeing, it is essential to have a workplace environment with minimal bullying and marginalization. An atmosphere of respect, inclusion and mutual teacher support is necessary for fostering well-being. Teacher well-being needs a workplace environment with minimum bullying and marginalization. An atmosphere of respect, inclusion and mutual teacher support is required to promote wellbeing.

Laura B. Liu, Huan Song, and Pei Miao (2018) conducted a study on Navigating Individual and Collective Notions of Teacher Wellbeing as a Complex Phenomenon shaped by national context. Teacher wellbeing should be regarded as both an individual and collective phenomenon, necessitating a global perspective. Key aspects of teacher well-being encompass individual factors (autonomy, efficacy and health) and collective/institutional factors (like relationships, support, and development). Teachers in various national contexts may require customized support to balance the individual and collective dimensions of their well-being.

### **Need of the Study**

Teachers face significant work-related challenges and emotional stress, affecting their overall well-being and job performance. The distinct curricula and teaching methodologies of the ICSE and SSC boards may have varying impacts on teachers' stress levels and job satisfaction. Teacher well-being influences teaching quality, distorting student well-being and academic achievement.

Understanding the various factors that impact teacher well-being in diverse educational contexts is crucial for creating supportive work environments. These factors may include workload, administrative support, student behaviour, and available resources. Insights from this study can guide policymakers and school administrators in developing effective support systems and initiatives to enhance teacher well-being.

Eventually, by addressing these aspects, the study can improve the overall educational experience for teachers and students.

### **Operational Definitions**

Operational definitions for each domain of the PERMA model of well-being in the present study are as follows:

1. Positive Emotion: Regularity and power of pleasant emotions like joy, gratitude and contentment experienced by a person.
2. Engagement: It is the deep connection and engagement in activities experienced by teachers in school and experiencing "flow".
3. Relationships: The quality and strength of social connections and valuable interactions between teachers and students, colleagues, administrators and other members of the institution.
4. Meaning: It is the sense of purpose and significance derived by teachers from their activities and school life.
5. Accomplishment: The sense of accomplishment and success experienced by teachers in reaching personal and professional goals.

### **Aim of the Study**

To compare the well-being of teachers from ICSE and SSC schools.

### **Objectives**

The objectives of the present study on Teacher Well-being according to the PERMA model are:

1. To compare the overall Well-being of teachers from ICSE and SSC schools.
2. To compare levels of Positive Emotions experienced by teachers in ICSE and SSC schools.
3. To compare the degree of Engagement in work among ICSE and SSC school teachers.
4. To compare the Relationship dimension of teachers from ICSE and SSC boards.
5. To compare the sense of purpose and Meaning derived by teachers from ICSE and SSC schools.
6. To compare the sense of Accomplishment and success among teachers in ICSE and SSC schools.

### **Hypothesis**

1. There is no significant difference in the overall well-being of SSC and ICSE teachers.
2. There is no significant difference in the levels of Positive Emotions experienced by the teachers in ICSE and SSC.
3. There is no significant difference in the levels of Engagement experienced by the teachers in ICSE and SSC.
4. There is no significant difference in the levels of Relationship experienced by the teachers in ICSE and SSC.
5. There is no significant difference in the levels of Meaning experienced by the teachers in ICSE and SSC.
6. There is no significant difference in the levels of Accomplishment experienced by the teachers in ICSE and SSC.

### **Methodology**

#### **Research Design:**

The study adopted a descriptive method, where the researcher intended to compare the well-being of teachers from ICSE and SSC schools.

#### **Population and Sample:**

The target population included 52 teachers from the ICSE board and 59 teachers from SSC board schools in Mumbai.

Stratified random sampling technique was used to ensure representation from both ICSE and SSC boards.

The sample size was determined based on the total number of teachers in these schools.

**Tool for the Research:**

- **Data Collection Instrument:** The researchers developed a PERMA questionnaire with 22 questions to measure the five dimensions of well-being: Positive Emotion, Engagement, Relationships, Meaning, and Accomplishment.

The questionnaire included Likert scale items (e.g., 5- Always, 4- Often, 3- Sometimes, 2- Rarely, 1- Never) to assess the frequency and intensity of each dimension.

Questionnaire Structure:

1. **Positive Emotion:** 5 questions assessing the frequency and intensity of positive emotions experienced by teachers.
2. **Engagement:** 5 questions evaluating the level of engagement and absorption in teaching activities.
3. **Relationships:** 4 questions measuring the quality and strength of social and professional relationships.
4. **Meaning:** 4 questions exploring the sense of purpose and fulfillment derived from teaching.
5. **Accomplishment:** 4 questions assessing achievement and success in professional roles.

**Data Collection Procedure:**

The questionnaire was in a Google form and sent to the selected teachers- sample online. Participants were given clear instructions on completing the questionnaire and assured of the confidentiality of their responses.

**Data Analysis**

Hypothesis 1: There is no significant difference in the overall well-being of SSC and ICSE teachers.

**Table 1 Showing Numerical Data and Level of Significance  
for Overall Wellbeing of Teachers from ICSE and SSC schools**

Groups	N	df	Mean	SD	t- ratio	L.o.S
ICSE	52	109	20.55	2.82	0.08	NS
SSC	59		20.70	2.82		

The preceding Table 1 shows that the t-ratio for the overall well-being of teachers from ICSE and SSC schools is 0.08, which is not significant. Thus, the null hypothesis is accepted. It can therefore be stated that there is no significant difference in the overall well-being of teachers from ICSE and SSC schools.

Hypothesis 2: There is no significant difference in the levels of Positive Emotions experienced by the teachers in ICSE and SSC.

**Table 2 Showing Numerical Data and Level of Significance  
for Positive Emotions of teachers from ICSE and SSC Schools**

Groups	N	df	Mean	SD	t- ratio	L.o.S.
ICSE	52	109	22.86	1.68	0.39	NS
SSC	59		22.9	1.17		

The preceding table shows that the t-ratio for positive emotions of teachers from ICSE and SSC schools is 0.39, which is not significant. Thus, the null hypothesis is accepted. It can therefore be stated that there is no difference in the level of positive emotions of teachers from ICSE and SSC schools.

Hypothesis 3: There is no significant difference in the levels of Engagement experienced by the teachers in ICSE and SSC.

**Table 3 Showing Numerical Data and Level of Significance for Engagement of teachers from ICSE and SSC Schools**

Groups	N	df	Mean	SD	t- ratio	L.o.S
ICSE	52	109	23.90	1.332	1.138	NS
SSC	59		24.17	1.1667		

The preceding Table 3 shows that the t-ratio for Engagement of teachers from ICSE and SSC schools is 1.138, which is not significant. Thus, the null hypothesis is accepted. It can therefore be stated that there is no difference in the level of Engagement of teachers from ICSE and SSC schools.

Hypothesis 4: There is no significant difference in the levels of Relationship experienced by the teachers in ICSE and SSC.

**Table 4 Showing Numerical Data and Level of Significance for the Relationship of teachers from ICSE and SSC Schools**

Groups	N	df	Mean	SD	t- ratio	L.o.S
ICSE	52	109	18.39	1.53	0.442	NS
SSC	59		18.54	2.036		

The preceding table 4 shows that the t- ratio for Relationship of teachers from ICSE and SSC Schools is 0.442 which is not significant. Thus the null hypothesis is accepted. It can therefore be stated that there is no difference in the level of Relationship of teachers from ICSE and SSC schools.

Hypothesis 5: There is no significant difference in the levels of Meaning experienced by the teachers in ICSE and SSC.

**Table 5 Showing Numerical Data and Level of Significance for Meaning of Teachers from ICSE and SSC Schools**

Groups	N	df	Mean	SD	t- ratio	l.o.s
ICSE	52	109	18.98	1.55	1.269	NS
SSC	59		19.3	1.012		



Table 5 shows that the t-ratio for the Meaning of teachers from ICSE and SSC schools is 1.269, which is not significant. Thus, the null hypothesis is accepted. It can, therefore, be stated that there is no difference in the level of Meaning of teachers from ICSE and SSC schools.

Hypothesis 6: There is no significant difference in the levels of Accomplishment experienced by the teachers in ICSE and SSC.

**Table 6 Showing Numerical Data and Level of Significance for Accomplishment of Teachers from ICSE and SSC Schools**

Groups	N	df	Mean	SD	t- ratio	L.o.S
ICSE	52	109	18.64	1.78	0	NS
SSC	59		18.64	1.44		

The preceding Table 6 shows that the t-ratio for the Accomplishment of teachers from ICSE and SSC schools is 0, which is not significant. Thus, the null hypothesis is accepted. It can therefore be stated that there is no difference in the level of Accomplishment of teachers from ICSE and SSC schools.

### Discussion

The findings indicate that both ICSE and SSC teachers exhibit relatively similar levels of overall well-being. The small standard deviation of 2.82 for each group suggests that the well-being scores are relatively consistent within each cohort and do not fluctuate significantly. The 't' score indicates no significant difference in the overall well-being scores between ICSE and SSC teachers. In conclusion, both groups of teachers enjoy the same level of well-being.

#### 1. Positive Emotion:

The 't' test score of 0.385 on the Positive Emotion Scale shows that the teaching environments in both boards provide teachers with a similar positive emotional experience such as joy, gratitude and contentment in their professional lives. The results reflect a generally positive emotional state among educators.

Improving these environments could enhance educators' experiences even further.

#### 2. Engagement:

The 't' test score of 1.138 on the Engagement Scale indicates comparable levels of involvement in teaching activities. These results reflect a strong commitment to the profession suggesting that educators from both boards are equally dedicated to creating an effective learning environment for their students.

#### 3. Relationship:

The t-test score of 0.442 indicates that the quality and strength of social and professional connections among SSC and ICSE teachers are similar. This reflects similar social and professional connections, indicating comparable experiences with colleagues, students, and the entire school community.

#### 4. Meaning:

The 't' test score of 1.26 on the Meaning Scale shows that teachers from both boards derive comparable meaning from their work, emphasizing their commitment to educating and inspiring students.

## 5. Accomplishment:

The Accomplishment Scale highlights a sense of achievement and success in the professional roles of SSC and ICSE teachers, indicating that both groups similarly perceive their accomplishments. Furthermore, the t-test score of 0 supports this observation, suggesting their perspectives on achievements are comparable. This insight presents a valuable opportunity for enhanced collaboration and the exchange of best practices between the two groups.

The similarity in well-being among these groups may result from several shared factors:

1. **Work Environment:** Both groups likely work under similar conditions including teaching hours and student interactions, contributing to comparable well-being.
2. **Common Stressors and Rewards:** Teachers face similar challenges such as excessive workload and societal expectations, while also experiencing rewards like witnessing student growth, which positively impact their well-being.
3. **Cultural Influences:** The ICSE and SSC boards operate within the same regional context, meaning societal norms may equally influence teachers' mental health.

This suggests that board affiliation is not a significant factor in determining well-being.

## Future Research Directions

- **Workload & Well-Being:** Assess how teaching responsibilities influence job satisfaction and work-life balance by gathering qualitative and quantitative data to reveal insights into engagement and retention.
- **School Culture:** Investigate leadership styles and policies in ICSE and SSC systems to identify cultural distinctions that enhance teacher interactions and professional growth.
- **Well-Being Interventions:** Evaluate the effectiveness of stress management and mentorship programs for teachers by analysing participation, feedback, and outcomes to improve overall well-being.
- **Comparative Research:** Analyse socio-economic factors impacting teacher well-being across regions, identifying strengths and areas for improvement in teaching conditions and support.
- **Additional Factors:** Explore how gender and experience level affect teacher well-being, aiming to address challenges and enhance job satisfaction and mental health.

## Conclusion

This study used the PERMA model to compare the well-being of teachers from ICSE and SSC schools. Results showed no significant differences in overall well-being or the dimensions of Positive Emotion, Engagement, Relationships, Meaning, and Accomplishment. This suggests that teachers from both boards experience similar well-being despite differing curricula and teaching methods.

The consistent well-being scores indicate supportive work environments in both ICSE and SSC schools. However, efforts should persist to enhance teacher wellbeing by addressing stressors and fostering positive workplace relationships. Future research could investigate additional factors like workload and school culture to create more effective interventions for improving educators' experiences.

