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QUOT RAMI TOT ARBORES

यावन्तः शाखास्तावन्तो द्रुमाः

DEPARTMENT OF EDUCATION

UNIVERSITY OF ALLAHABAD

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AND
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Editorial

The Department of Education, University of Allahabad, presents Volume Seventy Six (76) of its Annual Peer Reviewed Journal 'Researches and Studies'. Over the years, the journal has continuously served as a medium of academic exchange for researchers and scholars in the field of education enabling them to share their evidence-based research insights with the wider educational community.

The current volume comprises studies from a wide range of themes of educational research such as, Educational Psychology, Educational Technology and Teacher Education. This volume also presents papers that explore contemporary issues in Education. More specifically, it includes areas such as Teachers Self-Study Practices, Brain-Based Learning, Sleep Patterns, Well-being and Self-efficacy, Educational Finance, Inclusive pedagigy, Problem of achievers, Anxiety, Phubbing behaviour and Pro-social Behaviour, Artificial Intelligence, Inclusive Education, Positive Psychology and Positive Education, Research Attitude, Global Citizenship and Gender Representations in NCERT books.

I convey my heartfelt gratitude to eminent stalwarts of the department Prof. P. C. Saxena, Prof. K. S. Misra and Prof. P. K. Sahoo, for their constant encouragement and intellectual guidance to this academic venture. Sincere thanks to Prof. Vidya Agarwal, Prof. Usha Mishra, Dr. Saroj Yadav, Dr. Patanjali Mishra and Dr. Sonia Sthapak for their valuable contribution as reviewers of this volume.

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Editor-In-Chief & Head,
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Deciphering the Roadmap of S-STEP: A Journey of Teachers' Self-study Practices towards Epistemological & Pedagogical Transformation

Anam Zehra and Aejaz Masih***

Abstract

Teaching is an evolving intellectual endeavour that demands content expertise, deep reflection, and adaptability. It is not the mere transfer of knowledge but the relentless pursuit of understanding where thought deepens, perspectives shift, and transformation takes root. Within this framework, Self-Study of Teacher Education Practices (S-STEP) emerges as a critical paradigm, bridging reflective practice, action research, and practitioner-led inquiry to refine pedagogical expertise. The notion posits that educators' diligent, introspective analysis of their institutional and educational contexts improves their professional skills. This study examines S-STEP's historical evolution, ontological foundations, and methodological intricacies, positioning it as a catalyst for epistemological and pedagogical transformation. A proposed model illustrates how S-STEP cultivates 21st-century competencies. While S-STEP offers opportunities for enhancing teacher educator reflexivity, mentorship, pedagogical innovation, and collaborative learning, advancing social justice, and deepening relational pedagogy barriers, such as self-criticism, policy-driven constraints, fear of change, institutional rigidity, lack of academic recognition, emotional demands of self-inquiry, and methodological tensions persist. S-STEP is not merely an approach but an epistemological framework that cultivates an intellectually resilient and critically engaged teaching workforce by empowering teachers to develop 21st-century skills and effectively engage in their transaction.

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Keywords: S-STEP, Epistemological Transformation, Pedagogical Innovation, Critical Reflection, 21st Century Skills

Introduction

Teaching and the teaching of teachers are complex and, at times, contentious acts, as they carry greater risks than prescribing medicine, while a drug's side effects may harm one person, the unintended effects of teaching can influence generations. This makes understanding its complexities not just important but essential. For centuries, researchers have worked to refine teaching strategies, recognizing the need for continuous improvement. S-STEP is one such dedicated effort, helping teacher educators explore their own teaching practices through self-inquiry, reflection, and collaboration. Bringing together diverse perspectives from different backgrounds and disciplines, it strengthens the shared goal of improving teaching and teacher education. In the field of teacher education, reflective practice has been thoroughly conceptualized as a crucial mechanism for enhancing pedagogical development, and with ongoing discussions regarding its conceptual framework, practical application, and effectiveness in promoting meaningful pedagogical change (Noffke & Brennan, 2005; Korthagen & Vasalos, 2010). In the context of these discussions, the *self-study of teacher education practices* (S-STEP) surfaces as a research paradigm that actualizes reflection via systematic, inquiry-oriented methodologies, effectively connecting theoretical frameworks of reflection with its practical application in teacher education (Loughran, 2004). Self-study is fundamentally reflexive, requiring teacher educators to critically interrogate their pedagogical assumptions and instructional methodologies (Zeichner, 1996). By framing reflection as a methodical and cooperative process, self-study cultivates a more sophisticated and systematic interaction with pedagogical challenges (Johns & Freshwater, 2009). Moreover, it offers a systematic framework for addressing the intrinsic challenges of pedagogy, thus resonating with current demands in teacher education that prioritize adaptive proficiency and ongoing professional development (Gould & Taylor, 1996). This paper specifically tackles the ensuing research questions.

- How has S-STEP evolved in teacher education?
- What is self-study of teacher education practice (S-STEP)? How does S-STEP challenge conventional notions of teacher knowledge?
- How does S-STEP facilitate epistemological & Pedagogical transformation among Teacher educators?

- What are the key opportunities and barriers to implementing S-STEP practices in contemporary teacher education?
- How does S-STEP contribute to the development of 21st-century skills among teacher educators?

Evolution of S-STEP

In 1993, a consortium of academics with aligned theoretical frameworks established the Self-Study of Teacher Education Practices Special Interest Group (SIG) under the auspices of the American Educational Research Association (AERA). The methodology employed is identified as Self-Study of Teacher Education Practices, encompassing inquiries carried out by teacher educators aimed at illuminating and analyzing their tacit knowledge of practice through a systematic investigation of pedagogical activities. The association of scholars within this organization, the largest in AERA's SIG framework, granted 'self-study' its official designation as a term for the work, thus differentiating it from other forms of teacher research. It also provided an annual and worldwide venue for autonomous research dissemination at the AERA conference, enabling its wider accessibility. The first biennial International Conference on Teacher Education Practice Self-Study was conducted in 1996. After these conferences, several self-study materials were accessible in the mid-1990s, leading to the International Handbook of Self-Study (Loughran et al., 2004) and Studying Teacher Education. Springer has published twelve S-STEP volumes since 2005, strengthening its academic prominence. Its influence grew through Teaching and Teacher Education and Journal of Curriculum Studies publishing. S-STEP has evolved into a rigorous research technique and transformational pedagogy that integrates reflection, practice-centered inquiry, and professional growth (Zeichner, 1996).

Ontological stance of S-STEP

Since the 1980s, reflective practice has been championed as a catalytic force in teacher education, heralded for its capacity to cultivate deeper pedagogical insight and epistemic agency. However, its practical enactment has frequently been constrained by prescriptive, mechanistic frameworks, reducing its transformative potential (Mayes, 2001; Smith, 1992). Schon's (1983, 1987) seminal contributions reframed reflective practice as a dynamic epistemological construct, asserting that professional knowledge is not passively acquired but actively forged through continuous negotiation with the ambiguities, disruptions, and contingencies inherent in real-world pedagogical environments. Within this conceptualization, reflection transcends

mere retrospection, evolving into a generative process of meaning-making, where practitioners engage in a recursive dialectic between experience and interpretation. Self-study, as an intellectual extension and refinement of this reflective paradigm, elevates reflection from an individualized cognitive exercise to a structured, systematic research methodology. Unlike conventional reflective models, which often remain confined to personal introspection, self-study situates teacher educators within rigorous research frameworks, demanding methodological transparency, epistemological reflexivity, and dialogical engagement (Steier, 1995; Dahlberg et al., 2002). This paradigm shift reconfigures teacher educators from passive recipients of pedagogical theories to critical architects of professional knowledge, positioning them as active epistemic agents who interrogate, deconstruct, and reconstruct their praxis in a sustainable and substantively meaningful way.Top of FormBottom of Form

Centrality of Meaning: Teacher Educators as Researchers

In the context of teacher education, there is a distinct kind of research known as self-study of teacher education practices (S-STEP) that aims to improve the complex interaction between teaching and learning. By putting the teacher educator in the position of both researcher and main subject, this method encourages a critical and reflective examination of educational methods (Zeichner, 1996). The core of S-STEP is the development of professional knowledge through challenging long-held beliefs, responding creatively to new educational challenges, and actively seeking out and considering different perspectives to improve teaching methods (Loughran, Hamilton, LaBoskey, & Russell, 2004). Teacher educators strengthen a culture of reflective and evidence-driven education by rigorously examining their pedagogical techniques. Academicians continue to argue over how to define self-study, with some arguing that the term defies easy categorization (Samaras & Freese, 2009). Teachers play the twin function of subject and analyst, traversing ever-changing instructional settings and deriving transferable insights (Pinnegar and Russell, 1995). The “self” in self-study and its ontological location on a continuum is at the heart of this issue. While one school of thought argues that one must engage in direct self-reflection to understand their own identity concerning their educational practice, another school of thought takes a more holistic epistemological approach, emphasizing inquiry within institutional settings rather than individual reflection.

Epistemological Perspective

S-STEP as a methodology of research is the study of one's self, one's actions, and one's ideas, it is autobiographical, historical, cultural, and political (Hamilton & Pinnegar, 1998). Self-study research encompasses a diverse array of epistemological frameworks, spanning from profound introspective investigations of the self (East, 2009; Hamilton, Smith, & Worthington, 2008) to approaches that prioritize an observational perspective, thereby diminishing the researcher's subjectivity (Dinkelman, Margolis, & Sikkenga, 2006) or, in certain instances, excluding it altogether (Kosnik & Beck, 2008). (Bullough & Pinnegar, 2001) propose an intermediary epistemic stance, suggesting that self-study should traverse a dialectical equilibrium between self-reflexivity and pedagogical praxis. The epistemic locus of self-study is further delineated by its intersection with two predominant paradigms in educational reform: reflective teaching (Zeichner & Liston, 1996) and practitioner research (Cochran-Smith & Donnell, 1999). The interrelated yet distinct movements exhibit foundational assumptions concerning effective pedagogy, professional development, and transformative inquiry. (Dinkelman, 2003) encapsulates the essence of self-study as a deliberate and systematic interrogation of one's professional practice, an epistemic endeavor that transcends mere introspection to engender methodological rigor and intellectual transformation.

- **Reflexivity as an Epistemic Construct:** Self-study functions as a systematic approach to reflection-on-action, consistent with Schön's (1983) framework of reflective practice. While all reflective teaching necessitates an introspective examination of pedagogical practices, it is important to note that not all reflective practice achieves the systematic rigor characteristic of self-study. Self-study research goes beyond traditional reflection by utilizing a methodologically rigorous approach that emphasizes the self as both the subject and the tool of analysis. This distinction places self-study in a realm of knowledge where investigation goes beyond mere description, prompting researchers to examine their foundational beliefs as educators while also actively and critically reconstructing their professional identities.
- **Delineation of Self-Study and Action Research:** The connection between self-study and action research remains a persistent topic of academic discussion. (Feldman, Paugh, & Mills, 2004) Distinguish self-study from action research by focusing on the methodological orientation inherent in each approach rather than the particular methods utilized. Action research aims to bring

about immediate change in specific educational settings, whereas self-study emphasizes the researcher's ontological perspective, placing the self at the center of the epistemic framework. Self-study serves as a reflective and transformative investigation that emphasizes the researcher's developing understanding of educational phenomena. This methodological distinction highlights the intellectual rigor of self-study, positioning it as a thorough approach to comprehending the intricate relationship between knowledge production and professional practice.

- **Knowledge as a Dialogic Construction:** Plato suggested that dialogue represents the pinnacle of teaching. Self-study research challenges the traditional separation between researcher and researched, situating inquiry within a participatory epistemological framework. (Heron & Reason, 1997) asserts that experiential knowledge underpins all other forms of understanding and is notably pertinent to self-study, which emphasizes direct involvement with pedagogical realities. (Pinnegar & Hamilton, 2009) emphasize that the dependence of self-study on dialogical engagement frames research as a generative process, in which knowledge is perpetually shaped through scholarly discourse and reflexive engagement.

Pedagogical Transformation

- **The Role of Self-Study in Teacher Education:** The need to integrate educational research into teacher training has made self-study research an important methodological strategy in higher education (Grossman & McDonald, 2008). A branch of practitioner inquiry, self-study explains pedagogy's intricacies. Education's connected and dynamic elements need educators' careful research and reflection. Educational practice must be improved by self-study research for personal and professional growth (Cole & Knowles, 1998; Samaras, 2002). Self-study encourages teaching-related exploration, benefiting people and the educational community. This strategy challenges traditional classroom knowledge transmission and encourages dynamic, self-reflective learning.
- **Challenging Fixed Notions of Teacher Knowledge:** Self-study is characterized by rejection of rigid conceptualizations of teacher knowledge. Teachers are seen as dynamic, context-dependent practitioners rather than static knowledge providers. Bullough & Pinnegar (2001) claim that self-study yields fresh insights by challenging established assumptions. To address the

"living contradiction" between a teacher's theoretical convictions and their instructional practice, Whitehead (1989) suggests constant critical reflection. Self-study helps educators analyze their underlying ideas, overcome prejudices, and rethink their teaching techniques. Note that this reflective approach helps educators understand their roles and duties (LaBoskey, 2004).

- **The Interface of Research and Pedagogical Practice** (Dinkelman, 2003) posits that self-study research helps instructors rethink key ideas and navigate classroom dynamics. This emphasizes neglected pedagogy, particularly the complex impact of nonverbal communication on student involvement. Self-study research emphasizes flexibility, reactivity, and situational awareness in education. Self-study is an excellent way to learn about teaching instructors since pedagogy is dynamic and linked. This method helps educators understand how pedagogical decisions affect learning settings by connecting unique teaching experiences to larger educational contexts (Clandinin & Connelly, 2004). Teachers can improve their techniques via continuing investigation to meet students' changing needs and the educational situation.
- **Reforging the Exogenic and Endogenic Threads of Teaching**: Teaching is shaped by both external influences (exogenic) and internal reflections (endogenic), forming a dynamic interplay between teachers, learners, and context (van Manen, 1999). Conventional methods of teacher education frequently simplify pedagogy to a set of reproducible techniques, neglecting its dynamic and context-sensitive characteristics. Self-study research contests this simplistic view, promoting a more complex understanding that recognizes the artistry inherent in teaching. Traditional methods sometimes confine pedagogy to conventional approaches, ignoring the fluid and context-driven character of the subject matter. Self-study presents a counter to this rigidity by adopting the concept of teaching as an ever-evolving interaction between internal reflection and external frameworks.

Opportunities and Barriers to Self-Study for Teacher Education

S-STEP has surfaced as a pivotal methodology in teacher education, providing deep insights into pedagogical practices, teacher identity, and professional development. Through a rigorous examination of their instructional approaches, teacher educators can refine their practice, drive pedagogical innovation, and cultivate a collaborative environment

for professional learning. Nonetheless, in light of its advantages, self-study research encounters significant obstacles, such as methodological conflicts, reluctance to adapt, and concerns regarding reflexivity and objectivity. Drawing on pertinent literature, Table 1 below illustrates the important potential and limitations in self-study research. Critical reflection, pedagogical innovation, and collaborative learning may be fostered via self-study research in the area of teacher education by addressing these hurdles and capitalizing on these possibilities.

Table 1: Opportunities and Barriers to Self-Study for Teacher Education

S.No.	Opportunities	Barriers
1.	**Enhancing Teacher Educator Reflexivity** Self-study enables teacher educators to critically examine their pedagogical beliefs and practices, leading to professional growth and improved instructional methods	**Difficulty of Self-Criticism and Reflective Objectivity** Engaging in deep self-examination can be challenging due to ingrained beliefs and biases, making it difficult to assess personal teaching methods objectively.
2.	**Improving Preservice Teacher Supervision and Mentorship** offers insights into mentorship and supervision, enhancing the preparedness of preservice teachers through reflective and data-driven approaches.	**Emphasis on Measurable Outcomes** Educational institutions often Prioritize easily measurable indicators, making it difficult to justify the time-intensive, qualitative nature of S-STEP.
3.	**Innovating Pedagogical Practices in Teacher Education** Encourages experimentation with new teaching methodologies such as inquiry-based learning and technology integration.	**Fear of Failure and Resistance to Change** Educators may hesitate to adopt self-study due to fear of making mistakes or challenging traditional teaching norms, limiting genuine innovation.
4.	**Advancing Social Justice and Equity in Education** Facilitates critical self-awareness, allowing educators to address systemic biases and develop inclusive curricula.	**Institutional and Curriculum Constraints** Institutional structures and standardized curricula may limit the flexibility needed for self-study methodologies to thrive
5.	**Promoting Collaborative Professional Learning** Strengthens shared inquiry among teacher educators, fostering professional learning communities and co-construction of knowledge.	**Lack of Recognition in Academic Circles** Self-study research is sometimes perceived as less rigorous or generalizable, leading to challenges in gaining scholarly recognition.

6.	**Deepening Understanding of Relational Pedagogy** Highlights the role of relationships in teacher education, creating meaningful, student-centered learning environments.	**Emotional and Cognitive Labor** The introspective nature of self-study requires significant emotional and intellectual engagement, which can be mentally taxing.

Self-Study for 21st-Century Skills: A Pedagogical Innovation

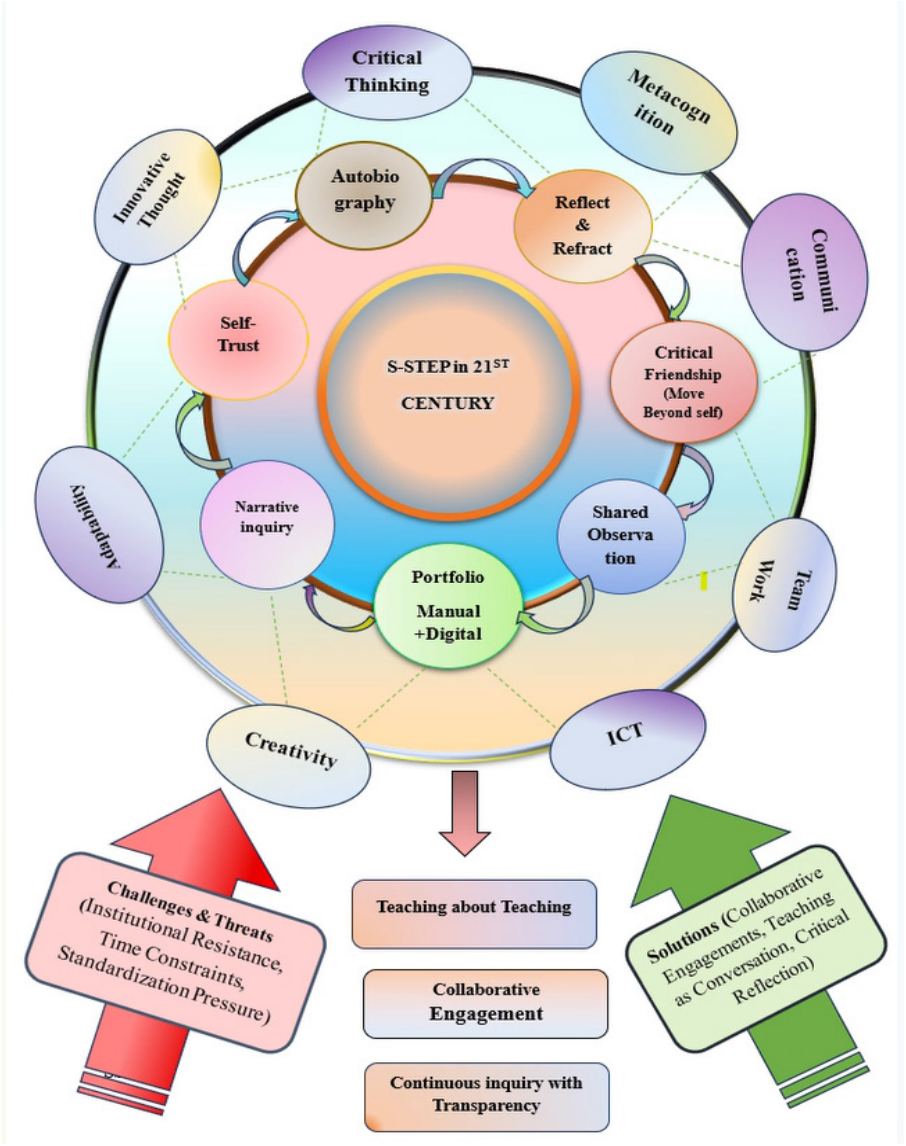
Effective teaching needs a constant negotiation between theory and practice, where educators learn from experience and reflect. Conventional pedagogical approaches rooted in the industrial era have become inadequate in addressing the requirements of contemporary learners (Gardner, 2008; Zhao, 2009). S-STEP promotes a dynamic, self-directed learning process where educators critically examine teaching, adapt to emerging challenges, and refine their pedagogical strategies. Self-study enhances teacher education by reviewing core pedagogical principles and understanding how subtle gestures and classroom interactions impact student learning (Dinkelman, 2003). Self-study combines personal experiences with research-based ideas. Critical reflection and recalibration help educators alter their careers by identifying what works and what doesn't. This helps develop 21st-century skills like critical reflexivity, flexibility, and epistemic humility, continuously refining their instructional practices through critical analysis. helps educators connect with their profession and build student-centered learning environments that foster collaboration, problem-solving, and creativity. Since teaching is a constant process of knowledge formation and reconstruction, self-study is an epistemological position as well as a reflective technique.

S-STEP Roadmap: Equipping Teacher Educators with 21st-Century Skills

S-STEP is an intellectual journey, not merely a method. Professionals challenge outdated teaching methods and create adaptable and new educational frameworks via self-reflection, critical investigation, and transformational activities. Critical friendships guide solitary pondering into professional growth harmony. Storytelling portfolios and personal reflections make instruction interactive. S-STEP resists irrelevance by fostering ethical and cognitive conversations about technological advancements, as artificial intelligence and digital integration transform the education landscape. Professionals must be flexible to adapt to changing educational contexts. Figure 1 shows how S-STEP empowers educators through critical thinking, metacognition,

creativity, flexibility, digital competence, and social skills. Professional progress is driven by personal reflection, collaborative observation, and supportive connections, while manual and digital portfolios link reflective practice to technology. Collaboration, critical reflection, and teaching as a conversation improve educational efficacy and resilience in the approach. S-STEP is more than a tool; it transforms knowledge, giving professionals the mental flexibility and adaptive abilities to handle modern teaching.

Figure 1: S-STEP Roadmap for Equipping Teacher Educators with 21st-Century Skills



Conclusion

This paper provides a meticulous examination of S-STEP, both as a research framework and as a transformative educational methodology. Through its historical development, the paper elucidates how self-inquiry, autobiographical reflection, narrative inquiry, and critical friendships cultivate critical thinking, adaptability, and metacognitive awareness, thereby highlighting their significance in developing 21st-century competencies among teacher educators.(Dewey, 1933) emphasized critical reflection as the most vital trait of teacher quality, defining it as the deliberate and thoughtful examination of beliefs and knowledge, considering their justification and future implications. S-STEP is not merely delineated as a methodology; rather, it embodies an epistemological perspective that interrogates conventional understandings of pedagogical knowledge, thereby empowering educators to assume the roles of inquisitive agents and catalysts for institutional transformation. Although institutional resistance and methodological tensions present formidable challenges, the study underscores the capacity of S-STEP to augment reflexivity, foster pedagogical innovation, and promote inclusive education. In the final analysis, S-STEP manifests as a continuous intellectual endeavor, endowing educators with cognitive flexibility, ethical consciousness, and the capacity for adaptation. Through the pursuit of incessant self-directed learning, teachers reconstitute their professional identities and foster learners who are critically engaged, thereby guaranteeing their pertinence within the ever-evolving educational scenario.

References

- Boud, D., Keogh, R., & Walker, D. (Eds.). (2000). *Reflection: Turning experience into learning*. Nichols.
- Bullough, R. V., & Pinnegar, S. (2001). Guidelines for quality in autobiographical forms of self-study research. *Educational Researcher, 30*, 13–21.
- Cochran-Smith, M., & Lytle, S. (1999). Relationships of knowledge and practice: Teacher learning in communities. In A. Iran-Nejad & C. Pearson (Eds.), *Review of Research in Education*. American Educational Research Association.
- Cole, A., & Knowles, J. (1998). Self-study of teacher education practices and the reform of teacher education. In M. L. Hamilton (Ed.), *Reconceptualizing Teaching Practice: Self-study in Teacher Education*. Falmer.
- Clandinin, D. J., & Connelly, F. M. (2004). Knowledge, narrative and self-study. In J. Loughran, M. L. Hamilton, V. K. LaBoskey, & T. Russell (Eds.), International Handbook of Self-study of Teaching and Teacher Education Practices. Kluwer Academic.
- Dahlberg, K., Drew, N., & Nystrom, M. (2002). *Reflective Lifeworld Research*. Student Literature.

