

ISSN 2278 - 6899

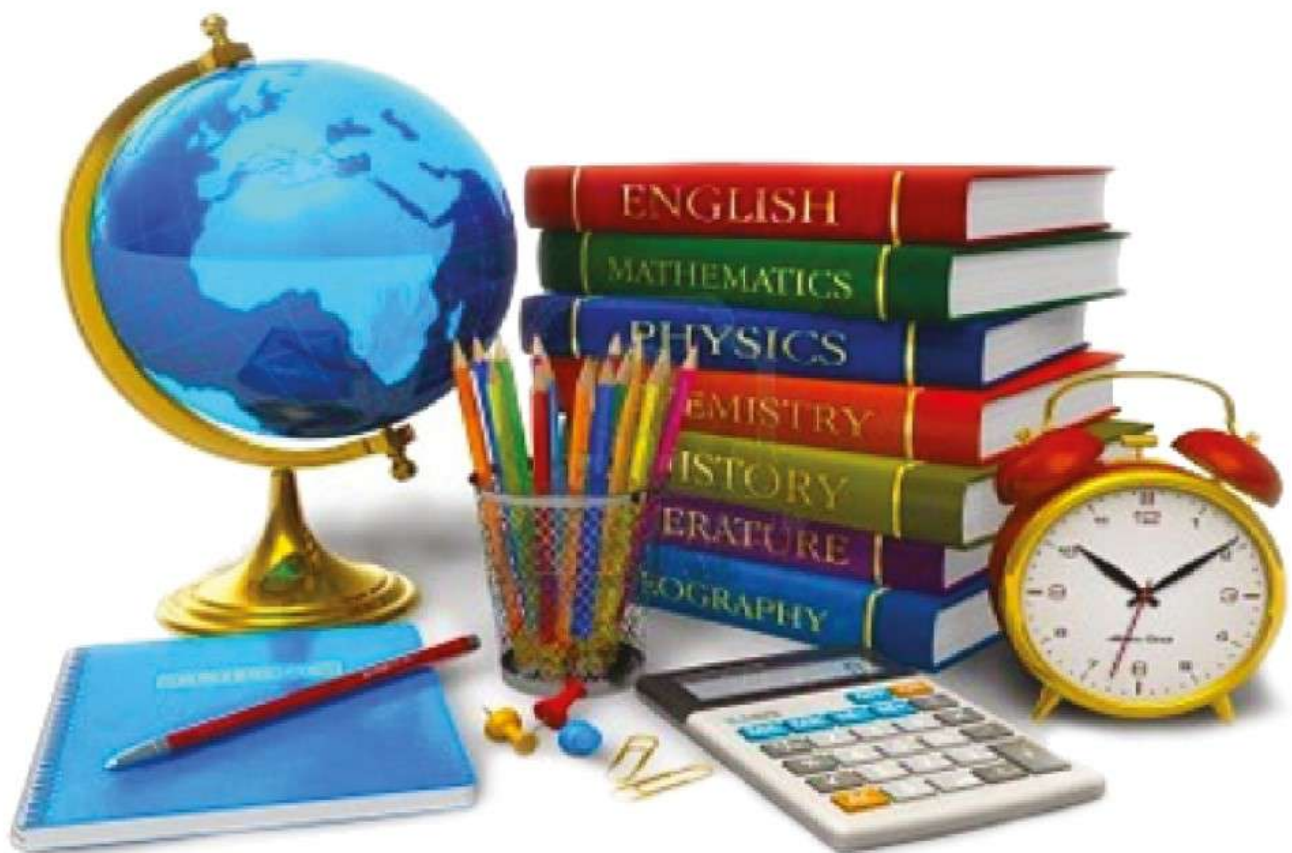
# INIGO EDU RESEARCH

a peer reviewed and refereed bi - annual journal

**Volume. 19**

**No.1**

**January - June 2026**



**Published by :**

**St. Ignatius College of Education** (Autonomous)

Accredited by NAAC at Grade A+ with CGPA 3.42 (Third Cycle)

Affiliated to Tamil nadu Teachers Education University, Chennai

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**INIGO EDU RESEARCH  
THE JOURNAL ON EDUCATION**

**ISSN 2278-6899**

**Bi-Annual**

**January - June - 2026**

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## INNOVATIVE LEARNER-CENTRED PEDAGOGICAL APPROACHES: REIMAGINING THE CLASSROOM FOR THE MODERN LEARNER

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### ABSTRACT

Education is shifting from the traditional transmission of knowledge toward more participatory, flexible, and meaningful learning, driven by the need to equip learners with creativity, critical thinking, collaboration, adaptability, and the capacity for lifelong learning. This article examines the innovative learner-centred pedagogical approach, which positions learners as active constructors of knowledge rather than passive recipients of information. Drawing on progressive, constructivist, and humanistic traditions, it traces the theoretical and historical foundations of the approach, from Dewey, Piaget, and Vygotsky to Weimer's five key changes to practice. The article explores the significance of learner-centred pedagogy for deeper learning, motivation, twenty-first-century skills, and educational equity, and outlines its core principles and practical classroom strategies, including inquiry-based, cooperative, project-based, and technology-supported learning. Finally, it acknowledges the practical and structural challenges of implementation, arguing that when sustained thoughtfully and equitably, learner-centred pedagogy offers a powerful means of reimagining the classroom for the modern learner.

**Keywords:** Learner-Centred Pedagogy, Constructivism, Active Learning, Twenty-First-Century Skills

### Introduction

Education is undergoing a fundamental transformation from the traditional transmission of knowledge to a more participatory, flexible and meaningful learning process. Contemporary learners require more than the ability to remember information; they must develop creativity, critical thinking, communication, collaboration, adaptability and the capacity to continue learning throughout life. This changing educational context has created a need to move away from teaching that is merely delivered to students towards learning experiences that actively involve,

empower and respond to them. An innovative learner-centred pedagogical approach places learners at the heart of the teaching-learning process and recognises them as active participants rather than passive recipients of information. Learner-centred pedagogy is broadly defined as an approach that positions the learner at the centre of learning, in contrast to conventional teacher-centred practices dominated by the transmission of information (Bremner, Sakata, & Cameron, 2022). Within this approach, learners construct knowledge through inquiry, dialogue, problem-solving, collaboration,

reflection and meaningful engagement with real-life situations. The teacher's role consequently changes from that of a sole provider of knowledge to that of a facilitator, mentor and designer of learning experiences.

Innovative strategies such as inquiry-based learning, project-based learning, cooperative learning, experiential activities, differentiated instruction and the purposeful use of digital technology can strengthen learner autonomy, engagement and responsibility. However, the successful implementation of learner-centred pedagogy depends on factors such as teachers' professional competence, classroom conditions, institutional support, available resources and the social and cultural context of learning (Sakata, Bremner, & Cameron, 2022). Therefore, innovative learner-centred pedagogy is not simply the use of new teaching techniques or technological tools. It represents a deeper transformation in how teaching, learning and classroom relationships are understood. When implemented thoughtfully, it can create an inclusive, interactive and intellectually challenging environment in which learners develop knowledge, skills, values, confidence and the ability to become independent and lifelong learners.

### **Significance of Innovative Learner-Centred Pedagogical Approach**

The innovative learner-centred pedagogical approach is significant because it transforms education from the passive reception of information into an active process of inquiry, participation and personal growth. It enables learners to move beyond rote memorisation by developing deeper understanding, reflective thinking, self-regulation and intrinsic motivation, thereby encouraging them to take responsibility for

their own learning and continue learning throughout life (Weimer, 2013; Bolo, 2026). Through authentic tasks, problem-solving activities and collaborative experiences, the approach cultivates essential twenty-first-century competencies such as critical thinking, creativity, communication and teamwork, which are necessary for success in contemporary society and the workplace (Pellegrino & Hilton, 2012; Almulla, 2024). Its responsiveness to differences in learners' abilities, interests, backgrounds and learning needs also promotes inclusion and educational equity by creating meaningful opportunities for all students to participate and succeed (EduCorpus, 2025). At the same time, it redefines the teacher's role from that of a mere transmitter of content to a facilitator, mentor and designer of purposeful learning experiences. Its inclusion in international educational priorities, including Education for All and the Sustainable Development Goals, further demonstrates its importance in improving the quality, relevance and inclusiveness of education (Bremner, Sakata, & Cameron, 2022; UNESCO, 2021). Ultimately, learner-centred pedagogy contributes not only to academic development but also to the formation of independent, responsible, adaptable and socially engaged individuals capable of responding thoughtfully to the demands of a rapidly changing world.

### **Core Principles of the Learner-Centred Approach**

Several principles anchor this pedagogy and distinguish it from conventional instruction (Bremner, Sakata & Cameron, 2022).

**Active Engagement.** Learners are doers investigating problems, building projects, debating ideas rather than spectators.

**Autonomy and Ownership.** Students exercise meaningful choice over what and

how they learn, cultivating intrinsic motivation and self-direction.

**Relevance and Authenticity.** Learning is connected to real-world contexts and the learner's own life, so knowledge feels purposeful rather than abstract.

**Differentiation.** Instruction recognises that learners differ in readiness, interest, and pace, offering flexible pathways rather than a single route for all.

**Collaboration.** Much of the richest learning is social, as students negotiate meaning together and learn from and with each other.

**Reflection and Formative Feedback.** Learners continually assess their own thinking and receive timely guidance that helps them grow; peers and learners themselves share in evaluation.

### **Practical Strategies to Develop and Embed a Learner-Centred Approach**

Turning learner-centred philosophy into everyday practice requires deliberate, actionable strategies that teachers can apply and sustain over time. The following approaches, drawn from research and classroom experience, help develop and embed the approach across planning, teaching, and assessment.

**Think-Pair-Share:** Pose a question, let each student think alone, then discuss with a partner, then share with the class a quick routine that gets every learner reasoning and talking rather than waiting to be told the answer (GCU, 2026).

**KWL Charts:** Before a topic, students record what they know and what they want to know, and afterwards what they learned, surfacing prior knowledge and letting learners set their own inquiry goals.