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## MENTORSHIP AS A CATALYST FOR TEACHER WELL-BEING AND PROFESSIONAL GROWTH: ADDRESSING UPSKILLING, RESKILLING AND DESKILLING

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### Abstract

*Mentorship has emerged as an essential pillar of support for teachers in higher education by helping them to grow professionally as well as by maintaining their well-being. With rapid technological advancements and evolution, teaching methods continue to change, which force educators to often find themselves to learn new skills, adapt to modern strategic tools and applications for their updation and try to be in pace with ongoing progressive changes. The inculcation of a well-structured mentorship program can surely serve as a guiding force to the teachers, as it offers the necessary support to upskill, reskill and stay relevant in a rapidly shifting academic environment.*

*This paper presents a conceptual framework for an Open Education Resources (OER) based Mentorship Program tailored for higher education teachers by highlighting its role in emotional and professional support. Also ensuring that educators feel confident and well-equipped to navigate their careers. This program has been designed carefully by developing learning modules that will help teachers gain access to engaging audiovisual content, including well-researched learning materials and hands-on assignments that encourage practical application. This paper addresses the evolving needs of educators. This mentorship program is an initiative that seeks to empower teachers, helping them to stay innovative, resilient, and fulfilled in their profession.*

**Keywords:** *Mentorship, OER-based Mentorship Program, Teacher Well-being, Professional Development, Upskilling, Reskilling and Deskilling.*

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### Introduction

Today's learners' needs have evolved beyond classrooms. Teachers can't be standing in front of a class and delivering lectures. It is a dynamic field that requires adaptation, lifelong learning and emotional intelligence. Teachers are not only required to know their curriculum but also need to stay updated with changing technologies, innovative pedagogy methods and the ever-changing policy landscape of education. Numerous educators fall behind such expectations because they lack the support of institutions, face time pressures and are burdened with the psychological cost of keeping themselves professionally updated. Thus, mentorship has become a lifeline for educators confronting the issues of contemporary education.

Rapidly evolving technology and pedagogy have given rise to three significant terms in teacher development - upskilling, reskilling and deskilling. Upskilling means updating the existing skills to match the new teaching styles and tools, while reskilling refers to acquiring entirely new skills to adapt to the shifts in the education sector. Deskilling occurs when past acquired knowledge and skills become outdated because of technological evolution, curriculum changes or shifting student expectations. If not addressed in time, deskilling can result in professional stagnation, loss of confidence and even job insecurity.

Mentorship plays a dynamic role in solving these challenges as it offers structured guidance, emotional support and a pathway to lifelong learning. When teachers have experienced mentors to turn to, they receive good advice, support and ideas for overcoming problems in their professional lives. The proposed Open Education Resources (OER) based Mentorship Program in this paper seeks to provide

a friendly and accessible learning space for teachers to acquire critical skills, remain motivated and continue to be relevant in the academic world. With the promotion of mentorship culture, educational institutions can ensure that teachers remain competent, motivated and empowered to provide quality education.

### **Conceptual Framework**

Mentorship not only plays a fundamental role in enhancing teacher well-being, it can also lead to happiness among teachers. The stressors from the demands of teaching in all emotional and psychological aspects can be suffocating, contributing to burnout and lower levels of job satisfaction. With mentorship, teachers have a room to share their challenges in comfort, to seek counsel and to develop coping strategies for workplace-based stressors. A well-thought-out mentorship program builds resilience, confidence and purpose in a teacher's life. Research has pointed out that early career teachers participating in mentorship programs have reported higher rates of well-being than those without a mentorship program (Kutsyuruba et al., 2019).

From the perspective of growth, mentoring can help teachers keep themselves abreast with modern educational practice. Be it through the means of integration of artificial intelligence (AI) in lesson planning or through an increased use of technology in promoting student engagement or by introducing new techniques of assessment, mentoring helps teachers polish their work and stay ahead of the curve. OER-based mentorship programs include modules which introduce teachers to such trends and provide them with practical examples of how to use the new learning in classrooms. A meta-analysis of 66 experiments in 12 countries concluded that mentoring activities positively contribute to teachers' professional development, especially in implementing new teaching methodologies (Zhang et al., 2024).

Reskilling is also important for teachers who are going into new roles, dealing with new subjects or new ways of teaching. Moving forward with online and hybrid learning models would undoubtedly require many educators to develop digital literacy skills, instructional design skills and virtual classroom management skills. While the mentoring process guides the teachers along the way based on expectations, moving towards these goals gives them complete confidence that they can act when the time requires. An OER-based mentorship program can reskill teachers by providing learning materials, interactive assignments and real-world case studies that will help educators build new competencies.

Simultaneously, mentorship plays an important role in fighting deskilling. In the absence of professional development opportunities, teachers risk falling behind in applying newer technologies and pedagogies. By encouraging a culture of peer learning and sharing knowledge among one another, mentorship exists to ensure that trainers remain properly informed about the latest updates in the education world. An OER-based mentorship program can include peer discussions, collaborative projects and mentorship networks to invigorate a new kind of learning among teachers, to keep them engaged and up to date with a will to engage in learning.

### **OER-Based Mentorship Program: A Structured Approach**

The mentorship program developed under the OER initiative is structured in five modules offering audiovisuals in the form of videos, learning notes, research papers and assignments to garner attention and enhance practical learning. It is based on a research set-up intended to help teachers in upskilling, reskilling and avoiding deskilling. The course design has been inspired by the study on Skills

for Successful Mentoring conducted by Dr. Philips Jones in 2003. Here is a brief on each of the five modules:

- **Module 1: Concept of Mentorship**

Within this module, the true meaning of mentorship is to be considered and along with it, its importance to professional and personal development will be discussed. Teachers will be briefed about the different types of mentorship, the benefits they confer and how structured mentoring relationships can help a person move to greater heights. Seeing the power of mentorship will allow educators to wish to either seek or give guidance in the circles they belong to.

- **Module 2: Nurturing Approach Required in Mentoring**

Effective mentoring is based on empathy, communication and emotional intelligence. This module will discuss some of the soft skills that both mentors and mentees should embody to build relations intended for exchange. The core competencies will pertain to leadership and its management approaches surrounding various aspects - from perception clarity to adaptability, problem-solving skills and conflict resolution.

- **Module 3: Core Skills Required for Mentors and Mentees**

Within this module, essential competencies that are required for both mentors and mentees are listed with an aim to close any competence gap that may threaten their professional growth and development. Teachers will learn how to be active listeners within conversations, give constructive feedback and support each other in a way that increases the overall quality of the mentorship process. To help them develop these skills, teachers will be required to engage in activities under reflection and skill-building exercises after every assignment.

- **Module 4: Theories and Models of Mentorship**

This module includes transformational mentoring and cognitive apprenticeship. Teachers will utilize these models alongside their experiences and apply them toward making mentorship effective. Getting to the theories of mentoring allows teachers to use evidence-based strategies in providing guidance and support to their peers.

- **Module 5: Mentorship for Professional Development**

The final module focuses on mentorship as a long-term professional development process - in directive guidance where educators trained in mentorship can enrich proper inclusion of mentorship in their career strategies. Therefore, further navigation through career transitions and contribution in their institutional mentorship projects will largely depend upon this module. Sustainability takes center stage, ensuring mentorship does not become an event but rather a continuing and developing process of an educator's professional life.

### **Implications for OER-Based Mentorship Program**

As the OER-based Mentorship Programs continue to develop, it is expected to target a wide range of new opportunities for teachers' professional development and well-being. This may provide open educational resources to support educators with some challenging yet structured and self-paced mentorship opportunities according to the ever-evolving system of higher education. The future accomplishments of the learning module can try to ensure that a good bridge is built between theoretical knowledge and practicability so that teachers receive evidence-based and contextually relevant mentorship support (Castañeda & Selwyn, 2018).



One of the key anticipated benefits that is often projected toward nurturing teacher well-being might be provided by the mentorship model. Due to the constant changes in pedagogical practices and technology, it is expected that teachers will be faced with intense amounts of stress. That this mentorship supports a network fostering resilience, motivation and career satisfaction (Hobson et al., 2009) could be an added advantage. The psycho-social elements integrated into the mentoring process shall be expected to build teachers' confidence in their professional identities and enhance their abilities to handle career transitions effectively.

The program will certainly facilitate further growth through skill development and the introduction of new technology and pedagogical knowledge. With trends in digital learning, artificial intelligence in education and student-centered learning, the program will be integrated with training modules to empower these competencies (Siemens & Baker, 2012). It will, therefore, instill a culture of lifelong learning, augmenting the teachers' adaptability and the ability to impart knowledgeable instruction.

Additionally, the mentorship will be aimed at combating the deskilling that many teachers face with the obsolescence of fail-proof traditional methods. One can assume that this program will lessen the chances of skill obsolescence through collaborative team learning opportunities in which the relatively new and seasoned teachers may share knowledge, engender a discussion of innovative teaching models and lastly polish those skills through repeated practice (Hargreaves & Fullan, 2012). Besides case studies, discussion forums and peer-matching mentorships, the framework can assist the establishment of continuous growth in profession.

From the institution's perspective, the proposed integration of the mentorship program based on open education resources is expected to cultivate, within higher education, a culture of continuous professional development. Several institutions that choose to adopt this mentorship model may have greater opportunity to witness faculty retention, improvement in the quality of teaching and the establishment of stronger academic communities (Schwille, 2008). As this program develops, feedback from participants to evaluate its effectiveness and impact potential can support future research.

In any case, the realization of this initiative will largely depend on the malignance of its scalability and adaptivity, as also on its relationship with real-world challenges that educators face. Future studies and pilot implementations will unearth a detailed perspective of best practices for preserving mentorship initiatives in higher education. By taking a more open-access and research-driven outlook, it could change the profession of teaching for the better and create a more resilient and future-ready education system.

## **Conclusion**

Mentorship is not just a professional responsibility, it is a strong enhancer of teacher well-being and an ally for continuous learning, one that assures teacher longevity. Structured mentorship programs provide the support, resources and encouragement needed for educators to truly thrive in an ever-changing environment. When mentorship is holistically integrated into professional development frameworks, it becomes a vehicle to empower teachers to upskill, reskill and prevent deskilling. The OER-based mentorship program mentioned in this paper offers a systemic and broadly a live approach to mentorship that will address the teachers' resilience, motivation and readiness towards the future of education.

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**BUILDING PEACE: ENHANCING ADAPTABILITY THROUGH PROBLEM-SOLVING, PERSEVERANCE AND VALUE-BASED SKILLS****Mrs. Upasna Roy***Research Scholar, Department of Education, Mumbai University***Dr. Sunita Magre***Professor, Department of Education, Mumbai University*

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**Abstract**

*Peacebuilding is a participatory and value-driven process that promotes reconciliation and social harmony. In education, it plays a transformative role. However, standardized approaches often fall short in addressing educational challenges. Instead, fostering adaptability through problem-solving and perseverance; and equipping educators with value-based skills can help navigate conflict, embrace diversity and create inclusive, resilient classrooms.*

*The purpose of this study is to investigate the role of problem-solving, perseverance and value-based skills in fostering Peacebuilding within educational institutions; and to evaluate the contribution of these competencies in conflict resolution and the creation of inclusive, adaptable and resilient learning environments. The researcher adapted the Quasi-experimental method of pre-test and post-test non-equivalent group design.*

*The intervention program significantly enhanced pre-service teachers' adaptability (perseverance, problem solving and value-based skills). By integrating these skills into teaching practices, participants developed greater competence in managing classroom conflicts and promoting inclusive, peaceful learning environments. The study affirms that these skills are essential for building educational spaces that reflect principles of justice, empathy and harmony.*

**Keywords:** *Peacebuilding, Adaptability, Problem-Solving, Perseverance, Value-Based Skills*

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**Introduction**

"No peace without justice; no justice without forgiveness."..... Pope John Paul II, January 2002.

Education has long been recognized as the cornerstone of societal progress, fostering peace, inclusion, and social cohesion. In the 21st century, Generation Z is experiencing a transformative shift in learning methods, digital engagement and social activism. Their tech-savviness and global connectivity provide unprecedented opportunities for self-expression but also expose them to new challenges such as cyberbullying, ideological conflicts and digital misinformation.

Despite progress in education policies, issues like bullying, caste-based discrimination, linguistic biases, and socio-economic inequalities persist - both online and offline. Pre-service teachers, as future educators, must be equipped with the skills and mindset to navigate, manage, and resolve conflicts within the classroom and broader society. Recognizing these complexities, India's National Education Policy (NEP) 2020 emphasizes life skills training, including conflict resolution, emotional intelligence and ethical decision-making. A value-based education approach can empower teachers to foster inclusive, peaceful learning environments that prepare students for an increasingly diverse and polarized world.

As Charles Darwin famously stated, "It is not the strongest of the species that survives, nor the most intelligent, but the one most adaptable to change." The principle of 'survival of the fittest' extends beyond biological evolution. Adaptability is the key determinant of success in education. Teachers must be flexible in their approaches, embracing innovation, diverse perspectives, and conflict-resolution strategies to ensure that classrooms remain resilient and future-ready.

**Peacebuilding through Conflict Resolution in Educational Settings**

Conflicts in education arise in various forms, requiring a multidimensional approach. These can be:

1. Intrapersonal Conflicts (struggle with self-doubt, stress or cultural expectations) – addressed by building resilience and confidence.
2. Interpersonal Conflicts (disputes with other students or teachers) – addressed by empathy, communication and negotiation much like those used in political processes.
3. Intra-group Conflict (collaboration challenges in group projects or peer dynamics) – these mirror societal movements and require unity to drive change.
4. Inter-group Conflict (tensions between diverse cultural or ideological groups) – addressed through dialogue, mutual respect and reconciliation efforts.