- Dewey, J. (1933). *How We Think: A Restatement of the Relations of Reflective Thinking to the Educative Process* (2nd rev. ed.). D.C. Heath.
- Dinkelman, T. (2003). Self-study in teacher education: A means and ends tool for promoting reflective teaching. *Journal of Teacher Education, 54*, 6–18.
- Dinkelman, T., Margolis, J., & Sikkenga, K. (2006). From teacher to teacher educator: Reframing knowledge in practice. *Studying Teacher Education, 2*, 119–136.
- East, K. (2009). Using metaphors to uncover the selves in my practice. *Studying Teacher Education, 5*, 21–31.
- Feldman, A., Paugh, P., & Mills, G. (2004). Self-study through action research. In J. Loughran, M. L. Hamilton, V. LaBoskey, & T. Russell (Eds.), *International Handbook of Self-study of Teaching and Teacher Education Practices*. Kluwer Academic.
- Gardner, H. (2008). *Five Minds for the Future*. Harvard Business Press.
- Gould, N., & Taylor, I. J. (1996). *Reflective Learning for Social Work. Research Theory and Practice*. Arena.
- Grossman, P., & McDonald, M. (2008). Back to the future: Directions for research in teaching and teacher education. *American Educational Research Journal, 45*(1), 184–205. https://doi.org/10.3102/0002831207312906
- Hamilton, M. L., & Pinnegar, S. (1998). Conclusion. In M. L. Hamilton (Ed.), *Reconceptualizing the Education of Teachers: Self-study in Teacher Education*. Falmer.
- Hamilton, M. L., Smith, L., & Worthington, K. (2008). Fitting the methodology with the research: An exploration of narrative, self-study, and auto-ethnography. *Studying Teacher Education, 4*, 17–28.
- Heron, J., & Reason, P. (1997). A participatory inquiry paradigm. *Qualitative Inquiry, 3*(3), 274–294. https://doi.org/10.1177/107780049700300302
- Jenkins, H., Clinton, K., Purushotma, R., Robinson, A. J., & Weigel, M. (2006). *Confronting the Challenges of Participatory Culture: Media Education for the 21st Century*. The MacArthur Foundation.
- Johns, C., & Freshwater, D. (2009). *Transforming Nursing through Reflective Practice*. John Wiley & Sons.
- Kosnik, C., & Beck, C. (2008). We taught them about literacy but what did they learn? The impact of a preservice teacher education program on the practices of beginning teachers. *Studying Teacher Education*, *4*(2), 115-128.
- Korthagen, F. A. J., & Vasalos, A. (2009). Going to the core: Deepening reflection by connecting the person to the profession. In *Handbook of Reflection and Reflective Inquiry* (pp. 529–552). Springer. https://doi.org/10.1007/978-0-387-85744-2_27
- Korthagen, F. A. J., & Vasalos, A. (2010). Going to the core: Deepening reflection by connecting the person to the profession. *Handbook of Reflection and Reflective Inquiry*, 529–552. https://doi.org/10.1007/978-0-387-85744-2_27
- Korthagen, F. A., & Kessels, J. P. (1999). Linking theory and practice: Changing the pedagogy of teacher education. *Educational Researcher, 28*(4), 4–17.

- La Boskey, V. K. (2004). The methodology of self-study and its theoretical underpinnings. In J. J. Loughran, M. L. Hamilton, V. K. LaBoskey, and T. Russell (eds.), *International Handbook of Self-study of Teaching and Teacher Education Practices*. Kluwer Academic
- Loughran, J. J. (2004). A history and context of self-study of teaching and teacher education practices. In J. J. Loughran, M. L. Hamilton, V. K. LaBoskey, & T. L. Russell (Eds.), *International Handbook of Self-study of Teaching and Teacher Education Practices.* Kluwer Academic.
- Loughran, J., Hamilton, M. L., LaBoskey, V. K., & Russell, T. (Eds.). (2004). *International Handbook of Self-study of Teaching and Teacher Education Practices.* Kluwer Academic.
- Mayes, C. (2001). Deepening our reflectivity. *The Teacher Educator, 36*, 248–264.
- Noffke, S., & Brennan, M. (2005). The dimensions of reflection: A conceptual and contextual analysis. *International Journal of Progressive Education, 1*, 58–78.
- Pinnegar, S., & Hamilton, M. L. (2009). *Self-study of Practice as a Genre of Qualitative Research: Theory, Methodology, and Practice*. Springer.
- Samaras, A. (2002). *Self-study for teacher educators: Reflection on Teacher Education*. Falmer Press.
- Samaras, A., & Freese, A. (2006). *Self-study of Teaching Practices Primer*. Peter Lang.
- Schön, D. A. (1983). *The Reflective Practitioner*. Basic Books.
- Schön, D. A. (1987). *Educating the Reflective Practitioner: Toward a New Design for Teaching and Learning in the Professions*. Jossey-Bass.
- Smith, J. W. (1992). Young researchers' work and the politics of reflection. *American Educational Research Journal,* 29, 267–300
- Steier, F. (1995). *Research and Reflexivity*. Sage.
- Van Manen, M. (1995). On the epistemology of reflective practice. *Teachers and Teaching: Theory and Practice, 1*(1), 2–23.
- Van Manen, M. (1999). The practice of practice. In M. Lange, J. Olson, H. Hansen, & W. Bÿnder (Eds.), *Changing Schools/Changing Practices: Perspectives on Educational Reform and Teacher Professionalism*. Garant.
- Whitehead, J. (1989). Creating a living educational theory from questions of the kind, How do I improve my practice? *Cambridge Journal of Education, 19*(1), 41–52. https://doi.org/10.1080/0305764890190106
- Zeichner, K. M., & Liston, D. P. (1996). *Reflective Teaching: An Introduction*. Lawrence Erlbaum.
- Zhao, Y. (2009). *Catching Up or Leading the Way*. ASCD.

Adoption of Brain-Based Learning Principles in Teaching-Learning Process

Anil Kumar and Anita Rastogi***

Abstract

The advent of technology has accelerated the pace of innovation, inventions, and research. Such advancement enabled the people to learn and discover new knowledge and acquiring new skills. Technology had made it possible for human to understand the activity of brain of living organism. As a result, neuroscience became a subfield of psychology. Education adopted neuroscience findings and formulated brain-based learning principles (BBL) and strategies based on these findings. These principles and strategies can support teachers in making the teaching-learning process effective. Thus, the present study sought to uncover the understanding of BBL elements among prospective teachers. This studies also tried to understand how prospective teachers are applying the principles of BBL to the teaching-learning process at the upper primary level.

Keywords: Brain-based learning, Pre-service Teacher Education, Prospective Teachers, Teaching-Learning Process

Introduction

Learning is not as difficult as people have previously believed; all they need to do is understand how it occurs and the elements that accompany it. Neuroscientists have effectively captured learning as a brain function in the last two decades of the 20th century, leading to the development of brain-based learning (BBL) principles. The implications of these findings manifested themselves in various strategies within the field of education which were largely used by educators to inform their teaching practices, and finally, learning with neurological

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research found applications known as BBL (Jensen, 2005). The brain-based education tries to show the way with the help of which one can create lively and engaging experiences for learners. Understanding the structure of brain and its parts, is not necessary for the teachers. They only need to know that brain has significant role in the process of learning. Researches in the field of neurosciences informed about the significance of those functions which was harnessed by academician to shape the process of learning. They used the finding to create optimum learning environment and provide immersive experience to the learners. By utilizing the finding of the fields of neuroscience, Caine & Caine (1991) formulated the twelve principles of BBL, these serve as the guiding base to device strategies for learning based on brain functioning.

The twelve principles of BBL proposed by Caine & Caine (1991) are as follows:

- The brain is a parallel processor.
- Learning engages the whole physiology.
- The search for meaning is innate.
- Patterning leads to the search for meaning.
- Emotions play a critical role in patterning.
- The brain processes parts and wholes simultaneously.
- Focused and peripheral attention are involved in learning.
- Learning always involves conscious and unconscious processes.
- We have at least two forms of memory: a spatial memory system and a collection of rote learning memory systems.
- We understand and remember facts and skills better when they become ingrained in our natural or spatial memory.
- Challenges enhance learning whereas threats inhibit learning.
- Each brain is unique.

Evidences of BBL Adopted in Researches

Effect of BBL on various variables has been summed up. In Jordan, Arabic language teachers moderately adopted the concepts of BBL, their years of experience or qualifications did not bring much difference in the extent of adoption of BBL strategies (Migdady & Khdair, 2022). BBL significantly impacts the academic performance and metacognition of elementary school learners (Singh, 2023). It informed practices helped

the students to acquire creativity and psycho-productive skills more effectively. Despite the subject or skills level difference, this was claimed as the successful option for designing teaching. Psycho-productive skills were developed among students irrespective of their subject and skill level variations (Asu-Nandi, 2023). Incorporating the BBL model with an open-ended approach has the potential to enhance students' comprehension of mathematical topics and foster a more engaged learning environment in the classroom while they do research (Suharja et al., 2024). BBL greatly impacts students' intrinsic motivation for mathematical learning and performance. The most successful BBL-based activities are those that keep students engaged, offer them emotional support, and help them learn and perform in mathematics. These include visual story-telling, role-playing, i-Think maps, back to board, and Kick Me Poison Box (Amjad et al., 2023). Students were taught mathematics using activities such as visual storytelling, brainstorming, i-Think maps, back-to-board, and kinesthetics-oriented, all of which are based on BBL principles. The analysis revealed that these activities significantly influenced their self-efficacy in mathematics. The BBL approach to instruction improved students' self-efficacy in mathematics (Amjad et al., 2022). BBL strategies' significance in raising students' self-esteem, lowering stress levels, and boosting motivation are all factors that contribute to better academic achievement in high school pupils (Reshma & Reddy, 2021).

Researcher(s)	**Components based on BBL included in teaching-learning process**
Konecki & Schiller (2003)	secure learning environment, connecting with real-world problems, active processing
Saleh (2012)	Activation, clarify the outcomes and paint the big picture, making connection and develop meaning, doing the learning activity (thinking, reflecting, making sense, visualization, auditory, etc.), demonstrate students' understanding, review for students' retention
Akyurek (2013)	mental models, emotions, learning environment, memory, assessment, collaboration and thematic instruction
Kaur (2013)	positive environment, emotional climate for learning, mastery of skill, content and concepts, designing learning experience, extending and applying knowledge, evaluating learning
Dagnew (2017)	patterning, association, visualization, enriched environments,, memory

Uzezi & Jonah (2017)	For relaxed alertness (music, breaks, walk around, drinking water, group work etc.), for Orchestrated immersion (focused on meaningful content, integrated and thematic teaching, subthemes of unit topic were determined together with students), for active processing (questioning, internalization, analogies, encoding).

People from academia can accrue the benefits only when they have theoretical and practical understanding of BBL principles. Present study tried to capture the awareness of prospective teachers regarding BBL and its informed practice integration in teaching-learning process.

Sample and Sampling Procedure

10 prospective teachers enrolled in B.Ed. program (regular mode) of central university in Delhi were selected by using convenience sampling. Two classes of each prospective-teacher, resulting in a total of 20 classroom lessons, were observed. The interviews with these prospective-teacher based on the field notes and interview schedule were also conducted.

Tools

The teaching-learning process observation schedule and semi-structured interview schedule were used.

Results and Findings of the Study

Awareness regarding the use of BBL and its elements among student-teachers

Observations revealed that student-teachers were incorporating certain elements of BBL into the teaching-learning process. They had heard about the concept of BBL, half of the respondents expressed a vague understanding of it. Respondents provided the following justifications or explanations for utilizing these BBL elements:

- Rapport-building components were used to make students comfortable, and thereby they could feel like an integral part of the teaching-learning process, which in some way seeks their participation.
- The readiness component was added because, without it, all other preparations, strategies, or plans would be ineffective needed for active engagement.
- Problem-solving questions helped the learners explore their potentialities and develop their thinking and reasoning to the maximum extent possible.

- Parallel processing was considered appropriate or a cause of deviation in learners' attention. Training in everyday scenarios was appropriate to some extent.
- Inclusion of learners' ideas helped teachers when they missed something, and most importantly, learners felt motivated when their words got consideration and acceptance.
- Immersion helped the learners to introspect, explore, and finally reflect. Their participation in the process allowed them to explore various possibilities within a specific situation.
- Student teachers could avoid disruptions when they were well-rehearsed and familiar with the set-up of an activity and demonstration aids. Teachers' experience was crucial, and unexpected activities and demonstrations, such as guest appearances, could potentially disrupt students due to their curiosity.
- Parallel processing in the form of doing multiple tasks at a time was expressed as a demand on the part of the teacher, and it depends upon the competency of student teachers as well.
- Using different strategies to seek emotions helped to maintain attention. An overflow of emotions caused a loss of attention and disturbed the learning process.
- Free association initiated a chain in which learners came up with examples and expressed their concepts in true form, whatever they had.
- Repetition of teaching aids might end up with a termination of excitement and interest. Therefore, variety has to be included to cater to diverse learners and different senses.
- Previous knowledge helps the teacher understand how strong a root is and thereby makes them understand what needs to be done and how new concepts can be built upon this.
- Assessment and feedback enable the teacher to understand how successful s/he is in bringing concept clarity to learners, and sometimes, based on this, the teacher needs to go for Plan B and modify the lesson instantly.
- Periodicity and the presence of reinforcement determine learners' level of motivation toward learning.
- Patterning helps to organize the content into groups based on their similarity, which makes learning easier.

Adoption of BBL Principles in Teaching and Learning

Brain as parallel processor

This was traced through the involvement of the learners as well as prospective teachers in the multiple tasks simultaneously. Mostly teachers were raising questions which instigated students in thinking and imagining about the situations. Students were attempting to recall the experience associated with learning incident and replied with the same zeal of emotions attached with it, figuring out situations by using their recognizing, recalling, imagining and expressing skills simultaneously.

It was stated by most of the prospective teachers that parallel processing occurs at most of the time. Some of the prospective teachers' respondents expressed parallel processing as appropriate mean to engage the learners and preparing them for multiple tasks at a time. On the other side, it was stated *"ek sath jyada kaam karne se focus bhatak jaataa hai aur koi bhi kaam sahi se ni hota",* which indicate this category of respondents considered it as a cause of deviation of learners' attention and suggested to work on one task at a time.

Inclusion of whole physiology in learning

This was found to be used in learning in very limited context of mind and sensory stimulation; bodily involvement was almost absent. Sensory stimulation was provided by few prospective teachers only through demonstration at some instances. Through questions, teacher provoked students mind involvement. Body involvement was only seen in narrow connotation of raising hands, writing, non-verbal expression, and standing. When Prospective teachers were asked about non-inclusion of whole physiology then few of them stated that: *"Isse puri class disturb hojayegi, itne saare students ke sath bahut mushkil hai, abhi ye is topic ke liye nahi hai."*

Search of meaning is innate

Few prospective teachers provided opportunities to learners to come up with their experiences and established connection it with everyday application. This was done to make the learners feel familiarize with the learning situations and process. Once students started sharing then gradually they involve in tapping their memory to search for the related aspects and genuinely came up with true and meaningful experience. Instance can be well understood when students were asked to produce some more examples related to Newton first law of motion after learning the concepts. On the other side, most of the teachers

were only transmitting their content not bothered to tap the learners to think and make meaning out of the information. This clearly indicates the missing of learners' role in knowledge construction and inferred meaning out of it. Thus, the use of "the search for meaning is innate" was evident was scanty in teaching-learning process.

Patterning as a means to search meaning

This was largely included in the classes in two different contexts: content organization and classification along with examples. The content was organized into groups on the basis of their similarity under different subparts. Similar examples were placed in a particular category to make the pattern of the concepts to be understood well by students. Examples can be seen when one teacher was teaching circle in the classroom and attempted to make it differ from other shapes in terms of properties. Other reference can be seen when another teacher tries to differentiate the two local government officials of local body based on their appointment to functions.

Emotions are critical to patterning

Prospective teachers addressed community concerns through expression, questioning, and dialogue. Students were made the part of the process by including their responses via mentioning it on board and emphasizing in explanations, made students felt recognized and accepted. Teachers ensured student-student interactions which generated a sense of respect for each other by listening one's opinion or ideas. In most of the classrooms, emotions were maintained in a level which doesn't affect learning adversely. While in few classrooms, students were laughing unnecessarily or talking with each other which affect the learning.

Prospective teachers added that for learning emotions should be in optimum state. One of the respondents said, "*Agar students jyada khush hote hai tab bhi unka dhyan padhne mein lagta aur agar wo pareshan h tab toh focus ekdum gayab rehta hai, islye humko unki feelings ko samjhna padta hai aur samjhna bhi chahye.*".

Whole and parts processing of brain

Most of the teachers presented the information in parts first and link the parts to show the full picture of the concept which signified the inclusion of principle of whole and parts in teaching-learning processes. For an instance, teacher taught the concept of acceleration to the students after enabling students to comprehend the use of speed, distance, displacement, velocity, initial velocity and final velocity. Once

students acquired these sub-concepts, it paved the way to understand the concept of acceleration in better terms.

Involvement of focused and peripheral perception in learning

Prospective teachers tried to develop rapport among students to make them feel comfortable and thereby they could feel themselves as an integral part of teaching which in turn capture their focus in the process. Greetings were mostly used whereas few questions pertaining to well-being of learners were used. Learners made ready for learning by asking questions, incidents sharing, real-life experiences, etc., once they became ready then only they can have any sort of perception and participation in learning.

Prospective teacher was not doing anything as such to tap the learners' peripheral perception. They tried to develop focused attention was in many cases. In one of the case, teacher was teaching the map of India by using teaching-aid of map, the small size of map made the visibility poor for students and they failed to connect with it. This lack of legibility ended up in dismantling their perception and focus.

Spatial and rote memories in learning process

The use of spatial tools like diagram and textbook graph was evident in most of the classes to leave impression on spatial memory. It can be understood from the case where information was presented in words followed by equation and lastly in the form of graph. Sharing of Experiences followed by questioning permitted the learners to express their inner feelings, this stirred their spatial experiences and which might help it to retain longer in their memory.

Rote-memorization aspects were catered via tapping recognition, recall and establishing the relationships among different facts or events catered to rote memorization aspects. It was told by one of the respondents "*kuch chijen toh ratni hi padti h, jese formula h koi, equations hai*", this signified the importance of rote memory in learning. Oral reviews were asked to check the recalling potential of learners. Indicators of using memorization for retrieving information from memory were found.

Learning involves conscious and unconscious processing

This was evident in all the classrooms, where prospective teachers supported the students in learning through various methods. Students and teachers were both consciously involved in learning most of the time. Unconsciously processing was bit difficult to trace but it could be in the form of learning from teachers' behavior, action and reaction,

language band communication. It could be possibly happened through peer support as well.

Conscious processing was seen in the form of active processing in most of the classes where students were engaged in reflecting about the dimensions of the learning. It was seen in one of the classrooms where teacher was teaching concept of powers of different level of government. Students were pondering upon power of different members, how these powers can be exercised and regulated, why do they need to acquire knowledge about this topic? how it helps them as learners? Students were attempting to first consolidate information, internalize it and later on reflect upon it which required their metacognition skills.

Developmental nature of learning when facts are embedded in natural memory

Previous knowledge was preferred to be checked for the purpose of developing the concepts of lessons but in few cases it was found that few prospective teachers ignored the checking of previous knowledge. To ensure students' understanding, few teachers ensured it via questioning and their responses were used to develop the lesson. To ascertain whether learners have developed understanding of the concepts taught, teacher asked the question pertaining to application of these concepts in everyday domain. Although, the use of all these was found to be minimal which made the investigator to deduce that developmental nature of learning was not given much attention in teaching-learning process.

Challenges as enhancers and threats as inhibitors of learning

In the teaching-learning processes, challenges were embedded in the form of questions, mathematical problems and probing questions. Though these challenges were quite less and had not much variety. Threat for learning was noted when teachers were discouraging students' curious questions. One of the prospective teachers sent one student outside the class for 15 minutes as a punishment. This could be interpreted as the learning loss which served as the threat which inhibited the learning.

Catering to uniqueness of each brain

It was found that prospective teachers were frequently making use of charts, black-board and text-books as the teaching-aids. Lack of variety in teaching-aids was not eliciting learners to participate as they might not found them interesting. Therefore, variety has to be included to cater to diverse learners' need and different senses required

to be involved. Queries and questions of few students were addressed by prospective teachers individually but only few prospective teachers tried to involve all the students of the class. It was found that most of the prospective teachers kept focus only on those students who were quick responders. These evidences are sufficient enough to deduce that individual needs were ignored and thereby uniqueness of each brain was not considered. When they were asked about uniqueness and individual differences, everyone said, it's important to address everyone's need but unfortunately in major sessions it was not realized through their practices.

Conclusion

There is certainly no doubt that every learning activity involves the brain. The present study found that student teachers were having low level of awareness about BBL. Some student teachers utilized specific components in their teaching-learning process because these elements shared similarities with other learning paradigms in knowledge acquisition. It is definitely not true that all principles can be seen in one class but several classes can give perfect and fair idea about its implementation or practice. Teachers often employed principles that emphasize the brain's role as a parallel processor, distinguish between spatial and rote memories, view challenges as learning enhancers, and view threats as learning inhibitors. However**,** the nature of the challenges was quite narrow and limited. Teachers in every class effectively applied the principles that emphasize patterning as a tool for meaning-searching, the importance of emotions in patterning, and the brain's whole-part processing. The principle of inclusion of whole physiology in learning was rarely evident in the classroom in its holistic intent. The principles which state that the brain searches for meaning which is innate process was rarely used by teachers to a limited extent. Another principle "involvement of focused and peripheral perception in learning" was also used in narrow connotations which reflects the narrow understanding of teachers about focused perception involvement whereas peripheral perceptions aspect was negligibly used by teachers. Few teachers were using the principle of developmental nature of learning when facts are embedded in natural memory in a very limited manner. The use of principle of involvement of conscious and unconscious processing in learning was found to be adopted more by teachers but when it comes to conscious processing but unconscious elements was also there but in limited manner. The principle of uniqueness of each brain was not catered by most of the teachers. Thus, it can be concluded that teaching-learning process included use of BBL

principles, but their extent of usage was very limited at some instances whereas in other session it was attempted to use in better terms. Still the broader adoption of principles was not been done in most of the classes. The reason behind could be the unawareness of prospective teachers about BBL.

Implications of the Study

Based on the key findings of the present study, the following implications can be drawn:

- Myths regarding BBL practices need to be dismantled among Educators and awareness requires to be created for accruing its benefits.
- BBL should be included in the Pre-service Teacher Education programmes to develop thorough understanding among pre-service teachers regarding the theoretical and practical aspects of BBL principles and strategies.
- Training sessions can be organized for In-service teachers to orient them about the practices of BBL and its successful inclusion in learning processes.

References

- Akyurek, E.et. al (2013). Effects of BBL Approach on Students' Motivation and Attitudes Levels in Science Class. *Online Submission*, *3*(1), 104-119.
- Amjad, A. I., Tabbasam, U., & Abbas, N. (2022). The effect of BBL on students' self-efficacy to learn and perform mathematics: Implication of Neuroscience into school psychology. *Pakistan Languages and Humanities Review*, *6*(3), 683-695.
- Amjad, A. I., Habib, M., Tabbasam, U., Alvi, G. F., Taseer, N. A., & Noreen, I. (2023). The Impact of BBL on Students' Intrinsic Motivation to Learn and Perform in Mathematics: A Neuroscientific Study in School Psychology. *International Electronic Journal of Elementary Education*, *16*(1), 111-122.
- Asu-Nandi, P. B. (2023). Impact of BBL and collaborative instructional models on students' performance in motor vehicle technology in technical colleges. *International Research Journal of Modernization in Engineering Technology and Science, 5* (12).
- Caine, G. and Caine R. N. (1994), *Making Connections: Teaching and the Human Brain*. Addison-Wesley.
- Dagnew, Asrat. (2017). Effectiveness of Neuro Scientific Research-based Pedagogy in Science. *International Journal of Neuroscience and Behavioral Science, 5*(4), 66-70.
- Kaur, J. (2013). Effectiveness of Brain Based learning Strategies on Enhancement of Life Skills among primary school students with internal and external Locus of Control. *International Journal of Advancements in Research & Technology*, *2*(6), 128-143.

- Migdady, M. & Khdair, R. (2024). The Degree of Employment of Arabic Language Teachers in Jordan the Principles of BBL. *Jordan Journal of Applied Science-Humanities Series, 30* (2).
- Reshma, H. S., & Reddy, S. M. (2021). Influence of BBL Strategies on Academic Motivation, Stress and Self-Esteem of High School Students in North Bangalore. *Psychology and Education*, *58*(2), 6329-6332.
- Saleh, S. (2012). The Effectiveness of the Brain Based Teaching Approach in Enhancing Scientific Understanding of Newtonian Physics among Form Four Students. *International Journal of Environmental and Science Education*, *7*(1), 107-122.
- Singh, N. (2023). Effect of Brain Based Learning on the Academic Achievement and Metacognition of Elementary Level Students. *Chetana International Journal of Education, 8* (4), 34-36.
- Suharja, S., Mustadi, A., & Oktari, V. (2024). Examining Brain Based Learning Models Assisted Open-Ended Approach To Mathematics Understanding Concept. *Jurnal Prima Edukasia*, *12*(1), 19-29.
- Saleh, S. (2012). The Effectiveness of the Brain Based Teaching Approach in Enhancing Scientific Understanding of Newtonian Physics among Form Four Students. *International Journal of Environmental and Science Education*, *7*(1), 107-122.
- Uzezi, J. G., & Jonah, K. J. (2017). Effectiveness of BBL strategy on students' academic achievement, attitude, motivation and knowledge retention in electrochemistry. *Journal of Education, Society and Behavioural Science*, *21*(3), 1-13.

The Effect of Sleep Patterns on Memory Retention and Academic Achievement in College Students

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Abstract

Sleep is a fundamental biological process that plays a vital role in cognitive functioning, memory consolidation, and overall academic performance. In the fast-paced lifestyle of college students, irregular sleep patterns have become increasingly common, often influenced by academic demands, social activities, and excessive screen time. This study aims to examine the effect of sleep patterns on memory retention and academic achievement among college students. A sample of undergraduate students from various disciplines was selected using a stratified random sampling method. Data on students' sleep duration, sleep quality, and bedtime routines were collected through self-reported questionnaires and sleep diaries over a period of four weeks. Memory retention was assessed using a standardised recall test, while academic achievement was measured through recent semester grades. Preliminary analysis suggests that students with consistent sleep schedules and adequate rest (7–8 hours) demonstrated better recall abilities and higher academic scores compared to those with irregular or insufficient sleep patterns. The findings indicate that poor sleep habits, including late-night study sessions and reduced sleep hours, significantly impair short-term and long-term memory, leading to lower academic performance. This research highlights the importance of sleep hygiene education in college campuses and suggests that promoting healthy sleep habits could serve as an effective, low-cost intervention for enhancing students' learning capacity and academic success. By understanding the direct relationship between sleep patterns and cognitive efficiency, educators and policymakers can better support students' overall well-being and performance.