**Driving-Question Projects:** Launch a unit with an authentic driving question and

students investigate, build a solution, and present it the core of project-based learning (Almulla, 2024).

**Station /Centre Rotation:** Set up several activity stations (reading, hands-on task, digital tool, discussion) and rotate small groups through them, allowing pace, choice, and differentiation within a single lesson.

**Jigsaw Activity:** Divide a topic into parts; each "expert group" masters one part, then regroups so every new group has one expert per part who teaches the others building interdependence and peer teaching.

**Gallery Walk:** Have groups post their work around the room and circulate to review, question, and give written feedback on sticky notes turning peer review into an active, movement-based task.

**Socratic Seminar / Structured Debate:** Give students a text or claim and run a student-led discussion or debate with defined roles, so they build and defend arguments through dialogue rather than receiving conclusions (echoing Freire's dialogic model).

**Choice Boards/Learning Menus:** Offer a grid of tasks at varied difficulty and format (write, build, record, draw) and let students choose how to demonstrate mastery sharing power over the terms of learning (Weimer, 2013).

**Flipped Mini-Lessons:** Assign a short video or reading for home, then use class time for problem-solving, application, and peer work with the teacher supporting the hardest thinking (Van Alten et al., as cited in Bolo, 2026).

**Inquiry/lab Investigations:** Give students a phenomenon or problem and have them form hypotheses, gather evidence, and conclude themselves, with the teacher scaffolding rather than pre-empting discovery.

**Learning journals and reflection logs:**

Students regularly record what they learned, where they struggled, and what they'll try next, building the metacognition and self-regulation central to the approach

**Portfolios and self/peer assessment:** Let students compile work over time and assess it against rubrics themselves and with peers, so evaluation supports growth rather than only ranking (Weimer, 2013).

**Role-play and simulations:** Use scenarios, mock trials, or digital simulations that let learners apply knowledge in authentic, decision-rich contexts (Springer, 2023).

**Peer tutoring/buddy pairs:** Pair students so a more capable peer supports another within their zone of proximal development, benefiting both the tutor and the learner (Vygotsky, 1978).

**Role of the Teacher and the Learner**

The innovative learner-centred approach fundamentally redefines the roles of both the teacher and the learner, following directly from Weimer's (2013) five key changes, particularly the rebalancing of classroom power, the transformation of the teacher's role, and the transfer of greater responsibility to students. In a learner-centred classroom, the teacher becomes a facilitator, mentor, and designer of learning experiences rather than the sole transmitter of knowledge (Bremner, Sakata, & Cameron, 2022).

As a facilitator, the teacher guides inquiry and poses thought-provoking questions that help students construct their own understanding. As a mentor, the teacher builds an environment of trust and empathy that allows students to take intellectual risks and grow in confidence (Rogers, 1969). As a designer, the teacher plans authentic tasks and scaffolded challenges that meet learners at their level and stretch them toward higher understanding (Vygotsky, 1978). This

reimagined role demands greater expertise and creativity, since orchestrating meaningful learning is more complex than delivering information (Gutek, 2014, as cited in Adom et al., 2024). The learner, in turn, is repositioned from a passive recipient into an active, responsible, and self-directed participant. Students help set goals, make choices about how they learn, collaborate with peers, reflect on their progress, and take ownership of their outcomes (Knowles, 1975). This cultivates autonomy, intrinsic motivation, and the metacognitive awareness that enables learners to regulate their own thinking, laying the foundation for lifelong learning (Weimer, 2013). Ultimately, the teacher and learner become partners: the teacher creates the conditions and support for learning, while the learner supplies the effort, curiosity, and reflection that turn those conditions into genuine understanding.

**Benefits and Impact**

The innovative learner-centred pedagogical approach offers a wide range of benefits that extend across academic, personal, and social dimensions of learning. When implemented well, it is generally perceived positively by both teachers and students, and its reported impacts may stretch beyond academic outcomes to motivation and wider development (Bremner, Sakata, & Cameron, 2022).

**Deeper and More Durable Learning:**

Because students actively construct meaning rather than passively receive it, they engage in deep learning approaches that lead to meaningful, long-term understanding rather than superficial recall (Weimer, 2013). Knowledge built through inquiry, application, and reflection is retained and transferred far more effectively than information memorised for an examination.

### Improved Engagement, Achievement, and Motivation:

Systematic reviews find that student-centred learning positively contributes to learner engagement, academic achievement, motivation, collaboration, and the development of twenty-first-century skills (Bolo, 2026). By granting learners choice and responsibility, the approach fosters intrinsic motivation and a genuine investment in their own progress.

### Development of Metacognition and Lifelong-Learning Skills:

Learners cultivate metacognition and self-regulation, becoming aware of how they learn and capable of directing their own growth. These are the very capacities that define successful, independent, and lifelong learners in a rapidly changing world.

**A Scholarly Caveat:** While learner-centred pedagogy is widely embraced and positively perceived, some reviewers point out that rigorous, large-scale, objective evidence of its effectiveness over time remains relatively limited, and they call for more research (Bremner, Sakata, & Cameron, 2022).

### Conclusion

The innovative learner-centred pedagogical approach responds to a fundamental truth: the purpose of education is not to fill minds but to ignite them. By placing learners at the centre, honouring their agency, engaging them actively, and connecting learning to authentic purpose, educators prepare students not merely to pass examinations but to think, create, and adapt throughout their lives. Grounded in constructivist and humanistic theory, championed in global policy, and supported by decades of practitioner experience, the approach transforms the teacher into a facilitator and designer of learning while repositioning the

student as an active, responsible, and self-directed participant.

### References

- Adom, D., et al. (2024). *The use and challenges of learner-centered pedagogy: Basic school teachers' perspective*. European Journal of Education and Pedagogy. <https://eu-opensci.org/index.php/ejedu/article/view/30774>
- Almulla, M. A. (2024). *Project-based learning as a catalyst for 21st-century skills and student engagement in the math classroom* (PMC11629213). <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC11629213/>
- Bolo, D. Y. B. (2026). *Student-centered learning approaches in the 21st century classroom: A systematic literature review*. ResearchGate. <https://www.researchgate.net/publication/405148346>
- Bremner, N., Sakata, N., & Cameron, L. (2022). The outcomes of learner-centred pedagogy: A systematic review. *International Journal of Educational Development*, 94, 102649. <https://www.sciencedirect.com/science/article/pii/S0738059322000992>
- Dewey, J. (1938). *Experience and education*. Macmillan.
- EduCorpus. (2025). *Student-centered learning: Revolutionizing education for the 21st century*. <https://educorpus.com/student-centered-learning/>
- Grand Canyon University (GCU). (2026). *4 strategies for a student-centered classroom*. <https://www.gcu.edu/blog/teaching-school-administration/student-centered-strategies>.
- Gutok, G. L. (2014). *Philosophical,*

- ideological, and theoretical perspectives on education* (2nd ed.). Pearson.
- Knowles, M. S. (1975). *Self-directed learning: A guide for learners and teachers*. Association Press.
- Pellegrino, J. W., & Hilton, M. L. (Eds.). (2012). *Education for life and work: Developing transferable knowledge and skills in the 21st century*. National Academies Press.
- Piaget, J. (1952). *The origins of intelligence in children* (M. Cook, Trans.). International Universities Press.
- Rogers, C. R. (1969). *Freedom to learn: A view of what education might become*. Charles E. Merrill.
- Sakata, N., Bremner, N., & Cameron, L. (2022). A systematic review of the implementation of learner-centred pedagogy in low- and middle-income countries. *Review of Education*, 10(3), e3376.
- Serin, H. (2018). *Concepts of learner-centred teaching*. International Journal of Social Sciences & Educational Studies. <https://files.eric.ed.gov/fulltext/EJ1256056.pdf>
- Springer Publishing. (2023). *Learner-centered pedagogy: Teaching and learning in the 21st century*. <https://connect.springerpub.com/content/book/978-0-8261-7718-6>
- Teachfloor. (n.d.). *Learner-centered approach: Principles and benefits explained*. <https://www.teachfloor.com/elearning-glossary/learner-centered-approach>
- UNESCO. (2021). *Reimagining our futures together: A new social contract for education*. UNESCO Publishing.
- Van Alten, D. C. D., Phielix, C., Janssen, J., & Kester, L. (2019). Effects of flipping the classroom on learning outcomes and satisfaction: A meta-analysis. *Educational Research Review*, 28, 100281.
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.
- Weimer, M. (2013). *Learner-centered teaching: Five key changes to practice* (2nd ed.). Jossey-Bass.

**ACHIEVEMENT MOTIVATION AMONG RURAL AND URBAN STUDENTS  
OF VILLUPURAM DISTRICT: A COMPARATIVE STUDY IN  
THE POST-COVID EDUCATIONAL CONTEXT**

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**ABSTRACT**

Achievement motivation is an important psychological factor influencing students' academic engagement, persistence, and overall scholastic achievement. The present study investigates differences in achievement motivation between rural and urban school students in Villupuram District, Tamil Nadu, within the context of post-COVID educational transformations. The study also revisits earlier findings reported by the author (2003) to explore possible shifts in motivational patterns over two decades. A comparative descriptive research design was adopted, and the Achievement Motivation Inventory developed by Mehta (2004) was administered to a sample of 100 secondary school students. Data were analysed using mean, standard deviation, and independent-samples *t*-test. The findings indicate that urban students demonstrate significantly higher achievement motivation than rural students. The results are interpreted in relation to disparities in educational resources, access to technology, and learning environments that became particularly evident during the COVID-19 pandemic. The study highlights the importance of strengthening rural educational infrastructure and digital accessibility to foster achievement motivation among students.