**Background of the Study****Structural Injustices and Conflict Resolution in Education**

Conflicts, whether societal or educational, often emerge in stages, beginning with latent conflict—a phase where systemic inequalities and structural violence are deeply ingrained but not always openly contested (Curle, 1971). Structural violence (Galtung, 1969) manifests in education through disparities in access, quality and inclusivity preventing equal opportunities for students and educators. These inequities are evident in discriminatory policies, socio-economic barriers and systemic biases that limit marginalized groups from fully exercising their educational rights.

Confrontation arises when these hidden injustices are challenged sparking resistance and demands for reform. Historically, figures like Rosa Parks symbolized this stage by publicly defying segregation laws much like student-led movements today advocating for educational equity, curriculum reform and the right to safe learning environments. Protests against discriminatory admission policies, unequal resource allocation and rigid institutional structures exemplify modern instances of confronting educational injustices. Rohith Vemula (1989–2016) case brought attention to the challenges faced by students from marginalized communities despite reservation policies highlighting the issues of institutional bias and social exclusion. This case reignited debates on whether reservation alone is enough to ensure true inclusivity or if deeper social reforms are needed.

As conflicts escalate, they may take the form of overt challenges sometimes resulting in policy shifts or institutional resistance. In education, student activism, teacher strikes and policy debates reflect the broader struggle for fair and accessible learning systems. However, progress is not linear - conflicts may subside temporarily or resurface when systemic inequalities remain unaddressed.

**Education as a Tool for Conflict Resolution**

In today's rapidly evolving world, problem-solving skills are indispensable for addressing educational conflicts and systemic barriers. The ability to critically analyze issues, navigate institutional challenges and propose innovative solutions is crucial for students, educators and policymakers. Skills such as logical reasoning, adaptability and creative thinking enable individuals to overcome educational obstacles, foster inclusive environments and advocate for meaningful change.

Much like conflict resolution in broader society, peacebuilding in education requires a shift from reactive measures to proactive solutions. A well-structured, inclusive education system can mitigate social injustices, bridge cultural divides and promote equity ensuring that future generations inherit a world where learning is a right, not a privilege.

**The Three P's: People, Process and Problem**

Effective conflict resolution and decision-making revolve around three fundamental elements: people, process, and problem. Addressing conflicts requires understanding interpersonal dynamics, refining methodologies and diagnosing core issues. This approach ensures that conflicts lead to constructive outcomes rather than inefficiencies or disruptions.

**Power Dynamics in Conflict**

Power plays a significant role in shaping conflict resolution processes. Positional power is derived from an individual's role in society such as that of a president, school principal or organizational leader. This power is not inherent but rather attached to the position and transferred as individuals assume or vacate roles. Other forms of power also influence conflict dynamics, including:

- Relational power – Based on social connections and influence
- Power of force – Exercised through coercion or authority
- Power of status – Rooted in societal hierarchy
- Power of change – The ability to influence transformation
- Conflict web – The interconnected and complex nature of power and conflict dynamics

**Peacebuilding: A Systemic Approach**

Peacebuilding is an intricate process involving interconnected people, roles and activities. It relies on the principle of interdependence recognizing that no single individual, activity, or societal level can achieve peace in isolation. Sustainable peace necessitates forging relationships between diverse individuals and groups, fostering cooperation despite differences.

The peacebuilding process can be compared to a spider web, where each strand represents a crucial relationship or activity. Just as a web requires multiple interconnected threads to remain strong and intact, peacebuilding demands a network of collaborative efforts. These relationships must be resilient enough to withstand external pressures, ensuring that peace initiatives are not only established but also sustained over time.

**Literature Review**

Iroye (2022), in the study “Key Theories In Peace And Conflict Studies And Their Impact On The Study And Practice” proposes some of the theories in PCS using a qualitative-descriptive methodological design to collect data from conveniently sampled secondary sources of peer-reviewed journal articles and texts, thematically analyzed to ground findings. The study conclusively established among other findings that theory is important to PCS as applied social science to ensure rigour in scholarship, research, teaching and practice.

Danesh (2008) pointed towards the conceptual foundations of the Education for Peace (EFP) integrative curriculum, reviewed its contents and briefly described its impact on students, teachers, staff and parents/guardians in Bosnia and Herzegovina. In an integrative approach, each volume addresses one or more aspects of peace and peace education, drawing from the latest developments in the field and lessons learned in the implementation of the EFP program. The final part of the article includes several first-hand statements attesting to the efficacy of the EFP program.

Smith Ellison, C. (2014), in the study “The Role of Education in Peacebuilding: An Analysis of Five Change Theories in Sierra Leone” identifies five ways education can promote peace in post-conflict Sierra Leone. The study critiques the international community's approach, noting that education programs often lack learning from previous efforts and have little impact. Psychosocial programs and DDR initiatives, disconnected from labor market needs and social reintegration are seen as ineffective

and may even worsen tensions. The study highlights the risks of non-evidence-based programming which can lead to distractions and accusations of pacification.

Bangura, I. (2016), in the study “We Can’t Eat Peace: Youth, Sustainable Livelihoods and the Peacebuilding Process in Sierra Leone” used interviews and focus groups with 600 youth (300 women and 300 men) and found that youth neglect and marginalization threaten Peacebuilding in Sierra Leone, with poverty, unemployment and systemic corruption fueling disillusionment. The slow pace of change and ongoing socioeconomic challenges leave youth frustrated and vulnerable to violence, increasing the risk of renewed conflict.

Athan, M., & Thacha, W. (2022), in their study on developing teachers to enhance students' adaptability skills involved 324 students across three programs. They analyzed teacher self-assessments showing moderate to high use of various teaching strategies. Key adaptability principles identified include aligning, accepting, flexibility, learning from others, embracing change, and considering diverse perspectives.

Daraee, M., et.al. (2016), conducted a research titled “Comparison of social skills between students in ordinary and talented schools”. Sociologists and psychologists have found in recent decades that many behavioral disorders and social deviations stem from 1) individuals' inability to analyze themselves correctly and appropriately, 2) the lack of control and personal adequacy to handle difficult situations, and 3) the lack of awareness to solve social problems. Thus, as society develops and becomes more complex, social communication and preparing people, especially young people, seem necessary to handle challenging situations.

### **Reflection On Literature Review**

The reviewed studies collectively highlight the crucial role of education, psychological well-being and social adaptability in peacebuilding and personal development. Iroye (2022) emphasizes the significance of theory in Peace and Conflict Studies, ensuring rigorous research and practice. Danesh (2008) and Smith Ellison (2014) stress the impact of education in fostering peace though challenges in implementation persist. Bangura (2016) sheds light on marginalisation of youth as a barrier to peace, while Djeutcha (2023) underscores the link between resilience and teaching effectiveness. Studies by Athan & Thacha (2022), Tian & Fan (2014), and Daraee et al. (2016) collectively reinforce the need for adaptability, career preparedness and social skills to navigate complex societal challenges. These findings emphasize the interplay between education, psychological resilience, and peacebuilding efforts in fostering sustainable change.

### **Need for the Study**

In contemporary educational environments, conflict is inevitable. But when navigated thoughtfully, it becomes a powerful driver of personal growth and institutional development. Cognitive and procedural task conflicts which arise from differences in ideas and processes rather than personal animosity, offer opportunities for constructive engagement and innovation. However, unmanaged role and relationship conflicts can hinder collaboration and disrupt learning spaces. For pre-service teachers, developing the capacity to manage such conflicts with adaptability, perseverance and ethical clarity is essential. This study addresses the critical need to equip future educators with the skills necessary to transform conflict into opportunities for peacebuilding within dynamic classroom contexts.

### **Significance of the Study**

This study underscores the transformative power of problem-solving, perseverance and value-based skills in fostering adaptability among pre-service teachers. These competencies enhance their



ability to navigate unpredictable challenges, engage with diverse perspectives and make thoughtful, ethical decisions. By cultivating a mindset rooted in critical thinking, empathy and creative resolution, future educators can promote inclusive, resilient and harmonious learning environments. Ultimately, the study contributes to building educational spaces that reflect the principles of peace, justice and social cohesion preparing teachers not only to instruct, but also to lead with integrity and adaptability.

### **Aim of the Study**

The aim of this study is to examine how the development of adaptability—through problem-solving, perseverance, and value-based skills contributes to peacebuilding and effective conflict resolution among pre-service teachers, with the goal of fostering inclusive and harmonious educational environments.

### **Objectives of the Study**

1. To investigate the role of problem-solving, perseverance, and value-based skills in fostering peacebuilding within educational institutions.
2. To evaluate the contribution of these competencies to conflict resolution and the creation of inclusive, adaptable, and resilient learning environments.

### **Operational Definition:**

In this study, peacebuilding is conceptualized as a dynamic process dependent on the adaptability skills of pre-service teachers.

Adaptability, in this context, is operationally defined as a composite of perseverance, problem-solving, and value-based skills.

These components collectively enhance a teacher's ability to manage and resolve conflicts effectively, thereby contributing to the creation of inclusive, resilient, and peaceful learning environments.

### **Scope of This Study**

This study explores how adaptability, problem-solving, and perseverance contribute to conflict resolution, social harmony, and resilience. It also examines the role of value-based education in fostering ethical decision-making and a culture of peace. By analyzing real-world applications, the study provides insights for educators, policymakers, and organizations to develop peacebuilding programs.

### **Delimitations of the Study**

1. The study is delimited to student-teachers currently studying B. Ed. in colleges of Mumbai.
2. The study is delimited to the development of certain competency and peacebuilding skills which will be helpful to be socially responsible
3. The sample is representative of the type of college and geographical area. Outside variables such as age, gender, religion, caste, language etc. are not included.

### **Methodology**

The method adopted was the Experimental Method (Quantitative Method). The researcher adapted the Quasi-experimental method of pre-test and post-test non-equivalent group design as follows:

O1 X O2 [Where O1 & O3 are pre-test scores; O2 & O4 are post-test scores]  
O3 C O4 [X- Experimental group & C- Control Group]

### **Sample and Sampling Technique**

The sample for this study consisted of 40 pre-service teachers from an unaided, private, English medium B.Ed. College of Mumbai Suburb each in the experimental & control group.

Convenience Sampling Technique was used.

### Tools of the Research

A 5-point Likert scale focused on Perseverance, Problem Solving and Value-Based Skills to assess their impact on Adaptability was used.

### Intervention Program

Activity	Description	Time Allocation	Learning Outcomes
Role Reversal Exercises (Teacher, Leader, Activist, Migrant, BMC Officer)	Participants take on different roles to experience varied perspectives and understand social responsibilities.	1 hour	Enhances empathy, adaptability, leadership, and critical thinking.
Simulated Crisis Management	Engage in real-life scenarios such as natural disasters, social media influence (reel-making tool for awareness vs. fame), and community work. Visit special schools/old age homes and write a reflection.	2 hours	Develops quick decision-making, ethical reasoning, teamwork, and social responsibility.
Puzzle Challenges (Individual & Teamwork)	Solving logical, strategic, and problem-based puzzles individually and in teams.	1 hour	Enhances problem-solving, critical thinking, and teamwork.
Case Study Analysis	Participants analyze real-world problems and present strategic solutions from different perspectives.	1.5 hours	Encourages analytical thinking, adaptability, and strategic problem-solving.
Physical and Mental Endurance Activity	Engage in sports, yoga, and guided mindfulness training to improve resilience and concentration.	1.5 hours	Builds perseverance, emotional regulation, and stress management skills.
Narrate Your Story of Perseverance & Decision-Making	Participants share personal experiences where they demonstrated resilience and tough decision-making.	1 hour	Strengthens self-awareness, confidence, and reflective thinking.
Sharing is Caring Act	Help one student from a lower socio-economic background in their studies and reflect on the experience.	2 hours	Fosters empathy, social responsibility, and mentorship skills.

### Data Analysis

Each null hypothesis is tested in two parts – for the independent sample and for the groups.

**Hypothesis H<sub>01</sub>:** There is no significant difference in Adaptability count of pre-test scores between the experimental and control group.

1a. To test the above null hypothesis an independent sample test is applied. Results are as follows.

Independent Samples Test					
	t-test for Equality of Means				
			<b>P-value</b>	<b>Mean Difference</b>	<b>Std. Error Difference</b>
<b>t</b>	<b>df</b>				
Pre-Adaptability Count	.053	78	.958	-.125	2.345

**Table 1a showing results of the independent sample test before intervention**

Interpretation: The above results indicate that calculated p-value is 0.958. It is more than 0.05. Therefore t-test is accepted, Hence Null hypothesis is accepted.

Conclusion: There is no significant difference in Adaptability Count of pre-test between experimental and control group.