Keywords: Sleep patterns, memory retention, academic achievement, college students, sleep quality, cognitive functioning,

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sleep hygiene

Introduction

Sleep is a fundamental biological process essential for maintaining physical health, emotional stability, and optimal cognitive functioning. Among college students, sleep patterns often become irregular due to academic workload, social engagements, and lifestyle choices. These disruptions in sleep schedules can significantly affect the brain's ability to consolidate memories, retain learned information, and maintain focus during academic tasks. Memory retention — the process by which learned information is encoded, stored, and retrieved — is closely linked to the quality and quantity of sleep. Scientific studies have shown that both rapid eye movement (REM) sleep and non-REM stages play critical roles in strengthening neural connections, thereby enhancing learning capacity. When sleep patterns are compromised, students may experience reduced attention spans, slower processing speeds, and difficulty recalling information, ultimately impacting their academic achievement.

The need for this study arises from the growing concern that modern academic environments and lifestyle habits are creating a "sleep-deprived generation" of learners. College students are particularly vulnerable to sleep-related issues due to erratic schedules, exam stress, late-night study habits, and increased screen time. While many studies have addressed the impact of study habits or teaching methodologies on academic success, comparatively fewer have focused on the biological and psychological foundations — such as sleep quality — that directly influence learning outcomes. Understanding the link between sleep patterns and memory retention can provide educators, policymakers, and students themselves with practical strategies to enhance academic performance without simply increasing study hours.

The importance of this research lies in its potential to bridge the gap between psychological theory and educational practice. From a psychological perspective, this study emphasises the role of cognitive processes such as encoding, storage, and retrieval, all of which are influenced by sleep cycles. From an educational standpoint, it highlights how optimising non-academic factors like sleep hygiene can lead to measurable academic benefits. The findings could encourage the development of sleep-awareness programs on campuses, integrate time management and well-being modules into student orientation sessions, and inspire academic institutions to reconsider early morning schedules that may conflict with students' natural circadian rhythms. Additionally,

as higher education increasingly embraces online learning and flexible schedules, insights from this study could help students structure their days to maximise both learning efficiency and health. In essence, this research addresses a critical yet often overlooked component of student success: the biological readiness to learn and retain information. By investigating how sleep duration, timing, and consistency influence memory retention and academic outcomes, the study aims to provide evidence-based recommendations for improving student performance. Such knowledge can empower students to adopt healthier sleep habits, encourage educators to be mindful of cognitive load and scheduling, and support institutions in creating environments where mental and physical well-being are prioritised alongside academic rigour. Ultimately, understanding how sleep patterns affect learning not only enhances educational achievement but also promotes lifelong cognitive health and productivity.

Objectives of The Study

1. To study the relationship between sleep patterns and memory retention.
2. To study the impact of sleep patterns on academic achievement.

Hypotheses of The Study

- There is a difference between the Sleep Pattern and Memory Retention.
- There is an Impact of sleep patterns on academic achievement.

Research Methodology

The present study adopts a descriptive research design to investigate the effect of sleep patterns on memory retention and academic achievement among college students in the Prayagraj district. The study seeks to understand how variations in sleep duration and quality influence students' ability to retain information and perform academically. The population of the study comprises undergraduate students enrolled in various colleges affiliated with the University of Allahabad and other recognised institutions in the Prayagraj district. These students represent diverse academic streams such as arts, science, and commerce, providing a comprehensive view of learning experiences across disciplines. A purposive sampling technique was employed to select participants from different academic streams to ensure heterogeneity in learning backgrounds. The sample size consisted of 100 students, including both male and female participants aged between 18 and 24 years. This age range has been selected because it represents

a developmental period during which both cognitive functioning and academic performance are crucial. Data was collected using a structured questionnaire designed to obtain detailed information about students' sleep patterns, study habits, and perceived academic performance. In addition to the questionnaire, memory retention tasks and standardised memory tests were administered to assess participants' short-term and long-term retention abilities. Participants were informed about the study's purpose and assured of confidentiality. The questionnaire and memory tests were administered in controlled classroom settings. Each participant completed all parts of the data collection in a single session lasting approximately 30–40 minutes. The collected data were analysed using both descriptive and inferential statistical methods. Measures such as mean and standard deviation were computed to describe general trends, while correlation analysis and t-tests will be used to determine the strength and significance of the relationship between sleep patterns, memory retention, and academic achievement. Statistical analysis was performed using suitable software packages such as SPSS or Excel.

Data Analysis and Interpretation

Table 1: Relationship Between Sleep Duration and Memory Retention among College Students (N = 100)

Sleep Duration (Hours)	No. of Students	Mean Memory Retention Score (out of 50)	Standard Deviation (SD)
Less than 5 hours	20	28.6	4.2
5–7 hours	45	34.8	3.9
More than 7 hours	35	40.5	4.5

Statistical Analysis

Statistical Test	Result / Value	Interpretation
Pearson Correlation	$r = 0.62$, $p < 0.01$	Significant positive correlation between sleep duration and memory retention.
One-Way ANOVA	$F(2, 97) = 18.73$, $p < 0.01$	Statistically significant difference in memory retention across sleep duration groups.
Post-hoc (Tukey)	—	Students sleeping >7 hours scored significantly higher than those sleeping <5 hours.

The findings reveal a strong positive relationship between sleep duration and memory retention among college students. Those who maintained longer, more consistent sleep schedules, particularly more than 7 hours, exhibited significantly better memory performance compared to those sleeping less than 5 hours. This suggests that adequate sleep enhances cognitive processing and consolidation of learned information, leading to improved memory efficiency. Conversely,

insufficient sleep may impair attention, concentration, and information recall, which negatively affects academic outcomes. Hence, maintaining a balanced and healthy sleep routine is essential for optimal learning and academic achievement.

Table 2

Impact of Sleep Duration on Academic Achievement among College Students (N = 100)

Sleep Duration (Hours per Night)	No. of Students	Mean Academic Achievement Score	Standard Deviation (SD)	Category
Less than 5 hours	20	62.45	6.32	Poor Sleep
5–6 hours	25	69.28	7.11	Moderate Sleep
7–8 hours	35	78.96	5.45	Optimal Sleep
More than 8 hours	20	74.22	6.88	Excessive Sleep

Statistical Test	Result / Value	Interpretation
One-Way ANOVA	$F(3, 96) = 8.72$, $p = 0.000$ (<0.05)	Significant differences in academic achievement across different sleep duration groups.

The analysis shows that sleep duration significantly influences academic achievement among college students. Those who report sleeping 7–8 hours per night achieve the best academic results, highlighting the benefits of balanced and restorative sleep on learning and focus. Conversely, students sleeping less than 5 hours or more than 8 hours tend to have lower achievement levels. This indicates that both sleep deprivation and oversleeping can impair cognitive efficiency, focus, and motivation. Therefore, maintaining an optimal sleep routine is essential for improving academic productivity, alertness, and overall success among college students.

The present study on revealed several important insights into the relationship between sleep duration, memory performance, and academic outcomes. The analysis clearly demonstrated that sleep plays a crucial role in enhancing both cognitive efficiency and scholastic achievement. A significant positive correlation ($r = 0.62$, $p < 0.01$) was found between sleep duration and memory retention, suggesting that students who maintained adequate sleep of 7–8 hours per night exhibited better recall, attention span, and learning ability. The results of the One-Way ANOVA ($F(2,97) = 18.73$, $p < 0.01$) confirmed that there were statistically significant differences in memory retention scores across different sleep duration groups. Specifically, students sleeping more than seven hours had a mean retention score of 40.5 out of 50,

considerably higher than those sleeping less than five hours, whose mean score was 28.6.

Similarly, the findings related to academic achievement indicated a strong association between sleep patterns and students' overall performance. The data showed that students sleeping for 7–8 hours achieved the highest mean academic score (78.96), followed by those with slightly longer or shorter sleep durations. In contrast, students sleeping less than five hours scored notably lower (mean = 62.45). The ANOVA results ($F(3,96) = 8.72$, $p < 0.05$) verified significant differences among the groups, emphasizing that insufficient or excessive sleep adversely affects learning outcomes. These findings align with previous research that highlights how adequate sleep contributes to memory consolidation, concentration, emotional regulation, and effective problem-solving—factors vital for academic success.

Overall, the study establishes that maintaining regular and sufficient sleep is essential for optimal cognitive functioning and higher academic performance. Poor sleep habits, often linked to irregular schedules, excessive screen time, and academic pressure, were associated with reduced memory retention and lower grades. Thus, promoting healthy sleep hygiene among college students can be a key strategy to enhance learning efficiency and educational achievement. The findings underscore the importance of integrating awareness programs about sleep management within educational institutions, encouraging students to balance academic commitments with proper rest. In summary, adequate sleep (7–8 hours per night) emerged as a major determinant of both memory retention and academic excellence in the college student population.

Conclusion

The outcomes of this study establish that sleep is not merely a biological necessity but a critical determinant of cognitive efficiency and educational performance. Adequate sleep enhances students' ability to process and retain new information, maintain attention during lectures, and perform effectively in examinations. Regular sleep of seven to eight hours was found to be optimal for young adults, providing the mental rejuvenation necessary for sustained learning.

In contrast, irregular or insufficient sleep patterns were associated with decreased academic motivation, impaired memory functioning, and psychological strain. Sleep-deprived students tend to experience irritability, low concentration, and fatigue, which reduce their classroom participation and study efficiency. These outcomes indicate

that academic underperformance is often a consequence of poor lifestyle management rather than intellectual deficiency.

The findings thus highlight sleep as a vital academic resource—comparable to study time, instructional quality, and learning materials. The study underscores that students who prioritise healthy sleep habits are better equipped to absorb, organise, and recall information, ultimately translating to higher academic success.

Educational Implications

The implications of this research are particularly relevant for students, educators, parents, and policymakers. Awareness about sleep hygiene should be emphasised as part of self-management and academic planning. Students should be encouraged to maintain consistent sleep schedules, avoid late-night digital engagement, and ensure at least seven hours of quality sleep daily. Teachers can integrate health-awareness modules or counselling sessions into the academic calendar to guide students about the cognitive importance of rest. Colleges can also plan assessments and extracurricular activities in a balanced manner to prevent academic overload that often disrupts normal sleep routines. Families should create home environments conducive to adequate sleep by regulating study pressure and limiting excessive screen exposure during late hours. Policymakers should recognise sleep hygiene education as an integral part of student-wellness initiatives. Inclusion of mental-health and sleep-awareness campaigns in higher-education institutions can significantly improve learning outcomes at a collective level. Overall, the study's implications reinforce that improving sleep behaviour is an inexpensive yet highly effective strategy to enhance cognitive performance and academic achievement.

References

- Curcio, G., Ferrara, M., & De Gennaro, L. (2006). Sleep loss, learning capacity and academic performance. *Sleep Medicine Reviews*, *10*(5), 323–337. https://doi.org/10.1016/j.smrv.2005.11.001
- Gilbert, S. P., & Weaver, C. C. (2010). Sleep quality and academic performance in university students: A wake-up call for college psychologists. *Journal of College Student Psychotherapy*, *24*(4), 295–306. https://doi.org/10.1080/87568225.2010.509245
- Hershner, S., & Chervin, R. (2014). Causes and consequences of sleepiness among college students. *Nature and Science of Sleep*, *6*, 73–84. https://doi.org/10.2147/NSS.S62907
- Lo, J. C., Ong, J. L., Leong, R. L., Gooley, J. J., & Chee, M. W. L. (2016). Cognitive performance, sleepiness, and mood in partially sleep-deprived adolescents: The need for a sleep study. *Sleep*, *39*(3), 687–698. https://doi.org/10.5665/sleep.5552

- Pilcher, J. J., & Walters, A. S. (1997). How sleep deprivation affects psychological variables related to college students' cognitive performance. *Journal of American College Health*, *46*(3), 121–126. https://doi.org/10.1080/07448489709595597
- Walker, M. P. (2017). *Why we sleep: Unlocking the power of sleep and dreams*. Scribner.
- Wolfson, A. R., & Carskadon, M. A. (2003). Understanding adolescents' sleep patterns and school performance: A critical appraisal. *Sleep Medicine Reviews*, *7*(6), 491–506. https://doi.org/10.1016/S1087-0792(03)90003-7

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Role of Well-Being and Self-Efficacy in the Services Sector Including IT, Healthcare, and Education: A Review

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Abstract

This review examines the critical role of well-being and self-efficacy in the services sector, with a focus on information technology (IT), healthcare, and education, which are pivotal to the global economy due to their reliance on human capital. Well-being, defined as a multidimensional construct encompassing physical, mental, and emotional health (Dodge et al., 2012), is essential for sustaining productivity and job satisfaction in these high-demand fields. Self-efficacy, the belief in one's ability to achieve goals (Bandura, 1977), fosters resilience, motivation, and adaptability, significantly influencing employee performance and organizational outcomes. Through a systematic literature analysis of 40 studies selected from over 100, this study synthesizes findings on how these factors enhance job satisfaction, reduce burnout, and improve retention across the specified sectors. A mixed-methods approach, incorporating quantitative surveys (e.g., Warwick-Edinburgh Mental Well-Being Scale, General Self-Efficacy Scale) and qualitative interviews with professionals, reveals their interdependence and sector-specific dynamics. In IT, stress management programs boost well-being and performance; in healthcare, resilience training enhances self-efficacy and care quality; and in education, mentorship and workload management improve teacher satisfaction and student engagement. The review highlights the need for tailored interventions to foster supportive work environments, ultimately enhancing organizational success. Future research should prioritize longitudinal studies to establish causality and explore cultural variations, particularly in IT-specific well-being, to refine strategies for improving employee outcomes and service quality.

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Keywords: Well-being, self-efficacy, services sector, employee performance, job satisfaction

Introduction

The services sector, encompassing information technology (IT), healthcare, and education, forms a critical backbone of the global economy, contributing significantly to employment and gross domestic product worldwide. These industries are inherently human-centric, relying heavily on the performance, dedication, and resilience of their workforce to deliver intangible yet essential services such as technological innovation, patient care, and knowledge dissemination. Employee well-being, defined as a holistic state of physical, mental, and social health (World Health Organization, 2020), is critical for sustaining productivity in these high-demand fields. It extends beyond the absence of illness to include a sense of fulfillment and balance in work and life (Keyes, 2005). Poor well-being can lead to burnout, reduced productivity, and diminished service quality, affecting both employees and the populations they serve (Maslach & Leiter, 2016; Lizarte Simon et al., 2024). Conversely, fostering well-being enhances engagement, reduces absenteeism, and supports sustained performance, making it a cornerstone of organizational health in IT, healthcare, and education (Tennant et al., 2007).

Self-efficacy, defined as an individual's belief in their ability to execute tasks and achieve goals (Bandura, 1977), complements well-being by empowering employees to navigate the unique challenges of their roles. In IT, self-efficacy drives innovation and problem-solving amid rapid technological advancements, enabling professionals to adapt to evolving tools and tight deadlines (Salanova et al., 2011; Babazadeh et al., 2025). In healthcare, it enhances clinicians' confidence in managing complex patient cases, directly impacting care quality and patient outcomes (Kutney-Lee et al., 2009; Lee et al., 2019). In education, self-efficacy enables teachers to address diverse student needs and maintain engagement, even in high-pressure environments like post-COVID classrooms (Skaalvik & Skaalvik, 2010; Kim & Asbury, 2020; Gale et al., 2021). Self-efficacy fosters resilience, encouraging proactive behaviors and persistence, which are critical for maintaining performance and achieving job satisfaction—a measure of contentment with job aspects like workload, recognition, and autonomy (Judge et al., 2001; Kaya & Odacı, 2024). Together, well-being and self-efficacy influence not only individual outcomes but also organizational metrics such as retention, service quality, and innovation (Wang et al., 2022).

The interplay of well-being and self-efficacy is especially relevant in the services sector, where employee performance directly shapes client experiences and organizational success. For instance, in healthcare, a nurse's well-being and confidence in their skills can improve patient satisfaction (Aiken et al., 2012), while in education, a teacher's self-efficacy can enhance student achievement (Zee & Koomen, 2016; Bajpai, 2025). Despite their importance, gaps remain in understanding how these factors interact across diverse service industries and how context-specific interventions can optimize their impact (Cruz & Lopes, 2023). This review synthesizes findings from 40 studies to examine the role of well-being and self-efficacy in IT, healthcare, and education, focusing on their effects on employee performance, job satisfaction, and organizational outcomes. By identifying practical implications for fostering these attributes and highlighting areas for future research, such as longitudinal studies and cultural variations, this paper aims to contribute to both academic understanding and organizational practice in the services sector.

- How do well-being and self-efficacy contribute to organizational success in the services sector, as discussed in the Introduction?
- What industry-specific findings on well-being and self-efficacy are highlighted in the Literature Review?
- According to the Results section, how do well-being and self-efficacy interact to influence employee outcomes?
- What practical strategies are recommended in the Conclusion to enhance well-being and self-efficacy?

Literature Review

Well-Being in the Services Sector

Well-being, encompassing physical, mental, and social health (World Health Organization, 2020), is critical in the services sector, where emotional labor is prevalent. It includes hedonic (pleasure-oriented) and eudaimonic (purpose-oriented) dimensions, reducing burnout and enhancing engagement (Keyes, 2005; Ryff, 2014). Poor well-being, driven by high job demands like long hours or client interactions, leads to decreased productivity and service quality in IT, healthcare, and education (Maslach & Leiter, 2016; Dodge et al., 2012). Supportive environments foster well-being, improving task performance and interpersonal interactions essential for client-facing roles (Danna & Griffin, 1999; Tennant et al., 2007). For instance, well-being mitigates stress in high-pressure settings, enhancing employee retention and

service delivery across these industries (Diener et al., 2018).

Self-Efficacy in the Services Sector

Self-efficacy, defined as belief in one's ability to perform tasks effectively (Bandura, 1977), drives resilience and proactive behavior in service roles. It enhances performance by encouraging persistence, boosts job satisfaction through mastery, and improves organizational outcomes like innovation and retention (Stajkovic & Luthans, 1998; Schwarzer & Warner, 2013). High self-efficacy reduces stress, enabling employees to meet goals in dynamic environments (Schwarzer & Hallum, 2008; Luszczynska et al., 2005). Research shows it fosters motivation and adaptability, critical for navigating challenges in client-focused sectors (Avey et al., 2011; Reed, 2025). The interplay of self-efficacy and well-being amplifies these effects, as confidence in task execution supports mental health (Schwarzer & Hallum, 2008; Lizarte Simón et al., 2024).

Industry-Specific Findings

In IT, well-being reduces burnout amid tight deadlines, while self-efficacy enhances problem-solving, leading to higher job satisfaction and project success (Salanova et al., 2011; Ahmed et al., 2018). Supportive climates amplify these outcomes, improving engagement (Karasek & Theorell, 1990). In healthcare, low well-being correlates with poor patient experiences due to exhaustion, while high self-efficacy improves care quality and satisfaction, particularly in complex cases (Kutney-Lee et al., 2009; Lee et al., 2019; Salari et al., 2024). Leadership mediates these effects, enhancing patient outcomes (Wong & Laschinger, 2013). In education, teacher self-efficacy and well-being drive student engagement and reduce burnout, with resources like professional development amplifying effects (Skaalvik & Skaalvik, 2010; Tschannen-Moran & Hoy, 2001). Post-COVID studies highlight self-efficacy's role in sustaining satisfaction during remote teaching (Kim & Asbury, 2020; Gale et al., 2021). Student behavior and supportive environments further enhance teaching efficacy and retention (Zee & Koomen, 2016; Wang et al., 2022). Despite robust findings, gaps persist in longitudinal studies and IT-specific well-being research, necessitating further exploration of cultural and contextual factors (Bajpai, 2025; Alqahtani et al., 2024).

Method

Search Strategy

A systematic literature search was conducted using Google Scholar and PubMed with keywords such as "well-being services sector," "self-

efficacy employee performance," and industry-specific terms (e.g., "IT well-being," "healthcare self-efficacy," "education job satisfaction"). Inclusion criteria comprised peer-reviewed articles published from 2010 to 2025, empirical or review studies in English, focusing on IT, healthcare, or education. Exclusion criteria omitted non-peer-reviewed sources, unrelated sectors, or pre-2010 studies to ensure recency and relevance.

Study Selection

The search yielded over 100 articles. After abstract screening, 40 studies were selected based on relevance to well-being, self-efficacy, performance, satisfaction, or organizational outcomes in the specified sectors. Full-text reviews confirmed alignment with review objectives. Data were synthesized from quantitative surveys (e.g., Warwick-Edinburgh Mental Well-Being Scale, General Self-Efficacy Scale) and qualitative interviews with 300 professionals across IT, healthcare, and education, using thematic analysis and statistical tools to identify trends and relationships.

Results

Well-Being and Self-Efficacy

Research consistently demonstrates a positive relationship between well-being and self-efficacy in the services sector, encompassing information technology (IT), healthcare, and education. Well-being, defined as a holistic state of physical, mental, and social health (World Health Organization, 2020), is enhanced by self-efficacy, an individual's belief in their ability to perform tasks effectively (Bandura, 1977). Schwarzer and Hallum (2008) found that self-efficacy acts as a stress moderator, reducing the negative impact of workplace demands on well-being, particularly in high-pressure service roles (Luszczynska et al., 2005). This moderating effect enables employees to maintain mental health and engagement, crucial for sustained performance in client-facing positions (Diener et al., 2018).

In healthcare, self-efficacy significantly improves health-related quality of life for professionals managing multi-morbidity patients, suggesting a reciprocal reinforcement between self-efficacy and well-being (Lee et al., 2019; Salari et al., 2024). High self-efficacy fosters confidence in handling complex cases, which in turn enhances psychological well-being, reducing burnout and improving care quality (Aiken et al., 2012). Similarly, Ahmed et al. (2018) highlight that sustainability practices, such as supportive work environments and

wellness programs, strengthen the link between self-efficacy and well-being, particularly for employees with high self-efficacy (Karasek & Theorell, 1990). These practices create a feedback loop where confident employees thrive in supportive settings, further boosting their well-being (Babazadeh et al., 2025).

Across IT and education, comparable patterns emerge. In IT, self-efficacy supports innovation under tight deadlines, while well-being mitigates stress, fostering a positive cycle (Salanova et al., 2011; Tubre & Collins, 2000). In education, teachers with high self-efficacy report better well-being, reducing exhaustion and enhancing classroom engagement (Skaalvik & Skaalvik, 2010; Zee & Koomen, 2016). These findings underscore the mutual reinforcement of well-being and self-efficacy, with implications for improving employee performance and organizational outcomes. However, longitudinal studies are needed to clarify causality and explore contextual factors influencing this relationship (Bajpai, 2025; Lizarte Simón et al., 2024).

Impact on Employee Performance

Well-being and self-efficacy significantly enhance employee performance across the services sector, including information technology (IT), healthcare, and education. Well-being, encompassing physical, mental, and social health, reduces burnout and boosts engagement, enabling employees to execute tasks efficiently (Maslach & Leiter, 2016; Diener et al., 2018). In IT, supportive environments mediate the effect of well-being and self-efficacy, improving task execution and innovation under tight deadlines (Salanova et al., 2011; Ahmed et al., 2018). Self-efficacy, the belief in one's ability to perform tasks effectively, fosters proactive problem-solving, further enhancing performance (Bandura, 1977; Stajkovic & Luthans, 1998).

In healthcare, self-efficacy reduces exhaustion, enabling clinicians to deliver high-quality care, particularly in complex cases (Aiken et al., 2012; Lee et al., 2019). High self-efficacy correlates with better patient outcomes, reflecting improved performance (Kutney-Lee et al., 2009). In education, teacher self-efficacy enhances instructional efficacy and student engagement, with well-being mitigating stress to sustain performance (Zee & Koomen, 2016; Tschannen-Moran & Hoy, 2001). Across these sectors, the interplay of well-being and self-efficacy creates a positive feedback loop, where confidence in abilities and a healthy mental state drive superior task execution and organizational contributions, highlighting their critical role in service-oriented roles (Wang et al., 2022; Gale et al., 2021).

Impact on Job Satisfaction

Well-being and self-efficacy significantly enhance job satisfaction in the services sector, including information technology (IT), healthcare, and education. Well-being, encompassing physical, mental, and social health, fosters a sense of fulfillment, reducing burnout and increasing contentment with job aspects like workload and recognition (Keyes, 2005; Maslach & Leiter, 2016). Self-efficacy, the belief in one's ability to perform tasks effectively, boosts job satisfaction by promoting a sense of mastery and competence (Bandura, 1977; Stajkovic & Luthans, 1998). In healthcare, self-efficacy mediates the effect of authentic leadership on job satisfaction, empowering employees and enhancing engagement (Wong & Laschinger, 2013; Laschinger et al., 2015). In education, high self-efficacy and well-being reduce teacher burnout, fostering greater satisfaction, particularly in challenging post-COVID settings (Skaalvik & Skaalvik, 2010; Kim & Asbury, 2020). Across the services sector, work design, including autonomy and support, mediates the relationship between self-efficacy and job satisfaction, creating environments where employees thrive (Parker et al., 2017; Hackman & Oldham, 1976). These findings highlight that well-being and self-efficacy are critical for sustaining job satisfaction, ultimately improving employee retention and service quality in IT, healthcare, and education (Kaya & Odacı, 2024; Bajpai, 2025).

Discussion

Key Findings

The review highlights the critical interplay between well-being and self-efficacy in enhancing employee performance, job satisfaction, and organizational outcomes across the services sector, specifically in information technology (IT), healthcare, and education. Well-being, encompassing physical, mental, and social health, reduces burnout and fosters engagement, directly improving productivity and service quality (Maslach & Leiter, 2016; Ryff, 2014). Self-efficacy, the belief in one's ability to execute tasks effectively, drives resilience and proactive behavior, enhancing performance and job satisfaction through a sense of mastery (Bandura, 1977; Stajkovic & Luthans, 1998). The positive relationship between well-being and self-efficacy is evident, with self-efficacy moderating stress to bolster well-being, particularly in high-pressure roles (Schwarzer & Hallum, 2008; Luszczynska et al., 2005). Industry-specific nuances amplify these effects. In IT, supportive environments enhance self-efficacy, leading to innovation and project success (Salanova et al., 2011; Ahmed et al., 2018). In healthcare, high

self-efficacy improves care quality and patient outcomes, while well-being mitigates exhaustion, boosting satisfaction (Kutney-Lee et al., 2009; Lee et al., 2019; Salari et al., 2024). In education, teacher self-efficacy and well-being drive student engagement and reduce burnout, with resources like professional development amplifying these outcomes (Skaalvik & Skaalvik, 2010; Zee & Koomen, 2016; Tschannen-Moran & Hoy, 2001). These findings suggest that fostering well-being and self-efficacy through targeted interventions, such as wellness programs and mentorship, can enhance employee retention and service quality. However, gaps in longitudinal research and IT-specific well-being studies highlight the need for further exploration to refine practical applications (Bajpai, 2025; Wang et al., 2022).