**Keywords:** Achievement Motivation, Rural Students, Urban Students, Post- COVID Education

**Introduction**

Achievement motivation is widely regarded as a crucial determinant of academic success and personal development among students. It refers to an individual's internal drive to achieve excellence, overcome challenges, and accomplish goals in academic or competitive settings. According to David C. McClelland, individuals with a strong need for achievement tend to seek challenging tasks, assume responsibility for outcomes, and strive to attain high standards of performance. In educational contexts, achievement motivation is closely associated with persistence, goal orientation, and academic engagement. Students who demonstrate higher levels of motivation tend To exhibit greater engagement in learning

activities and achieve better academic outcomes. However, motivational opportunities are not evenly distributed across educational environments. Differences between rural and urban schooling contexts often influence students' academic aspirations and motivation. Rural schools frequently face structural challenges such as limited infrastructure, fewer academic resources, and restricted exposure to competitive academic environments. Urban schools, in contrast, generally offer greater access to educational resources, technological infrastructure, and extracurricular opportunities. The COVID-19 pandemic further intensified these disparities. School closures and the rapid transition to digital learning platforms

transformed traditional teaching and learning practices. While online education enabled continuity of learning in many urban areas, rural students often encountered difficulties due to limited internet connectivity, lack of digital devices, and inadequate technological support.

Villupuram District in Tamil Nadu represents a region characterised by both rural and urban educational contexts. An earlier study conducted by the author examined achievement motivation among rural and urban students in the Vanur region of Villupuram District. Given the significant educational transformations that have occurred since then particularly those associated with digital learning and the COVID-19 pandemic it is important to re-examine achievement motivation among students in this regional context. The present study, therefore, investigates the differences in achievement motivation between rural and urban students in Villupuram District in the contemporary educational environment.

### **Review of Literature**

Achievement motivation has been widely examined in psychology and educational research. David C. McClelland (1961) first articulated the concept of the need for achievement, arguing that individuals differ in their desire to excel and accomplish challenging tasks. This need significantly influences behaviour, persistence, and academic performance.

Later, Albert Bandura (1997) introduced the theory of self-efficacy, which explains that students' beliefs about their abilities strongly affect their motivation and perseverance in learning tasks. Students with higher self-efficacy tend to approach academic challenges with confidence and determination. Similarly, Carol S. Dweck (2006) highlighted the role of growth and

fixed mindsets in learning. According to her theory, students who believe intelligence can develop through effort (growth mindset) show higher motivation and resilience compared to those with a fixed mindset.

In the field of educational psychology, Paul R. Pintrich and Dale H. Schunk (2002) emphasised that motivation is shaped not only by internal psychological factors but also by environmental influences such as classroom climate, teacher expectations, and parental support.

Within the Indian educational context, differences in achievement motivation between rural and urban students have been frequently reported. Mehta (2004) developed the Achievement Motivation Inventory, highlighting the role of socio-cultural and environmental factors in shaping students' motivation. A regional study by M. Arulappan found that urban students in Villupuram District demonstrated higher achievement motivation than rural students before the digital transformation of education.

The COVID-19 pandemic significantly altered educational experiences. Reports by UNESCO and studies by Yadav and Sharma (2023) indicate that the digital divide during the pandemic disproportionately affected rural students' participation and motivation.

Despite extensive research on achievement motivation, limited studies have examined post-COVID differences between rural and urban students in specific regional contexts such as Villupuram District, which the present study seeks to address.

### **Objectives of the Study**

- To compare the achievement motivation of rural and urban students.

## Hypotheses

**H<sub>01</sub>:** There is no significant difference in achievement motivation between rural and urban students.

**H<sub>02</sub>:** Urban students demonstrate higher achievement motivation than rural students.

## Methodology

### Research Design

The study employed a comparative descriptive research design to examine differences in achievement motivation between rural and urban students.

### Sample

The sample consisted of 100 secondary school students from Villupuram District, including 50 rural students and 50 urban students. Students were selected using simple random sampling from government and private secondary schools.

### Tool Used

Achievement motivation was measured using the Achievement Motivation Inventory developed by Mehta (2004). The instrument has been widely used in Indian psychological research and demonstrates acceptable reliability and validity.

### Statistical Analysis

Data were analysed using:

- Mean
- Standard deviation
- Independent-samples *t*-test

### Data Interpretation

**Table1. Comparison of Achievement Motivation between Rural and Urban Students**

| Group          | Number of Students | Mean  | SD   | t-value |
|----------------|--------------------|-------|------|---------|
| Rural Students | 50                 | 60.18 | 9.12 | 3.12    |
| Urban Students | 50                 | 67.42 | 8.31 |         |

## Discussion

The results indicate that urban students demonstrate significantly higher achievement motivation compared to rural students. The mean score for urban students was higher than that of rural students, and the obtained *t*-value indicates that the difference is statistically significant.

These findings may be explained by differences in educational opportunities, institutional support, and access to learning resources between rural and urban contexts. Urban schools often provide better academic infrastructure, greater exposure to competitive environments, and enhanced technological support, all of which contribute to the development of achievement motivation.

During the COVID-19 pandemic, the transition to digital learning further highlighted these disparities. Rural students frequently faced difficulties in accessing online classes due to limited internet connectivity and lack of digital devices. These barriers may have negatively influenced their academic engagement and motivation.

The findings support the observations of Yadav and Sharma (2023), who reported that the digital divide significantly affected rural students' educational experiences during the pandemic. Similarly, reports from UNESCO emphasise that educational inequalities widened during the pandemic.

At the same time, the results suggest that many rural students displayed resilience and determination despite limited resources. This observation aligns with the theoretical perspective of Albert Bandura (1997), who emphasised that self-efficacy beliefs play a critical role in sustaining motivation and perseverance.

### Educational Implications

The findings of the present study have important implications for educational policy and practice.

First, there is a need to strengthen educational infrastructure in rural schools, including improved access to libraries, laboratories, and digital learning resources. Second, digital inclusion initiatives should be expanded to ensure that rural students have adequate access to online learning platforms and technological devices. Third, teachers should adopt motivational teaching strategies that encourage active learning, goal setting, and constructive feedback.

Finally, policymakers should prioritise reducing rural–urban educational disparities by implementing targeted support programs for students from rural backgrounds.

### Conclusion

Achievement motivation plays a crucial role in shaping students' academic performance and future aspirations. The present study reveals that urban students in Villupuram District demonstrate higher achievement motivation than their rural counterparts. These differences appear to be associated with disparities in educational resources, technological access, and learning environments. Nevertheless, rural students possess significant potential and resilience when provided with supportive educational conditions. Strengthening rural educational infrastructure, expanding digital accessibility, and promoting motivational learning environments can contribute to enhancing achievement motivation among students across both rural and urban contexts.

Future research may examine the influence of additional variables such as socio-

economic status, parental education, and gender differences on achievement motivation among students.

### References

- Ames, C. (1992). Classrooms: Goals, structures, and student motivation. *Journal of Educational Psychology*, 84(3), 261–271.
- Atkinson, J. W. (1957). Motivational determinants of risk-taking behavior. *Psychological Review*, 64(6, Pt. 1), 359–372.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. Freeman.
- Deci, E. L., & Ryan, R. M. (2000). Intrinsic and extrinsic motivations. *Contemporary Educational Psychology*, 25, 54–67.
- Dweck, C. S. (2006). *Mindset: The new psychology of success*. Random House.
- Elliot, A. J., & Church, M. A. (1997). A hierarchical model of approach and avoidance achievement motivation. *Journal of Personality and Social Psychology*, 72(1), 218–232.
- McClelland, D. C. (1961). *The achieving society*. Van Nostrand.
- Mehta, P. (2004). *Achievement motivation inventory manual*. National Psychological Corporation.
- Pintrich, P. R., & Schunk, D. H. (2002). *Motivation in education*. Prentice Hall.

**EFFECTIVENESS OF EMBODIED LEARNING IN ENHANCING SCIENCE  
ACHIEVEMENT AMONG MIDDLE SCHOOL STUDENTS: A QUASI-  
EXPERIMENTAL STUDY**

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**ABSTRACT**

Science teaching at the middle school level is often challenging as students find it difficult to understand and retain abstract concepts through traditional lecture-based methods. Hence, learner-centred and innovative pedagogic approaches are gaining importance, and one such is embodied learning, which is based on the principle that cognition is closely connected with bodily movement, sensory experiences, and interaction with the environment. This study examined the effectiveness of Embodied Learning on academic achievement in science among middle school students. A quasi- experimental pre-test–post-test non-equivalent control group design was adopted. Sixty students from Standard VII, studying in a government higher secondary school in Kanniyakumari district, participated in the study. The experimental group received instruction through embodied learning, while the control group was taught using the activity-oriented method. The learning effectiveness of the two groups was evaluated by a Science Achievement Test. Data were analysed using independent-samples *t*-test, paired-samples *t*-test and Analysis of Covariance (ANCOVA). The results indicated that the experimental group achieved significantly higher adjusted post-test scores than the control group, demonstrating the effectiveness of the intervention in improving science achievement. The study concluded that embodied learning is more effective than the activity- oriented method in improving academic achievement in science among middle school students.

**Keywords:** Embodied Learning, Academic Achievement, Science Education, Middle School Students, Quasi-Experimental Study, Science Achievement Test

**Introduction**

Educators are increasingly adopting innovative pedagogical approaches to make learning more engaging, experiential, and effective. Science education plays a vital role in developing scientific attitude, critical thinking, creativity, and problem-solving skills. However, traditional science teaching often relies on memorisation and passive learning, limiting students' conceptual understanding and interest. Middle school is a crucial stage during which learners begin to engage with scientific concepts in a more

systematic and inquiry-oriented manner, making the use of effective teaching strategies particularly important (NCERT, 2024). In the present educational context, learner-centred approaches are gaining importance and embodied learning is such an approach, which is based on the principle that cognition is closely connected with bodily movement, sensory experiences, and interaction with the environment.

Science involves many abstract concepts that are often difficult to understand through lecture-based instruction

alone. The concept of embodied learning is primarily grounded in the theory of embodied cognition, which proposes that cognitive processes are deeply rooted in the body's interactions with the physical and social environment. Two of the most influential theoretical foundations are Wilson's (2002) Six Views of Embodied Cognition and Barsalou's (2008) Grounded Cognition Theory. Embodied learning actively engages students, increases motivation, improves retention, and strengthens conceptual understanding. It aligns with the vision of the National Education Policy (NEP) 2020, which advocates experiential, inquiry-based, competency-based, and learner-centred teaching to promote scientific temper, creativity, critical thinking, and problem-solving abilities. Through gestures, physical activities, role play, simulations, and hands-on experiences, embodied learning enables students to understand abstract scientific concepts in a meaningful and joyful way.