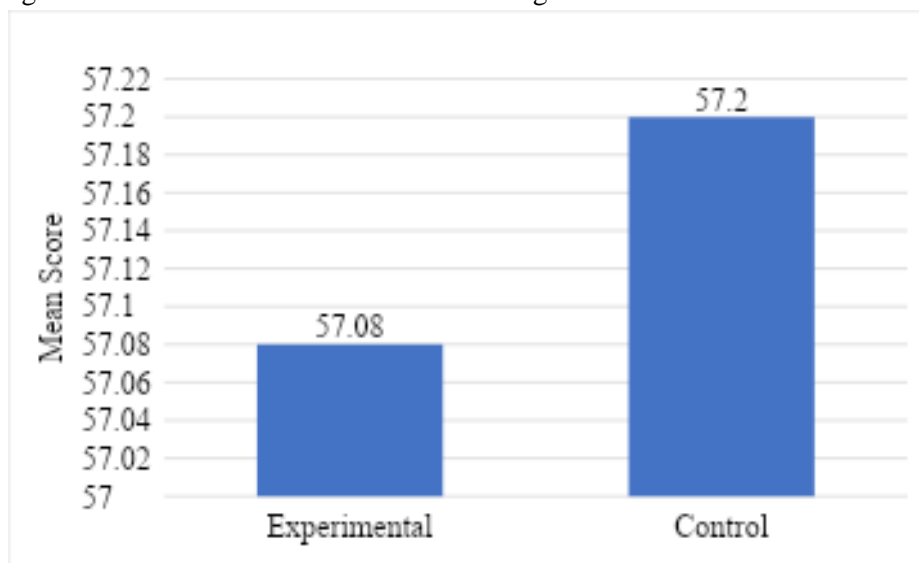
1b. To understand the findings of hypothesis, mean score of Adaptability Count of pre-test between experimental and control group.

Group Statistics					
	Type of Respondent	N	Mean	Std. Deviation	Std. Error Mean
Pre-Adaptability Count	Experimental	40	57.08	10.878	1.720
	Control	40	57.20	10.080	1.594

**Table 1b showing results of the group statistics before intervention**

The group statistics show the comparison between the experimental and control groups in terms of their pre-adaptability count. The mean pre-adaptability count is nearly identical, with the experimental group having a mean of 57.08 and the control group slightly higher at 57.20. The standard deviation, which indicates the variability within each group, is also similar, with the experimental group at 10.88 and the control group at 10.08. The standard error of the mean (a measure of how much the sample mean is expected to fluctuate) is 1.720 for the experimental group and 1.594 for the control group.

These results suggest that there is no significant difference between the experimental and control groups in terms of their pre-adaptability counts before any intervention or treatment is applied. The following information is shown below in the bar diagram.



**Figure 1 showing results of the group mean before intervention**

**Hypothesis H<sub>02</sub>:** There is no significant difference in Adaptability Count of post-test between experimental and control groups.

2a. To test the above null hypothesis an independent sample test is applied. Results are as follows.

Independent Samples Test					
	t-test for Equality of Means				
	t	df	P-value	Mean Difference	Std. Error Difference
Post-Adaptability Count	2.868	78	.005	5.225	1.822

**Table 2a showing results of the independent sample test post intervention**

Interpretation: The calculated p-value is 0.005, which is less than the significance level of 0.05. Therefore, the result is statistically significant and the null hypothesis is rejected.

Conclusion: There is no significant difference in Adaptability Count of post-test between experimental and control groups.

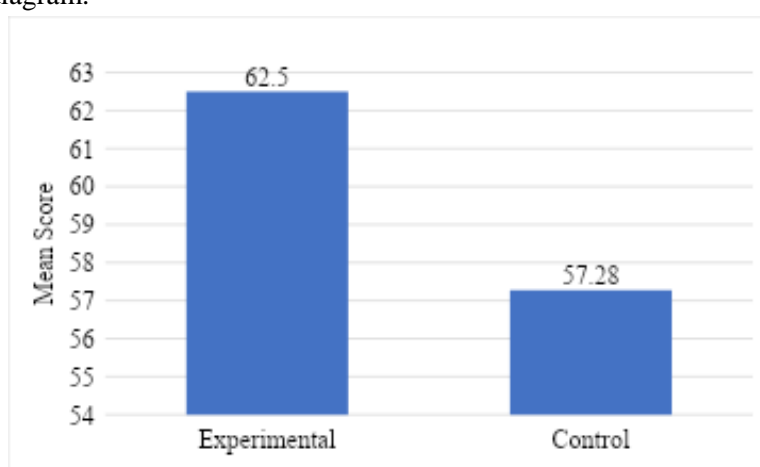
2b. To understand the findings of hypothesis, mean score of Adaptability Count of post-test between experimental and control group.

Group Statistics					
	Type of Respondent	N	Mean	Std. Deviation	Std. Error Mean
Post-Adaptability Count	Experimental	40	62.50	7.362	1.164
	Control	40	57.28	8.861	1.401

**Table 2b showing results of the group mean post intervention**

The group statistics for the post-adaptability count indicate differences between the experimental and control groups after an intervention or treatment. The experimental group, consisting of 40 respondents, shows a higher mean post-adaptability count of 62.50, compared to the control group's mean of 57.28. The standard deviation, reflecting variability within each group, is lower for the experimental group at 7.362, indicating less variation in adaptability scores among its members, whereas the control group has a standard deviation of 8.861. The standard error of the mean, which measures the precision of the sample mean, is 1.164 for the experimental group and 1.401 for the control group.

These results suggest that the experimental group showed a notable improvement in adaptability after the intervention, in contrast to the control group. The following information is shown below in the bar diagram.



**Figure 2 showing results of the group mean post intervention**

## Conclusion

The study concludes that fostering adaptability through problem-solving, perseverance, and value-based skills significantly enhances pre-service teachers' ability to manage conflict and promote peace within educational settings. By integrating these competencies into teacher education, institutions can cultivate reflective, resilient and inclusive educators capable of transforming classrooms into spaces of harmony, equity, and social cohesion.

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## Weblinks

- [https://www.researchgate.net/publication/282367283\\_Enhancing\\_Peacebuilding\\_Skills\\_among\\_Secondary\\_School\\_Students\\_An\\_Empirical\\_Assessment\\_of\\_Emotional\\_Intelligence](https://www.researchgate.net/publication/282367283_Enhancing_Peacebuilding_Skills_among_Secondary_School_Students_An_Empirical_Assessment_of_Emotional_Intelligence)
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- <https://www.frontiersin.org/articles/10.3389/frsps.2024.1412968/full>
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## BUILDING A SUSTAINABLE FUTURE: INCLUSIVE ENGLISH PEDAGOGIES FOR STUDENTS WITH LEARNING GAPS

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### **Abstract**

*Languages are learned through listening (Krashen, 1982), but students at Antar Bharati Balgram School lack an environment where they hear English regularly. Coming from challenging backgrounds, they have little to no exposure to English outside the classroom, making language acquisition even more difficult (Cummins, 2000). Despite being an English-medium school, the caregiver staff also struggle with English, further limiting students' learning. In grades 8, 9 and 10, students enter with no basic knowledge of the language and face severe difficulties in listening, speaking, reading, and writing, with minimal confidence (Vygotsky, 1978). They struggle with comprehension, sentence formation, and even basic grammar concepts (Nation, 2009). Additionally, they tend to forget what is taught due to lack of proper practice at home, which aligns with research indicating that language retention is strengthened through continuous reinforcement (Ellis, 1997). Adding up to all of these, syllabus completion as per the Maharashtra State Board is also a challenge owing to the learning gaps in the students. This research paper explores these challenges in-depth and highlights the need for effective strategies to help students develop essential English language skills.*

**Keywords:** *Language Acquisition, Language Retention, Silent Card Shuffle, Concept Attainment Model, Mind Maps for Recapitulation.*

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### **Introduction**

In the 21st century, English has become more than just a language; it is a key skill for global communication, education and career opportunities (Crystal, 2003). As the world becomes increasingly interconnected, most online content, research materials and professional communication occur in English (Graddol, 2006). However, students from socioeconomically disadvantaged backgrounds face significant barriers to language acquisition (Cummins, 2000). Antar Bharati Balgram School caters to such students, many of whom struggle with basic literacy in their native languages, let alone English (Ellis, 1997). This study examines the critical gaps in English learning and proposes innovative, sustainable pedagogical approaches to bridge them (Vygotsky, 1978).

Several studies highlight the impact of socioeconomic status on language acquisition. Hart and Risley (1995) found that children from low-income families are exposed to significantly fewer words than their higher-income counterparts, which affects their vocabulary development and later academic success. Krashen's Input Hypothesis (1982) emphasizes that language acquisition occurs when learners are exposed to comprehensible input in a meaningful context. Vygotsky's (1978) Sociocultural Theory also supports this, stating that social interaction and scaffolding play a crucial role in language learning. Peer tutoring, as suggested by Topping (2005), enhances student engagement and fosters cooperative learning. Multilingual scaffolding, a strategy advocated by Cummins (2000), allows students to build on their first language skills to acquire a second language more effectively. Additionally, Gee (2003) highlights the role of technology-assisted learning in providing interactive and engaging language-learning experiences.

### **Challenges**

However there are several challenges when dealing with students coming from the kind of background that they come from at Antar Bharti Balgram School. Some of these are:



1. Lack of English exposure: Students have limited opportunities to hear and practice English outside the classroom.
2. Deficiency in foundational literacy skills: Many students struggle with Hindi and Marathi, which further complicates English learning.
3. Low confidence and motivation: Due to repeated academic failure, students develop a fear of learning English.
4. Limited teacher proficiency: Teachers and caregiver staff often lack fluency in English, reducing the effectiveness of instruction.
5. Syllabus constraints: The Maharashtra State Board curriculum assumes a higher level of English proficiency than what students possess.
6. Assessment Limitations: Standardized testing often fails to capture students' unique learning trajectories and progress.

### **Research Objectives**

1. To examine the difficulties students face in acquiring English language skills.
2. To explore innovative pedagogical strategies that enhance sustainable English learning for students with learning gaps.
3. To evaluate the effectiveness of implemented methodologies in fostering long-term improvement in English language skills.

### **Methodology**

The research adopts an experimental method to assess the impact of innovative pedagogy on students' English language skills. The study focuses on grades 9 and 10 at Antar Bharati Balgram School and is conducted over six months. The research begins with a baseline assessment, where students' initial proficiency in English, covering listening, speaking, reading, and writing, is evaluated through a structured test. The assessment is based on the Balbharati textbooks prescribed by the Maharashtra State Board ensuring alignment with the state curriculum. The final evaluation takes place at the end of six months through post-assessment, comparing results with the baseline to determine the effectiveness of the new teaching methods. Qualitative assessments also go on side by side through classroom observations and interactions. The findings aim to provide insights into the most effective strategies for improving English proficiency among students with limited prior exposure to the language.

### **Innovative Pedagogical Approaches Used**

1. Student-centric approach: Teaching was designed to actively involve students using methods like the Concept Attainment Model (CAM) (Bruner, 1961) and Silent Card Shuffle (Arends, 2014) to make grammar and writing skills engaging. These methods ensured that all students, regardless of their learning gaps, could participate in the learning process.
2. Use of Performing Arts in teaching: Simple drama scripts/tableaus/ Talk shows were integrated into lessons to build students' confidence, enhance their vocabulary and improve pronunciation and intonations. Role playing and story-telling exercises helped them practice spoken English in an interactive way.
3. Research-based learning: Prose and poetry lessons were linked to student's real-life experiences through research. For example, in the poem 'The Bees' by William Shakespeare, students conducted research on different types of bees and their functions, then presented their findings through bulletin board displays, fostering independent learning and critical thinking.

4. Activity-based learning: At least 40% of the lessons were designed with diverse activities catering to visual, kinesthetic and auditory learners (Flemming and Mills, 1992).
  - Games available in the smart classes (G class & Top Class)
  - Class quiz
  - Hands-on projects
  - Making posters and other visual aids
  - Use of Mind Maps in Recapitulations
  - Story-weaving sessions
  - Several activities integrated with the annual planner- Handwriting relay competitions, elocutions, debates etc.
5. Technology-integrated learning: Our students are 21st-century learners. They are proficient with technology and enjoy its integration into the teaching-learning process (Prensky, 2001). The researcher used Canva for creating interactive presentations, infographics and visual storyboards, leveraging visual learning principles (Mayer, 2005). Technology was also used for the recapitulation of concepts, especially for struggling learners, as research indicates that digital tools enhance retention and engagement in language learning (Stockwell, 2013; Warschauer & Matuchniak, 2010).
6. Subject Integration in English Teaching (Multidisciplinary Approach): Integrating English with other subjects makes learning engaging and meaningful. For example, the poem 'Where the Mind is Without Fear' by Rabindranath Tagore, was taught alongside History, helping students understand the political context of British rule in India. In grade 8, a prose lesson (Revolutionary Steps in Surgery) was linked to science where students learned medical terms like cardiac, neuro and ophthalmic through activities taken before starting the chapter. Art and English were combined through a rice-themed project where students created advertisements with posters and poetic lines enhancing creativity and communication skills. Subject integration deepens understanding, increases engagement and develops multidisciplinary skills like teamwork and problem solving. This approach made learning more practical, enjoyable and effective for students.

### **Sample of the Study**

- 40 students of Grades 9 and 10 at Antar Bharati Balgram School, Lonavala.
- Examined students with severe learning gaps in English, assessing their progress over six months.