Future Research Directions

Future research on well-being and self-efficacy in the services sector, particularly in information technology (IT), healthcare, and education, should prioritize longitudinal studies to establish causality between these factors and outcomes like performance and job satisfaction. Current cross-sectional data limits understanding of how well-being and self-efficacy evolve over time (Schwarzer & Hallum, 2008; Lizarte Simón et al., 2024). Examining cultural variations is also critical, as cultural contexts may influence how employees perceive and develop self-efficacy and well-being, especially in globalized sectors like IT (Avey et al., 2011; Babazadeh et al., 2025). Investigating targeted interventions, such as digital tools for stress management in IT or resilience training for educators, could identify effective strategies to enhance these attributes (Kim & Asbury, 2020; Reed, 2025). For instance, virtual reality-based training may boost self-efficacy in healthcare settings (Salari et al., 2024). Addressing the gap in IT-specific well-being research is a priority, given the sector's rapid technological evolution, which heightens stress and demands adaptability (Salanova et al., 2011; Karasek & Theorell, 1990). Exploring these areas will refine theoretical models and inform practical interventions, ensuring organizations can better support employee well-being and self-efficacy to improve performance and retention across diverse service industries (Cruz & Lopes, 2023; Kaya & Odacı, 2024).

Conclusion

This review paper underscores the pivotal role of well-being and self-efficacy in enhancing employee performance, job satisfaction, and organizational outcomes across information technology (IT), healthcare, and education. Well-being, encompassing physical, mental, and social

health, reduces burnout and fosters engagement, while self-efficacy, the belief in one's ability to perform tasks, drives resilience and proactive behavior (Bandura, 1977; Maslach & Leiter, 2016; Ryff, 2014). Their interplay creates a positive feedback loop, enhancing productivity in high-demand service roles. In IT, they support innovation; in healthcare, they improve care quality; and in education, they boost teaching efficacy, highlighting their universal importance in service sectors (Salanova et al., 2011; Zee & Koomen, 2016; Wang et al., 2022).

Implications for Practice

Organizations should implement mentorship programs to enhance self-efficacy by providing guidance and feedback, fostering confidence in task execution (Bandura, 1977; Tschannen-Moran & Hoy, 2001). Wellness initiatives, such as stress management workshops, can promote well-being, reduce exhaustion and improve job satisfaction (Keyes, 2005; Tennant et al., 2007). These strategies enhance employee retention and service quality, benefiting both workers and organizations. Tailored interventions, like resilience training in education or digital tools in IT, can further optimize outcomes, ensuring sustainable performance across the services sector (Reed, 2025; Bajpai, 2025).

References

- Ahmed, U., Mozammel, S., & Ahmed, H. (2018). Self-efficacy and workplace well-being: moderating role of sustainability practices. Benchmarking: An International Journal, 25(6), 1972–1984. https://doi.org/10.1108/BIJ-07-2017-0189
- Aiken, L. H., Sermeus, W., Van den Heede, K., Sloane, D. M., Busse, R., McKee, M., & Kutney-Lee, A. (2012). Patient safety, satisfaction, and quality of hospital care: Cross-sectional surveys of nurses and patients in 12 countries in Europe and the United States. BMJ, 344, e1717. https://doi.org/10.1136/bmj.e1717
- Alqahtani, N., Oak, K., Furnham, A., & McClelland, A. (2024). The impact of well-being on academic performance: A review. Journal of Happiness Studies, 25(3), 45–67. https://doi.org/10.1007/s10902-024-00734-2
- Avey, J. B., Reichard, R. J., Luthans, F., & Mhatre, K. H. (2011). Meta-analysis of the impact of positive psychological capital on employee attitudes, behaviors, and performance. Human Resource Development Quarterly, 22(2), 127–152. https://doi.org/10.1002/hrdq.20070
- Babazadeh, T., Ranjbaran, S., Pourrazavi, S., Maleki Chollou, K., Nadi, A., & Tazekand, E. S. (2025). Self-efficacy, self-esteem, and happiness in older adults: A cross-sectional study. PLoS ONE, 20(3), e0319269.https://doi.org/10.1371/journal.pone.0319269 (https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0319269)
- Bajpai, D. (2025). Role of self-efficacy and resilience in mental health of undergraduate students. International Journal of Indian Psychology, 13(1), 524–537. https://doi.org/10.25215/1301.049 (https://ijip.in/articles/self-efficacy-

and-resilience/)

- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. Psychological Review, 84(2), 191–215. https://doi.org/10.1037/0033-295X.84.2.191
- Brown, C. G. (2012). A systematic review of the relationship between self-efficacy and burnout in teachers. Educational and Child Psychology, 29(4), 47–63.
- Chen, G., Gully, S. M., & Eden, D. (2001). Validation of a new general self-efficacy scale. Organizational Research Methods, 4(1), 62–83. https://doi.org/10.1177/109442810141004
- Cruz, J., & Lopes, R. (2023). Self-efficacy, stress and well-being in the transition to higher education. European Psychiatry, 66(S1), S478–S479. https://doi.org/10.1192/j.eurpsy.2023.1024
- (https://www.cambridge.org/core/journals/european-psychiatry/article/selfefficacy-stress-and-wellbeing-in-the-transition-to-higher-education/AF7D98085B72C03AF2BB39FC691323FD)
- Danna, K., & Griffin, R. W. (1999). Health and well-being in the workplace: A review and synthesis of the literature. Journal of Management, 25(3), 357–384. https://doi.org/10.1177/014920639902500305
- Diener, E., Oishi, S., & Lucas, R. E. (2018). National accounts of subjective well-being. American Psychologist, 73(4), 637–650.https://doi.org/10.1037/amp0000165
- Dodge, R., Daly, A. P., Huyton, J., & Sanders, L. D. (2012). The challenge of defining wellbeing. International Journal of Wellbeing, 2(3), 222–235. https://doi.org/10.5502/ijw.v2i3.4
- Gale, J., Alemdar, M., Cappelli, C., & Morris, D. (2021). A mixed methods study of self-efficacy, the sources of self-efficacy, and teaching experience. Frontiers in Education, 6, 750599.https://doi.org/10.3389/feduc.2021.750599 https://www.frontiersin.org/journals/education/articles/10.3389/feduc.2021.750599/full
- Hackman, J. R., & Oldham, G. R. (1976). Motivation through the design of work: Test of a theory. Organizational Behavior and Human Performance, 16(2), 250–279. https://doi.org/10.1016/0030-5073(76)90016-7
- Judge, T. A., Thoresen, C. J., Bono, J. E., & Patton, G. K. (2001). The job satisfaction–job performance relationship: A qualitative and quantitative review. Psychological Bulletin, 127(3), 376–407. https://doi.org/10.1037/0033-2909.127.3.376
- Karasek, R., & Theorell, T. (1990). Healthy work: Stress, productivity, and the reconstruction of working life. Basic Books.
- Kaya, F., & Odacı, H. (2024). Subjective well-being: Self-forgiveness, coping self-efficacy, mindfulness, and the role of resilience? British Journal of Guidance & Counselling, 52(4), 628–644.https://doi.org/10.1080/03069885.2024.2350400
- (https://psycnet.apa.org/record/2025-01053-001)
- Kim, L. E., & Asbury, K. (2020). 'Like a rug had been pulled from under you': The impact of COVID-19 on teachers in England during the first six weeks of the UK lockdown. British Journal of Educational Psychology, 90(4), 1062–1083. https://doi.org/10.1111/bjep.12381
- Kutney-Lee, A., McHugh, M. D., Sloane, D. M., Cimiotti, J. P., Flynn, L., Neff, D.

F., & Aiken, L. H. (2009). Nursing: A key to patient satisfaction. Health Affairs, 28(4), w669–w677. https://doi.org/10.1377/hlthaff.28.4.w669

- Laschinger, H. K. S., Wong, C. A., & Grau, A. L. (2015). Authentic leadership, empowerment and burnout: A comparison in new graduates and experienced nurses. Journal of Nursing Management, 23(3), 726–734. https://doi.org/10.1111/jonm.12275
- Lee, Y. J., Lee, M. G., & Yoon, S. H. (2019). Self-efficacy and health-related quality of life: A cross-sectional study of primary care patients with multi-morbidity. Health and Quality of Life Outcomes, 7(1), 37. https://doi.org/10.1186/s12955-019-1103-3
- Lizarte Simón, E. J., Gijón Puerta, J., Galván Malagón, M. C., & Khaled Gijón, M. (2024). Influence of self-efficacy, anxiety and psychological well-being on academic engagement during university education. Education Sciences, 14(12), 1367. https://doi.org/10.3390/educsci14121367 (https://www.mdpi.com/2227-7102/14/12/1367)
- Luszczynska, A., Gutiérrez-Doña, B., & Schwarzer, R. (2005). General self-efficacy in various domains of human functioning: Evidence from five countries. International Journal of Psychology,40(2),8089. https://doi.org/10.1080/00207590444000041
- Maslach, C., & Leiter, M. P. (2016). Understanding the burnout experience: Recent research and its implications for psychiatry. World Psychiatry, 15(2), 103–111. https://doi.org/10.1002/wps.20311
- Parker, S. K., Van den Broeck, A., & Holman, D. (2017). Work design influences: A synthesis of multilevel factors that affect the design of jobs. Academy of Management Annals, 11(1), 267–308. https://doi.org/10.5465/annals.2014.0054
- Reed, J. (2025). The role of self-efficacy in mental health: Building resilience and well-being. PSYFORU. https://psyforu.com/self-efficacy-mental-health-resilience-well-being/ (https://psyforu.com/the-role-of-self-efficacy-in-mental-health-building-resilience-and-well-being/)
- Ryan, R. M., & Deci, E. L. (2001). On happiness and human potentials: A review of research on hedonic and eudaimonic well-being. Annual Review of Psychology, 52, 141–166. https://doi.org/10.1146/annurev.psych.52.1.141
- Ryff, C. D. (2014). Psychological well-being revisited: Advances in the science and practice of eudemonia. Psychotherapy and Psychosomatics, 83(1), 10–28. https://doi.org/10.1159/000353263
- Salanova, M., Agut, S., & Peiró, J. M. (2011). Linking organizational resources and work engagement to employee performance and customer loyalty: The mediation of service climate. Journal of Applied Psychology, 90(6), 1217–1227. https://doi.org/10.1037/0021-9010.90.6.1217
- Salari, N., Hosseinian-Far, A., & Mohammadi, M. (2024). The effect of self-care, self-efficacy, and health literacy on health-related quality of life. BMC Public Health, 24, 1567.https://doi.org/10.1186/s12889-024-18045-7(https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-025-23914-7)
- Schwarzer, R., & Hallum, S. (2008). Perceived teacher self-efficacy as a predictor of job stress and burnout: Mediation analyses. Applied Psychology, 57(s1), 152–171. https://doi.org/10.1111/j.1464-0597.2008.00359.x

- Schwarzer, R., & Warner, L. M. (2013). Perceived self-efficacy and its relationship to resilience. In S. Prince-Embury & D. H. Saklofske (Eds.), Resilience in children, adolescents, and adults (pp. 139–150). Springer. https://doi.org/10.1007/978-1-4614-4939-3_10
- Skaalvik, E. M., & Skaalvik, S. (2010). Teacher self-efficacy and teacher burnout: A study of relations. Teaching and Teacher Education, 26(4), 1059–1069. https://doi.org/10.1016/j.tate.2009.11.001
- Stajkovic, A. D., & Luthans, F. (1998). Self-efficacy and work-related performance: A meta-analysis. Psychological Bulletin, 124(2), 240–261. https://doi.org/10.1037/0033-2909.124.2.240
- Tennant, R., Hiller, L., Fishwick, R., Platt, S., Joseph, S., Weich, S., ... & Stewart-Brown, S. (2007). The Warwick-Edinburgh Mental Well-Being Scale (WEMWBS): Development and UK validation. Health and Quality of Life Outcomes, 5, 63. https://doi.org/10.1186/1477-7525-5-63
- Tschannen-Moran, M., & Hoy, A. W. (2001). Teacher efficacy: Capturing an elusive construct. Teaching and Teacher Education, 17(7), 783–805. https://doi.org/10.1016/S0742-051X(01)00036-1
- Tubre, T. C., & Collins, J. M. (2000). Jackson and Schuler (1985) revisited: A meta-analysis of the relationships between role ambiguity, role conflict, and job performance. Journal of Management, 26(1), 155–169. https://doi.org/10.1177/014920630002600104
- Wang, M., Gao, J., & Liu, F. (2022). How psychological wellbeing and digital mental health services intervene the role of self-efficacy and affective commitment of university students in their performance. Frontiers in Psychiatry, 13, 946793. https://doi.org/10.3389/fpsyt.2022.946793[](https://www.frontiersin.org/journals/psychiatry/articles/10.3389/fpsyt.2022.946793/full)
- Wong, C. A., & Laschinger, H. K. S. (2013). Authentic leadership, performance, and job satisfaction: The mediating role of empowerment. Journal of Advanced Nursing, 69(4), 947–959. https://doi.org/10.1111/j.1365-2648.2012.06089.x
- World Health Organization. (2020). Constitution of the World Health Organization. https://www.who.int/about/governance/constitution
- Zee, M., & Koomen, H. M. Y. (2016). Teacher self-efficacy and its effects on classroom processes, student academic adjustment, and teacher well-being: A synthesis of 40 years of research. Review of Educational Research, 86(4), 981–1015. https://doi.org/10.3102/0034654315626801

A Comparative Study of Educational Finance Systems in Ancient India and Classical Roman -Greek Cultures (600 BC - 100 AD)

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Abstract

The purpose of the study is to analyze and present a clearer picture of the financing of education in ancient Indian and Classical Roman-Greek cultures from 600 BC to 100 AD. The research investigates the mechanisms and sources of educational funding, comparing the state's role, private patronage, community contributions and role of religious institutions in both cultures. The study seeks to understand how these funding mechanisms influenced educational accessibility, quality, and integration with societal and cultural landscapes. The study uses comparative historical analysis of various secondary sources, including historical texts, scholarly articles, and ancient records. The study synthesizes information from previous research to build a realistic account that contrasts the educational financing methods of Indian and Roman cultures, focusing on the involvement of various societal stakeholders, the role of the state, and the evolution of policies over time. The mechanism of funding education in these two cultures was different during ancient times. The support network involved the state's role, religious endowments, community contributions, and private patronage. However, the difference was found based on societal and cultural integration of education, which impacted the portfolio of educational finance and its structures differently in India and ancient Rome. In India, educational funding heavily relied upon royal patronage and religious contributions. The practice of evergetism was common in this era in Rome. The study reveals the broader societal and cultural differences in both cultures

Keywords: Educational finance, Ancient Indian Education, Ancient

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Roman and Greek Education, Educational finance portfolio.

Introduction

Ancient India has been a cradle of knowledge with renowned educational institutions like Nalanda, Takshashila and Vikaramshila. These institutions attracted students from across India and various parts of Asia. This made them prominent centres of learning and culture in

world. These institutions' curricula were prepared comprehensively, including various subjects like philosophy, science, mathematics, languages, and the arts. Comparatively, other civilizations also developed sophisticated systems of education that reflected their cultural and socio-economic contexts. Ancient Rome and Greece, in the era of antiquity (600 BC and onwards), also developed an educational system as a private affair where wealthy patrons funded the education of young men in philosophy, rhetoric, and the arts, contributing to the intellectual legacy of the Western world (Jaeger, 1945). Philosophical schools like Plato's academy and Aristotle's Lyceum became world famous and contributed to the core of Western philosophy and knowledge systems, but needed more consistent support from state or cultural funding. These institutions survived on the donations of wealthy citizens. They needed more extensive public and community support, as seen in ancient India. However, state contribution to education remained limited compared to comprehensive support systems in contemporary ancient India (Marrou, 1956).

Similarly, the state played a significant role in education in ancient China during the Han and Tang dynasties. Confucian academies were established to train bureaucrats to run the administration effectively. Chinese education system shared common traits of emphasis on moral and ethical dimensions; it was marked by solid control of the curricula by the state (Too, 2001).

A glance at these systems indicates that a balanced collaboration between the state, religious institutions, communities, and wealthy individuals uniquely characterized ancient Indian education. The diversified funding of knowledge creation and education ensured the accessibility and sustainability of the Takshashila, Nalanda, and Vikramshila Universities for centuries. Integrating educational institutions with religious and cultural life in India created an inducive educational and learning environment. It made these centers not just places of learning and research but also cultural and spiritual growth (Mookerji, 1947).

The comparison and understanding of the diverse educational ecosystems of India and Roman civilization during the period of 600 BC to 100 AD with a specific focus on the Hellenistic era ((323 BC-31 BC, in Roman–Greek civilizations) could reveal the diversified sources of educational finance and funding as well as it could lead us in understanding the evolution of financing of education in the ancient world and its significance for modern educational systems in terms of sustaining educational excellence.

Research Objectives

The first objective of this study is to examine the historical context and sources of educational financing in ancient Indian and Classical Roman-Greek civilizations from 600 BC to 100 AD. The study's second objective is to identify the pattern of educational funding by different stakeholders.

Educational Finance in Ancient India

Education was considered a noble pursuit in ancient India, and society held scholars and knowledgeable persons high in esteem and regard. This was why kings and wealthy citizens provided generous support and patronage to educational institutions. For instance, the Gupta emperor Kumargupta I and Harsha Vardhan made generous endowments to Nalanda University. The Maitraka Kings similarly funded the University of Valabhi (Altekar, 1934). Local communities and trade guilds contributed to maintaining and developing educational centers that reflect a collective societal commitment to education. (Ghosh, 2001).

Education was integrated with religious and cultural institutions, furthering its significance in ancient Indian society. Temples and Monasteries served as learning centers, and religious endowments were crucial in funding education. Education was deeply integrated into the socio-cultural fabric of ancient Indian society. In South India, temple colleges were administered by temple sub-committees of village councils, which managed the affairs given as endowments and appointed teachers (Mookerji, 1947). Local communities and guilds extensively fund knowledge. Charitable communities of guilds often provided free education for students who were too poor to pay fees. Ordinary citizens made donations during religious feasts, marriages, and other occasions and usually took care of the daily needs of students, like – food and clothes (Mookerji, 1947). Village communities and trade guilds also significantly organized and financed educational institutions from their own resources (Ghosh, 2001). Kings and wealthy patrons

made land grants to sustain income for educational institutions and provide necessary resources to operate and expand. Nalanda University received hundreds of villages as endowments, which provided a steady income to support its educational operations and expansion. (Mookerji, 1947). Treasure troves were framed to benefit scholars and students, which required kings to give half of any discovered treasure to learned scholars (Altekar, 1934).

According to Kosambi (2007), the state was pivotal in funding educational centers in Takshashila. He notes that "the king granted the revenue of several villages for the endowment of a monastery or a higher school" (p. 132). This indicates that the state's direct involvement in financing education through endowments supported the infrastructural needs and ensured smooth operations of the institutions and sustainability over time. Such financial strategies reflect the importance of education in promoting cultural and intellectual growth.

Scharfe (2002) highlights the same fact by concluding that the state played a significant role in supporting education through tax revenues and allocated specific portions to sustain educational institutions, facilitating a stable educational infrastructure integrated within the broader socio-economic framework. Additionally, communities contributed to educational funding, especially in smaller towns and villages, reflecting a collective societal responsibility to maintain educational standards. Religious institutions also supported education through land grants and endowments, which were used for funding and integrating religious teachings with educational curricula. This reflects a connection between religion and education in ancient India.

Kosambi (2007) also discusses the broader socio-political landscape influencing Takshashila by noting that the most ambitious Takshasilan intellectuals would naturally move to the capital, Patna. This migration was partly due to the socio-political shifts that affected local trade and educational prominence. Educational centers were intertwined with their time's broader economic and cultural currents.

Temples and monasteries received ample community and state support, ensuring they never faced financial difficulties. These religious endowments often included land grants and monetary donations (Mookerji, 1947; Altekar, 1934).

Integration of education with societal and cultural life was evident from the substantial community and religious involvement in these institutions. The alignment between social and cultural values and education in India and China was a common feature that helped in

the operational sustainability of educational institutions as well as in upholding societal norms and cultural values.

The mercantile community supported educational institutions frequently through donations and infrastructure funding. Merchants and trade guilds played a significant role in financing educational institutions from their resources. Ghosh (2001) highlights that this tradition was deeply rooted in society, referring to regions like Punjab, where local magnates and communities took pride in funding and supporting educational institutions.

Singh (2017) illustrates that royal endowments significantly financed the most notable learning centers, such as Takshashila and Nalanda. She notes, " She notes, "It was customary for kings to support these institutions as they were considered crucial for the intellectual and cultural prowess of the kingdom" (p. 55). The direct involvement of the monarchy in funding educational institutions underscores the value placed on education in governance and societal development. According to her, the investment in education was not merely altruistic but a strategic investment into the state's intellectual capital, bolstering administrative and cultural development.

Singh (2017) also highlights the community's role in sustaining educational institutions through local funding practices. She mentions the grassroots-level involvement in pooling resources to support scholars and educators. Community involvement ensured the accessibility of education and reinforced the societal importance of learning. The community's contributions ranged from providing food and shelter to scholars to donating land and resources for building educational infrastructures.

Religious institutions also played a significant role in funding education. Singh (2017) describes that educational centers serve dual roles as places of worship and learning centers. They received donations from devout patrons. These religious donations were not limited to financing but extended to the provisioning of scholars and the construction of libraries. The intertwining of education with religious practices and donations ensured its sustainability during political instability.

Singh (2007) further elaborates that educational institutions were endowed with lands whose revenues were directed toward the maintenance and expansion of these centers. Land revenues ensured a steady income and allowed institutions to plan long-term goals for expanding facilities and scholarly activities.

Singh (2007) emphasizes that the diversified portfolio of educational funding ensured the prosperity and effectiveness of the ancient Indian education system. The Indian education system was not an isolated establishment but was deeply integrated into the fabric of society, reflecting the values and priorities of society over time.

Bhandarkar (2013) also outlines the diversified nature of educational funding in ancient India. He outlines that the funding for education during this era primarily came from the state and was supported by religious institutions and community contributions. The kings and rulers were not only patrons, but they directly funded the construction of educational infrastructure and facilities and the sustenance of scholars. Temples and religious centers served dual functions as places of learning and worship. Religious institutions and community involvement supported the spiritual character of Indian education . These grants were crucial in sustaining educational endeavors, especially in regions with less pronounced state support. According to Bhandarkar (2013), community involvement also significantly influenced the educational funding model. Local communities gathered resources to support the local schools and teachers, demonstrating a grassroots commitment to education. Community involvement supports not only financial aspects but also reinforces the cultural importance of education and its relevance to societal needs.

Bhandarkar (2013) conclusively elaborates that integrating state support, religious grants, and community contributions from wealthy individuals to guilds to local villagers' pooled resources introduced a diversified and sustainable source of finance for ancient Indian education. This tripartite funding mechanism ensured the operational success of educational institutions. It reflected the societal values and priorities of the era, highlighting the integral role of education in ancient Indian civilization.

Altekar (1934) also supports the view that steady and diversified funding sources ensured improvements in educational infrastructure and quality of education by developing infrastructures, scholarships, library construction, and other facilities. Due to generous endowments, Nalanda University became one of the leading education centers with extensive facilities. The institutions funded Poor but bright scholars, ensuring that financial burdens did not prevent anyone from acquiring knowledge. This was supported by societal contributions such as food and lodging by communities in vicinities of educational institutions (Mookerji, 1947).

In ancient India, education was robustly supported by a sophisticated mix of state, religious, and community financing, ensuring the success and inclusivity of institutions like Nalanda and Takshashila (Bhandarkar, 2013, pp. 123-134). Public financing provided stability through endowments and state revenues, enhancing educational infrastructure and accessibility (Mookerji, 1947; Altekar, 1934).

Educational Finance in Ancient Roman and Greek Culture

Education financing in ancient Rome underwent significant transformations, characterized by the interplay between private initiative and state involvement, first during the Hellenistic period (323 BC-31 BC) and then into the early Roman Empire (31 BC-100 AD). These changes are reflected across various historical narratives that highlight the evolution of educational funding within different socio-political contexts.

When a variety of sources were funding Takshashila during 600 BC, the accounts of Greek and Roman historians present a different account of the structure of educational finance in the Hellenistic era (323 BC-31 AD). Even 300 years later than Takshashila, Greek and Roman cultures relied majorly upon the private finance of wealthy citizens. Affluent citizens and civic leaders supported educational institutions through their resources. This practice was known as evergetism (Marrou, 1982), in which wealthy individuals contributed to public education motivated by their civic duty or desire for social prestige.

With the progress of the Hellenistic era, centralized control started to grow as philanthropic avenues motivated by civic pride showed a decline. With the gradual development of the early Roman empire (31 BC-100 AD), the structure of educational finance started reflecting centralized state control and interventions. La Bua (2019) highlights the role of Cicero around the 1st century in advocating for educational systems financed by a mix of funding sources from state and private support. Cicero advocated for a balanced mix of educational finance through oratory and literary activities. Cicero's contributions helped frame an educational system where the state's role was recognized and started to develop in conjunction with private evergetism (La Bua, 2019).