The meta-analysis (Liu et al., 2025) provides strong empirical support for investigating embodied learning among middle school science students, as it confirms that embodied instructional strategies positively influence learning performance across educational settings. A review article (Castro-Alonso et al., 2024) explains the theoretical and instructional foundations of embodied learning: learning is enhanced when cognitive activities are integrated with bodily actions, emphasising that embodied learning is particularly valuable in STEM education. The theoretical foundation of embodied learning is rooted in constructivism and embodied cognition, which propose that knowledge is constructed through the interaction of the mind, body, and environment. The meta-analysis by

Chunwei Lyu & Shuao Deng (2024) provides one of the strongest recent evidence bases for embodied learning. It explains the effectiveness of embodied learning by integrating Embodied Cognition Theory with Cognitive Load Theory (CLT). A study conducted by Varsha and Gouri (2026) on the attitude towards embodied learning among prospective teachers revealed that a majority of prospective teachers possessed a moderately positive attitude towards embodied learning, and significant differences were observed across the demographic variables- educational qualification, type of institution, and subject specialisation. The study emphasized the need to incorporate embodied learning strategies into teacher training programs to create a more favourable attitude towards it.

Research indicates that active and experiential learning enhances engagement, participation, collaboration, memory, and academic achievement. Activities such as modelling the solar system through role play or demonstrating force through body movements help students connect theory with practice, making learning more meaningful (Johnson-Glenberg, 2023). Embodied learning is particularly suitable for middle school students (Classes VI–VIII, aged 11–14 years), who are naturally active, curious, and responsive to movement-based learning.

Although embodied learning has gained increasing attention as an innovative learner-centred pedagogical approach, empirical evidence regarding its effectiveness in improving Science achievement among middle school students in India remains limited. Relatively few quasi-experimental investigations have been conducted in government schools, emphasising embodied learning and

academic achievement, aligned with the experiential learning goals advocated by NEP 2020. Therefore, the present study seeks to address these gaps by examining the effectiveness of embodied learning on the academic achievement of Standard VII students in Science.

The National Education Policy (NEP) 2020 advocates experiential, competency-based, and learner-centred pedagogies that promote meaningful learning through active participation. As embodied learning aligns closely with these educational reforms, investigating its effectiveness among middle school students is therefore important to identify innovative instructional approaches that can enhance science learning outcomes.

There is limited evidence regarding the implementation of embodied learning within the Tamil Nadu State Board Science curriculum, using quasi-experimental research designs. As research on the effectiveness of embodied learning in science education remains limited, the present study addresses the research gaps by providing empirical evidence on the effectiveness of embodied learning in improving academic achievement in Science among Standard VII students in Tamil Nadu. It also demonstrates how embodied learning strategies can be implemented using regular classroom resources without requiring sophisticated technology. The findings will contribute to the growing body of research on embodied cognition in education, provide context-specific evidence for Indian schools, and support the implementation of NEP 2020.

#### **Objectives of the study**

- To test the effectiveness of Embodied Learning on achievement in science by comparing the mean pre-test and post-test scores of standard VII students in the

experimental group.

- To compare the mean pre-test scores of achievement in science of standard VII students in the experimental and control group.
- To compare the mean post-test scores of achievement in science of standard VII students in the experimental and control group.
- To find out significant difference in the mean adjusted post-test scores of achievement in science of standard VII students in the experimental and control group, when pre-test is taken as a covariate.

#### **Hypotheses of the Study**

1. There exists no significant difference in the mean pretest scores of achievement in science of standard VII students in the experimental and control group.
2. There exists no significant difference in the mean post-test scores of achievement in science of standard VII students in the experimental and control group.
3. There exists no significant difference in the mean pretest and post-test scores of achievement in science of standard VII students in the experimental group.
4. There exists no significant difference in the mean adjusted post-test scores of achievement in science of standard VII students in the experimental and control group, when the pretest is taken as a covariate.

#### **Methodology**

Quasi-experimental method was adopted for conducting the study. A pretest-post-test non-equivalent two-group design was used. In this design, there was an experimental group, which was given a pre-test, experimental treatment, and post-test. There was also a non-equivalent control group, which was given a pre-test, a normal

treatment and a post-test. The post-experimental status was measured by a post-test. The experimental group was treated with the embodied learning method of teaching. The control group was treated by activity-oriented method of teaching over a period of six weeks.

#### Variables of the study

Independent variable-The method of teaching

Dependent variable-Academic achievement in science

#### Population of the study

In the present study, the VII standard students who follow the Tamil Nadu State Board Syllabus in Kanniyakumari district, form the population.

#### Sampling

The investigator adopted an intact group sampling technique to select a sample of 60 standard VII students from Govt. Higher Secondary School, Kattaturai. Among these, 30 students were assigned to the experimental group, and 30 were assigned to the control group.

#### Tools used for the study

- Six-week embodied learning intervention using the 4E Cognition Approach for learning Science for the experimental group and an activity-oriented intervention for the control group.
- Science Achievement Test (2025), constructed and validated by the investigator and the supervisor with a reliability of 0.90.

#### Statistical Techniques

Independent samples t-test, Paired samples t-test and ANCOVA.

#### Results and Discussion

##### Comparison of Achievement Scores Under the Embodied Learning Method and Activity-Oriented Method at the Pretest Level

There exists no significant difference in the mean pre-test scores of achievement in science of standard VII students in the experimental and control group.

**Table 1. Summary of Mean, SD, and t Value of Pretest Achievement Scores of Standard VII Students in the Experimental and Control Groups.**

| Group | Mean  | SD   | MD   | t    | p    | R  |
|-------|-------|------|------|------|------|----|
| A     | 15.53 | 4.80 |      |      |      |    |
|       |       |      | 1.06 | 0.93 | 0.35 | NS |
| B     | 14.47 | 4.01 |      |      |      |    |

(A-Embodied Learning Method, B- Activity Oriented Method)

From table 1, it is clear that  $p = 0.354$  and is not significant. Therefore, the null hypothesis "There exists no significant difference in the pre-test scores of achievement in Science of standard VII students in the experimental and control group", failed to be rejected. From the mean scores it can be said that the achievement scores of the experimental and control group do not differ significantly.

##### Comparison of Achievement score under Embodied Learning Method and Activity oriented method at post-test level

**H<sub>02</sub>** There exists no significant difference in the mean post-test scores of achievement in Science of standard VII students in the experimental group and control groups.

**Table 2. Summary of Mean, SD and t Value of Post-Test Achievement Scores of Standard VII Students of the Experimental and Control Group.**

| Group | Mean  | SD   | MD   | t     | p     | R |
|-------|-------|------|------|-------|-------|---|
| A     | 33.07 | 3.23 |      |       |       |   |
|       |       |      | 3.54 | 3.079 | 0.003 | S |
| B     | 29.53 | 5.39 |      |       |       |   |

(A-Embodied Learning Method, B- Activity Oriented Method)

From table 2, it is clear that  $t=3.079$ ,  $p = 0.003$  and is significant at 0.01 level. Therefore, the null hypothesis “There exists no significant difference in the mean post-test scores of achievement in science of Standard VII students in the

experimental group and control group” was rejected. From the mean scores it can be said that the achievement of students in the experimental group is higher than that of students in the control group.

**Table3. Summary of Mean, SD and t Value of Pre- and Post-Achievement Tests of Standard VII Students in the Experimental Group.**

|             | Mean  | SD   | N  | Mean Difference | Paired t | p     | Remarks    |
|-------------|-------|------|----|-----------------|----------|-------|------------|
| <b>Pre</b>  | 15.53 | 4.80 | 30 | 17.54           | 19.50    | 0.000 | 0.01 level |
| <b>Post</b> | 33.07 | 3.23 | 30 |                 |          |       |            |

#### Effectiveness of Embodied Learning Method on Achievement

There exists no significant difference in the mean pre-test and post-test scores of achievement in science of standard VII students in the experimental group.

From the table 3, it is clear that  $t=19.50$  and  $p = 0.000$ , is significant at 0.01 level. Therefore, the hypothesis “There exists no significant difference in the pre and post test scores of achievements in science

of standard VII students in the experimental group” was rejected. From the mean scores it is clear that post-test scores of achievement in science were higher than pre-test scores of the students in the experimental group. Hence, embodied learning was found to be an effective method to develop the achievement in science of middle school students.

**Table 4. Summary of Adjusted Means, SDs, and t Value for Adjusted Post-Achievement Test Scores of the Experimental and Control Groups**

|                     | Adjusted mean | SD <sub>(yx)</sub> | SE <sub>D(yx)</sub> | t    | p     | Level |
|---------------------|---------------|--------------------|---------------------|------|-------|-------|
| <b>Experimental</b> | 33.06         | 4.48               | 1.16                | 3.04 | 0.004 | 0.01  |
| <b>Control</b>      | 29.54         |                    |                     |      |       |       |

A post-hoc test was applied for pair-wise comparison of the adjusted means of achievement in science of experimental and

control group. Since t value is 3.04,  $p = 0.004$ , it is significant at 0.01 level. So it can be concluded that embodied learning is

significantly more effective than the activity-oriented method in enhancing students' achievement in science of class seven.