### **Data Collection and Tool**

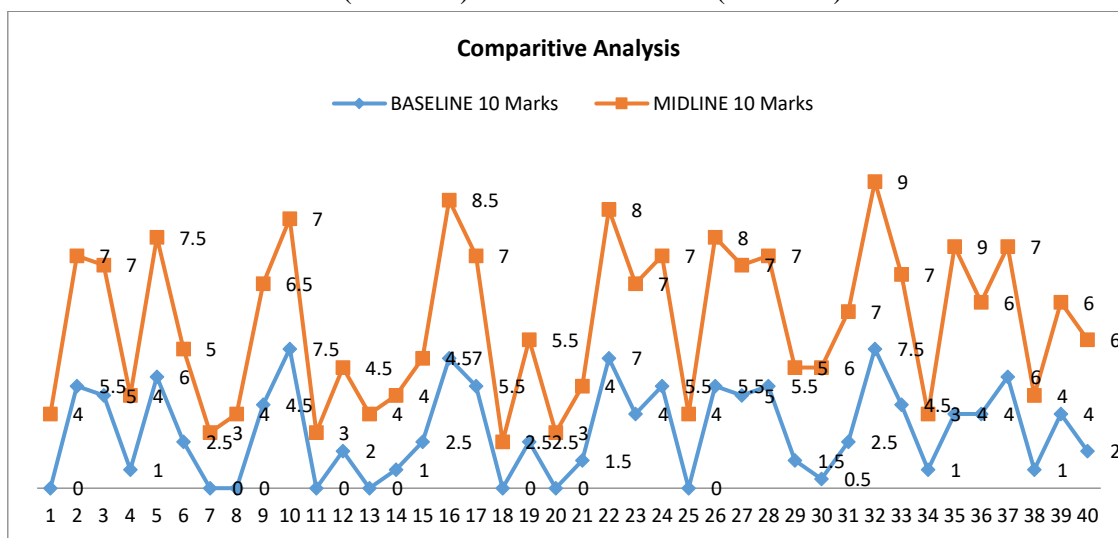
Data was collected by conducting a baseline test at the beginning of the study to measure the entry level of the students. Challenges were identified and a series of innovative pedagogies were taken up by the researcher. Finally, at the end of the research a midline test was conducted to check the effectiveness of the program.. A Questionnaire consisting of 10 Marks was made which covered the four language skills (LSRW) as follows:

1. Listening (2 Marks)- Dictation of words.
2. Speaking & Reading (2 Marks) - Reading a chapter of the present grade; if difficult, lower grade textbooks were provided to assess the learning level.
3. Reading comprehension (4 Marks) - Comprehension test which included a simple factual activity as well as a personal response question.

## 4. Writing (2 Marks) - Writing on a given topic.

**Data Analysis**

The following figure shows the performance of the 40 students who went through the intervention in the baseline test (10 marks) and the midline test (10 marks).



**Figure showing student performance before and after intervention**

The following table presents the comparative analysis of student performance before and after intervention.

Variable	Group	N	Mean	S.D.	Df	Tabulated 't'	Obtained 't' ratio	L.o.S.
English Achievement Scores	Pre- test	40	3.125	2.446	38	At 0.01 level =2.704	13.73	S
	Post-test	40	5.7125	1.798		At 0.05 level =2.022		

**Table showing comparative analysis of student performance in the baseline and midline test**

Interpretation of the 't' test

The paired t-test was conducted to compare students' performance in English before and after implementing inclusive pedagogical strategies. The mean score increased from 3.125 (pre-test) to 5.7125 (post-test). With a t-ratio of 13.73 and a degree of freedom (df) = 39, the result exceeds the critical values at both the 0.05 and 0.01 significance levels. This means the probability of this improvement occurring by chance is extremely low and the difference is statistically significant.

This confirms that the intervention had a statistically significant and positive impact on the English performance of students with learning gaps. The findings support the effectiveness of inclusive English pedagogies in improving academic outcomes and contributing to a more equitable and sustainable educational environment.

**Limitations of the Study**

1. Short research duration of six months. May not have fully captured long-term language retention.
2. Limited sample size (only Grades 9 and 10) restricts generalizability to younger students.
3. Teacher language proficiency remained a challenge, potentially affecting instructional quality.

4. Lack of home reinforcement made sustaining progress difficult.
5. Syllabus constraints limited the extent of remedial learning that could be incorporated.

### **Intervening Factors**

- Students' prior knowledge and literacy levels in Marathi/Hindi may have impacted their ability to grasp English.
- Parental education levels and support may have influenced home practice and reinforcement.
- Classroom environment and peer interactions may have played a role in motivation and engagement.
- Emotional factors such as low confidence, fear of failure and past academic struggles may have affected student participation.

### **Discussion**

1. **Significant Improvement in English Proficiency:** The study confirms that the innovative pedagogical strategies implemented in the classroom led to a statistically significant improvement in students' English language skills. The mean score increased from 3.13 (baseline) to 5.71 (midline), demonstrating the effectiveness of the interventions.
2. **Impact of Student-Centric and Activity-Based Learning:** Methods such as Concept Attainment Model (CAM), Silent Card Shuffle, Performing Arts and research-based learning engaged students actively, making learning more meaningful and interactive. This approach helped boost students' confidence and language retention.
3. **Technology as a Key Enabler:** The integration of Canva, smart class games, visual storyboards and other technological tools proved beneficial for struggling learners, particularly for reinforcing concepts and enhancing engagement.
4. **Challenges Still Exist:** While the interventions showed positive outcomes, issues such as limited English exposure, low teacher proficiency and lack of practice at home continue to hinder long-term learning.
5. **Sustainable Pedagogies for Long-Term Impact:** A multidisciplinary approach, integrating English with other subjects like History and Science, contributed to deeper learning. Subject integration proved to be an effective strategy for contextual understanding and practical application.
6. **Need for Continuous Assessment and Support:** The study highlights the importance of formative assessments, peer tutoring and structured interventions to ensure sustained progress. A long-term approach with continuous teacher training and parental involvement is crucial for overcoming persistent challenges.

### **Conclusion**

This study has demonstrated the success of intervention programme based on innovative student centered activities. Extended durations of such interventions can help track long-term impact on students' language skills. Schools can also provide more immersive English environments by implementing peer language clubs, interactive storytelling sessions and daily communication in English within the school. Flexible curriculum strategies with additional bridge programs for foundational language development and the use of AI-powered language learning apps and gamified digital tools can help supplement classroom teaching as well as provide continuous reinforcement.

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## THE IMPACT OF A SELF-DIRECTED LEARNING PACKAGE ON LEARNING READINESS OF STUDENT TEACHERS: A MIXED-METHODS STUDY

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### Abstract

*This study investigated how structured self-directed learning interventions affect student teachers' learning readiness. Based on established literature, it was found that self-direction in learning requires purposive curriculum organization, rather than organic and automatic development.*

*Using a quasi-experimental design, the research compared 50 student teachers in an experimental group exposed to a Self-Directed Learning (SDL) Package with 50 student teachers in a control group taught using prevailing teaching methodologies. The groups were purposively selected from two Colleges of Education.*

*A concurrent mixed methods approach was employed. Quantitative data were collected using a Learning Readiness Scale, while qualitative data were gathered through metaphorical representations, semi-structured interviews, and focus group discussions. The data analysis included both descriptive and inferential statistical techniques for quantitative data, complemented by thematic and open-axial coding for qualitative data.*

*The findings revealed that the experimental group demonstrated significantly higher mean scores in learning readiness compared to the control group. Qualitative analysis corroborated these results, with participants in the experimental group demonstrating enhanced self-directed learning skills. Specifically, the SDL Package fostered ownership of learning, developed knowledge-generation abilities through reflective journaling, and promoted engagement with meaningful learning tasks.*

*This study demonstrates that the SDL Package can be effectively integrated into teacher education curricula without disrupting syllabus schedules while substantially enhancing student teachers' self-directed learning readiness.*

**Keywords:** *Self-Directed Learning Package, Student Teachers, Learning Readiness, Experimental Study, Mixed Method Research*

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### Introduction

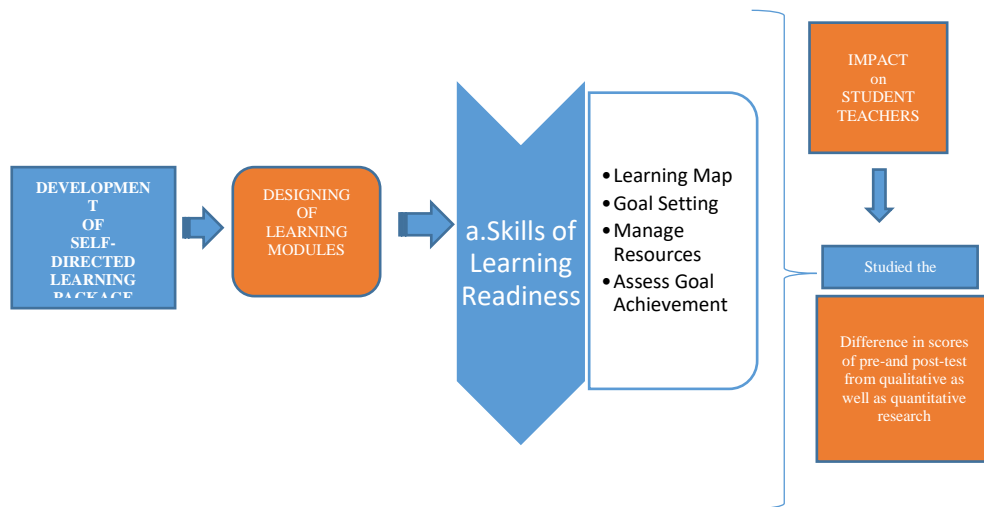
The vehicle of learning in the 21st century is still driven by the 20<sup>th</sup>-century teachers fueled by the 19<sup>th</sup>-century infrastructure and interactions.<sup>7</sup>

The learner, the teacher and the education system are in different generations, in the different centuries, as the quote points out, and it speaks volumes about understanding 21st-century learners and learning. The generation of Education 1.0 is still rampant in Education and Industry 3.0; it is not a hidden fact, and this varying time zone is a matter of concern. The concept of education, learning, teaching, etc., must be understood in a new light to avoid mismatching between the learner and teacher, as Grow (1991) warned us in the Staged Self-Directed Learning Model. To understand and create a constructive alignment with the teacher, the taught, and knowledge in such a way that learning readiness skills are developed, the present study focuses on the impact of the Self-Directed Learning (SDL) Package on Learning Readiness.

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<sup>7</sup>Care, Esther & Kim, Helyn & Scoular, Claire. (2017). 21st century skills in 20th century classrooms.(adapted)



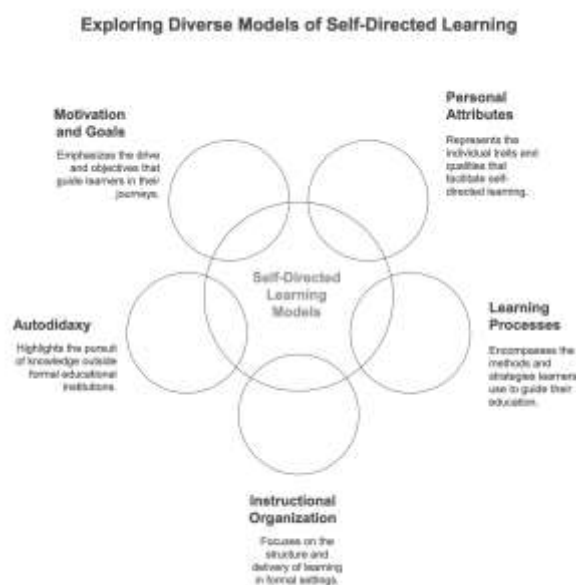


**Figure 1. Self-Directed Learning Package and Learning Readiness**

This study explored, through phenomenological research, how learning moved from a need-based family responsibility to a state responsibility, becoming an individual and social journey for transformation. Learning is not a simple concept; it is affected by socio-cultural, economic, and ideological factors that can stagnate with reproduction or move towards the production of new knowledge (Topp, 2000).

### **Learning Readiness (LR)**

LR refers to the perception student teachers have regarding their own learning needs, deficits, and strengths. They develop learning strategies and activities, share knowledge with others, and monitor their progress. Different models impact Learning Readiness as depicted below.



**Figure 2: Models of Self-Directed Learning**

**Distinct Objective of the SDL Package**

The main objective of the package was to propose that learners can be made ready for self-directed learning, make an impact, and manage personal knowledge even in regular classrooms. The Package transits from teacher visibility to teacher becoming a facilitator and eventually invisible in the students' self-directed learning. The module undertaken can be from any syllabus, but the package focuses especially on the learning map, reflective writing, metaphor analysis, and making optimum use of personal knowledge management.

**Review of Related Literature****Learning Readiness**

Sabar and Jabeen (2019) established a relationship between self-directed learning readiness (SDLR) and the academic achievement of student-teachers in Pakistan. The main objective of this study was to determine the relationship between student-teachers' preparation for SDLR and their academic achievement. The research adopted a quantitative correlational research design and was conducted on the masters' level students at the Institute of Education and Research. Multistage sampling was used by the researchers to select the sample of 300 students. Findings revealed that student-teachers' SDLR is quite high. However, there was no statistically significant difference among the sample based on gender or marital status.