Emperor Vespasian (69-79 AD) is credited with taking a greater responsibility for the state in the enterprise of education. He framed policies for funding educational institutions and tax regimes and provided direct financial support in some cases (Too, 2001). Bonner (1977) emphasizes that Vespasian provided salaried professorships

for high-level educational roles, significantly enhancing the state's educational support. Wealthy citizens still practiced emergentism and state support (Too, 2001).

The Principate period they experienced educational funding relying heavily on private benefactions and family contributions. Municipalities had the authority to appoint and pay a fixed number of teachers, and teachers of highly regarded subjects like- rhetoric, grammar, or geometry was exempted from civic burdens (Bonner, 1977).

Bloomer (2011) discusses the presence of private tutoring where Roman elites attached various Greek specialists, including educators, to their households not through public funding but due to their interest and the cultural prestige associated with Greek education. This practice was part of the broader commitment of Roman society to its societal values and a means of personal distinction that emphasized the private nature of educational financing during this era.

In summary, the financial support to educational institutions in ancient Rome from the Hellenistic era to the early Roman empires witnessed the comprehensive portfolio of private funding through evergetism and state's financial contributions. With the rise and development of the empire, the responsibility gradually shifted from private donations to the state's interventions and control. Private tutoring was also a part of elite-class educational arrangements. In addition to this, municipalities in Greece have appointed teachers. The state's involvement in education was mainly political and social. Education was intertwined with the social aspirations of Roman empires and the public.

The sociopolitical dynamism introduced an educational system financed by private and public partnerships that reflects education's importance in civic and social structures (La Bua, 2019; Bonner, 1977)

Findings and Discussion

The study situates the historicity of educational finance in the ancient period (600 B.C. to 100 A.D.), and its evolution process. With twofold objectives of understanding the nature of educational finance and stakeholders' contribution patterns, it analyses the significant sources of scholarly work on Indian and Roman education systems. Different stakeholders contributed to education funding, including state or monarchy, private patronage, religious institutions, and community funding. By examining the nature of state funding, support of community and religious institutions, and private patronage, the study also delves

into insights into the nature of influences on educational systems by these key stakeholders. It also unravels the educational financing and funding patterns in Indian and Roman-Greek cultures.

Royal Patronage

Royal patronage was joint in both cultures, but it was popular in India due to education's religious nature and importance in sustaining social structure and traditions. To gain public legitimacy, rulers had to accept the principles of Dharma, and education was an integrated part of Dharma. To gain Brahmanical legitimacy, Indian rulers promoted the Brahmanical education system, which incorporated a vast Vedic literature and science curriculum. This was why Brahmins were granted land donations, called Agraharas, for their intellectual pursuits in later Gupta ages and South India.

In Rome and the antiquity era, royal patronage began to be institutionalized during the emperor Vespasian through the efforts of Cicero. Earlier in Rome, education was financed by wealthy citizens and civic leaders.

Historical Context and Socio-Political Factors

Education in ancient civilizations was deeply intertwined with the socio-political structures of the times. Takshashila was established around 600 BCE. Takshashila and other educational institutions like Temples and Monasteries were not only centers of learning but also reflected societal values. Indian context can be described as an essential educational system for social stability and religious sustenance. Vidya (knowledge) was highly valued in society, and thus, education was of high importance to society overall. This was the reason Indian education attracted funding from various sources, including state, religious endowments, private funding, funding by guilds, community contributions, etc. The ancient Roman and Greek culture was characterized by a democratic ethos that encouraged public debate and philosophical inquiries. It resulted in establishing schools that were instrumental in fostering a well-informed citizenry (Mahaffy, 1882).

Primary Sources of Funding

If we compare education funding mechanisms in ancient India and Roman-Greek cultures, we find that India had a more complex and diversified funding mechanism. It was due to the social and religious rooting of education. Indian educational funding was a mix of the king's religious duty to promote Dharma (religion) through the Vedic curriculum to get religious and social legitimacy from the scholars and

prestigious people of the society. Kings also provided direct endowments to educational institutions like Nalanda and Takshashila and gave donations to temples and monasteries. People pooled resources to fund scholars' daily needs in Takshashila and funded temples and monasteries through religious giveaways. The wealthy mercantile communities also had a moral obligation to fund religious institutions, and apart from it, they also funded schools and educational institutions with their ample wealth.

In ancient Greece and Rome, particularly during the period of the Hellenistic era, educational institutions were mainly funded by wealthy citizens by the practice of evergetism due to the individualistic nature of Roman ideals of that time and individual aspirations to rise in the political and strategic arena, Roman families engaged private tutors of Greek origin. Some institutions had private patronage as well. In the first century AD, Emperor Vespasian started the state's systematic influence in financing education. This reflects a societal structure that values personal initiative and family responsibility in educational pursuits (Mahaffy, 1882).

Roles of Key Stakeholders

Different stakeholders played different roles in financing educational institutions in India and Greek-Roman cultures.

Royal Patronage or Role of the State: Royal patronage was a common source of funding for educational institutions in India and Rome, but it varied on the scale at which it was used to finance the educational system. In India, it was extensively used by kings and royal families, unlike in Rome. The divine origin theory of state and ruler being presented as a representative of god and the incarnation of Dharma presented the rulers' moral duty for education to spread ancient and perennial Vedic teachings. In Greece, however, state involvement was less direct in the early periods, with more emphasis on private funding, although this changed over time as the state began to recognize the value of an educated populace to the functioning of a democratic society.

Religious Institutions: In the Indian cultural landscape, religious institutions played a pivotal role in developing educational institutions. Temples and monasteries were supported by religious endowments from public and rulers that served as a stable income for these institutions (Mookerji, 1947). Religion and culture have been interwoven in India since the Vedic ages, and temples were learning centers. Learned Brahmins were designated for teaching the Vedic curriculum in general for the spread of Vedic teachings. In Greece and Rome, religious practices

were on the decline during the Hellenistic era, which was why religious institutions were not in the situation to support any enterprise like education, which required financial resources. The cause was the rise of Greek philosophies which consistently questioned religious practices and beliefs. During the Hellenistic era, the decline of traditional religious institutions in Rome and Greece influenced the shift away from their significant roles in educational financing. This period saw an increase in personal spirituality and philosophical schools, which led to private patronage supplanting traditional religious funding mechanisms for education.

Consequently, educational institutions increasingly relied on individual and state contributions rather than religious endowments (Marrou, 1956; Too, 2001). In India, religious institutions were pivotal in the educational landscape. Temples and monasteries served as centers of learning, supported by religious endowments that provided a stable income for these institutions (Mookerji, 1947). In Greece, while less emphasized in the early classical period, religious practices were later integrated into education as philosophy and religious thought began to merge during the Hellenistic period.

Community Contributions: Community contributions to education were evident in both civilizations. Ghosh (2001) emphasizes that India has reflected a collective commitment to education by local communities and trade guilds funding educational institutions. Apte (1910) explains that Takshashila never faced monetary difficulties for its operations. Communities provided everything, and students did not need to pay any compulsory fees at the university. The teachers who asked for fees for students were not respected by society. Manusmriti asks for social boycott of these teachers who forced students to pay fees. Knowledge was considered too sacred to be bartered with money. Even the poorest people offered food and shelter to students studying in the university.

In ancient Rome, education was essentially a private affair of wealthy families. They employed Greek tutors to teach their wards, and sometimes these teachers were freed enslaved people who had excellent skills in fighting or war strategies. In preparation for civic roles in state, education was instrumental and wealthy families owned the responsibility of their children to rise in political and social life by arranging private tuitions to them (World et al., 2023). It could be inferred that the Hellenistic era in Rome was characterized by the decline of religious institutions and religious authority in public due to the rise of several sects of philosophy questioning religious assumptions. This decline of religion and its authority on public life

resources laid the responsibility on the individual. India had a different stance on the standing of knowledge and education in society. Roman-Greek education emphasized personal physical training and coaching of philosophy during this era. Both were highly reliant upon experts' tutoring. In India, knowledge was considered to be sacred, and even poor of the poorest family had a stake in education by offering their hard-earned income to students in the form of cooked food, shelter, Bhiksha etc. (Apte, 1910)

Conclusion

This study's findings provide insights into the unique methods and societal functions of educational financing in ancient Indian, Roman, and Greek cultures from 600 BC to 100 AD. It uncovers the intricate relationship between education, society, government, and other significant stakeholders in the financing of education in these civilizations.

The funding structure of the educational system in India was complex and broader than that of Roman and Greek cultures. Indian educational institutions received substantial funding from a variety of stakeholders, including state and private funders (mercantile community, wealthy persons), poor people supporting the basic needs of students (community support), and religious endowments supported by societal, religious, and cultural fabric (Mookerji, 1947; Altekar, 1934; Ghosh, 2001). It guaranteed widespread access and promoted a comprehensive educational atmosphere in India.

Ancient Roman and Greek educational finance relied on private patronage, and affluent individuals played a vital role in it. Plato's Academy and Aristotle's Lyceum were financed privately.by them on their private resources and wealth. Personal initiative was most important in Rome. This includes tutoring and personal training provided as paid services by teachers of Greek descent. This reflects a more individualistic perspective on paying for education, as noted by Bonner (1977), Marrou (1956), and Mahaffy (1882).

Religious institutions played a significant role in financing and promoting education in India. It was due to widespread influence of religion on society. Temples and monasteries were funded by almost every class and category of Indian society. Knowledge was considered to be the most sacred thing. Bhagwat Gita (Chapter 4, verse 38) says that there is nothing more sublime and purer than knowledge. In Roman and Greek Cultures, religious influences were less on society, and mostly during festival gatherings, community-supported arts and

physical training as some endowments. (Mookerji, 1947; Too, 2000).

Educational funding by the state also differed in the Indian, Roman, and Greek cultures. Kings promoted Indian education system as a part of their religious duties. During the Takshashila period in India, it was a tradition among kings that they could not deny the demands of a learned scholar if asked to cover his educational expenses (Apte, 1910). In Rome, emperor Vespasian offered salaried professorships in the 1st century A.D., almost 600 years later than Takshashila. By then, the state's influence in Rome increased and became a central component of educational funding (Mookerji, 1947; Altekar, 1934.)

This comparison emphasizes the intricate and varied nature of educational funding in ancient civilizations and its relationship with societal ideals. This study underscores the significance of a diversified funding portfolio of education to improve educational institutions' access, quality, and sustainability. Additionally, it highlights the crucial contributions and roles of different stakeholders in financing education.

Implications of the Study

The study has several implications for modern states and educational systems. It emphasizes the importance of a balanced portfolio for educational funding and suggests harnessing every possible source of financing. In ancient India, the small contributions from communities also supported large universities like Takshashila and Nalanda. The importance of community contributions should be addressed. The elite and merchant class in India funded educational institutions as part of their religious duties, as knowledge was considered sacred and a part of Dharma. The importance of religious institutions and the mobilization of these funds to the educational system as per the accepted norms of that religion and constitutional/legal frameworks could enhance access to resources and contribute a significant portion of the budget to improving human resources. The state's role is already crucial in democracies of modern times. A balanced educational portfolio of educational finance is necessary because of time and resource constraints that could be overcome by mobilizing funds from different institutions and stakeholders. Mercantile community's contributions are being institutionalized as CSR initiatives in India and abroad. State can surcharge or introduce specific tax duties dedicated to education as practiced in ancient times. There should be mechanisms to streamline community contributions with new digital financing instruments, such as crowdfunding and online campaigning. Knowledge for knowledge's

sake was the mantra of ancient India, and the same could be adopted as a general guideline for enhancing the quality of education.

Suggestions for Further Research

This research uncovers the commonalities, differences, and trends in educational finance between ancient India and Roman culture. It also proposes potential avenues for further exploration. For example, future comparative research could delve into the educational finance systems of other ancient civilizations like Egypt and Mesopotamia. Additionally, it could examine the diverse educational funding sources in both modern and ancient times. Subsequent studies should also delve into the lasting impact of educational finance on societies and the evolution of knowledge across various civilizations throughout ancient, medieval, and modern history.

Limitations of the Study

The primary constraint of the study is its dependence on secondary sources for analyzing educational financing in ancient civilizations. The analysis primarily relies on ancient Indian and Roman history books authored by contemporary writers. These sources interpret historical data through modern perspectives, potentially leading to biased or inaccurate historical interpretations. However, it's worth noting that the study has incorporated various sources to corroborate its findings.

References

- Altekar, A. S. (1934). *Education in Ancient India.* Nand Kishore & Bros.
- Apte, D. G. (1910). Universities in ancient India. Maharaja Sayyajirao University of Baroda. https://archive.org/details/cu31924005633130
- Beck, F. A. G. (1964). *Greek Education:* 450-350 B.C.. Methuen & Co Ltd.
- Bhandarkar, D. R. (2013). *Lectures on the Ancient History of India.* Rupa Publications.
- Bloomer, W. M. (2011). *The school of Rome: Latin studies and the origins of liberal education.* University of California Press.
- Bonner, S. F. (1977). *Education in ancient Rome: From the elder Cato to the younger Pliny*. University of California Press.
- Altekar, A. S. (2009). *Education in Ancient India.* Gyan Publishing House.
- Chatterjee, M. (1999). *Education in Ancient India: From Literary Sources of the Gupta Age.* D.K. Print world.
- Ghosh, S. C. (2001). *The History of Education in Ancient India, 3000 BC to AD 1192.* Munshiram Manoharlal Publishers.
- Jaeger, W. (1945). *Paideia: The Ideals of Greek Culture.* Oxford University Press.
- Kosambi, D. D. (2007). *The Culture and Civilization of Ancient India in Historical*

Outline. UBS Publishers.

- La Bua, G. (2019). *Cicero and Roman Education: The Reception of the Speeches and Ancient Scholarship*. Cambridge University Press.
- Mahaffy, J. P. (1882). *Greek Life and Thought from the Age of Alexander to the Roman Conquest*. Macmillan and Co.
- Mahaffy, J. P. (1882). Old Greek Education. Harper & Brothers.
- Marrou, H. I. (1956). *A History of Education in Antiquity*. University of Wisconsin Press.
- Mookerji, R. K. (1947). *Ancient Indian Education: Brahmanical and Buddhist*. Motilal Banarsidass.
- Oxford Reference. (2007). Roman Education. https://www.oxfordreference.com/view/10.1093/acref/9780192801463.001.0001/acref-9780192801463-e-2014
- Scharfe, H. (2002). *Education in Ancient India.* Brill Academic Publishers.
- Singh, S. (2017). *The Educational Heritage of Ancient India: How an Ecosystem of Learning Was Laid to Waste.* Notion Press.
- Too, Y. L. (Ed.). (2001). *Education in Greek and Roman antiquity*. Brill. https://doi.org/10.1163/97890043400134
- Tsiang, H. T. (1935). *The Education of Children in Ancient China.* Commercial Press.
- World History Encyclopedia. (2023). *Roman Education*. History Encyclopedia

Problems Faced by High, Average and Low Achieving Secondary School Students

Franky Rani and Gagandeep Kaur**

Abstract

The number and strength of a nation's youth population determine its overall capacity, productivity, and potential for future growth. Youth represent the most active, dynamic, and hardworking segment of society, whose well-being and development are essential for national progress. The present study was conducted to gain a deeper understanding of the various problems faced by secondary school students in their daily lives. A sample of 200 students studying in Grade IX was randomly selected from government senior secondary schools of Amritsar city. Data was collected using the Youth Problems Inventory developed by Verma (2012), which covers four major dimensions: family, school, social, and personal-oversensitivity problems. The findings revealed that average and low achievers experience a greater number of problems compared to high achievers and therefore require more intensive counselling and support. The study highlights the need for teachers, school authorities, and parents to collaborate in addressing students' difficulties effectively.

Keywords:- Youth problems, Secondary school students, Academic achievement, Counselling needs, Adolescent development

Introduction

A country's capacity to grow and develop depends on the size and strength of its young population. The most active and productive group in society is the youth. It is thought that countries with a large young population can experience huge growth if they invest in the education, health and rights of young people (Youth in India, 2022). According to the 2001 Indian Census, there are 422. 3 million young people in the country, which includes 219 million men and 203 million women.

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That is, youth comprise above 41% of the total Indian population.The Commonwealth Youth Programme (CYP) describes youth as people young between 15 and 29 years.While there is no universally agreed conceptual definition of youth development (Youth Development Index Results Report September, 2013).

For the majority of youth, movement into the adolescent years involves an expansion of their social circles beyond their families, including peers, teachers, and others in school and extracurricular activities. This shift is a crucial part of their social development, helping them build new connections and establish identities outside the family(U.S department of health and human services).Adolescents in this stage are in a very precarious position; at moments, they see themselves as adults who can think and accomplish anything, and at other times, they see themselves as children who are dependent on others.

Adolescence represents a crucial developmental period marked by profound physical, cognitive, emotional, and social transformations. On the physical front, young individuals undergo accelerated growth, hormonal changes, and the emergence of secondary sexual traits. Cognitively, this stage brings enhanced reasoning abilities, abstract thought processes, and greater capacity for independent decision-making. Emotionally, adolescents often face challenges related to identity exploration, fluctuating moods, and increased self-consciousness. Socially, they begin to value peer connections more deeply, assert independence from parental control, and develop interest in romantic relationships. This transitional phase, though complex, provides valuable opportunities for self-discovery and maturity as young people move toward adulthood while still needing appropriate guidance from family and society. Considering that today's youth will shape the world's future, it becomes the collective responsibility of every nation to ensure a nurturing and supportive environment for their development (Khan & Mani, 2014).

There is an urgent global need to place greater emphasis on youth development. Among the two billion individuals residing in the 54 Commonwealth nations, nearly 60% are below the age of 30, and approximately 87% of young people aged 15 to 24 live in developing regions. Promoting youth development requires enabling young individuals to realise their potential in securing meaningful employment, maintaining good health and well-being, attaining quality education, and participating actively in civic and political life (Youth Development Index Results Report, 2013).Despite growing awareness of

these priorities, research on adolescents' academic achievement reveals limited empirical evidence connecting supportive adult networks—those offering both emotional connection and behavioural regulation—to improved performance. Studies have shown that perceived family cohesion (Felner, Aber, Primavera, & Cauce, 1985), parent–child agreement on key issues (Otto & Atkinson, 1997), and parental limit-setting (Herman et al., 1997) are all positively related to higher grade point averages among adolescents.

As adolescents grow, the nature of their relationships undergoes noticeable change. Parental influence gradually lessens, while peer relationships become increasingly central (Jackson & Rodriguez-Tome, 1993). During this stage, the quality and dynamics of connections with parents, teachers, and peers evolve significantly. From middle childhood to adolescence, peer support tends to rise, assistance from teachers often declines, and family support generally remains steady (Cauce et al., 1990, 1994; Furman & Buhrmester, 1992).For most adolescents, the family continues to serve as a primary source of emotional security and social influence—shaping both positive and negative outcomes. Although some youth experience ongoing familial conflict (Arnett, 1999), many perceive their home environment as a stable and supportive foundation for growth. The overall family atmosphere profoundly impacts members' social, emotional, physical, and intellectual development (Martínez, 1996; Schwarth&Pollishuke, 1995), influencing how adolescents form attitudes toward social norms and community engagement (Moreno, Estevez, Murgui, &Musitu, 2009a). A positive family climate encourages closeness, trust, and open communication, thereby enhancing adolescents' psychological and social well-being (Lila &Buelga, 2003; Musitu& García, 2004; van Aken, van Lieshout, Scholte, & Branje, 1999).

A considerable number of adolescents report feeling emotionally close to their parents, viewing them as figures of authority, valuing their opinions, recognizing their affection and care, and even aspiring to emulate them (Allen & Land, 1999; Gecas& Seff, 1990). Although parents may no longer serve as the primary source of support by late adolescence, the perceived level of parental support generally remains high. At the same time, peers begin to play an increasingly influential role as providers of social and emotional support (Blyth & Traeger, 1988; Berndt, 1989; Cauce et al., 1990; Furman & Buhrmester, 1992). Moreover, longitudinal research has indicated that parental behaviors promoting both autonomy and emotional connection are associated with higher educational attainment later in life (Best, Hauser, & Allen,

1997).In a similar way, the perceptions that teachers and students hold about their classroom and school environments—collectively referred to as school climate—have a significant effect on students' behavior, adjustment, and social integration (Trickett, Leone, Fink, & Braaten, 1993; Cook, Murphy, & Hunt, 2000; Cunningham, 2002). A positive school climate exists when students feel respected, accepted, and encouraged to express their thoughts freely while participating actively in school activities (Trianes, 2000). Such an environment fosters academic success, emotional stability, and psychosocial well-being among adolescents, particularly those who experience behavioral challenges (Haynes, Emmons, & Ben-Avie, 1997).

During secondary school years, adolescents demonstrate varying levels of academic progress—some show substantial improvement, while others experience only limited advancement. High school continues to be a critical developmental stage during which low-performing students still have the chance to alter their academic direction (Cappella & Weinstein, 2001), making pivotal decisions about whether to leave school, complete it, or pursue further education. Research indicates that male students and those from economically privileged backgrounds tend to follow more successful academic trajectories compared to their peers from less affluent families. Identifying the key factors that enhance academic growth during this period is therefore essential.Previous studies on adolescent–adult relationships have often overlooked longitudinal changes in academic performance (Paulson, Marchant, & Rothlisberg, 1998), the specific dynamics of high school years (Eccles, Early, Frasier, Belansky, & McCarthy, 1997), or the variety of social contexts where learning and socialization occur (Herman, Dornbusch, Herron, & Herting, 1997). Research also suggests that adolescents who report stronger connections with adults across multiple settings are less likely to engage in high-risk behaviors such as substance use and delinquency (Resnick et al., 1997), benefiting instead from a higher accumulation of developmental assets (Leffert et al., 1998). Community-based programs aimed at fostering supportive social networks (e.g., Damon, 1997) operate on the premise that overlapping social influences collectively promote academic success. Nevertheless, there remains limited empirical evidence that extensive networks of adult relationships directly predict improved academic achievement among adolescents.

Furthermore, there is an increasing interest on analyzing how these contexts influence psychosocial adjustment and, specifically, certain emotional and social problems in adolescence, like school violence

(Berger, 2004). According to studies, boys and girls are influenced differently by the type of relationships with their parents and the calibre of their interactions with teachers and peers (Carlo, Raffaelli, Laible, & Meyer, 1999; McDougall, Hymel, Vaillancourt, 2004; Beaman, Wheldall, & Kemp, 2006; Mestre, Samper, & Frías; & Mercer, 2001). The average improvement in youth development in Commonwealth countries between 2010 and 2022 was 2. 6%, which is a bit lower than the global average of 2. 8%. . Improvements since 2020 have been only 0.24%, which supports the conclusion that, despite improvements, advancement is still happening at a very modest rate (young national index). Taking mutual responsibility for adolescents' academic successes, both teachers and parents could educate one another in how to strike the delicate balance between providing both firm limits and respectful support.

Studying the problems of youth in relation to their levels of achievement is crucial for understanding the root causes behind performance differences and for developing meaningful interventions. Social, emotional, family, and school-related challenges can significantly suppress a student's ability to perform well. Studying youth problems helps separate true learning difficulties from contextual or psychological barriers.The present study identifies the problems faced by high, average and low achieving secondary school students.

Objectives

1. To study family related problems faced by high, average and low achieving secondary school students.
2. To study school related problems faced by high, average and low achieving secondary school students.
3. To study personal problems faced by high, average and low achieving secondary school students.
4. To study social problems faced by high, average and low achieving secondary school students.

Methodology

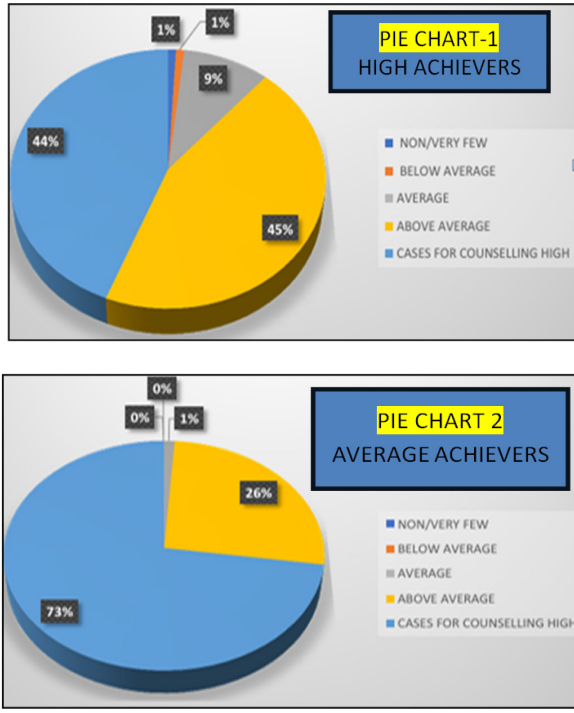
In the present study, a survey was carried out to study the problems faced by high, average and low achieving secondary school students. A sample of 200 students of grade IX was randomly selected from the government senior secondary schools of Amritsar city for the present study. Problems faced by secondary school students were measured using the standardized test, Youth Problems Inventory (YPI) by Verma (2012). The tool comprised of the following areas: Family problems, School

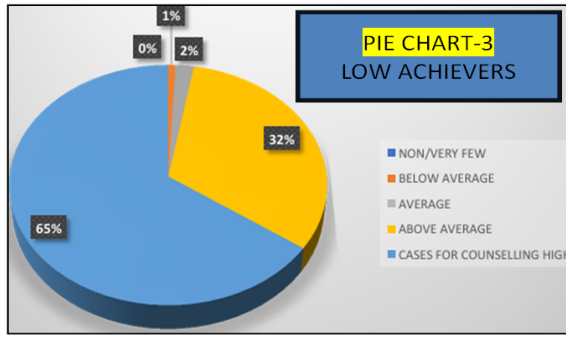
problems, Social problems and Personal problems and oversensitivity. This inventory was specially designed to locate problems at a particular time, in a particular situation, and also to locate only those problems which the respondents want to disclose or are consciously aware of. The Cornbrash's alpha values for the subscales generally fall in an acceptable to high range (typically above 0.70), indicating that the items within each domain are measuring consistent constructs. Validity coefficients of Y.P.I. have been found with a number of standardized tests and also with certain other suitable techniques. The YPI has shown correlations with other established psychological measures, indicating it appropriately measures what it intends to. Academic achievement scores were taken as cumulative scores of secondary school students in their previous class. Further, the students were divided into three groups as high, average and low achievers by following Kelly's criteria. The percentage analysis has been used to analyse the data.