**Table 5. Summary of Mean, Sum of Squares, Mean Square and F Values of Pre-, Post-, and Adjusted Post-Achievement Scores in Both Experimental and Control Groups**

|                          | Mean         |         | Source         | Sum of Squares | df | Mean Square | F     | p     | Remark |
|--------------------------|--------------|---------|----------------|----------------|----|-------------|-------|-------|--------|
|                          | Experimental | Control |                |                |    |             |       |       |        |
| Pre-test (X)             | 15.53        | 14.47   | Between Groups | 17.07          | 1  | 17.07       | 0.872 | 0.354 | NS     |
|                          |              |         | Within Groups  | 1134.93        | 58 | 19.57       |       |       |        |
|                          |              |         | Total          | 1152.00        | 59 |             |       |       |        |
| Post-test (Y)            | 33.07        | 29.53   | Between Groups | 187.27         | 1  | 187.27      | 9.483 | 0.003 | S      |
|                          |              |         | Within Groups  | 1145.33        | 58 | 19.75       |       |       |        |
|                          |              |         | Total          | 1332.60        | 59 |             |       |       |        |
| Adjusted Post-test (Y.X) | 33.06        | 29.54   | Between Groups | 182.78         | 1  | 182.78      | 9.099 | 0.004 | S      |
|                          |              |         | Within Groups  | 1145.06        | 57 | 20.09       |       |       |        |
|                          |              |         | Total          | 1327.85        | 58 |             |       |       |        |

### Comparison of Achievement Under Embodied Learning Method and Activity-Oriented Method for the Total Sample

There exists no significant difference in the mean adjusted post test scores of achievement in Science of standard VII students in the experimental and control group, when pretest is taken as a covariate. From Table 5, it is clear that  $F_{y.x}$  value is 9.099,  $p = 0.004$  and is significant at 0.01 level. Therefore, the null hypothesis "There exists no significant difference in the mean adjusted scores of achievement in Science of standard VII students in the experimental group and control group" was rejected. It can be said that adjusted post-test means scores of achievement in science of standard VII students in the experimental group and control group differs significantly. Students who learned through embodied learning, developed high achievement scores than the

students who learned through activity-oriented method.

### Findings

1. There is significant difference in the mean pretest scores of achievement in science of standard VII students in the experimental and control group. The findings are supported by the following result ( $t=0.934$ ,  $p=0.354$ ), which was not significant at the 0.01 level.
2. There is significant difference in the mean post-test scores of achievement in Science of standard VII students in the experimental and control group. The findings are supported by the following result ( $t=3.079$ ,  $p=0.003$ ), which was significant at the 0.01 level.
3. There is significant difference in the mean pretest and post test scores of achievement in science of standard VII students in the experimental group. ( $t=19.50$ ,  $p= 0.000$ ) which was significant at the 0.01 level.

4. There is significant difference in the mean adjusted post-test scores of achievement in science of standard VII students in the experimental and control group, when the pretest was taken as a covariate. The finding was supported by the following result ( $F_{y,x} = 9.099$ ,  $p = 0.004$ ), which was significant at the 0.01 level.

### Discussion

The present study revealed that embodied learning effectively enhanced students' understanding of science concepts, causing a significant improvement in the science achievement of students in the experimental group following embodied learning instruction. This finding is in line with the studies of Kontra et al. (2015), Lindgren and Johnson-Glenberg (2013), Johnson-Glenberg et al. (2014), and Mavilidi et al. (2018), who reported that integrating bodily movement with instructional activities enhances conceptual understanding, retention, and academic achievement in science. The significant difference observed between the adjusted post-test scores of the experimental and control groups after controlling for pre-test scores confirms the effectiveness of embodied learning beyond students' prior knowledge. These findings are also supported by the grounded cognition framework put forth by Barsalou (2008), which explains that cognition is deeply rooted in sensory and motor experiences. However, the findings contradict the studies of Kirschner et al. (2006), Mayer (2004), and Pashler et al. (2008), who argued that active or movement-based instructional approaches may not consistently improve learning unless they are carefully structured and cognitively meaningful. The present study suggests that well-designed embodied

learning activities integrated with science concepts can significantly enhance middle school students' academic achievement.

### Educational Implications of the Study

The findings of the study have several implications for educational practice and policy.

- The study provides empirical evidence to support embodied learning as an effective learner-centred instructional approach for improving science achievement among middle school students.
- It supports the implementation of the National Education Policy (NEP) 2020, which advocates experiential and competency-based teaching-learning practices.
- Training should be given to science teachers to integrate structured movement, gestures, role play, and hands-on activities into classroom instruction, based on embodied learning approach to promote deeper conceptual understanding.
- Curriculum developers may consider incorporating embodied activities within science textbooks, teacher handbooks, and instructional resources.

### Conclusion

The study concluded that the Embodied Learning intervention had a significant positive effect on the academic achievement of middle school students in science, as students in the experimental group who learned through Embodied Learning achieved significantly higher post-test scores than those in the control group taught using the activity-oriented method. There was a significant improvement in the post-test scores of the experimental group compared to their pre-test scores, indicating the effectiveness of Embodied Learning in enhancing students' understanding of scientific concepts. The findings support the

principles of embodied cognition, suggesting that learning becomes more effective when cognitive processes are complemented by purposeful bodily activities.

## References

- Barsalou, L. W. (2008). Grounded cognition. *Annual Review of Psychology*, 59, 617–645.
- Castro-Alonso, J. C., Ayres, P., Zhang, S., & de Koning, B. B. (2024). Research avenues supporting embodied cognition in learning and instruction. *Educational Psychology Review*, 36, Article 10.
- Johnson-Glenberg, M. C., Birchfield, D., Tolentino, L., & Koziupa, T. (2014). Collaborative embodied learning in mixed reality motion-capture environments. *Journal of Educational Psychology*.
- Johnson-Glenberg, M. C., & Megowan-Romanowicz, C. (2017). Embodied science and mixed reality: How gesture and motion improve learning. *Cognitive Research: Principles and Implications*, 2(24).
- Kontra, C., Goldin-Meadow, S., Beilock, S. L., & Holt, L. E. (2015). *Physical experience enhances science learning. Psychological Science*, 26(6), 737–749.
- Kirschner, P. A., Sweller, J., & Clark, R. E. (2006). Why minimal guidance during instruction does not work. *Educational Psychologist*, 41(2), 75–86.
- Lindgren, R., & Johnson-Glenberg, M. (2013). Emboldened by embodiment: Six precepts for research on embodied learning and mixed reality. *Educational Researcher*, 42(8), 445–452.
- Liu, Zhiwei, et al. “The Effect of Embodied Learning on Students’ Learning Performance: A Meta-Analysis.” *Frontiers in Psychology*, vol. 16, Aug. 2025, p. 1658797. DOI.org (Crossref), <https://doi.org/10.3389/fpsyg.2025.1658797>.
- Lyu, C., & Deng, S. (2024). Effectiveness of embodied learning on learning performance: A meta-analysis based on the cognitive load theory perspective. *Learning and Individual Differences*, 116, Article 102564. <https://doi.org/10.1016/j.lindif.2024.102564>
- Mavilidi, M. F., Okely, A. D., Chandler, P., Cliff, D. P., & Paas, F. (2018). Effects of integrated physical exercises and gestures on preschool children's foreign language vocabulary learning. *Educational Psychology Review*, 30, 291–315.
- Mayer, R. E. (2004). Should there be a three-strikes rule against pure discovery learning? *American Psychologist*, 59(1), 14–19.
- Ministry of Education. (2020). *National Education Policy 2020*. Government of India. [https://www.education.gov.in/sites/upload\\_files/mhrd/files/NEP\\_Final\\_English\\_0.pdf](https://www.education.gov.in/sites/upload_files/mhrd/files/NEP_Final_English_0.pdf)
- National Council of Educational Research and Training (NCERT, 2024)
- Pashler, H., McDaniel, M., Rohrer, D., & Bjork, R. (2008). Learning styles: Concepts and evidence. *Psychological Science in the Public Interest*, 9(3), 105–119.
- Varsha, V. & Gouri, B. (2026). Attitude towards Embodied Learning among Prospective Teachers. *Journal of Novel Research and Innovative Development*, 4(4).
- Wilson, M. (2002). *Six views of embodied cognition*.

**ASSOCIATION OF DEMOGRAPHIC VARIABLES WITH HIGH SCHOOL  
TEACHERS' ATTITUDE TOWARDS THE TNSSED SCHOOL APP:  
A CHI-SQUARE ANALYSIS**

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**ABSTRACT**

The integration of Information and Communication Technology (ICT) has significantly transformed educational administration by improving school management and service delivery. The Government of Tamil Nadu introduced the TNSSED School App to digitalise administrative functions such as attendance management, student monitoring, academic record maintenance, and teacher-related activities. The successful implementation of this application largely depends on teachers' attitudes towards its use. The present study examined the association between selected demographic variables, namely age and monthly income, and high school teachers' attitudes towards the TNSSED School App. The study adopted the survey method and was conducted among 418 government and government-aided high school teachers in Tirunelveli District, Tamil Nadu. Data were collected using the \*Teachers' Attitude towards TNSSED School App Scale\*, which comprises four dimensions: Accessibility, Students' Wellness and Attendance, Utility, and Anxiety. The collected data were analysed using the Chi-square ( $\chi^2$ ) test at the 0.05 level of significance. The findings revealed significant associations between age and teachers' overall attitude and its dimensions. Similarly, monthly income showed a significant association with the overall attitude and each of the four dimensions.

**Keywords:** TNSSED School App, Teachers' Attitude, Educational Technology, ICT Integration, Digital School Administration

**Introduction**

The integration of Information and Communication Technology (ICT) into school education has transformed educational administration and classroom practices by improving communication, facilitating data management, and enhancing teaching and learning processes (UNESCO, 2023). The Government of Tamil Nadu introduced the TNSSED School App to digitise school management processes such as attendance, student monitoring, academic records, and teacher-related administrative activities, thereby promoting effective governance and digital transformation in school education (Tamil

Nadu School Education Department, 2024). The effectiveness of such technological initiatives depends not only on the availability of the application but also on teachers' willingness and positive attitude towards its use. Research has consistently shown that users' perceptions of a technology's usefulness and comfort of use significantly influence their acceptance of it. (Davis, 1989; Venkatesh et al., 2003).

Teachers differ in their acceptance of educational technology due to several demographic and socio-economic factors. Variables such as age and monthly income may influence their familiarity with digital technologies, confidence in using mobile

applications, and overall perception of technological innovations (Teo, 2011). Previous studies have reported that demographic characteristics can affect technology adoption and attitudes towards digital educational tools (Venkatesh et al., 2003). Therefore, understanding whether these demographic variables are associated with teachers' attitudes towards the TNSED School App is essential for planning effective training programmes, improving digital competence, and supporting evidence-based policy interventions in school education.