Geng et.al. (2019) conducted a study to investigate the effects of self-directed learning, technological preparedness and learning motivation on three presences (social, teaching and cognitive) among students enrolled in blended learning and non-blended learning settings. A 5-point Likert scale questionnaire was used to collect data from 96 students in the blended learning group and 111 in non-blended group. The findings revealed that the blended learning environment promotes students' social interaction in the classroom positively and their technological readiness has a greater influence on teaching presence than it does in a non-blended learning environment. This suggests that suitable blended learning environment fosters a sense of belonging among students and encourages them to collaborate. Students trained in technology participate better in class.

Tekkol and Demirel M (2018) investigated the association between university students' self-directed learning abilities and their aptitude for lifelong learning with first and fourth year students from Hacettepe and Başkent Universities. The Self-Directed Learning Skills Scale, developed by Aşkin, was used to gather data (2015). Findings demonstrated that the self-directed learning scores of university students were much higher than the scale's median score and self-directed learning abilities did not differ depending on the institution, year of study or economic level. Self-directed learning abilities among university students were found to be significantly influenced by gender, area of study, type of university, entry score, academic achievement and the ambition to seek a graduate degree, among other factors. It was found that students good at self-directed learning have good skills for lifelong learning.

Saeid and Teslaminejad (2016) studied the relationship between students' self-directed learning readiness, academic self-efficacy and achievement motivation in 322 bachelor students from Payamnoor High School. The researcher used simple random sampling and the SDL questionnaire, academic self-efficacy questionnaire and achievement motivation questionnaire for data collection. The results revealed a relationship between students' self-directed learning preparedness, academic self-efficacy and academic motivation. Also, independence in learning, study skills and problem solving had the best chance of predicting academic self-efficacy and academic motivation. There was a strong relationship between these variables and academic self-efficacy and motivation.

Koirala, et.al. (2021), analysed the factors affecting the self-directed learning readiness of 253 undergraduate nursing students from Purbanchal University. A descriptive, cross-sectional research design was used for this study. Overall, nursing students demonstrated a moderate-to-high level of preparation for self-directed learning in the classroom. The only significant factor impacting the SRSSDL among nursing students was marital status.

Leatemia, Susilo and Berkel (2016) studied whether students are prepared to engage in self-directed learning and to discover the underlying elements that influence this preparedness in the context of a hybrid problem-based learning curriculum. A mix of quantitative and qualitative methods was carried out at five medical schools in Indonesia. Quantitative analysis revealed that only half the students had a high degree of SDL preparedness. A similar pattern was seen in each batch of students studied. The percentage of students demonstrating high degree of SDL preparedness was lower among senior students. SDL was found to be affected by factors like how problem-based learning was taught and graded, learning environment, students' lives and how they thought about the subjects.

Thi Mai (2022) studied Learners' Comfort and Self-Directed Learning Ability among 304 undergraduate students with respect to their readiness to participate in online learning. A self-evaluation Likert scale was used. Responses were coded and analysed to generate descriptive statistics and reliability. The analysis showed that these students were only slightly ready for online learning, which may have been the reason for resistance during the epidemic.

Sachdeva and Mahajan (2022) conducted a study 'Evaluation of Learning and SDL Readiness' to promote SDL in the Anatomy department; support faculty acceptance of SDL as a teaching technique and encourage students to cultivate an attitude of SDL and become lifelong learners. Fischer's Self-Directed Learning Readiness Scale (SDLRS) and the Jefferson Scale of Lifelong Learning—Health Profession Version were used. The sample consisted of 126 first-semester MBBS students. The findings revealed that students showed a high level of preparedness for SDL and were motivated to pursue a lifelong learning career. It is possible to use SDL in Anatomy Department and it encourages students to keep learning all their lives.

Lasfeto, D. (2020) studied the relationship between SDL and students' social interaction in online learning environment on 98 students from Education Faculty at the State University of Malang, Indonesia. They were randomly chosen. Results showed that students' SDLR is linked to their social interactions, with social interactions depending on their SDLR levels.

Li J, Yang D and Hu Z (2022) studied Wuhan College Students' Self-Directed Learning and Academic Performance: Chain-Mediating Roles of Optimism and Mental Health throughout a long-term online course. 473 Students from three Wuhan universities provided 473 valid replies on SDL, optimism, mental health, and academic success scales. All items were graded on a 5-point Likert scale. The findings demonstrated that SDL only had a limited beneficial relationship with academic achievement. Optimism and mental health played a part in the link between the two, which shows how important they are for Wuhan college students' learning and academic success.

Sadeghi M, Khalili Geshnigani Z. (2016) analysed the role of SDL in predicting academic buoyancy in 369 students of Lorestan University of Medical Sciences. This descriptive and correlational study used Chochran's technique, SDL questionnaire and the academic buoyancy questionnaire. The findings revealed a statistically significant positive relationship between SDL and its components (self-control, autonomy, and motivation to study) and academic buoyancy among students. Among the components of SDL, self-control and desire to learn were shown to be significant predictors of students'

academic performance. Also, female students had greater self-control and a greater motivation to study than their male counterparts. Male students showed more academic buoyancy than female students. The research confirms the importance of self-directed learning in building academic buoyancy.

Bakaç (2018) studied the impact of prospective teachers' SDL tendencies on self-efficacy views in technology integration. Additionally, the views of prospective instructors on technology integration were gathered. A mixed approach was used and the participants were prospective teachers enrolled in the Instructional Technology and Material Design course at the Faculty of Education in the Northwest Black Sea Region, Turkey. Tools included the Technology Integration Self-Efficacy Scale, the Self-directed Learning with Technology Scale, and a focus group interview. The study found that the SDL tendencies of future teachers were linked to their technology integration self-efficacy views both before and after the test.

Kumar (2021) studied the impact of online learning readiness on student satisfaction in higher educational institutions. A mixed online learning approach was used on 155 students enrolled in a bachelor's programme at an Indian university. According to the findings, there is a positive association between students' preparation for online learning and their overall pleasure. A significant relationship was found between rising levels of readiness for online learning and student enjoyment.

Aghayani and Janfeshan (2020) studied the Effect of SDL on EFL Learners' Writing Performance among 30 Iranian EFL students. The research included pre and post test and an intervention to two groups. The efficiency of two ways to identify differences between the means of the two groups at each level was determined using an independent sample t-test. The findings revealed that the SDL technique had a considerable impact on pre-intermediate and intermediate students' English writing abilities. Also that there was a substantial difference in the development of English writing skills between the two groups of learners at each level.

Poathen et al. (2017) investigated the use of self-learning software in medical education. 131 students from the Govt. Medical College, Kottayam's second professional MBBS programme were exposed to twenty modules of SLP created in the Pathology department. A checklist was used to assess students' regularity of usage and grades in sessional examinations. Students' impressions and ideas concerning the usage of SLP were gathered using an open-ended questionnaire. The results revealed a substantial difference in scores between frequent and irregular SLP users. Regular users received higher grades than non-users, although the difference was more in practical than theoretical marks. 25% of pupils believed it helped in the improvement of knowledge, 55% believed it aided in better clinical correlation and 20% believed it enhanced understanding and assisted in better clinical correlation. Students also recommended that the modules run concurrently with the lecture topics.

### **Reflection of Review of Related Literature**

The review of related literature highlights the impact of cultural differences, particularly in Asian countries, on LR. It identifies obstacles such as exam anxiety, fear of failure, and an emphasis on grades. The reviews also emphasized the different strategies to enhance learning readiness, use of technology, blended and online modes of teaching. The SDL modules were recommended to be concurrent with the learning syllabus.

The SDL Package aims to balance learning with application and assessment. It underscores the need for effective planning, strategies and a clear understanding of both learner and teacher responsibilities. It has used different strategies that were not used before, like learning maps and journaling for different units.

**Statement of Problem**

The Impact of a Self-Directed Learning Package on the Learning Readiness of Student Teachers: A Mixed-Methods Study.

**Variables of the Study**

The variables of the study are

- The independent variable is the Self-Directed Learning (SDL) Package.
- The dependent variable is learning readiness.

**Operational Definition of the Variables**

1. **Learning Readiness (LR):** LR is the perception of the student teachers of their own learning needs, their deficits and advantages, formulating learning strategies and activities, communicating and sharing their knowledge with others, and monitoring their own learning.
2. **Self-Directed Learning Package:** The SDL Package is a graded learning module, which was transacted to student teachers in a planned form. It consists of phases from guided learning to partially guided learning to invisible teacher to self-directed learning for enhancing the Learning Readiness, among student teachers.

**Aim of the Study**

1. To develop self-directed learning skills among the student teachers.
2. To evaluate the benefits of SDLP on learning as perceived by the student teachers
3. To propose suggestions for systems revision and future research directions based on the results of the revision.

**Objectives of the Study**

1. To develop a Self-Directed Learning Package (SDL) to promote learning readiness of student teachers.
2. To ascertain the effect of the Self-directed Learning Package on the post-test scores Learning Readiness (LR) of the student teachers in the experimental and control groups when the differences in the pre-test scores of the two groups have been controlled.

**Hypothesis**

There is no significant difference between the post-test scores of the control group of the Learning Readiness and the post-test scores of the experimental group of Learning Readiness.

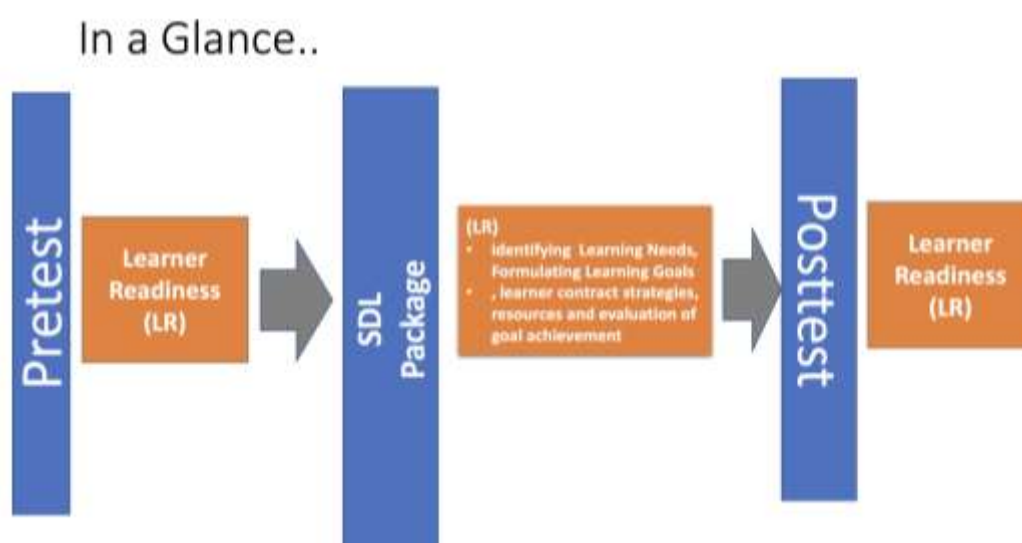
**Design of the Study****MIXED METHOD STUDY STATEMENT**

A concurrent study with the intent of gathering both qualitative and quantitative data and merging them to best understand a research problem is proposed by the researcher for the present study.

This concurrent mixed-method study developed a SDL Package for student teachers to understand the impact of the package on their LR. In this study, quantitative data was collected by using the Self-Rating Scale of Learning Readiness.

At the same time, LR was explored using focused group interviews, learning maps, and metaphorical representations. The reason for combining both quantitative and qualitative data is to better understand this research problem by converging both the numerical trends and detailed views data.

The research study is represented through visual representation:



### Research Methodology

GROUPS	CONTROL	EXPERIMENTAL
CONTENT	Two-Year B.Ed. Program, Semester 1; Course 2: Knowledge and Curriculum Module 1 (Unit 1, 2 and 3)	University of Mumbai
	Learner centric teaching should be and is - Activity based Problem solving based, Discussion based, Involves group work Seminar presentation and lecture method	<b>SELF-DIRECTED LEARNING PACKAGE (SDL)</b> Orientation to Learning Readiness for moving towards self-directed, Activities for being goal focused Activity based learning, problem solving, discussion, group work, seminar presentation and lecture method Constructing learning maps Reflective log after every unit Pictorial representation about its impact on society
Pretest	Quan + QUAL: Learning Readiness	Quan + QUAL: Learning Readiness
Posttest	Quan + QUAL: Learning Readiness	Quan + QUAL: Learning Readiness



GROUPS	CONTROL	EXPERIMENTAL
Experimental Validity	Controlling Extraneous Variables The following extraneous variables were controlled in the present research. Gender : Approximately the same number of girls and boys were taken for control and experimental groups. Socio-Economic Status: The researcher controlled this variable by selecting the students for control and experimental group. Age: The students belonging to the same age group were selected for this study. Controlling Intervening Variables The researcher tried to control intervening variables like anxiety, fatigue, stress and motivation by providing support and with physical presence of researcher in the control and treatment teaching learning process.	
Duration	Two Months (30 hours)	Two Months (30 hours)

#### Design of the Study: Quasi-experimental pre-test – post-test Non-equivalent group design

Group	Pre-test	Intervention	Post-test
Control (C 1)	O	Conventional teaching	O
Experimental (C 2)	O	SDL package	O

#### Population

Population consisted of Student teachers of B.Ed. Colleges affiliated with Mumbai University

#### Sample and Sampling Procedure

For the study, the sampling technique is purposive sampling. 50 B.Ed. student teachers, each for the experimental and control groups, were part of the sample.