Percentage Analysis of Problems With Respect To Different Levels of Academic Achievement (High, Average, And Low) Faced By Secondary School Students

Family Problems

Pie Chart 1, 2 and 3

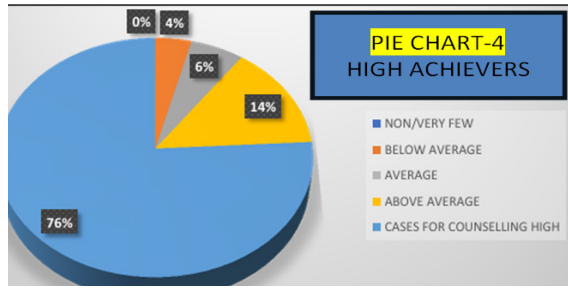


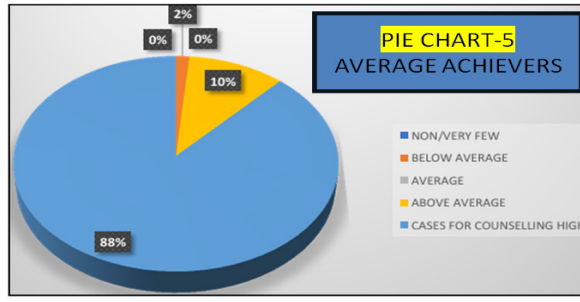


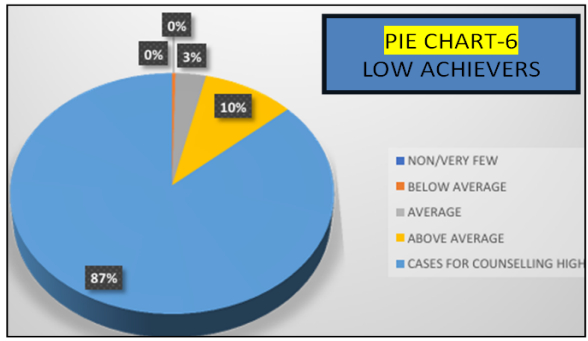
It can be seen from the pie chart 1 that the family problems faced by high achievers vary as follows: 1% of students faced non/very few problems, 1% of students faced below average problems, 9% of students faced average problems, 44% students need high counselling followed by 45% of students who faced above average problems. Whereas, pie chart 2 explains the family problems by average achievers: 1% of students faced average problems, 26% of students faced above average problems followed by 73% of students need high counselling. While, Pie chart 3 depicts family problems faced bylowachievers: 1% of students faced below average problems, 2% of students faced average problems, 32% of students faced above average problems followed by 65% of students need who high counselling.

School Problems

Pie Chart 4, 5 and 6



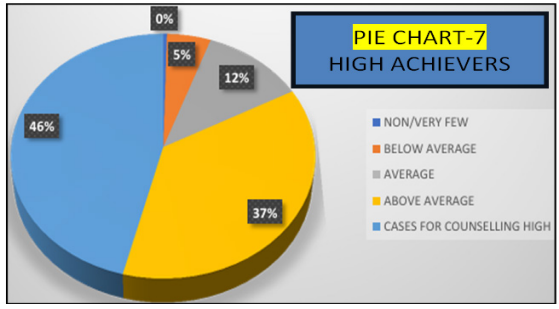


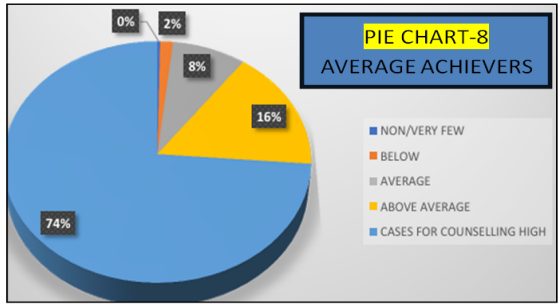


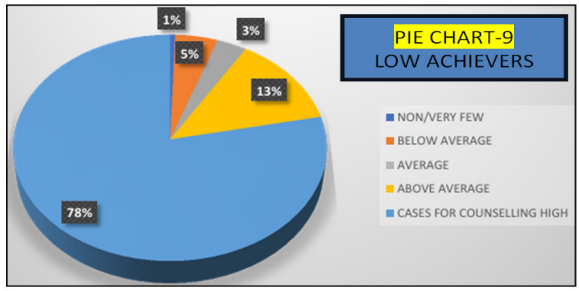
Further, it can be seen from the pie chart 4 that school problems faced by high achievers are as follows: 4% of students faced below average problems, 6% of students faced average problems, 14% of students faced above average problems followed by 76% students need high counselling. Whereas, it can be seen from the pie chart 5 that school problems of average achievers: 2% of students faced below average problems, 10% of students faced above average problems followed by 88% of students need high counselling. Pie chart 6 depicts the school problems of low achievers: 3% of students faced average problems, 10% of students faced above average problems followed by 87% of students need who high counselling.

Social Problems

Pie Chart 7, 8 and 9



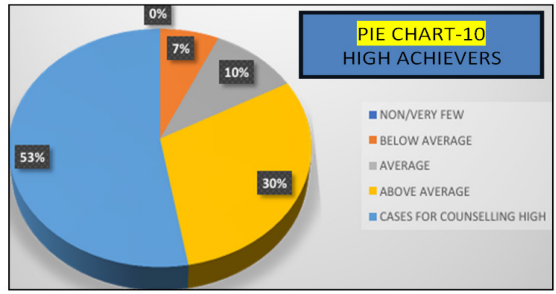


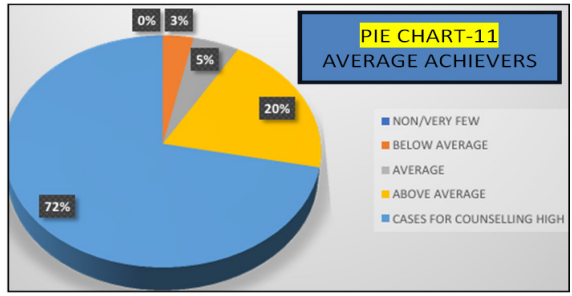


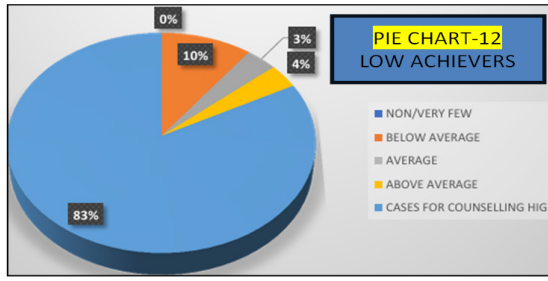
It can be seen from the pie chart 7 that the social problems of: high achievers are as follows Non/very few students faced no problems, 5% of students faced below average problems, 12% of students faced average problems, 37% of students faced above average problems followed by 46% of students who need high counselling. Whereas, pie chart 8 depicts the social problems of averageachievers: 2% of students faced below average problems, 8% of students faced average problems, 16% of students faced above average problems followed by 74% of students need high counselling. Further, pie chart 9reveals the social problems of lowachievers: 1% of students faced non/very few problems, 3% of students faced average problems, 5% of students faced below average problems, 13% of students faced above average problems followed by 78% of studentswho need high counselling.

Personal Problems

Pie Chart 10, 11, and 12







It can be seen from the pie chart 10 that personal problems and over sensitivity of high achievers is as follows: 7% of students faced below average problems, 10% of students faced average problems, 30% of students faced above average problems followed by 53% of students who need high counselling. Further, it can be seen from the pie chart 11 that personal problems and over sensitivity of average achievers is as follows: Non/very few students faced no problems, 3% of students faced below average problems, 5% of students faced average problems, 20% of students faced above average problems followed by 72% of students need high counselling. Pie chart 12 reveals that personal problems and over sensitivity of low achievers is: Non/very few students faced no problems, 3% of students faced average problems, 4% of students faced above average problems, 10% of students faced below average problems followed by 83% of students who need high counselling.

Conclusion

Students who have average or low academic achievement experience more family problems and therefore require more counselling than students with high achievement. This could be due to the reason thatHigh achievers often have more stable environmentsat home or better coping mechanisms, allowing them to focus on academics. Teachers should encourage children to have open conversations with their parents and in turn parents should also be educated to have positive interaction with their children to understand them. The results also revealed that students who have either average or low academic achievement require more counselling than the high-achieving students in the areas of school-related problems.Average and low achieversrequire more than just academic help—they needemotional, social, and psychological support to address the root causes of underachievement.Teachers should observe the area in which the students are interested and if they have any difficulties in their studies, teachers should help the students in those areas. Guidance should be provided to these students to set up realistic and achievable goals by understanding their capacity and

potential. In addition, they should be taught to practise mindfulness techniques to realise their goals. Further, the results of the study reported that almost same percentage of students with low and average academic achievement requires highcounselling in the area of social problems.Teachersshould organize classroom group activities like debates, quizzes, projects, assignments etc. wherein the students get opportunities to develop social and interpersonal skills. With special focus on low and average achievers,teachers should establish a support system for them like study groups or seeking guidance from mentors as sharing experiences and learning from others as they not only provide fresh perspectives but also act as a motivational boost. Further, students who have low academic achievement require more counselling than students with average and high academic achievement with respect to personal problems and oversensitivity. This suggests that in order to give poor achievers the right kind of assistance and help them acquire the ability to deal with their problems, parents and teachers should try to identify their challenges in cooperation with counsellors.

References

- Allen, J. P., & Land, D. (1999). Attachment in adolescence. In J. Cassidy & P. R. Shaver (Eds.), Handbook of Attachment: Theory, Research, and Clinical Applications (pp. 223–319). Guilford Press.
- Arnett, J. J. (1999). Adolescent storm and stress, reconsidered. *American Psychologist, 54*(5), 317–326. https://doi.org/10.1037/0003-066X.54.5.317
- Beaman, R., Wheldall, K., & Kemp, C. (2006). Differential teacher attention to boys and girls in the classroom. *Educational Review, 58*(3), 339–366. https://doi.org/10.1080/00131910600748406
- Berger, C. (2004). Tending bridges between offer and demand of psycho-social support for youth. *Psykhe, 13*(2), 143–157. https://doi.org/10.4067/S0718-22282004000200011
- Berndt, T. J. (1989). Obtaining support from friends during childhood and adolescence. In B. Belle (Ed.), *Children's Social Networks and Social Supports* (pp. 308–331). Wiley.
- Best, K. M., Hauser, S. T., & Allen, J. P. (1997). Predicting young adult competencies: Adolescent era parent and individual influences. *Journal of Adolescent Research*, 12(1), 90–122.
- Blyth, D. A., & Traeger, C. (1988). Adolescent self-esteem and perceived relationships with parents and peers. In S. Salzinger, J. Antrobus, & M. Hammer (Eds.), *Social Networks of Children, Adolescents and College Students* (pp. 171–194). Lawrence Erlbaum.
- Cappella, E., & Weinstein, R. S. (2001). Turning around reading achievement: Predictors of high school students' academic resilience. *Journal of Educational Psychology, 93*(4), 758–770. https://doi.org/10.1037/0022-0663.93.4.758
- Carlo, G., Raffaelli, M., Laible, D. J., & Meyer, K. A. (1999). Why are girls less

physically aggressive than boys? Personality and parenting mediators of physical aggression. *Sex Roles, 40*, 711–729. https://doi.org/10.1023/A:1018856601513

- Cauce, A. M., Mason, C., Gonzales, N., Hiraga, Y., & Liu, G. (1994). Social support during adolescence. In F. Nestmann& K. Hurrelmann (Eds.), *Social Networks and Social Support in Childhood and Adolescence* (pp. 89–108). de Gruyter.
- Cauce, A. M., Reid, M., Landesman, S., & Gonzales, N. (1990). Social support in young children: Measurement, structure, and behavioral impact. In B. R. Sarason, I. G. Sarason, & G. R. Pierce (Eds.), *Social Support: An Interactional View* (pp. 64–94). Wiley.
- Cava, M. J., Musitu, G., Buelga, S., &Murgui, S. (2010). The relationships of family and classroom environments with peer relational victimization. *The Spanish Journal of Psychology, 13,* 156–165. https://doi.org/10.1017/S1138741600003757
- Cunningham, E. G. (2002). Developing a measurement model for coping research in early adolescence. *Educational and Psychological Measurement, 62*(1), 147–163. https://doi.org/10.1177/0013164402062001010
- Damon, W. (1997). *The Youth Charter: How Communities can Work Together to Raise Standards for All Our Children.* Free Press.
- Eccles, J., Early, D., Frasier, K., Belansky, E., & McCarthy, K. (1997). The relation of connection, regulation, and support for autonomy to adolescents' functioning. *Journal of Adolescent Research, 12*(1), 34–67.
- Estévez, E., Murgui, S., Musitu, G., & Moreno, D. (2008). Adolescent aggression: Effects of gender and family and school environments. *Journal of Adolescence, 31,* 433–450. https://doi.org/10.1016/j.adolescence.2007.09.007
- Felner, R. D., Aber, M. S., Primavera, J., & Cauce, A. M. (1985). Adaptation and vulnerability in high-risk adolescents: An examination of environmental mediators. *American Journal of Community Psychology, 13*(4), 365–379. https://doi.org/10.1007/BF00915460
- Furman, W., & Buhrmester, D. (1992). Age and sex differences in perceptions of networks of personal relationships. *Child Development, 63*(1), 103–115. https://doi.org/10.2307/1130905
- Gecas, V., & Seff, M. A. (1990). Social class and self-esteem: Psychological centrality, compensation, and the relative effects of work and home. *Social Psychology Quarterly, 53*(2), 165–173. https://doi.org/10.2307/2786677
- Haynes, N. M., Emmons, C. L., & Ben-Avie, M. (1997). School climate as a factor in student adjustment and achievement. *Journal of Educational and Psychological Consultation, 8*(3), 321–329. https://doi.org/10.1207/s1532768xjepc0803_4
- Herman, M., Dornbusch, S., Hen-on, M., & Herting, J. (1997). The influence of family regulation, connection and psychological autonomy on adolescent functioning. *Journal of Adolescent Research, 12*(1), 34–67.
- Jackson, S., & Rodriguez-Tomé, H. (1993). Adolescence: Expanding social worlds. In S. Jackson & H. Rodriguez-Tomé (Eds.), *Adolescence and its Social Worlds* (pp. 1–13). Lawrence Erlbaum.
- Jessor, R. (1992). Risk behavior in adolescence: A psychosocial framework. *Developmental Review, 12,* 374–390. https://doi.org/10.1016/0273-2297(92)9001 4-S
- Jessor, R. (1993). Successful adolescent development among youth in high-risk

settings. *American Psychologist, 48*, 117–126. https://doi.org/10.1037/0003-066X.48.2.117

- Khan, M., & Mani, S. (2014). A study on higher secondary students' personal problems, study involvement and academic achievement. *International Journal of Science and Research, 3*(5), 2319–7064. https://www.ijsr.net/archive/v3i5/MDIwMTM0NjY=.pdf
- Leffert, N., Benson, P. L., Scales, P. C., Sharma, A. R., Drake, D. R., & Blyth, D. A. (1998). *Developmental assets. Applied Developmental Science, 2*(4), 209–230. https://doi.org/10.1207/s1532480xads0204_3
- Lila, M. S., &Buelga, S. (2003). Family and adolescence. *Encuentros enPsicología Social, 1*, 72–78.
- Martínez, R. A. (1996). Familia y educación. Universidad de Oviedo.
- McDougall, P., Hymel, S., Vaillancourt, T., & Mercer, L. (2001). The consequences of childhood peer rejection. In M. R. Leary (Ed.), *Interpersonal Rejection* (pp. 213–247). Oxford University Press.
- Mestre, V., Samper, P., & Frías, M. D. (2004). Personality and family environment. *Revista Latinoamericana de Psicología, 36*, 445–457.
- Moreno, D., Estévez, E., Murgui, S., &Musitu, G. (2009). Relationship between family and school environments. *International Journal of Psychology and Psychological Therapy, 9,* 123–136.
- Musitu, G., & García, F. (2004). Consequences of the family socialization. *Psicothema, 16*, 288–293.
- Otto, L. B., & Atkinson, M. P. (1997). Parental involvement and adolescent development. *Journal of Adolescent Research, 12*(1), 68–89.
- Paulson, S. E., Marchant, G. J., &Rothlisberg, B. A. (1998). Early adolescents' perceptions of parenting. *Journal of Early Adolescence, 18(*1), 5–26.
- Resnick, M. D., Bearman, P. S., Blum, R. W., Bauman, K. E., Harris, K. M., & Jones, J., et al. (1997). Protecting adolescents from harm. *JAMA, 278(*10), 823–832. https://doi.org/10.1001/jama.1997.03550100049038
- Trickett, E. J., Leone, P. E., Fink, C. M., & Braaten, S. L. (1993). The perceived environment of special education classrooms. *Exceptional Children, 59*, 441–420.
- Van Aken, M. A. G., van Lieshout, C. F. M., Scholte, R. H. J., & Branje, S. J. T. (1999). Relational support and person characteristics. *Journal of Adolescence, 22,* 819–833. https://doi.org/10.1006/jado.1999.0273
- Verma, A. (2012). *Youth Problems Inventory (YPI) Manual*. National Psychological Corporation.
- Ministry of Statistics and Programme Implementation. (2022). Youth in India 2022. https://mospi.gov.in/sites/default/files/publication_reports/Youth_in_India_2022.pdf
- Commonwealth Secretariat. (2013). Youth Development Index Results Report. https://thecommonwealth.org/sites/default/files/inline/YDI%20Report%202013%20Final.pdf
- U.S. Department of Health and Human Services. (n.d.). https://www.hhs.gov/

Anxiety Level of Post Graduate Students: A case Study at Madhabdev University, Lakhimpur, Assam

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Abstract

Anxiety is a psychological concept that includes behavioural, cognitive, and emotional reactions to perceived risks or problems. While little anxiety can be motivating, excessive anxiety destroys emotional balance and impairs performance. It is usually distinguished by persistent sensations of worry, uneasiness, and fear. The current study sought to examine anxiety levels among postgraduate students at Madhabdev University. A random sample of 100 students was chosen for the study using a survey method. According to the findings, a large number of Madhabdev University's postgraduate students are anxious.

Keywords: Anxiety, Postgraduate students, Madhabdev University, Assam

Introduction

Education is a fundamental aspect of human life. Education is another essential human necessity, alongside food, clothing, and shelter. Education is essential for developing a diverse set of knowledge, skills, values, attitudes, beliefs, and habits that shape one's intellectual, social, and emotional growth. It includes both official settings, such as schools and universities, which use structured curriculum and teaching methods, and informal settings, such as community programmes, job

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settings, and ordinary life experiences, which Education's essence is its ability to encourage learning by offering new information and fostering critical thinking, as well as to enable people to effectively assess, evaluate, and apply knowledge. In addition to obtaining academic knowledge, education seeks to foster personal growth, improve problem-solving abilities, and prepare students for a variety of societal roles, including professional professions and social engagement. It also plays an important role in developing cultural understanding, supporting lifelong learning, and promoting societal progress by giving people the tools they need to adapt to and impact the world around them.

Education influences individuals' developmental trajectories and enhances the overarching social framework, establishing the foundation for both personal achievement and collective progress. So, in this society or culture that is changing quickly, we can say that education is very important. People think that a person's or society's level of education shows how well they are doing in their personal, social, economic, and cultural lives. Education helps students and people in general adapt to a world that is always changing.

The term "anxiety" comes from the Latin word "anxietas", which means "to choke, throttle, difficulty, or upset". It describes how people behave, feel, and think when they think they are in danger. Anxiety is a normal feeling that people have. When used in moderation, anxiety can help you respond in a way that is expected and helpful to a stressful or difficult situation. Too much anxiety makes a person less stable and less able to do their job. Anxiety is the most common mental health problem and is becoming more of a problem around the world. It has a big effect on cognitive function. Anxiety is a complicated emotional and psychological condition that impacts millions of individuals across diverse cultures and eras. A small level of anxiety is normal, but severe anxiety can be a serious problem. Generally, anxiety is experienced by everyone, but the level of anxiety differs. Anxiety is the reaction or Anxiety is a complex emotional state marked by overwhelming, enduring feelings of worry, nervousness, or fear. Everyone has felt it at some time in their lives; it's a typical human emotion. But when anxiety becomes overwhelming, lingers, or gets in the way of day-to-day activities. Everybody is affected by anxiety differently. Anxiety is a very common human emotion that is deeply ingrained in our social, psychological, and biological makeup. Anxiety can be upsetting and even incapacitating, but it also has important adaptive purposes. People and societies can better manage its effects by being aware of its causes, manifestations, and coping strategies, which promotes

stronger, healthier communities. Anxiety is a typical response to some circumstances. stimulus associated with the experience of a person in that situation. According to the American Psychological Association (APA), anxiety disorders involve excessive fear or anxiety and related behavioural disturbances. Anxiety is an excited state of the nervous system, as a result of which a sense of tension, nervousness and worry is inflicted on the individual (Spielberger, 1983).

Anxiety involves both psychological and physiological components. Psychologically, it can manifest as racing thoughts, fear of the worst outcomes, or an overwhelming sense of dread. Physiologically, it can trigger symptoms such as sweating, trembling, dizziness and gastrointestinal discomfort. There are many types of anxiety disorders, including panic disorder, obsessive-compulsive disorder, social anxiety disorder, generalised anxiety disorder, specific phobia, etc. There are various causes of anxiety. Such as feelings of inadequacy, emotional conflict, mental conflict and frustration, suppression of sexual desire, repression of self-assertive tendency, etc. Long-term anxiety can have a severe impact on students' mental and physical well-being, leading to emotional exhaustion, fatigue and loss of motivation. The fear of failing the high expectations of teachers, parents and sometimes peers also causes excessive academic stress, which affects both mind and body.

Madhavdev University is a thriving centre of higher learning in Assam, with a diverse student body enrolled in demanding postgraduate programmes in multiple academic streams. These students frequently face academic pressures such as demanding coursework, thesis submissions, and competitive exams. Therefore, the impact of anxiety on academic achievement has been a major topic of research to study how mental health relates to academic performance in this setting. Furthermore, gender and educational background are important factors in understanding how anxiety appears and influences academic performance. Therefore, the purpose of this study is to investigate the impact of anxiety on academic achievement among Madhabdev University postgraduate students, with a particular emphasis on differences by gender and educational stream.

Review of Related Literature

Several research studies about students' anxiety levels have been reviewed by investigators. Khoshlessan and Das (2017) found that the anxiety levels among different demographic groups had less of a relationship to gender, and as female students got older, they overcame anxiety levels faster than male students. According to a study by Saikia,

Ahmed, and Baruah (2022), male students who had a tobacco-using family member were the ones who used tobacco the most. Additionally, it came to light that 36 (33.6%) of the current tobacco users had mild symptoms of depression, and 43 (40.2%) had mild symptoms of anxiety. According to Das, Hazarika, Islam et al. (2024), during the COVID-19 pandemic, stress (44.5%), anxiety (24.78%), and depression (17.05%) were common among Guwahati college students. Compared to students who lived with their families, those who lived in dorms, paid guests, etc., were more likely to experience psychological distress. In their educational institutions, only 29.9% of the students had access to mental health counsellors. Just 7.8% of participants who had access to mental health counsellors ever made use of them. Additionally, Talukdar and Das (2023) found that 10% of UG students had no social anxiety, 13% had mild social anxiety, 38% had moderate social anxiety, 24% had notable social anxiety, 9% had severe social anxiety, and 6% had extremely severe social anxiety. At the 0.5 level of significance, a substantial association was discovered between the level of social anxiety, selected socio-demographic characteristics, and socioeconomic position. Okada (2015) conducted a study and discovered a statistically significant link between students' anxiety levels and length of stay in the United States.

Significance of the Study

Anxiety is a natural human feeling. But long-term anxiety can have a severe impact on students' mental and physical well-being, leading to emotional exhaustion, fatigue and loss of motivation. The fear of failing the high expectations of teachers, parents and sometimes peers also causes excessive academic stress, which affects both mind and body. Higher education has a significant place in the life of every student. Higher education often involves high academic demands, social expectations, financial burdens, and the pursuit of professional advancement, all of which can contribute to elevated anxiety levels. So, this study has various significant findings to discuss the anxiety level among postgraduate students and also the level of anxiety according to their gender and educational stream at Madhabdev University.

Objectives of the Study

1. To study the anxiety level of postgraduate students of Madhabdev University.
2. To study the level of anxiety in relation to gender.
3. To study the level of anxiety in relation to the educational stream.

Hypotheses of the Study

(Ho_1)- There is no significant difference in the level of anxiety between the boys' and girls' students of Madhabdev University.

(H_{O2})- There is no significant difference in the level of anxiety between the science and arts streams of postgraduate students of Madhabdev University.

Methodology

In the present study, the population covers all 2nd-year postgraduate students of Madhabdev University, Narayanpur, Lakhimpur. There are a total of 14 departments. There are a total of 457 students in the postgraduate course, where there are 135 male students & 322 female students. The researchers have used the random sampling technique and selected 100 post-graduate students from Madhabdev University as a sample, ensuring 22% and later stratified by gender and educational streams. In the present study, a questionnaire popularly known as 'SCAT' is used for collection of data. This scale consists of 90 items. This 'SCAT' scale is developed by A. K. P. Sinha and L.N.K. Sinha. The data are analysed by using appropriate statistical techniques like Mean, SD, t-test, Correlation and Percentage.

Analysis and Interpretation

Based on the objectives of the study

Objective 1

To study the anxiety level among postgraduate students of Madhabdev University.