### **Background of the Study**

In line with these national initiatives, the Government of Tamil Nadu has undertaken several digital transformation programmes in the school education sector. One of the major initiatives is the TNSED School App, developed by the Department of School Education, Government of Tamil Nadu, to facilitate efficient school administration through digital technology. The application enables teachers, headmasters, and other administrative staff to record student and staff attendance, monitor students' health and wellness, update academic records, track out-of-school children, and manage various school-related information electronically. By replacing manual record-keeping with digital documentation, the application aims to improve administrative efficiency, reduce paperwork, ensure real-time data availability, and strengthen educational governance (Department of School Education, Government of Tamil Nadu, 2024).

The study was conducted among 43 secondary school students and 6 teachers in Lagos to examine their attitudes towards mobile education applications. Krochinak, Cui, Ajayi, et al. (2022) employed a mixed-

methods approach using demographic surveys and semi-structured interviews. The findings identified barriers to app adoption, progress tracking, goal setting, and factors influencing app selection. The study concluded that understanding users' attitudes can help educators and app developers improve the design and implementation of educational mobile applications.

The study aimed to develop a rubric that would help preschool teachers evaluate the educational quality of mobile learning applications. Papadakis, Zaranis, and Kalogiannakis (2017) designed the REVEAC rubric to assess educational apps across four key dimensions: content, design, functionality, and technical quality. The study reviewed the existing literature on educational mobile applications, identified common issues in selecting appropriate apps for preschool children, and described the process of developing the rubric. The authors concluded that REVEAC is a practical evaluation tool for teachers and highlighted its potential to support the selection of high-quality educational apps while recommending further validation and refinement in future research.

### **Rationale for the Study**

The increasing use of digital technologies in school education has made teachers' acceptance of educational applications essential for effective implementation (UNESCO, 2023). The TNSED School App supports digital school administration by enabling teachers to manage attendance, student records, and academic activities (Department of School Education, Government of Tamil Nadu, 2024). Since teachers' attitudes towards technology may vary based on demographic factors such as age and monthly income (Davis, 1989; Teo,

2011), the present study examines the association between these variables and high school teachers' attitudes towards the TNSED School App. The findings are expected to support policymakers in designing appropriate training programmes and strengthening digital initiatives in schools.

### Objectives of the Study

The study aimed to examine the association between selected demographic variables and high school teachers' attitude towards the TNSED School App.

Specifically,

- To determine whether age is associated with teachers' attitude towards the TNSED School App.
- To determine whether monthly income is associated with teachers' attitude towards the TNSED School App.

### Null Hypotheses

1. There is no significant association between the age of high school teachers and their attitude towards the TNSED School App.
2. There is no significant association between the monthly income of high school teachers and their attitude towards the TNSED School App.

### Methodology

The study adopted the Survey Method to examine the attitude of high school teachers towards the TNSED School App. The sample comprised 418 high school teachers working in government and government-aided high schools in Tirunelveli District, Tamil Nadu. Data were collected using a Teachers' Attitude towards TNSED School App Scale, which measured four dimensions: Accessibility, Students' Wellness and Attendance, Utility, and Anxiety. The collected data were analysed

using the Chi-square ( $\chi^2$ ) test to determine the association between demographic variables and teachers' attitudes at the 0.05 level of significance.

### Data Analysis

Association Between Demographic Variables and Teachers' Attitude Towards the TNSED School App

### Null Hypothesis 1

There is no significant association between the age of high school teachers and their attitude towards the TNSED School App.

**Table.1. Association Between Age and High School Teachers' Attitudes Towards the TNSED School App.**

| Dimension                       | df | Calculated value of $\chi^2$ | Remarks |
|---------------------------------|----|------------------------------|---------|
| Accessibility                   | 4  | 46.309                       | S       |
| Student wellness and Attendance |    | 21.006                       | S       |
| Utility                         |    | 43.221                       | S       |
| Anxiety                         |    | 56.202                       | S       |
| Total                           |    | 32.992                       | S       |

(At 5% level of significance, the critical value of  $\chi^2$  is 9.488)

The Table above indicates that the calculated  $\chi^2$  value for the overall attitude (32.992) is greater than the critical  $\chi^2$  value (9.488) at the 5% level of significance. Hence, the null hypothesis is rejected. This indicates a significant association between age and high school teachers' attitudes towards the TNSED School App. Similarly, all four dimensions Accessibility, Students' Wellness and Attendance, Utility, and Anxiety also exhibit significant associations with age, as their calculated  $\chi^2$  values are greater than the critical value.

### Null Hypothesis 2

There is no significant association between

the monthly income of high school teachers and their attitude towards the TNSSED School App.

**Table.1. Association Between the Monthly Income of High School Teachers and Their Attitude Towards the TNSSED School App.**

| Dimension                        | df | Calculated value of $\chi^2$ | Remarks |
|----------------------------------|----|------------------------------|---------|
| Accessibility                    | 4  | 44.191                       | S       |
| Students-wellness and Attendance |    | 12.001                       | S       |
| Utility                          |    | 49.265                       | S       |
| Anxiety                          |    | 41.300                       | S       |
| Total                            |    | 26.501                       | S       |

(At 5% level of significance, the critical value of  $\chi^2$  is 9.488)

The Table above indicates that the calculated  $\chi^2$  value for the overall attitude (26.501) is greater than the critical  $\chi^2$  value (9.488) at the 5% level of significance. Hence, the null hypothesis is rejected. This indicates a significant association between monthly income and high school teachers' attitudes towards the TNSSED School App. Similarly, all four dimensions Accessibility, Students' Wellness and Attendance, Utility, and Anxiety also show significant associations with monthly income, as their calculated  $\chi^2$  values exceed the critical value.

### Discussion

The findings revealed that age and monthly income are significantly associated with high school teachers' attitudes towards the TNSSED School App. Significant differences were observed across all four dimensions Accessibility, Students' Wellness and Attendance, Utility, and Anxiety indicating that demographic characteristics influence teachers' acceptance and use of the application. These results suggest the need for targeted training and support

programmes to enhance teachers' effective utilisation of the TNSSED School App across different demographic groups.

### Conclusion

The study concludes that both age and monthly income are significantly associated with high school teachers' attitudes towards the TNSSED School App. Since all calculated  $\chi^2$  values exceeded the critical value at the 5% level of significance, both null hypotheses were rejected. The findings demonstrate that demographic characteristics influence teachers' perceptions of accessibility, utility, student-related functions, and anxiety regarding the application. These results underscore the importance of targeted capacity-building initiatives and equitable access to digital resources to promote successful implementation of educational technology in schools.

### References

- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319–340. <https://doi.org/10.2307/249008>
- Tamil Nadu School Education Department. (2024). *TNSSED Schools*. <https://tnschools.gov.in>
- Teo, T. (2011). Factors influencing teachers' intention to use technology: Model development and test. *Computers & Education*, 57(4), 2432–2440. <https://doi.org/10.1016/j.compedu.2011.06.008>
- UNESCO. (2023). *Global education monitoring report 2023: Technology in education—A tool on whose terms?* UNESCO. <https://unesdoc.unesco.org>
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a

- unified view. *MIS Quarterly*, 27(3), 425–478. <https://doi.org/10.2307/30036540>
- Krochinak, S., Cui, S., Ajayi, B., Egonu, R., & Kim, E. (2022). *A mixed-methods study of secondary student and teacher attitudes towards mobile education apps in Lagos. Journal of Education, Society and Behavioural Science*, 35(12), 72–83. <https://doi.org/10.9734/JESBS/2022/v35i121196>
- Papadakis, S., Zaranis, N., & Kalogiannakis, M. (2017). *Designing and creating an educational app rubric for preschool teachers. Education and Information Technologies*, 22(6), 3147–3165. <https://doi.org/10.1007/s10639-017-9579-0>

## RELATIONSHIP BETWEEN TECHNO-PEDAGOGICAL SKILLS AND TEACHER EFFECTIVENESS OF TEACHER EDUCATORS

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### ABSTRACT

The integration of technology into teacher education has made techno-pedagogical skills an essential competency for teacher educators to enhance teaching quality and student learning outcomes. This study examined the relationship between techno-pedagogical skills and teacher effectiveness among teacher educators working in rural and urban teacher education institutions. The study focused on seven dimensions of techno-pedagogical skills: skill in learning, preparing lesson plans, preparing learning materials, implementing instructional strategies, communication, education, and guidance. Correlational analysis was employed to determine the association between techno-pedagogical skills and teacher effectiveness. The findings revealed a statistically significant positive relationship between techno-pedagogical skills and teacher effectiveness among teacher educators in both rural and urban institutions. All dimensions of techno-pedagogical skills were found to be significantly associated with teacher effectiveness.

**Keywords:** Techno-Pedagogical Skills, Teacher Effectiveness, Teacher Educators, Rural Institutions, Urban Institutions, Teacher Education, Digital Pedagogy.

### Introduction

The integration of Information and Communication Technology (ICT) has transformed modern education, making techno-pedagogical skills essential for effective teaching. Teacher educators are expected to integrate technology with pedagogy to prepare future teachers for digital classrooms. These skills include technology-supported lesson planning, digital content creation, instructional strategies, communication, and learner guidance (Koehler & Mishra, 2009; UNESCO, 2023).

Teacher effectiveness is a key indicator of educational quality, reflecting an educator's ability to facilitate meaningful learning through effective planning, teaching, assessment, and classroom management. The successful integration of technology can significantly enhance

teacher effectiveness (Darling-Hammond, 2017; Stronge, 2018).

However, differences in digital infrastructure and access to technology between rural and urban teacher education institutions may influence the development and application of techno-pedagogical skills. Therefore, examining the relationship between techno-pedagogical skills and teacher effectiveness is important for improving teacher education programmes and promoting quality education (Government of India, 2020; UNESCO, 2023).

The present study investigates the relationship between techno-pedagogical skills and teacher effectiveness among teacher educators in rural and urban teacher education institutions.