#### Tools of the Study

**A. Quantitative:** Adapted from Williamson's Self-Rating Scale of Self-Directed Learning (SRSSDL) with a reliability of 0.74

**B. Qualitative:** Metaphor Representation, Focused group Discussions, Semi-structured Interviews, Reflective Journals/Lear

#### Techniques of Data Analysis

1. Descriptive analysis: mean, median, mode, skewness, and kurtosis, to maintain the central tendency
2. Inferential analysis: t-test, Coefficient of correlation, combined correlation
3. Qualitative Analysis: Open, axial, and selective coding for qualitative analysis.

#### Data Analysis and Findings

##### Hypothesis

There is no significant difference between the post-test scores of the control group of Learning Readiness and the post-test scores of the experimental group of Learning Readiness

**Table 1**  
**Mean score and paired t-test of Control and**  
**Experimental Groups concerning Learning Readiness**

Variables	N	Mean	Std. Deviation	t	P (2 tailed)
Post Learning Readiness Control	50	227.74	6.92	6.78	p<0.01
Post Learning Readiness Experiment	50	236.5	5.94		

N=50, df=98

**Findings:** Table 1 indicates that the Mean, SD and paired t-value are measured to find the significant difference between the post-control and post-experiment groups with respect to the LR of the student teachers. The null hypothesis states that there is no significant difference between Post-test scores of the control group of LR and Post-test scores of the experimental group of LR.

The overall LR mean scores of the control and experimental groups are 227.74 and 236.5, respectively. It is found that the mean overall LR score of student teachers is higher for the experimental group (236.5) than for the control group (227.74). The paired t-value calculated for the learning readiness of the control and experimental groups is 6.78 for student teachers, and it is significantly different at the 0.01 level. The obtained t value (6.78) is higher than the tabulated at the 0.01 level.

**Conclusion:** There is a significant mean score difference in the LR of control and experimental groups. The mean score is higher in the experimental group as compared to the control group. Thus, the null hypothesis is rejected.

### Discussion

There is a significant difference between the experimental and control groups regarding LR. This may be because the experimental group utilized the SDL Package as the intervention for the study. The teaching methods used for both the control and experimental groups included inquiry-based learning, small group discussions, role play, and other student-centred approaches. The key differentiators between the experimental and control groups were the learning map, goal setting, reflective journaling, and resource repositories designed within the SDL Package. By teaching students to reflect on their learning processes and fostering their skills to achieve learning goals, students can transition from being passive recipients of information to becoming active agents in their learning (Barbara 2003).

The quantitative findings were corroborated by a qualitative analysis of focused group discussions and semi-structured interviews. Responses from the two groups were analyzed and categorized into themes with codes. The major themes identified from these responses are other-directedness and self-directedness.

### Theme: Agency of Learning. Other-Directedness and Self-Directedness

The theme of other-directedness was extracted from the student teachers' control group responses. Some responses are provided below, indicating the other-directedness learning readiness.

1) We are not used to this method of teaching. We like it when a teacher teaches us. It is not that I am passive in the lecture method class, but the teacher is an expert.

2) Group activity: One group clearly mentioned that in our group we had a student, X, who directed and allotted our work. She pushed us to do well; she was goal-oriented and didn't mind even if we were not receptive; she encouraged us to do our work. We wouldn't have done it without her. Student X also mentioned that her previous schooling (education) was more activity-based and student-led; she was comfortable with directing her learning but was finding it difficult to make the group feel confident they can learn without a teacher.

The theme of self-directedness was extracted from the student teachers' experimental group responses. Some responses are given below, which indicated self-directed learning readiness.

1) At the beginning of every unit, the learning map charting made me feel familiar with the topic; I didn't feel it was taught but only facilitated by the teacher.

2) Learning is not just recalling but also analysing and applying to new situations. We applied what we learned in the theory of types of knowledge that propositional knowledge can transform into situational and strategic knowledge during community work.

3) Group activity: Small group discussions were encouraged, especially during the group work of the presentation. We all contributed and took responsibility. Some took the lead, but most of us were confident that we could do this on our own.

### **Discussion**

It was analyzed from the above responses that the sub-themes emerged from the codes based on other-directedness that there is dependence on teacher expertise, lack of initiative towards their learning, no goal setting about their learning, and no personal responsibilities for self-learning from the student teachers of the control group. This is agreed upon by Khodabandehlou et al. (2012); the strategic learners who were equipped with SDL strategies were able to identify their own learning needs, set personal goals, make decisions, and generally take responsibility for their learning not only in the educational context but also to be able to succeed in any new areas and contexts, and their learning is much more purposeful and planned than TDL groups, and it promotes collaborative learning among students. The theories of constructivism, critical pedagogy, learned helplessness, and learner autonomy also strengthen the findings. The learning contract, study books, and reflective writing are important tools for self-directed learning.

The responses from the experimental group focused on the self-directedness theme of directing their learning, setting goals, and feeling meaningfully connected to the modules. Even in the group activity, each member of the experimental group felt they were finding ways, and sifting resources to achieve their goals.

Thus, the responses to the qualitative data analysis of the groups support the difference in the mean scores of the experimental group and the control group.

### **Reflexivity**

Reflexivity refers to the critical self-reflection of one's assumptions, biases, and predispositions. The researcher reflected on her perceptions and limitations regarding the different variables. The researcher tried to find examples of self-directed teachers in her teaching ecosystem. The researcher compared her position and preconceptions in the continuum of self-directed learning readiness.

### **Suggestions and Recommendations**

1. A self-directed, empowered teacher plays an important role in fostering the skills of self-directed learning among their students, as revealed by the findings. Therefore, a

recommendation is to develop a Self-Directed Learning (SDL) package for developing learning readiness among teachers of schools and higher education to foster self-directed learning among the learners.

2. A longitudinal study of the impact of the SDL package on other graduation streams of higher education.
3. Development of SDL packages for higher secondary students, especially in rural areas and remote parts.
4. Comparative study of learners from Asian countries and Western countries on self-directed learning readiness.
5. Mixed-method study on the effect of cultural differences on learning readiness,
6. A study comparing school boards like SSC, ICSE, CBSE, and alternate education for the difference in the levels of learning readiness

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## ART FIRST: DOTS AND DOODLES - TOOLS FOR SOCIO-EMOTIONAL DEVELOPMENT AND GATEWAY TO CONFIDENCE

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### *Abstract*

*The “Art First” initiative at Antar Bharati Balgram School, Lonavala, explores the transformative power of Art in fostering socio-emotional development and building confidence among children from underprivileged backgrounds. Rooted in expressive techniques like doodling, scribbling and action painting, this initiative provides a safe space for students to articulate their emotions, cope with frustration and cultivate self-awareness. Through four miracle stories of children who struggled with unease, anxiety and low self-esteem, the research highlights how artistic expression aids in behavioural transformation and personal growth.*

*By integrating the Art First Lab and Outdoor Art Gym into the school ecosystem, students engage in creative self-exploration leading to improved emotional resilience, academic engagement and social interactions. The study presents qualitative observations and behavioral data over three years, demonstrating a decline in bullying, absenteeism and other disciplinary issues. While the initiative's impact is profound, the study acknowledges its limitations, including the need for broader sample sizes and standardized assessment tools.*

*Ultimately, “Art First” underscores the critical role of Art-based interventions in education advocating for the integration of creative practices as therapeutic tools that empower students to express themselves, navigate challenges and build confidence.*

**Keywords:** *Artistic Expression, Emotional Resilience, Art based Intervention, Action art, Doodling, Socio-emotional Learning*

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### **Introduction**

It is said, “Through Art, we can change pain into beauty” (Picciotto, 2017). I, the researcher, want to validate the same at my school, Antar Bharati Balgram School – Lonavala, where we provide a nurturing learning environment for children coming from underprivileged and marginalized backgrounds including residents of Antar Bharati Balgram (Child Care Institute) and day scholars from nearby communities. Our learners have faced challenging life circumstances and providing a safe, caring and fostering learning ecosystem is our priority rather than bombarding them with capsules of academic doses (Greene, 2018). Hence, we initiated a new venture, “Art First Lab – a language of emotions, a tool for healing and a gateway to confidence” (Malchiodi, 2006). For the learners at Antar Bharati Balgram, Art First is more than just an activity. Whenever they feel low or frustrated, they go to the Art Room and the researcher provides them with paper, crayons and different types of pencils to scribble, allowing them to express their frustrations, anger, boredom and most importantly, their fears (Kramer, 1993). Just scribbling, doodling and putting dots on paper with intense emotions helps them release their negativities (Junge, 2010).

In any school ecosystem, Art, Music, Games, Dance and other co-curricular subjects play a key role in shaping the personality of the students, especially the arts. At Antar Bharati Balgram School, Art has a unique curriculum, which is called the Art first curriculum. The Art First way of learning is based on creating an atmosphere where the child is encouraged to be in touch with his/her inner world. Just as schools have a science and a computer lab, we at Antar Bharati Balgram School have an “Art First lab” – where, through exposure to colours, colour pads, brushes, colour grid, art history jigsaw wall, installation display, magnetic board for 2D and 3D games and aids (Alphabets, different Shapes, numbers etc.), found objects and more, children can develop a language to communicate their



experiences. The Art first lab itself becomes the space where every child in Antar Bharati Balgram School finds his/ her comfortable place to express and open up. Apart from that, you must have seen an outdoor gym built outside in a public park, the same way in Antar Bharati Balgram School we have developed an “Outdoor Art Gym” to improve physical and mental health, encourage social interaction, to let out their emotional turmoil and express creativity.

### **Literature Review**

#### **1. Abstract Expressionism: A Case Study on Jackson Pollock's Works:**

Action Painting, a key Abstract Expressionism movement, emerged in the mid-20th century, characterized by dynamic techniques and emphasizing the act of painting, conveying movement and emotion, and breaking conventional boundaries.

#### **2. Bharti Kher: An Artist Working with the Bindi as well as Huge Body Cast: (Journal of art and music- Akshi Babbar and Dr. Gurucharan Singh):**

Bharti Kher's art transforms the bindi into a powerful symbol, weaving disparate ideas and creating visual richness. Her resin-cast animals and wall panels showcase meticulous bindi application, transcending its origins.

These works were reviewed to design the Art first Curriculum.

### **Objectives of the Study**

1. To develop a space for students to express their emotions, fostering emotional awareness and adjustment.
2. To provide opportunities for students to explore their creativity, develop self-pride and build confidence. .

### **Curriculum taken for the Study**

The Art first curriculum is vast and spread over the year grade-wise. However, for the present research work, subset of the curriculum taken is as per the following:

- Dots and types of dots (Hiller, 2016).
- Activities based on dots (Moving dots, Jumping dots, Imagination dots) (Arnheim, 1974).
- Magical dots (My dream – with narrative activity) (Lowenfeld & Brittain, 1987).
- Be a dot detective (Edwards, 1999).
- Bindi Art and Painting of Bharti Kher – Bindi Artist (Kher, 2011).
- Action painting and artwork of Jackson Pollock (Karmel, 1999).
- Scribbling and doodling (Beth, 2015).

### **Sample**

This research is conducted on the students of Grade 1 - 8 belonging to Antar Bharati Balgram School – Lonavala.

### **Tools**

The researcher used school records like Complaint Register, Class Register, Home Work Completion Record Books, Anecdotal Reports, Teacher's Log Books, Students' Dairy, Counsellor's Report and Maintenance Register over the last three years to study the impact of the intervention. Apart from these, the following activities were taken up as a part of the Art first curriculum:

- Art through Dots: When children feel restless or bored, their emotions often spill onto notebooks, benches, even walls—scribbles, swirls, and lines that speak when words cannot. These idle doodles, “often dismissed as mess,” are actually windows into their inner world (Arnheim, 1974). At Art First, we nurture these raw expressions. Instead of scolding, we

provide blank sheets - safe spaces where emotions can flow freely. No judgments, no restrictions - just pure, honest creation (Lowenfeld & Brittain, 1987). Each sheet is carefully stored, a time capsule of feelings waiting to be revisited (Malchiodi, 2006). In time, the same paper returns to the child, inviting reflection. Do the lines still carry the same chaos? Have patterns emerged? Through this process, students witness their own emotional evolution, learning that expression is a journey, not just an act (Junge, 2010). Scribbling becomes more than an outlet—it becomes a mirror of the self. Children see how emotions translate into form, how control over their strokes mirrors control over their thoughts (Beth, 2015). Handwriting improves, focus sharpens, and creativity deepens (Edwards, 1999). At Art First, every dot, every line, every impulsive stroke tells a story. And in that quiet space between one doodle and the next, children don't just create—they discover themselves (Kramer, 1993).