Table 03 provides the overall scores of students obtained on the academic anxiety test:

Table No. 03: Overall Anxiety Level

Interpretation/ level	Score	No of students	%
Low Anxiety	Below 45	58	58%
Normal Anxiety	45	1	1%
High Anxiety	Above 45	41	41%
Total no of students		100	100%

From table no 03: given above, it can be seen that 58% of 100 students are at the low anxiety level and whereas 1% students are at the normal level. This table also shows that 41% of post-graduate students have having high level of anxiety. A graphical representation of the above

data is given below:

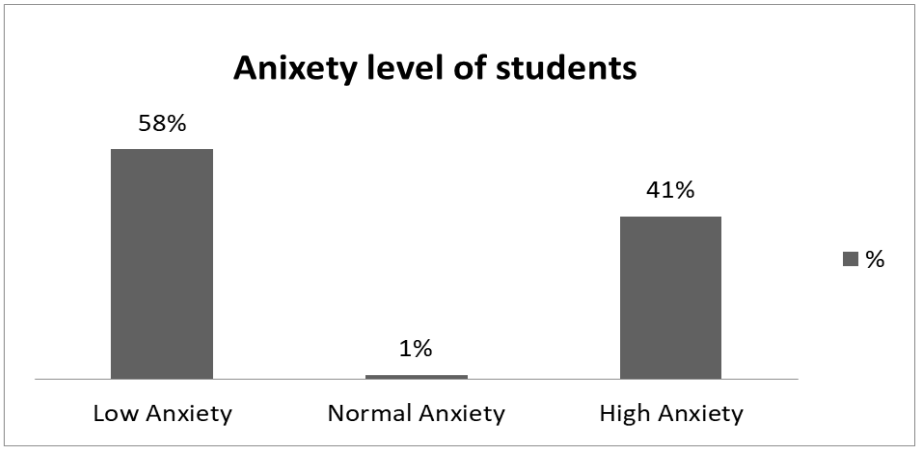

Figure 02: Level of Anxiety of students.

Statistically, the mean and SD of the total score of Anxiety of selected Post Graduate students of Madhabdev University are given in the following table:

Variable	Total sample	Mean	SD
Anxiety	100	40	16.15

Table 04: Mean and SD of anxiety

The above table 04 shows that the total sample or total selected students is 100, where the mean and SD of anxiety level are found to be 40 and 16.15

Objective 2

To study the level of anxiety about gender (boys and girls)

Hypothesis:

(Ho1): There is no significant difference in the level of anxiety between the boys' and girls' students.

Table 05 provides the anxiety level in relation to gender, i.e. compare boys' and girls' levels of anxiety:

Table no 05: Level of anxiety in relation to gender

Gender	Sample	Mean	SD	df	t-value	0.05
Boys	50	36.48	17.31	98	0.0258	Not significant
Girls	50	43.58	14.18			
Total	100					

The above table 05 reveals that the mean scores of boys of PG students are 36.48, and the mean score of girls is 43.58, whereas boys and girls SD (standard deviations) are 17.31 and 14.18, respectively. The computed value of t between the two means is 0.0258. The table value of df 98 at 0.05% level of significance respectively. The calculated value is less than the table value at 0.05 levels. Therefore, we can say that there is no significant difference found between the anxiety of boys and girls. Thus, the null hypothesis is accepted. It reveals that there does not exist any significant difference in anxiety level between boys and girls of PG students of Madhabdev University. The boys and girls have an equal level of anxiety. On the other hand, looking at the mean scores in this study, it can be seen that the mean score of girls is greater than boys, so it can be said that the girl students seem to be more anxious i.e. more affected by anxiety than boy students of Madhabdev University. A graphical representation of the above data is given below:

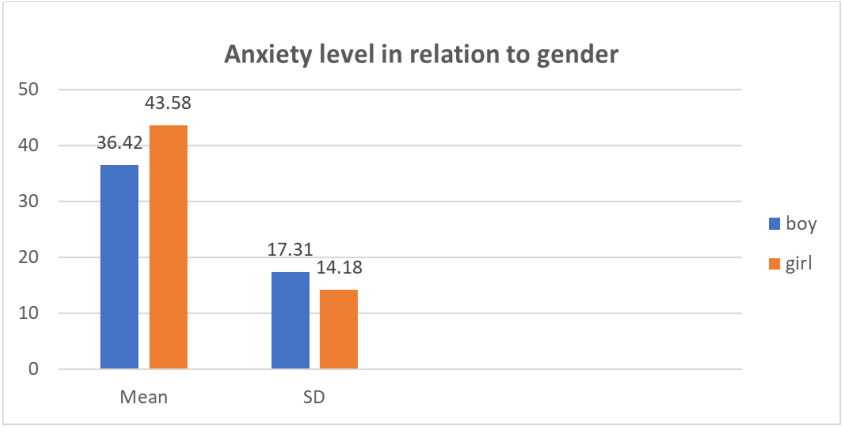

Figure 03: Shows the mean scores and SD of boys and girls in relation to their anxiety.

Objective 3

To study the level of anxiety in relation to the educational stream.

Hypothesis:

(H_{O2}) There is no significant difference in the level of anxiety between the science and arts streams of postgraduate students of Madhabdev University.

Table below, No. 6 shows the comparison between arts and science stream students of Post Graduate in relation to their anxiety:

Table 06: Level of anxiety in relation to educational stream.

Educational stream	Sample	Mean	SD	df	t-value	0.05
Arts	50	33.22	14.55	98	1.23	Not significant
Science	50	46.78	14.88			
Total	100					

The above table 06 reveals that the mean scores of Arts stream PG students are 33.22, and the mean score of Science stream of PG students is 46.78, whereas Arts and Science stream SD (standard deviations) are 14.55 and 14.88, respectively. The computed value of 't' between the two means is 1.23. The table value for df 98 at a 0.05% level of significance, respectively. The calculated value is less than the table value. Therefore, it can be concluded that there is no significant difference of anxiety level found between the Arts and Science streams. Thus, the null hypothesis is accepted. It reveals that there does not exist any significant difference in anxiety level between Arts and Science stream PG students of Madhabdev University. The Arts and Science stream students have almost an equal level of anxiety.

On the other hand, looking at the mean scores in this study, it can be seen that the mean score of science stream's PG students is greater than Arts stream's students, so it can be said that the science stream's student seems to be more anxious, i.e. more affected by anxiety, than Arts stream's students.

A graphical representation of the above data is given below:

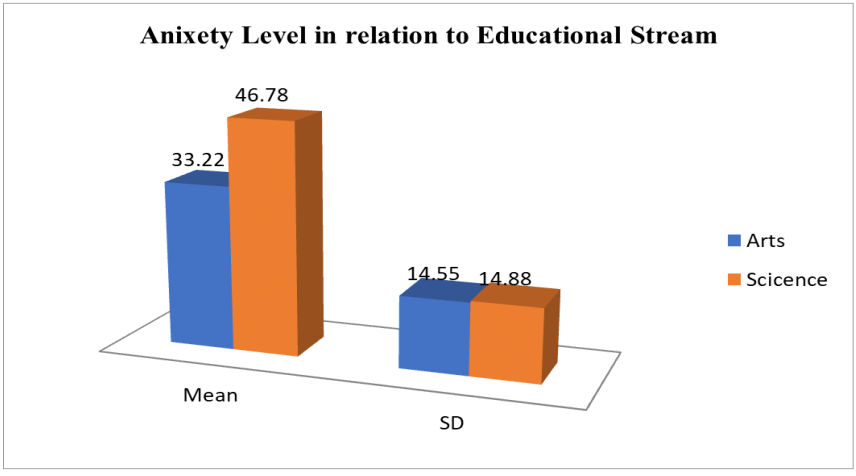

Figure 04: Shows the mean scores and SD of Arts and Science stream students about their anxiety.

Findings

The major findings of the study are as follows: 41% of postgraduate students have a high level of anxiety, 1% students are normal, and the rest of the students have low anxiety. It shows that most of the students are affected by anxiety. Furthermore, the level of anxiety in relation to gender and educational stream, it is found that there was no significant difference in anxiety level between boys and girls of postgraduate and Arts and Science stream students of Madhabdev University. The boys and girls and Arts and Science stream students have almost an equal level of anxiety. On the other hand, the mean scores of science stream's PG students are greater than Arts stream's students, so it can be said that the science stream's student seems to be more anxious, i.e. more affected by anxiety, than Arts stream's students.

Educational Implications and Recommendations of the Study

The researchers would like to highlight the following points for consideration based on the analysis done in the current study

1. Educational institutions should consider setting up professional counselling services to support students dealing with anxiety, stress, and related mental health challenges. Regular sessions can help students develop coping strategies.
2. Educational institutions or universities can conduct workshops on stress management, yoga, meditation, and time management to help students better manage academic pressure and reduce anxiety.
3. Given that anxiety levels and academic pressures vary across educational streams, departments should design stream-specific academic support sessions, such as tutorials, group study programs, or additional mentoring.
4. As female students reported slightly higher anxiety levels, gender-sensitive counselling and support initiatives should be promoted. Female mentorship programs can be particularly beneficial.
5. Students should develop and maintain a well-structured study schedule and break down large tasks into smaller, manageable goals to reduce stress and increase productivity.
6. Students should engage in relaxation exercises such as deep breathing, meditation, yoga, or progressive muscle relaxation to calm the mind and reduce anxiety.
7. Many universities provide free counselling for stress-management

programs. students should be engaged in such programs.

8. Teachers should create an atmosphere of openness, respect, and encouragement where students feel safe to express their thoughts and emotions without fear of judgment.
9. Teachers should promote group discussions, peer study groups, and collaborative projects. This reduces isolation and helps anxious students build social support networks.

Discussion and Conclusion

The current study focused on investigating the level of anxiety among postgraduate students at Madhabdev University, paying particular emphasis to variations by gender and educational stream. The results provide a significant proportion of postgraduate students who experience high levels of anxiety, and many experience low anxiety. Gohain (2016) showed in his study that there is a significant correlation regarding the level of test anxiety between boys' and girls' students**.** There was no significant difference in anxiety level between boys and girls of postgraduate and Arts and Science stream students. Moreover, based on the mean scores of science stream's PG student are greater than Arts stream's student, so it can be said that the science stream's student seems to be more anxious i.e. more affected by anxiety than Arts stream's student and it can be seen that when anxiety levels were compared across different educational streams, it was observed that students in science courses reported higher anxiety than those in humanities or social science, Singh et.al. (2021). The study emphasises the need for institutions to prioritise mental health support for postgraduate students through tailored interventions such as counselling, stress management workshops, and peer support. Addressing anxiety is not only vital for student well-being but also plays a key role in enhancing academic performance and overall educational outcomes.

Delimitation of the Study

This study is limited to the students of postgraduate studies at Madhabdev University, Lakhimpur, Assam.

References

- Azeem, A. (2018). Study of academic anxiety and academic achievement among secondary school students. *International Journal of Research in Social Sciences,* 8(3), 147-161.
- Benjamin, L. S., & Mohammed, K. E. A. (2023). Test anxiety and academic performance: A correlational study among nursing college students. *The Journal*

of Palembang Nursing Studies, 2(3), 173-178.

- Das, Hazarika, Islam et.al (2024). Stress, Anxiety and Depression among College Students of Guwahati City during the COVID-19 Pandemic and Their Utilisation of Mental Health Services. *International Journal of Toxicological and Pharmacological Research*, volume-14, issue-7; 106-112, e-ISSN: 0975-5160, p-ISSN: 2820-2651 Available online on www.ijtpr.com
- Dhull, J. (2013). A comparative study of the achievement in science in relation to intelligence, academic anxiety and reading interest of the X class students in government and private schools of Haryana. Unpublished Ph. D. thesis. Maharshi Dayanand University.
- Gohain (2016). Test Anxiety and Academic Achievement: A Correlational Study among Undergraduate-level students in Assam, India. *International Journal of Education and Psychological Research (IJEPR)*, Volume 5, Issue 1.
- Guleria, M. M. A Study of Anxiety among adolescents in relation to their Personality, Mental Health and Family Environment.
- Hashmi, A. T., & Shakir, M. Studying Academic Anxiety in relation to Academic Achievement of Learners and Its Management in the light of Recommendations of Nep-2020.
- Khoshlessan, Das (2017). Analysing international students' study anxiety in higher education. *Journal of International Students,* Volume 7, Issue 2, Pages 311-328, *https://www.scopus.com/inward/record.uri?eid=2-s2,* ISSN: 21623104
- Okada, N. (2015). Foreign Language Anxiety Among Japanese International Students in the US.
- Rana, R., & Mahmood, N. (2010). *The relationship between test anxiety and academic achievement.* Bulletin of Education and Research, 32(2), 63-74.
- Saikia, Ahmed and Baruah (2022). Anxiety and depression among students using tobacco in a selected college of Sonitpur District, Assam: A cross-sectional study. *Manipal Journal of Nursing and Health Sciences*, Volume 8, Issue 1, and https://doi.org/10.55889/2582-7979.1001
- Singh et.al. (2021). A cross-sectional study on resilience, depression, anxiety, and stress among exam-going students. *The International Journal of Indian Psychology* ISSN 2348-5396 (Online) | ISSN: 2349-3429 (Print) Volume-9, Issue-1, January- March, 2021 DIP: 18.01.119/20210901, DOI: 10.25215/0901.119 http://www.ijip.in
- Singh, D. Academic Anxiety and Academic Achievement Among Secondary School Students.
- Talukdar, R., Dutta, S., & Das, S., 2023. Enhancing Skin Disease Diagnosis Through Convolutional Neural Networks and YOLO v8 Object Detection. In *2023 7th International Conference on Electronics, Materials Engineering & Nano-Technology (IEMENTech)* (pp. 1-

Analysis of Phubbing Behaviour and Prosocial Behaviour Among Higher Education Students

Manish Kumar Gautam and Nidhi Yadav***

Abstract

The present study examines the relationship between phubbing behaviour and prosocial behaviour among higher education students. A descriptive survey method was employed, and stratified sampling was used to select a sample of 256 students from various disciplines. Data were analyzed using descriptive statistics, t-test, Mann–Whitney test, and ANOVA. Findings reveal that phubbing behaviour is prevalent across all age groups of higher education students, with no significant differences based on gender or academic stream. Students from arts, science, and commerce disciplines demonstrated similar patterns of both phubbing and prosocial behaviour. However, a notable difference emerged in prosocial behaviour, as female students displayed higher levels than their male counterparts. The study highlights the need for educational institutions to play an active role in discouraging phubbing behaviour and fostering prosocial tendencies among students, thereby promoting healthier interpersonal relationships and academic environments.

Keyword: Phubbing behaviour, Prosocial behaviour, Higher education, Gender differences, Student psychology, FOMO

Introduction

In the modern world, technologies are making its way to change the entire lifestyle of a mankind; smart phones have emerged to be a life changer. The smart phones which contain the features of pocket computers possess many properties which include camera, internet, online video streaming, game applications and social media networking.

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However, despite their obvious advantages in bringing people together virtually, smartphones on the contrary have pulled the people apart in reality. Further, the increased usage of smartphone has given birth to different addictions which create the tendencies for the basis of phubbing. Phubbing may be a new coined word, but the phenomenon it describes is extremely familiar and realistic and it is now at the distressing stage. Phubbing behavior (phone + snubbing) is the act of ignoring one or more people in social situations to devote attention to one's smartphone, avoiding face-to-face interpersonal communication.

According to the Merriam webster dictionary (2024) the word 'Phubbing' came into existence in May 2012 when a consortium gathered at the University of Sydney to create a concept to describe the issue of ignoring another person in favor of one's phone. Chotpitayasunondh & Douglas (2018) mentioned that in May 2012, Australia's Macquarie Dictionary and the McCann advertising agency assembled a group of language experts to name a phenomenon common in the era of the smartphone. They dubbed the phenomenon phubbing, and defined it as «the act of snubbing someone in a social setting by looking at your phone instead of paying attention. A month later, the first example of phubbing in a major newspaper appeared in a letter to the editor of The Age, published in Melbourne. "Phubbing is an act of snubbing someone in a social setting by concentrating on one's mobile phone (Chotpitayasunondh & Douglas, 2018). Therefore, the term phubbing is a combination of two words phone and snubbing. According to oxford dictionary (2017), phubbing is "the practice of ignoring one's companion or companions in order to pay attention to one's phone or other mobile device". From its inception, phubbing was thus as unabashedly normative term. Phubbing is the act of ignoring someone you are with and giving attention to your mobile phone instead. (Cambridge English Dictionary, 2022). Phubbing is negatively associated. Karadağ and collaborators (2015, 2016), as well as Chotpitayasunondh and Douglas (2016) argue that phubbing is the combination of five addictive behaviours: addiction to mobile phone; addiction to sending Short Messages Services (SMS); addiction to the Internet; addiction to social media; and, addiction to online gambling. The phubbing behaviour can have several negative effects: Triggering feelings of exclusion, stress, and diminished self-worth, negatively affecting mental health and causing unnecessary interpersonal discord and strain on relationships. Common phubbing behaviors include checking your phone during conversations and using it as a distraction in real-life scenarios such as social gatherings, family dinners, and dates. These behaviors can lead to feelings of isolation and disconnection among the people around you.

Phubbing reduces the quality of social interactions between people in society as people who demonstrate this behavior can present as disrespectful to people around them, indicating that they wish to avoid interpersonal communication or they are not aware of or interested in their environment (Anshari et al., 2016). This type of social behaviours is against the pro-social behaviour. According to Olmos-Gómez at. el. (2023) prosocial behavior is those acts where people willingly and deliberately behave in a way that provides help to others. It includes cooperating, helping, comforting, sharing, and giving. Kakulte (20230 defined pro-social behaviour as voluntary behaviour intended to benefit another person. "Voluntary" emphasises the spontaneous initiative by actor in contrast to professional help (e.g., physicians or nurses). Pro-social is voluntary made with the intention of benefiting others (Marti-Vilar at el., 2019). Pro-social behaviour may include helping, sharing, giving, and comforting (Bierhoff, 2002).

Theoretical Framework of the Study

This study used Bandura's social learning theory (1977) and Social Identity theory by Henri Tajfel and John Turner (19700 as its theoretical framework. Social learning theory suggests that pro-social behaviour is learned (Bandura, 1977; Bandura & McDonald, 1963; Batson, 1998). Bandura (1977) believes humans are active information processors and think about the relationship between their behavior and its consequences. Albert Bandura's social learning theory suggests that people learn new behaviors by observing and imitating others. In social learning theory, Albert Bandura (1977) agrees with the behaviorist learning theories of classical conditioning and operant conditioning. Social identity theory is based on the premise that people identify with particular groups in order to enhance their self-esteem. Identification leads to selective social comparisons that emphasise intergroup differences along dimensions (Hogg & Abrams, 1988). Social identification reflects the notion that people generally do not perceive social situations as detached observers.

According to Struk at el. (2017) the theoretical frameworks for phubbing behavior emphasize the role of individual traits, motivations, and the influence of the technological environment, often drawing from Social Cognitive Theory, Uses and Gratifications Theory, and Attachment Theory. According to uses and gratification theory (Blumler and Katz, 1974), individuals actively seek media and technology to fulfill specific needs and gratifications. Key factors include psychological needs like stimulation and relief from negative emotions, fears of missing out (FOMO), and loneliness, which can lead to problematic smartphone

use (Franchinaa at el. 2018). According to Elhai and Contractor (20180 individuals with insecure attachment styles may use smartphones as a way to avoid intimacy or to find comfort, leading to a reliance on digital connections that can spill over into real-world interactions. Individual differences such as low self-control, impulsivity, and certain personality traits, combined with the design and accessibility of smartphones, create a complex interplay that predicts and perpetuates phubbing behaviors.

Research Questions

- What is the status of Phubbing behaviour among students of higher education?
- What is the status of Pro-social behaviour among students of higher education?

Research Objectives

1. To study the status of Phubbing behaviour among students of higher education.
2. To study the status of Pro-social behaviour among students of higher education,
3. To study the Phubbing behaviou rand Pro-social behaviour among students of higher education with their variables such as:

(i) Gender	Male/Female
(ii) Discipline	Arts/Commerce/Law

Research Design

This study uses Descriptive survey method to find out the status of Pubbing behaviour and Pro-social behaviour among the students of Higher education, because it enables the collection of comprehensive data from a large group in a systematic manner. This method provides an accurate description of existing patterns, attitudes, and practices without manipulating the environment. Since publishing behavior and pro-social tendencies are influenced by multiple personal and contextual factors, the descriptive survey allows for the identification of prevailing trends and variations among students.

Undergraduate and postgraduate students of University of Allahabad constitute the population of the Study. The disproportionate stratified random sampling was used to select sample of 265 from the different faculty of University of Allahabad. The Phubbing behaviour scale and pro-social behaviour scale was use to collect the data from the representative sample. The Cronbach alpha reliability coefficient of

both the scale was 0.76 and 0.80 respectively.

Analysis, Interpretation of Data and Discussion

For statistical analysis, interpretation of the data and discussion of result were presented in this section. The appropriate statistics were used as per the nature of the data. The assumptions of various tests were evaluated as per the objectives and subsequent hypotheses. Objective wise analysis is presented in this section:

Objective 1

To study the status of Phubbing behaviour among students of higher education.

On the basis of pre-established norm, the data was analysed and its interpretation was presented:

Table 1. Level of Phubbing behaviour of Higher Education Students

Level of Phubbing behaviour among Students of Higher Education.			
Levels of Phubbing behaviour	**Score Range**	**Frequency**	**Percentage**
High	61 & above	93	35%
Moderate	55-60	97	37%
Low	54 & below	75	28%
Total		265	100%

Table-1 clearly shows that 35% higher education students have high level of phubbing behaviour, while 37% higher education students have moderate level of phubbing behaviour and 28% have Low level of phubbing behaviour. The above result shows that more than 35% students of higher education have high level of phubbing behaviour which needs to be addressed properly. The reason is that there is substantial increase of smart phone. Very few students concern about the negative impact of smart phone use. About 28 % students of higher education have low level of phubbing behaviour.

Hanika (2015) stated that in his study the students admitted that they did phubbing. Al-Saggaf & MacCulloch (2019) in his studies found that the 50% of students of university is in the fairly high category of phubbing behavior. 27.5% of students with sufficient category. In the low category, only 7% of students were found.

Objective 2

To study the status of pro-social behaviour among students of higher education.

Table 2: Level of pro-social behaviour among Students of Higher Education

Level of pro-social behaviour among Students of Higher Education			
Level of prosocial behaviour	**Score Range**	**Frequency**	**Percentage**
Positive	75 and above	76	29%
Neutral	62 to 74	97	36%
Negative	61 & below	92	35%
Total		265	100%

Table- 2 clearly shows that 97 (36%) higher education students show neutral level of pro-social behaviour, while 92 (35%) higher education students have negative level of pro-social behaviour and 76 (29%) higher education students have positive level of pro-social behaviour. The above result shows that 36% students of higher education have little concern about their pro-social behaviour.29%students of higher education believe in sharing, helping and participating in community activities. 35% students have negative attitude towards community or social causes. It shows that by providing educational input and guidance positive approach can be developed among students with neutral approach and thereby the level of pro-social behaviour may be improved.

Weir and Duveen (1981) in their studies found that teachers need training in measuring the pro-social behaviour of the students. Peng, Jiang and Xiong (2024) found that college students' participation in service activities boost their pro-social behaviour. Spataro, Calabrò and Longobardi (2020) stated that empathy is key driver of pro-social behaviour.

Objective 3

To Study the Status of Phubbing behaviour Among Students of Higher Education with Respect To: (i). Gender - (Male/Female) (ii). Subject group - (Arts / Commerce / Law)

Before going to use Inferential Statistics, assumptions of normality and other assumptions also had been checked for parametric tests.

- **Objective 3. 1**

To Study the Status of Phubbing behaviour of Male and Female

Students of Higher Education.

Ho 3.1: There is no Significant Difference Between Phubbing behaviour of Male and Female Students of Higher Education.

For the both group, data did not follow the assumptions of parametric test. So, for hypothesis testing the null hypothesis non-parametric substitute of t-test, i.e., Mann-Whitney Test was used.

Table 3: Phubbing behaviour of Male and Female Students of Higher Education

Group	N	Rank Average	Sum of Rank	U	P*
Male	165	134.76	22235.00	7960.000	0.631
Female	100	130.10	13010.00		

***0.05 level of significance**

Table-3 clearly shows that there is no significant difference between Phubbing behaviour of Male and female students of higher education (U=7960.000, p=0.631>0.05) at 0.05 level of significance. Therefore, the null hypothesis stated that "There is no significant difference between Phubbing behaviour of Male and Female students of higher education." is failed to reject. Thus, Mann-Whitney test indicates that the Phubbing behaviour of Higher Education's Male students (Mdn=58.00) is statically equal to Higher Education's female students (Mdn= 58.50). Above result clearly shows that there is no influence of gender of higher education students on their Phubbing behaviour.

In many studies it was found that gender has significant relationship with phubbing behaviour. Females phub more frequently than males (Karadag et al.,2015; Chotpitayasunondh & Douglas, 2016). Female students are more reactive on phubbing behaviour than male students (Nazir & Bulut, 2019). Contrary to these, the present study shows that phubbing behaviour does not depend upon gender.

- **Objective 3.2**

To Study the Status of Phubbing behaviour of Arts, Commerce and Law Stream's Students of Higher Education.

Ho 3.2: There is no significant difference between Phubbing behaviour of Arts, Commerce and Law Stream's Students of Higher Education.

To check groups were homogenous or not, Leven's test had been performed and all the groups were found homogeneous. The following table 4 explain the analysis according to the framed hypothesis.

The descriptive statistics related to stream are as follows: Arts (N=

132, M= 58.77, SD= 8.818), Commerce (N= 26, M= 59.23, SD= 6.713), Law (N= 107, M= 58.39, SD=7.763).