### Need and Significance of the Study

The rapid integration of digital technologies

into education has increased the need for teacher educators to possess strong techno-pedagogical skills. These skills enable them to effectively integrate technology into teaching, enhance student engagement, and improve learning outcomes. As teacher educators prepare future teachers, their competence in using technology has a direct impact on the quality of teacher education. Teacher effectiveness is essential for achieving educational excellence, and techno-pedagogical skills are considered one of the key factors influencing effective teaching in the digital age. However, differences in technological infrastructure and access to digital resources between rural and urban teacher education institutions may affect the development and application of these skills.

Therefore, the present study is significant as it examines the relationship between techno-pedagogical skills and teacher effectiveness among teacher educators in rural and urban institutions. The findings will provide valuable insights for teacher education institutions, policymakers, and educational planners in designing professional development programmes, strengthening digital competencies, and improving the overall quality of teacher education.

### **Statement of the Problem**

The increasing use of digital technologies in teacher education requires teacher educators to possess strong techno-pedagogical skills for effective teaching. Differences in technological resources and opportunities between rural and urban institutions may influence teacher effectiveness. Therefore, the present study aims to examine the relationship between techno-pedagogical skills and teacher effectiveness among teacher educators in rural and urban teacher

education institutions of Thoothukudi, Tirunelveli, and Kanyakumari districts.

### **Operational Definitions of the Key Terms** **Techno-Pedagogical Skills**

In the present study, Techno-Pedagogical Skills refer to the competencies of teacher educators in effectively integrating technology with pedagogical practices to enhance the teaching-learning process. These skills are measured through the dimensions of skill in learning, skill in preparing lesson plans, skill in preparing learning materials, skill in implementing instructional strategies, skill in communication, skill in education, and skill in guidance using the Techno-Pedagogical Skills Scale developed by the investigator.

### **Teacher Effectiveness**

Teacher Effectiveness refers to the ability of teacher educators to perform their professional responsibilities efficiently by planning, organising, delivering instruction, managing the classroom, assessing learners, and facilitating meaningful learning experiences. In this study, teacher effectiveness is measured using the Teacher Effectiveness Scale administered to the teacher educators.

### **Teacher Educators**

In this study, Teacher Educators refer to faculty members (Assistant Professors, Associate Professors, and Professors) working in recognised B.Ed. and M.Ed. teacher education institutions located in Thoothukudi, Tirunelveli, and Kanyakumari districts of Tamil Nadu.

### **Objectives of the Study**

To find out whether there is any significant relationship between techno-pedagogical skills and teacher effectiveness of Teacher educators with reference to rural institutions  
To find out whether there is any significant

relationship between techno-pedagogical skills and teacher effectiveness of teacher educators with reference to urban institutions

### Hypotheses of the Study

1. There is no significant relationship between techno-pedagogical skills and teacher effectiveness of teacher educators with reference to rural institutions.
2. There is no significant relationship between techno-pedagogical skills and teacher effectiveness of teacher educators with reference to urban institutions.

### Method Used in the Study

The study was carried out using a survey method among 300 teacher educators selected through simple random sampling from recognised teacher education institutions in Thoothukudi, Tirunelveli, and Kanyakumari districts. Data were collected using two standardised instruments: the Techno-Pedagogical Skills Questionnaire developed and validated by Nicholas Jegan and Dr. Thomas Alexander (2013) and the *Teacher Effectiveness Scale* developed and validated by the investigator (2016).

The responses collected from the teacher educators were scored according to the prescribed scoring procedures and analysed using appropriate statistical techniques to determine the relationship between techno-pedagogical skills and teacher effectiveness. The findings of the study provide empirical evidence on how techno-pedagogical competencies contribute to teacher effectiveness in both rural and urban teacher education institutions.

### Data Analysis

#### Null Hypothesis: 1

Techno- pedagogical skills and teacher effectiveness among teacher educators with reference to rural institutions.

**Table. 1. Relationship Between Techno-Pedagogical Skills and Teacher Effectiveness Among Teacher Educators with Reference to Rural Institutions**

| Dimensions                            | Calculated 'γ' value | Remarks |
|---------------------------------------|----------------------|---------|
| Skill in learning                     | 0.562                | S       |
| Skill in preparing lesson plan        | 0.517                | S       |
| Skill in preparing Learning Materials | 0.542                | S       |
| Skill in implementing strategy        | 0.595                | S       |
| Skill in communication                | 0.543                | S       |
| Skill in Education                    | 0.528                | S       |
| Skill in Guidance                     | 0.638                | S       |
| Techno-pedagogical Skills             | 0.650                | S       |

*(For 197 df at 5% level of significance, the table value of γ is 0.138)*

Since the calculated value of 'γ' is greater than the table value (0.138) at 5% level of significant for 197 degree of freedom the hypothesis is rejected. Therefore there is significant relationship between techno pedagogical skills and its dimensions of skill in learning, skill in preparing lesson plan, skill in preparing learning materials, skill in the implementing strategy, skill in communication, skill in education, skill in guidance and teacher effectiveness among teacher educators with reference to rural institutions.

#### Null Hypothesis: 2

There is no significant relationship between Techno-pedagogical skills and teacher effectiveness among Teacher educators with reference to urban institutions

**Table.2. Relationship Between Techno-Pedagogical Skills and Teacher Effectiveness Among Teacher Educators With Reference to Urban Institutions**

| Dimensions                            | Calculated 'γ' value | Remarks |
|---------------------------------------|----------------------|---------|
| Skill in learning                     | 0.662                | S       |
| Skill in preparing lesson plan        | 0.639                | S       |
| Skill in preparing Learning Materials | 0.694                | S       |
| Skill in implementing strategy        | 0.706                | S       |
| Skill in communication                | 0.645                | S       |
| Skill in Education                    | 0.644                | S       |
| Skill in Guidance                     | 0.627                | S       |
| Techno-pedagogical Skills             | 0.766                | S       |

*(For 199 df at 5% level of significance, the table value of γ is 0.138)*

Since the calculated value of 'γ' is greater than the table value (0.138) at 5% level of significant for 199 degree of freedom the hypothesis is rejected. Therefore there is significant relationship between techno pedagogical skills and its dimensions of skill in learning, skill in preparing lesson plan, skill in preparing learning materials, skill in the implementing strategy, skill in communication, skill in education, skill in guidance and teacher effectiveness among Teacher educators with reference to urban institutions.

#### **Findings of the Study**

1. Since the calculated value of 'γ' is greater than the table value (0.138) at the 5% level of significant for 197 degrees of freedom, the hypothesis is rejected. Therefore, there is significant

relationship between techno-pedagogical skills and its dimensions of skill in learning, skill in preparing lesson plan, skill in preparing learning materials, skill in implementing strategy, skill in communication, skill in education, skill in guidance and teacher effectiveness among teacher educators with reference to rural institutions.

2. Since the calculated value of 'γ' is greater than the table value (0.138) at the 5% level of significant for 199 degrees of freedom, the hypothesis is rejected. Therefore, there is significant relationship between techno-pedagogical skills and its dimensions of skill in learning, skill in preparing lesson plans, skill in preparing learning materials, skill in implementing strategy, skill in communication, skill in education, skill in guidance and teacher effectiveness among teacher educators with reference to urban institutions.

#### **Discussion of the Findings**

The findings of the study revealed a significant positive relationship between techno-pedagogical skills and teacher effectiveness among teacher educators in both rural and urban teacher education institutions. Since the calculated gamma (γ) values were greater than the table value (0.138) at the 5% level of significance, the null hypotheses were rejected for both groups.

The results indicate that teacher educators with higher techno-pedagogical skills demonstrate greater teacher effectiveness. All seven dimensions of techno-pedagogical skills were found to have a significant relationship with teacher effectiveness. This suggests that effective integration of technology into teaching enhances instructional planning, classroom delivery,

learner engagement, communication, and academic guidance.

Further, the relationship was stronger among teacher educators in urban institutions than those in rural institutions. This difference may be attributed to better access to digital infrastructure, internet connectivity, technological resources, and professional development opportunities available in urban teacher education institutions. Nevertheless, the significant relationship observed in both settings confirms that techno-pedagogical skills are essential for improving teacher effectiveness irrespective of institutional location.

### Recommendations

1. Teacher education institutions should organise regular training programmes, workshops, and Faculty Development Programmes (FDPs) to enhance the techno-pedagogical competencies of teacher educators.
2. Rural teacher education institutions should be provided with adequate ICT infrastructure, reliable internet connectivity, smart classrooms, and digital learning resources to bridge the rural–urban digital gap.
3. Teacher educators should be encouraged to integrate digital tools, learning management systems, multimedia resources, and online assessment techniques into their teaching practices.
4. Universities and educational authorities should incorporate techno-pedagogical competency development as an integral component of teacher education and continuous professional development programmes.
5. Institutions should promote participation in online courses, webinars, MOOCs, and digital certification programmes to strengthen teachers' technological and pedagogical competencies.
6. Future research may examine the influence of techno-pedagogical skills on other variables such as teaching competency, instructional innovation, professional commitment, job satisfaction, and student learning outcomes using larger and more diverse samples.

### References

- Darling-Hammond, L. (2017). *Teacher education around the world: What can we learn from international practice?* European Journal of Teacher Education, 40(3), 291–309.
- Government of India. (2020). *National Education Policy 2020*. Ministry of Education, Government of India.
- Koehler, M. J., & Mishra, P. (2009). What is technological pedagogical content knowledge (TPACK)? *Contemporary Issues in Technology and Teacher Education*, 9(1), 60–70.
- Stronge, J. H. (2018). *Qualities of effective teachers* (3rd ed.). ASCD.
- UNESCO. (2023). *ICT competency framework for teachers* (Version 3). UNESCO.
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE Publications.
- Garrett, H. E. (2008). *Statistics in psychology and education*. Surjeet Publications.