- **Scribbling and Doodling:** When children are bored, they scribble on the benches, on the last pages of the book, on the walls of the toilet, or on their eating plates, dirtying them to let out their frustrations (Andrade, 2010). At Art First, the researcher gives them paper, allows them to do the same and collects the sheets to store them for future reference (Petherbridge, 2010). The researcher gives the same paper to retrospect after a sufficient time and a new paper to the child to scribble/doodle again. A shift in moods/emotions may result in different designs/patterns (Andrade, 2010). The researcher helps the child to understand the self and express self more creatively (Berninger & Richards, 2002). The researcher connects the same thing with the skill of handwriting and how to improve the same, emphasizing the importance of being mindful when writing to develop good handwriting (Berninger & Richards, 2002).
- **Action Painting:** When conflicts arise words clash, hands push, kicks and grapplings, and emotions spiral. Art First offers a different outlet. Instead of fists, students grab brushes; instead of shouting, they splash colours (Lowenfeld & Brittain, 1987), paint flies onto paper, water drips and bursts onto walls. Anger, frustration and chaos take shape in vibrant patterns (Malchiodi, 2006). These spontaneous creations become more than just splashes; they transform into frames of expression - picture boxes filled with colours, messages and found objects (Junge, 2010). What starts as raw emotion turns into art that speaks, a reflection of feelings once too intense for words (Kramer, 1993).
- **Magical Dots:** The researcher tells the tale of a boy who finds his bag mysteriously filled with colorful dots. In frustration, he throws them like stones but is surprised to see them transform into real rocks. Realizing their magic, he begins casting dots with purpose - bringing rain to dry lands, crops to hungry villages, and dreams to life (Eisner, 2002). Inspired by this, Art First gives students their own magical dots - blank spaces where they can create their aspirations. Over months, each dot becomes a step toward self-discovery, turning imagination into a vision for the future (Winner & Hetland, 2000).
- **Be a Dot Detective:** The researcher presents a student's dot-filled sheet and asks, "What do you see?" Suns, moons, laddus - imagination runs wild. Then, the researcher instructs students to become the dots themselves - big, small, bright, quiet. Some outwardly radiating like extroverts; others turning inward like introverts (Lowenfeld & Brittain, 1987). Through this playful exercise, they realize every dot matters - just like every person. The researcher sensitizes students to the concepts of labelling, body shaming, bullying and teasing—a lesson in inclusion, breaking stereotypes, and embracing the beauty of differences (Dweck, 2006).

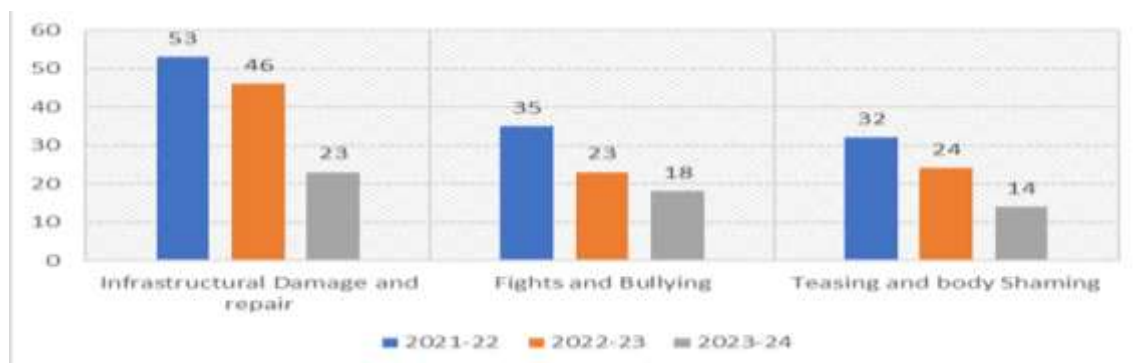
### Data Analysis

Following is the analysis of quantitative data based on Complaint Register, Class Register, Home Work Completion Record Books, Anecdotal Reports, Teacher's Log Books, Student's Dairy, Counsellor's Report and Maintenance Register over the last three years.

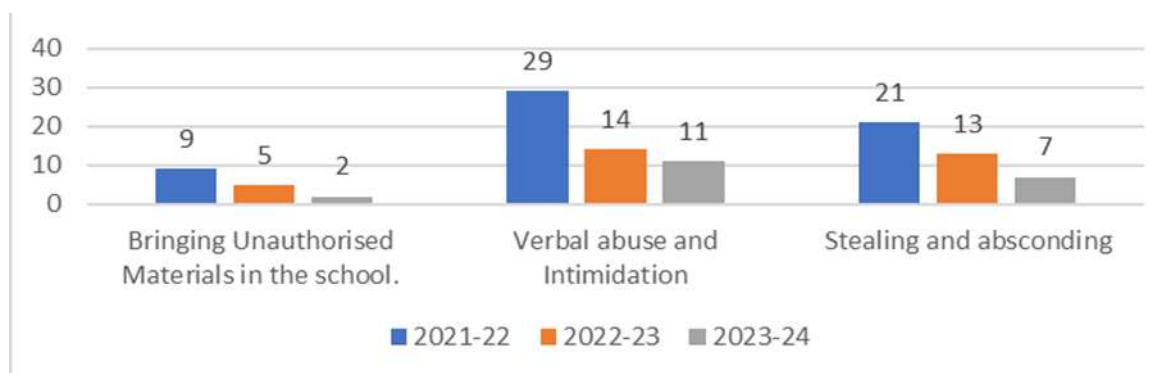
Behaviours	2021-22	2022-23	2023-24
Infrastructural Damage and repair	53	46	23
Fights and Bullying	35	23	18
Teasing and Body Shaming	32	24	14
Bringing Unauthorised Materials in the School	9	5	2
Verbal abuse and Intimidation	29	14	11
Stealing and Absconding	21	13	7
Lying and Cheating	42	28	21
Incomplete Homework	54	33	22
Irregular to school.	89	64	41
Infatuation cases	38	25	35

**Table 1 Showing Total Instances of Misbehaviour Over the Past Three Years**

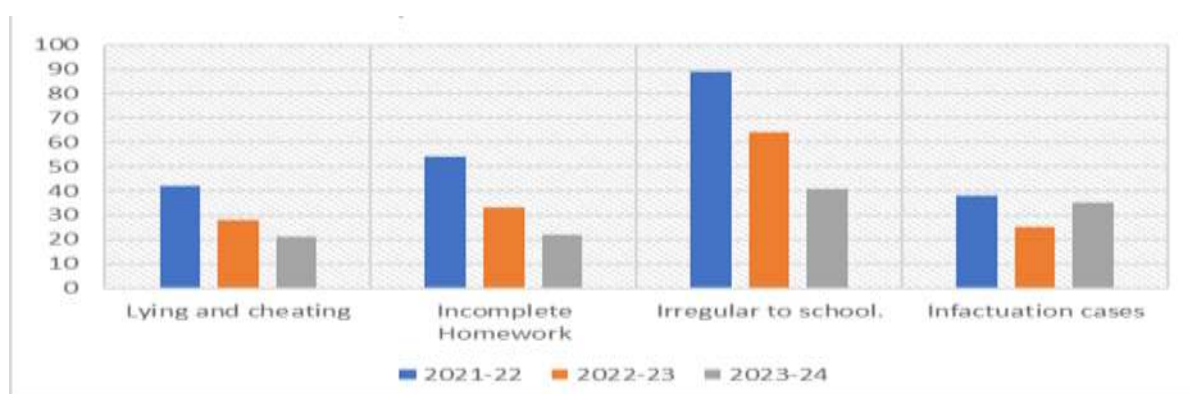
Figure 1, Figure 2 and Figure 3 below shows the graphical representation of the data mentioned in Table 1.



**Figure 1- Impact of Art first intervention**



**Figure 2- Impact of Art First intervention**



**Figure 3: Impact of Art First Intervention**

Over the past three years, the researcher has also witnessed many miracles at Art First Lab besides these quantitative data. The researcher has a ‘Miracle Box’ full of these stories and has selected four as testaments for this paper.

#### **Miracle 1**

Rajendra (name changed) or our dearest Raju, once felt like a misfit in school. Lost in a world he did not understand, he preferred the last bench—silent, uninterested and distant. Homework was never done, classwork felt like a burden and school was just a place he had to be.

Then came the Art first - a new chance, and with it came Painting - a subject that unknowingly led him to Art first. Initially, it was just colours and brushes, but soon, something changed. Raju found himself. The boy who once avoided class now stayed back to finish his artwork. His aggression melted away, replaced by focus and confidence.

His greatest masterpiece? A huge wall painting at school - his expression, his voice. His DIY diary colour page speaks volumes about his transformation. From a boy who struggled with creativity to one who now experiments, fails and creates something beautiful. Pottery now excites him, a skill that could shape his future.

Art first didn't just teach Raju to paint—it helped him find himself. The lost boy is lost no more.

#### **Miracle 2**

Ever heard of tornadoes - restless, wild and unstoppable? Such was our 4th grader Shyam (name changed). He ran out of classrooms, tore notebooks, fought with friends and demanded a car shown on

the smartboard. Learning was a battle which no teacher could win. But then came Art first—not a fairy godmother, but just as magical.

The same boy who once shattered a glass window of the Art first lab now willingly sits for hours painting with watercolours (because he doesn't like crayons). The child who once stayed silent, his face tight with anger, now speaks up, even if he stammers - because he wants to be heard. The boy who had no interest in books now questions the colours of flowers saying "Sir, why does a red flower produce pink colour when crushed?" Thinking, exploring and discovering.

He no longer fights to watch cars. He creates them on the magnetic board of the Art first lab. He doesn't just scribble, he writes beautifully and has one of the best handwriting in the entire foundation stage. Shyam has found his magic in colours, creativity and curiosity. And just like that, the storm has settled and a star has begun to shine.

### **Miracle 3**

Rajdhani (name changed) is an innocent and beautiful girl (both inside and outside) but extremely impulsive, restless and always in conflict. Everyone saw her as a troublemaker because she didn't leave any stone unturned, friends grew frustrated, and even the Balgram care-giving staff struggled with her. She was distracted, loud and got upset easily making the classroom a challenging space for everyone.

Then came Art first, a turning point in her journey. Initially she painted only in dark shades, choosing night over day, reflecting her inner turmoil. Shifting her from darkness to lighter hues was a challenge. But through patience, practice and self-discovery, she began blending colours, softening both her art and her attitude.

Today, Rajdhani's transformation is visible on the school walls and within herself. She has found her strength in leadership, her peace in nature-inspired art and her voice in creativity. Once a source of chaos, she now stands as a symbol of growth and positivity. Art first didn't just change her art; it gave a meaning to her beautiful life.

### **Miracle 4**

Maitraya was always restless. He got into fights easily, threw tantrums and never wanted to study. Instead of paying attention in class, he would fidget with his stationery taking things apart, arranging them in different ways. Teachers thought he was just being careless. His poor grades led to remedial classes and punishments, but nothing worked.

Then came Art first, and everything changed. Through applied and environmental art, Maitraya found his true passion. His fidgeting was not a distraction - it was his way of expressing himself. He worked hard and created an entire village setup in a corner of the school using natural materials. His creativity amazed everyone!

With Art as his strength, Maitraya became more confident. He started improving in studies and even spoke on stage during the assembly. Art first became his best friend, helping him grow, learn and believe in himself. Art first made him an artist, a builder and a visionary.

### **Discussion**

The Art First Intervention has had a significant positive impact on student behaviour over the past three years. Instances of infrastructural damage, bullying, teasing, verbal abuse, and dishonesty have steadily declined, indicating improved emotional expression and conflict resolution among students. Academic discipline has also improved, with fewer cases of incomplete homework and irregular attendance suggesting increased engagement and responsibility. The reduction in stealing and

unauthorized materials points to enhanced ethical awareness. Overall, the intervention has fostered a more positive school environment promoting creativity, self-expression and better peer relationships.

### Limitations

While the study highlights the success of “Art First” in transforming students' lives, some limitations must be acknowledged:

- The findings are based on a limited sample size and specific to Antar Bharati Balgram School, which may not be universally generalizable.
- The study relies on observational and qualitative data which may be subjective and influenced by personal biases.
- External socio-economic factors affecting students' behaviours and progress were not extensively analysed.
- A lack of standardized assessment tools for measuring the direct impact of art on emotional well-being and academic outcomes.

Despite these limitations, the research establishes a strong foundation for integrating art as a powerful tool for emotional healing and self-confidence. Further studies with larger sample sizes and more diverse methodologies can strengthen these findings and pave the way for broader implementation.

### Conclusion

The “Art First” initiative at Antar Bharati Balgram School has demonstrated the transformative power of art in fostering socio-emotional development and building confidence among children from underprivileged backgrounds. Through activities like doodling, scribbling, action painting, and creative storytelling, students have found a medium to express their emotions, manage frustration, and develop self-awareness (Malchiodi, 2012). The case studies presented highlight the profound impact of art in shaping behavior, enhancing academic engagement, and instilling a sense of identity (Eisner, 2002). Art is not merely a subject in the school curriculum but a therapeutic tool that helps students navigate their emotions, build resilience, and discover their hidden potential (Winner et al., 2013).

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