## CRITICAL CONSCIOUSNESS OR TECHNOCRATIC REFORM?

**A FREIREAN CRITICAL POLICY ANALYSIS OF INDIA'S  
NATIONAL EDUCATION POLICY 2020**

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**ABSTRACT**

The National Education Policy 2020 (NEP 2020) is widely described as transformative for Indian higher education. Yet its philosophical orientation remains insufficiently examined. This study undertakes a qualitative critical policy analysis of NEP 2020 using Paulo Freire's critical pedagogy as a theoretical framework. Through systematic thematic analysis of policy discourse, the study identifies a dominant emphasis on employability, measurable outcomes, managerial autonomy, and professional standardisation. While the policy invokes critical thinking and holistic education, explicit commitments to dialogical pedagogy and conscientization are comparatively underdeveloped. Interpreted through Freire's critique of the banking model and his conception of praxis, the findings suggest that the reform is structurally progressive but pedagogically technocratic. The paper argues that without deliberate philosophical reorientation, NEP 2020 risks reproducing instrumental rationality in modernised form. Re-centring critical consciousness is essential if reform is to achieve democratic and humanising ends.

**Keywords:** Critical Policy Analysis, NEP 2020, Paulo Freire, Higher Education Reform, Teacher Education, Conscientization

**Introduction**

The National Education Policy 2020 (Ministry of Education [MoE], 2020) constitutes the most extensive restructuring of Indian education in recent decades. It advances multidisciplinary integration, curricular flexibility, skill alignment, digital expansion, and institutional autonomy. These initiatives are frequently framed as progressive and future-oriented. However, structural reform does not automatically guarantee pedagogical transformation. As Freire (2005) insists, "education is never neutral" (p. 34); it either functions to integrate individuals into prevailing systems or enables them to question and transform them. The philosophical question underlying NEP 2020, therefore, concerns not modernisation alone, but orientation:

Does the policy advance emancipatory education, or does it privilege technocratic rationality?

This study addresses the following research question: To what extent does NEP 2020 align with Freire's emancipatory conception of education, particularly his framework of conscientization and praxis? By analysing the language and structural priorities of the policy, this paper evaluates whether reform discourse reflects critical-democratic commitments or predominantly managerial logic.

**Review of Literature**

Existing scholarship acknowledges the ambitious scope of NEP 2020 while identifying implementation tensions. Dey (2022) argues that although the policy proposes structural innovation, its success depends on deeper pedagogical

transformation. Asagar & Kumari (2023) report that faculty experience increased compliance pressures even as flexibility expands. Maseeh (2023) observes that teacher education reform emphasises structural reconfiguration more than epistemic reorientation. Tamrakar et al. (2024) highlight the multidisciplinary promise but question whether integration alone ensures critical engagement. These analyses primarily examine structural and administrative implications. A systematic philosophical evaluation grounded in critical pedagogy remains limited. This study contributes by subjecting NEP 2020 to Freirean critical scrutiny.

### **Theoretical Framework: Freire's Critical Pedagogy**

Freire's (2005) critique of the "banking model" describes education as an act of depositing knowledge into passive recipients (p. 72). Such a model "minimises or annuls the students' creative power" (Freire, 2005, p. 73) and reinforces hierarchical authority. In contrast, Freire proposes dialogical pedagogy grounded in reciprocity and inquiry.

Central to his framework is conscientization, the development of critical awareness of structural contradictions (Freire, 2005, p. 35). Education must cultivate praxis, defined as "reflection and action upon the world to transform it" (Freire, 2005, p. 51). Without praxis, reflection becomes verbalism; without reflection, action becomes activism devoid of critical grounding (Freire, 2005, p. 87). Freire (1998) further contends that teaching is inherently ethical and political, requiring intellectual humility and democratic commitment (pp. 38–39). These conceptual categories guide the present analysis of NEP 2020.

### **Methodology**

This study adopts a qualitative research design grounded in Critical Policy Analysis (CPA) and thematic document analysis. CPA conceptualises policy not merely as administrative instruction but as discourse shaped by ideological assumptions and power relations (Ball, 1993). Policies function both as text and as instruments structuring institutional practice, encoding particular visions of learners, teachers, and educational purpose.

Drawing on Apple's (2004) critical theory of education, policy documents are interpreted as reflecting broader socio-political rationalities, including tensions between democratic ideals and market-oriented reform. Accordingly, NEP 2020 is examined not only for its stated objectives but also for the implicit values embedded in its discourse of autonomy, accountability, skill development, and quality assurance.

### **Data Source**

The primary data source was the National Education Policy 2020 (Ministry of Education [MoE], 2020), selected as the foundational framework guiding contemporary higher education reform in India. Secondary scholarly analyses (Dey, 2022; Asagar & Kumari, 2023; Maseeh, 2023; Tamrakar et al., 2024) provided contextual insight but were not treated as primary data.

### **Analytical Strategy**

The policy text was subjected to iterative close reading and deductive thematic coding. Analytical categories were derived from Freire's critical pedagogy: (1) conception of the learner, (2) representation of the teacher, (3) emphasis on skills and employability, (4) autonomy–accountability discourse, and (5) dialogical-democratic orientation. Emergent discursive patterns

were interpreted in relation to Freire's concepts of the banking model, conscientization, and praxis (Freire, 2005) to assess whether NEP 2020 advances emancipatory educational commitments or reflects technocratic rationality.

### **Findings Predominance of Instrumental Rationality**

NEP 2020 repeatedly foregrounds employability, skill development, and economic alignment (MoE, 2020). Higher education is positioned as a driver of national competitiveness and workforce readiness. From a Freirean perspective, such framing risks reducing learners to economic actors. When education is defined primarily through productivity metrics, critical consciousness may become secondary. Freire (2005) warns that banking-oriented systems reinforce adaptation rather than transformation (p. 77). The policy's economic emphasis, while pragmatic, reflects instrumental rationality more than emancipatory intent.

### **Managerial Autonomy and Intensified Accountability**

The policy advocates institutional autonomy alongside robust accreditation and performance mechanisms (MoE, 2020). Quality assurance, outcome measurement, and documentation structures occupy significant textual space. Although accountability strengthens transparency, an overemphasis on measurable outputs can institutionalise a compliance culture. Freire (2005) argues that bureaucratic systems can perpetuate domination when dialogue is replaced by technical administration (p. 54). The managerial vocabulary of NEP 2020 suggests modernisation driven by efficiency rather than dialogical transformation.

### **Professionalisation of Teacher Education**

NEP 2020 introduces integrated teacher

education programs and national professional standards (MoE, 2020). However, the discourse emphasises competencies and benchmarks over critical formation. Freire (1998) maintains that authentic teaching requires ethical courage and reflective praxis (p. 30). When teacher education prioritises technical proficiency, educators risk functioning as transmitters of curriculum rather than transformative intellectuals. Dey (2022) similarly argues that structural reform without epistemic reorientation yields limited change.

### **Limited Explicit Commitment to Conscientization**

While NEP 2020 promotes critical thinking and holistic development, sustained articulation of dialogical pedagogy is minimal. Critical thinking appears framed as a cognitive skill rather than socio-political awareness. Freire (2005) insists that liberation requires collective critical engagement (p. 47). The absence of explicit language on social contradiction, democratic participation, or transformative praxis suggests that critical consciousness is implied rather than structurally embedded.

### **Discussion**

The analysis demonstrates that NEP 2020 is structurally progressive yet pedagogically cautious. Its dominant discourse aligns with technocratic modernisation, prioritising efficiency, competitiveness, and measurable standards. Technocratic reform is not inherently regressive. However, when modernisation eclipses moral and democratic purposes, education risks reproducing the very hierarchies it seeks to transcend. Freire (2005) emphasises that education oriented toward adaptation reinforces existing power structures (p. 183). The managerial orientation of NEP 2020 may inadvertently institutionalise

instrumental rationality in updated form. For reform to become emancipatory, higher education must intentionally embed dialogical structures within curriculum, teacher formation, and institutional culture. Accreditation should evaluate transformative impact rather than documentation volume. Teacher education must cultivate reflexive intellectuals capable of critical engagement. Absent such philosophical grounding, reform remains administrative rather than transformative.

### Conclusion

The analysis shows that NEP 2020 brings important structural reforms to Indian higher education. Yet, its language mainly emphasises management, accountability, and employability rather than clear commitments to emancipatory pedagogy. From a Freirean perspective, reform must go beyond administrative change. It must consciously promote dialogue, critical thinking, and reflective practice. Without such grounding, higher education may become more efficient but not more transformative. True educational change requires an ethical commitment to forming critically aware, socially responsible, and democratically engaged citizens.

### References

- Apple, M. W. (2004). *Ideology and curriculum* (3rd ed.). RoutledgeFalmer.
- Ball, S. J. (1993). What is policy? Texts, trajectories and toolboxes. *Discourse: Studies in the Cultural Politics of Education*, 13(2), 10–17. DOI: 10.1080/0159630930130203
- Dey, N. (2022). National Education Policy (NEP) 2020 on transforming education: A critical analysis of recommendations on school, teacher and higher education. *Journal of Indian Education*, 48(1), 187–200.
- <https://ejournals.ncert.gov.in/index.php/jie/article/view/3170>
- Freire, P. (1998). *Pedagogy of freedom: Ethics, democracy, and civic courage*. Rowman & Littlefield.
- Freire, P. (2005). *Pedagogy of the oppressed* (30th anniversary ed., M. B. Ramos, Trans.). Continuum. (Original work published 1970)
- Kumari, S., & Asagar, M. S. (2023). Higher education under National Education Policy (NEP) 2020: A teacher's perspective study. *ShodhKosh: Journal of Visual and Performing Arts*, 4(2), 1877–1888. <https://doi.org/10.29121/shodhkosh.v4.i2.2023.3980>
- Maseeh, M. (2023). Innovations and new reforms in teacher education: Adapting to the vision of National Education Policy (NEP) 2020. *Vidya: A Journal of Gujarat University*. <https://vidyajournal.org>
- Ministry of Education. (2020). *National Education Policy 2020*. Government of India. [https://www.education.gov.in/sites/upload\\_files/mhrd/files/NEP\\_Final\\_English\\_0.pdf](https://www.education.gov.in/sites/upload_files/mhrd/files/NEP_Final_English_0.pdf).
- Tamrakar, L., Tamrakar, S., & Thakur, V. (2024). Multidisciplinary education: New paradigms under NEP 2020. *ShodhKosh: Journal of Visual and Performing Arts*, 5(2), 496–500. <https://doi.org/10.29121/shodhkosh.v5.i2.2024.2221>.

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