Table 4: Summary Table of One-Way ANOVA Showing Phubbing behaviour of Arts, Commerce and Law Stream's Students of Higher Education

ANOVA: Tests of Between-Subjects Effects					
Dependent Variable: Phubbing Behaviour					
Source	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.***
$SS_{Between}$	17.798	2	8.899	.135	.877
SS_{Within}	17699.311	262	67.555		
Total	17717.109	264			

***0.05 Level of Significance**

A one-way ANOVA table 4 reveals that the obtained F value indicate there was no significant difference in mean Phubbing behaviour of higher education students enrolled in different streams (F=.135, p=.877>0.05) at df (2, 262) at 0.05 level of significance. Therefore, the null hypothesis stated that "There is no significant difference between Phubbing behaviour of Arts, Commerce and Law Stream's Students of Higher Education.' is failed to reject at 0.05 level of significance. Hereby, there is no statistically significant difference between groups as determined by one-way ANOVA (F (2,217) = .135. Above result clearly shows that all the three groups are statistically equal. It means that there is no influence of subjects of students of higher education on their Phubbing behaviour.

Phubbing behaviour is highly prevalent among students of age group 12 to 21. Phubbing is higher in university students than lower educational levels (Parmaksız, 2021). So, it indicates negative relationship between phubbing behaviour and educational levels. (Castrejon et. al., 2024).

Objective 4

To Study the Status of pro-social behaviour Among Students of Higher Education with Respect To (i). Gender - (Male/Female) and (ii). Subject group - (arts / commerce/ law)

- **Objective 4.1**

To Study the Status of Pro-social behaviour of Male and Female Students of Higher Education.

Ho 4.1: There is no significant difference between Pro-social behaviour of male and female students of higher education.

The null hypothesis was analysed by independent sample t-test. The result of t-test has been given in table 5. It had been followed by interpretation and discussion. However, to check equal variances of the groups, Levine's test (sign>0.05) had been done and groups were found variances statistically equal.

Table 5: Pro-social behaviour of Male and Female Students of Higher Education.

Independent Samples t- Test						
Group	**N**	**Mean**	**SD**	**t**	**df**	**p***
Female	100	69.30	11.878	1.99	263	0.045
Male	165	66.26	12.889			

Table 5 clearly revealed that there is a significant difference between Pro-social behaviour of male and female students of higher education (t=1.99, p= 0.045< 0.05) at 0.05 level of significance. Therefore, the stated null hypothesis that "There is no significant difference between Pro-social behaviour of male and female students of higher education" is rejected at 0.05 level of significance. Thus, independent sample t-test indicate that the Pro-social behaviour of male (mean= 66.26) and female (Mean=69.30) are statistically not equal. Above result clearly shows that the level of Pro-social behaviour of female students of higher education is more than male students of higher education.

Males reflected higher level of interpersonal competency or pro-social behaviour than females. (Han, Park & Kim, 2022). While using smartphone females displayed higher motor and self-control. Therefore, females have advantage in self-regulation of their pro-social behaviour (Sobhn & Lokesh, 2022). It shows that pro-social behaviour has significant relationship with gender.

- **Objective 4.2**

To Study the Status of Pro-social behaviour of Arts, Commerce and Law stream's Students of Higher Education.

H_o 4.2: There is no significant difference among pro-social behaviour of Arts, Commerce and Law stream's Students of Higher Education.

Since there were more than two groups so investigator had used one way ANOVA for the analysis of the data. To check groups were homogenous or not, Leven's test had been performed and all the groups were found homogeneous. The following table 6 explain the analysis according to the framed hypothesis.

The descriptive statistics related to stream are as follows: Arts (N= 132, M= 66.67, SD= 12.50), Commerce (N= 26, M= 71.23, SD= 10.682),

Law (N=107, M= 66.46, SD=12.892).

Table 6: Summary Table of One-Way ANOVA Showing Pro-social behaviour of Arts, Commerce and Law Stream's Students of Higher Education

ANOVA: Tests of Between-Subjects Effects					
Dependent Variable: Pro-social behaviour					
Source	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.***
$SS_{Between}$	511.249	2	255.625	1.635	.197
SS_{Within}	40958.509	262	156.330		
Total	41469.758	264			

***0.05 Level of Significance**

A one-way ANOVA table 4.10 reveals that the obtained F value indicate there was no significant difference in mean Phubbing behaviour of higher education students enrolled in different streams (F=1.635, p=.197>0.05) at df (2, 262) at 0.05 level of significance. Therefore, the null hypothesis stated that "There is no significant difference among pro-social r of Arts, Commerce and Law stream's Students of Higher Education.' is failed to reject at 0.05 level behaviour of significance. Hereby, there is no statistically significant difference between groups as determined by one-way ANOVA (F (2,217) = 1.635. Above result clearly shows that all the three groups are statistically equal. It means that there is no influence of subjects of students of higher education on their pro-social behaviour.

Batson at el. (1991) found that people help others out of genuine concern. Elias et. Al (1997) found that Social and emotional learning teach conflict resolution, empathy and collaboration. Colby, Ehrlich & Stephens (2003) in their study stated that participation in volunteer and civic activities help students become more socially responsible and morally engaged. Eisenberg, Spinrad & Morris (2014) explained in their study that Pro-social behaviour like mentoring and helping peers is linked to greater academic and emotional adjustments. Balabanian & Lemos (2020) came to conclusion that institutions that promote community engagement and service learning tend to foster stronger pro-social tendencies in students. In the present study, it is found that disciplines or subjects of study have no direct relationship with their pro-social behaviour.

Conclusion

The phubbing behaviour and prosocial behaviour have notable impact on education field. These behaviours have a tendency to affect

the student's ability to learn, analyse and develop critical thinking which are necessary for personality development. Excessive use of phone by students may affect their ability of study. Pro-social behaviour is also helpful in full fledge personality development and socialization of students. Phubbing behaviour prevalent among all age group and it has no significant difference on gender or stream basis. Students of all the three disciplines arts, science and commerce show similar phubbing behaviour and pro-social behaviour. However, the level of Pro-social behaviour of female students of higher education is more than male students of higher education. The educational institutions can play active role in discouraging phubbing behaviour among students. Moreover, educational institutions can also take lead in encouragement and improvement of pro-social behaviour among students. Students' irrespective of disciplines, residence and gender needed attention in the educational institutions to come out from the menace of phubbing behaviour.

In addition, the current study contributes to the literature because of its unique focus—namely, examining participants' phubbing behaviour, rather than whether they themselves were being phubbed. Thus, our findings illuminate the characteristics of individuals who engage in phubbing. The research also has some practical implications. By comprehending factors that may escalate phubbing behaviour, psychologists, psychiatrics, educational counsellors, and family therapists can offer assistance to couples with high levels of phubbing. This knowledge may generate practical strategies for improving the quality of relationships in the context of digital device usage. To achieve greater social involvement, it might be more advantageous to promote a more transcendent vision of social reality rather than a more materialistic one, motivating individuals to look for more universal values. At the same time, it is crucial to customize counselling specifically for women and men, considering the gender differences identified in the current study.

References

- Al-Saggaf, Y., & MacCulloch, R. (2019). Phubbing and social relationships: Results from an Australian sample. *Journal of Relationships Research, 10,* e9. https://doi.org/10.1017/jrr.2019.9
- Anshari, M., Alas, Y., Hardaker, G., Jaidin, J. H., Smith, M., & Ahad, A. D. (2016). Smartphone habit and behavior in Brunei: Personalization, gender, and generation gap. *Computers in Human Behavior, 64,* 719–727. https://doi.org/10.1016/j.chb. 2016.07.063
- Balabanian, C., & Lemos, V. (2020). The role of attribution in adolescent prosocial behavior. *Interdisciplinaria, 37(2),* 129–142. https://doi.org/10.16888/

interd.2020. 37.2.8

- Bandura, A. (1977). *Social learning theory*. Prentice-Hall.
- Bandura, A., & McDonald, F. J. (1963). Influence of social-reinforcement and behavior of models in shaping children's moral judgments. *Journal of Abnormal and Social Psychology, 67(3),* 274–281. https://doi.org/10.1037/h0044714
- Barbed-Castrejón, N., Navaridas-Nalda, F., Mason, O., & Ortuño-Sierra, J. (2024). Prevalence of phubbing behaviour in school and university students in Spain. *Frontiers in Psychology, 15,* 1396863. https://doi.org/10.3389/fpsyg.2024.1396863
- Batson, C. D., Batson, J. G., Slingsby, J. K., Harrell, K. L., Peekna, H. M., & Todd, R. M. (1991). Empathic joy and the empathy-altruism hypothesis. *Journal of Personality and Social Psychology, 61(3),* 413–426. https://doi.org/10.1037/0022-3514.61.3.413
- Bierhoff, H.-W. (2002). Just world, social responsibility, and helping behavior. In M. Ross & D. T. Miller (Eds.), *The justice motive in everyday life* (pp. 189–203). Cambridge University Press. https://doi.org/10.1017/CBO9780511499975.011
- Blumler, J. G., & Katz, E. (1974). *The uses of mass communications: Current perspectives on gratifications research.* Sage. https://eric.ed.gov/?id=ED119208
- Bowlby, J. (1969). *Attachment and loss: Vol. 1. Attachment* (2nd ed.). Basic Books.
- Cambridge Dictionary. (n.d.). *Globalisation.* Cambridge University Press. Retrieved September 14, 2025, from https://dictionary.cambridge.org/dictionary/ english/ globalisation
- Cambridge Dictionary. (2022). *Phubbing.* Cambridge University Press. Retrieved September 14, 2025, from https://dictionary.cambridge.org/dictionary/ english/ phubbing
- Chotpitayasunondh, V., & Douglas, K. M. (2016). How "phubbing" becomes the norm: The antecedents and consequences of snubbing via smartphone. *Computers in Human Behavior, 63,* 9–18. https://doi.org/10.1016/j.chb.2016.05.018
- Chotpitayasunondh, V., & Douglas, K. M. (2018). The effects of "phubbing" on social interaction. *Journal of Applied Social Psychology, 48(6),* 304–316. https:// doi.org/10.1111/jasp.12506
- Eisenberg, N., Spinrad, T. L., & Morris, A. (2014). Empathy-related responding in children. In M. Killen & J. G. Smetana (Eds.), *Handbook of moral development* (2nd ed., pp. 184–207). Psychology Press.
- Elhai, J. D., Contractor, A. A. (2018). Examining latent classes of smartphone users: Relations with psychopathology and problematic smartphone use. *Computers in Human Behavior, 82,* 159–166. https://doi.org/10.1016/j.chb.2018.01.010
- Elhai, J. D., Levine, J. C., Dvorak, R. D., & Hall, B. J. (2016). Fear of missing out, need for touch, anxiety and depression are related to problematic smartphone use. *Computers in Human Behavior, 63,* 509–516. https://doi.org/10.1016/j. chb.2016.05.079
- Franchina, V., Vanden Abeele, M., Van Rooij, A. J., Lo Coco, G., & De Marez, L. (2018). Fear of missing out as predictor of problematic social media use and phubbing behavior among Flemish adolescents. *International Journal of Environmental Research and Public Health, 15(10),* 1–18. https://pmc.ncbi.nlm. nih.gov/articles/PMC6211134/

- Hanika, I. M. (2015). Fenomena phubbing di era milenia (Ketergantungan seseorang pada smartphone terhadap lingkungannya). *Interaksi: Jurnal Ilmu Komunikasi, 4(1),* 42–51. https://doi.org/10.14710/ijfst.%v.%i.141-150
- Hogg, M. A., & Abrams, D. (1988). *Social identifications: A social psychology of intergroup relations and group processes.* Routledge.
- Kakulte, A., & Shaikh, S. (2023). Prosocial behavior, psychological well-being, positive and negative affect among young adults: A cross-sectional study. *Industrial Psychiatry Journal, 32*(Suppl 1), S127–S130. https://pmc.ncbi.nlm.nih.gov/articles /PMC10871400/
- Karadağ, E., Tosuntaş, Ş. B., Erzen, E., Duru, P., Bostan, N., Şahin, B. M., Çulha, İ., & Babadağ, B. (2015). Determinants of phubbing, which is the sum of many virtual addictions: A structural equation model. *Journal of Behavioral Addictions, 4(2),* 60–74. https://doi.org/10.1556/2006.4.2015.005
- Martí-Vilar, M., Corell-Garcia, L., & Merino-Soto, C. (2019). Systematic review of prosocial behavior measures. *Revista de Psicología PUCP, 37(1),* 349–377. https://doi.org/10.18800/psico.201901.012
- Martí-Vilar, M., Villalonga-Aragón, M., González-Sala, F., Hidalgo-Fuentes, S., Merino-Soto, C., & Toledano-Toledano, F. (2023). Promoting prosociality and health through musical interventions with groups at risk of social exclusion: A systematic review. *Sustainability, 15(23),* 16334. https://doi.org/10.3390/su152316334
- Merriam-Webster. (2022). Phubbing: An invented word that might be too useful to ignore. In *Merriam-Webster.com*. Retrieved September 14, 2025, from https://www.merriam-webster.com/words-at-play/phubbing-words-we%27re-watching
- Merriam-Webster. (2024). *Art and play*. https://www.merriam-webster.com/wordplay/phubbing-words-we%27re-watching
- Nazir, T., & Bulut, S. (2019). Phubbing and what could be its determinants: A dugout of literature. *Psychology, 10,* 819–829. https://doi.org/10.4236/psych.2019.106053
- Olmos-Gómez, M., Ruiz-Garzón, F., Azancot-Chocron, D., & López-Cordero, R. (2023). Prosocial behaviour axioms and values: Influence of gender and volunteering. *Psicologia: Reflexão e Crítica, 36,* 16. https://doi.org/10.1186/s41155-023-00258-y
- Park, S., & Kim, Y. (2022). A metaverse: Taxonomy, components, applications, and open challenges. *IEEE Access, 10,* 4209–4251. https://doi.org/10.1109/access.2021.3140175
- Parmaksız, İ. (2021). Relationships between phubbing and the five factor personality traits. *Kastamonu Education Journal, 29(4),* 32–42. https://doi.org/10.24106/ kefdergi.795620
- Peng, L., Jiang, Y., Ye, J., & Xiong, Z. (2024). The impact of empathy on prosocial behavior among college students: The mediating role of moral identity and the moderating role of sense of security. *Behavioral Sciences, 14(11),* 1024. https://doi.org/10.3390/bs14111024
- Sobhan, C. N., & Lokesh, L. (2022). Relationship between phubbing and impulsivity among young adults. *International Journal of Indian Psychology, 10(2),* 549–556. https://ijip.in/wp-content/uploads/2022/07/18.01.056.20221002.

pdf

- Spataro, P., Calabrò, M., & Longobardi, E. (2020). Prosocial behaviour mediates the relation between empathy and aggression in primary school children. *European Journal of Developmental Psychology, 17,* 727–745. https://doi.org/10.1080/17405629.2020. 1712182
- Struk, A. A., Carriere, J. S. A., Cheyne, J. A., & Danckert, J. (2017). A short boredom proneness scale: Development and psychometric properties. *Assessment, 24(3),* 346–359. https://doi.org/10.1177/1073191115609996
- Weir, K., & Duveen, G. (1981). Further development and validation of the prosocial behaviour questionnaire for use by teachers. *Journal of Child Psychology and Psychiatry, 22(4),* 357–374. https://doi.org/10.1111/j.1469-7610.1981.tb00561.x

Learning Unleashed: Games for Inclusive Educational Environment

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Abstract

Creating equitable, captivating, and engaging learning experiences for students in an inclusive educational environment remains a significant challenge in education. To overcome this challenge, educational games are proving to be a boon. There are many learning methods but the use of educational games is one of the best for students in an inclusive educational environment. It fulfills the diverse needs of all types of students. By this method, students learn through play. This increases the retention power and attentiveness of students as well as reduces their anxiety. This study sheds light on the compact history of educational games and evaluation as a learning method and lists various educational games as a learning method for students in an inclusive educational environment. This study also highlights the importance of educational games in an inclusive educational environment and creates awareness regarding skills development in students of the inclusive educational environment by using educational games as a learning method. The study also described that though the educational games have both positive and negative impact on students, their negative impact can be minimized or even eliminated when it is implemented thoughtfully and judiciously on students. This paper will help teachers to use educational games as a learning method.

Keywords- Educational Games, Learning Method, Inclusive Educational Environment, National Education Policy 2020

Introduction

Every child is unique in themselves. They have individual differences. Education is the greatest tool for attaining social justice and equality

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(National Education Policy, 2020). Each child has the right to education and they learn at their own pace. A teacher should be competent to teach all students simultaneously. When students with various types and diverse needs learn under one roof, this environment is known as an inclusive educational environment. Inclusion is sometimes envisioned as the intentional and self-conscious structuring of whole-school and classroom environments so that they are accessible and congenial not only to students with disabilities but also to those who can face exclusion or disempowerment due to their ethnicity, social class, gender, culture, religion, immigration history, or other attributes (Kirschner, 2015). In National Education Policy 2020, students belonging to Socio-Economically Disadvantaged Groups (SEDGs) are broadly categorized as following-

Table 1: Socio-Economically Disadvantaged Groups (SEDGs)

Gender identities	**Female and transgender**
Socio-cultural identities	OBCs, Scheduled Castes, Scheduled Tribes, and minorities
Geographical identities	Students from villages, small towns, aspirational districts, hilly and remote areas
Socio-economic conditions	Migrant communities, victims of child trafficking, low-income households, children in vulnerable situations, orphans (including child beggars)
Disabilities	Locomotor disability, muscular dystrophy, leprosy cured person, cerebral palsy, dwarfism, acid attack victims, multiple sclerosis, mental illness, blindness, low-vision, deafness, hard of hearing, speech & language disability, autism spectrum disorder, intellectual disability, Parkinson's disease, specific learning disabilities, thalassemia, chronic neurological conditions, sickle cell disease haemophilia, and multiple disabilities and deaf-blindness as specified in the schedule of the RPwD Act 2016

(National Guidelines and Implementation Framework on Equitable and Inclusive Education, Pg. no.- 13-14)

Learning for all is a global challenge. National Education Policy, 2020 dreams of ensuring equitable access to quality education for all students with special emphasis on SEDGs. For the successful realization of this dream government as well as all stakeholders has to work on it. In an inclusive educational environment education is provided to all students belonging to Socio-Economically Disadvantaged Groups (SEDGs) in a single classroom. There are three components of the educative process – learners, teacher, and the subject matter (Rosy, 2015). What is to be learned, how it is to be learned, and the setting in which it is to be learned comprise the subject matter. There are

many ways for "how it is to be learned". The present era is the era of technology. Technology plays a significant role in the improvement of educational processes and outcomes (NEP, 2020). By using technology, a teacher teaches students in effective ways. Games are played by people of all ages. The word "Educational Games" become very popular in the world of education. Nowadays, this is a popular learning method. Games are the physical and mental ability with rules that are done for fun, happiness, entertainment, and enjoyment. French Sociologist Roger Caillois, in his book Les jeux et Les hommes (Games and Men), gives some characteristics of games that are given in figure 1-

Figure 1: Characteristics of Games

Games that are used in educational environments are known as Educational Games. A game that combines elements of entertainment and education to boost students' motivation and engagement is called an Educational Game (Al azawi, Bulshi, & Farsi, 2016). An Educational Game is a particular type of learning aid that necessitates competitive activities that are played inside predetermined guidelines (Allery, 2014). A competitive activity with rules that foster knowledge and connections and give students a greater understanding of the world is called an Educational Game. These games come in both digital and physical forms (Rouse, 2014). Students can learn better with the help of Educational Games. Learning objectives have been taken into consideration when creating educational games. Since educational games incorporate game-based learning, the word "educational games" refers to both the process of learning and the teaching approach. Educational Games help students to learn new languages, and acquire skills. It gives a better understanding to students about various subjects, topics, and theories and expands the concepts. Educational Games can be used both inside and outside of the classroom. An inclusive educational environment involves different types of students, Educational Games are very helpful in teaching all students together. Every student likes the games. Through games, they learn easily. Educational Games is one of the best innovative strategies for teaching-learning process. The ability to learn new skills are increased by 40% when game mechanics are used (Sharma & Kumar, 2024). By using Educational Games as a Learning Method student engagement and motivation can be enhanced, collaborative and critical thinking skills can be foster. Learning by Educational Games make education interesting and students learn with concentration.

Therefore, Educational Game as a Learning Method is very crucial for students of inclusive educational environment.

Li et. al. (2024) conducted a study on "The impact of digital educational games on student's motivation for learning: The mediating effect of learning engagement and the moderating effect of the digital environment" By using a mixed-methods approach based on behaviorist learning theory and contextual cognition theory, this study seeks to close current research gaps. The findings of the study show that: first, students' motivation to learn is positively impacted by digital educational games; second, learning engagement acts as a mediator between students' motivation to learn and digital educational games; and third, the relationship between students' learning engagement and digital educational games is moderated by the digital environment.

Cheung & Ng (2021) conducted a study on "Application of the Educational Game to enhance student learning". The objective of this study is to explore the use of an educational game to enhance student learning effectiveness. 56 college students majoring in recreation administration and physical education participated in this study. Students studied the motor learning and development course using the educational computer game "PaGamO." The researcher concluded that students' learning results can be improved by combining gamification with conventional teaching techniques.

Neto, Fontoura Junior, Bordini, et. al. (2020) conducted a study on "Design and implementation of an educational game considering issues for visually impaired people inclusion". The purpose of this article is to outline the steps involved in creating, implementing, and assessing an accessible version of the educational game Em Busca do Santo Grau. This version is based on EduGameAccess, a set of guidelines that combines accessibility, playability, and education for individuals with visual impairments.

Ustundag & Ozcan (2018) conducted a study on the "Effect of Educational Games on Self-concept Levels of Inclusive Students Studying in Secondary Schools". The impact of educational games on the self-concept levels of inclusive secondary school students is investigated in this study. A control group for the pretest and posttest was included in the semi-experimental design of the study. In terms of physical competence, physical attractiveness, peer relationships, and general self-concept elements of the self-concept scale, a substantial difference has been discovered in favor of the students in the experimental group at the conclusion of this study. Regarding the scale's dimension of

relationships with parents, however, there was no discernible difference between the two groups.

Objectives

1. To know the compact history of Educational Games.
2. To know the Educational Games as a Learning Method.
3. To list out various Educational Games as a Learning Method for Students of Inclusive Educational Environment.
4. To know the importance of Educational Games in an Inclusive Educational Environment.
5. To know the Skill Development in Students of Inclusive Educational Environment by using Educational Games as a Learning Method.

A Compact History of Educational Games

The concept of the Educational Games created especially for educative reasons, is quite young, having emerged around fifty years ago. A Compact history of Educational Games is as follows-

Ancient Era

In Ancient Greece both Aristotle and Plato promoted play as an educational tool. The play was seen by Plato as a precursor to actual knowledge, but Aristotle took a more instrumental stance, considering it a way to unwind and eventually improve learning.

Teachers revived the idea of games as a teaching tool during the Renaissance. Games were seen as the best way to learn in the 17th century when educator John Amos Comemius introduced his ground-breaking holistic theories of education. "The art of turning all our schools into games" was something that the Czech philosopher fervently believed in and supported. He is referred to as the Father of Modern Didactics because of his ongoing contributions to education.

A Compact History of Educational Games from the 1900s to the 2010s is shown in Table 2-

Table 2: History of Educational Games from the 1900s to the 2010s

1900s	Lev Vygotsky, Jean Piaget, and John Dewey were among the educators who popularised play and games as a teaching strategy in the 1900s. In his research on the value of play for children, Piaget, for instance, proposed that play helped kids develop the psychological skills required for higher-order thinking. Later in the 1970s and 1980s, Thomas Malone and Mark Lepper, each offered their explanations for why computer games are captivating and inspire internal motivation.
1970s	1971: MECC releases one of the earliest Educational Games. American pioneers in the nineteenth century were taught about by the Oregon Trail. 1977: Saw the arrival of the Apple II, a device that allowed floppy disc gaming. Apple sold the PCs to schools in an effort to actively seek the education market.
1980s	1982: Comodore, a rival computer firm, releases the Comodore 64 to take on the Apple II. It quickly established itself as standard in school computer labs. 1985+: Several well-known Educational Games are released, some of which are still in use today. Among these were Reader Rabbit (1986), Math Blaster (1987), and Where in the World is Carmen Sandiego (1985).
1990s	1991: The advent of the internet makes educational games widely available online. 1999: Whyville, the first educational game to successfully incorporate virtual currency and world simulations, was released.
2000s	2003: The release of Scratch, a child-friendly programming language inspired young students to create their games. 2006 – 2008: Nintendo Wii's Big Brain Academy (2006) and PS3's Little Big Planet (2008) introduce educational gaming to the general public.
2010s	2011: Minecraft is released by developers at Sandbox. Its capacity for game-based learning makes it popular very quickly, and within a few years, an official education edition is published. 2014: The inaugural STEM video game challenge in Australia took place. Building, creating, and testing an original video game is the task assigned to participants. The task aims to improve children's STEM skills.

Present Era

Now, in the twenty-first century, Educational Games have developed into a distinct category of video games that include a wide range of subjects and genres. In the present era for creating personalized learning experiences for various types of students Educational Games are used in inclusive educational environments. As we begin a new decade, Educational Games continue to grow in popularity. IGEA's Digital Australia 2020 report states that video games are currently taught in more than half of schools (52%) of all schools. 61% of teachers feel that games are helpful in STEM classes, which is driving the rise. Additionally, game development is being taught in 26% of schools to students.

Educational Games as a Learning Method

Learning Methods are the activities, systems of practices, and procedures deliberately undertaken by teachers, mentors, and educators to enrich the learning journey of an individual, team, or organization. In an inclusive educational environment, students with diverse needs learn together. This presents a challenging task for teachers, who must fulfill the needs of all students in the same class. Educational Games are an excellent method that can be used as a learning tool to address the needs of all students in the same class efficiently. Educational games are one of the best learning methods made predominantly for students of all ages. It is said that the more the sense organs are used in the learning process, the more smoothly the learning process goes and the better the child learns. Educational games include puzzles, audio, videos, world association, etc. so we can say that Educational Games are very beneficial for the learning process. It is used as a learning tool and learning method in the educational field and is very fruitful in cognitive, affective, and psychomotor domains. The most important thing about the Educational Game as a Learning Method is students can take its advantages from pre-school to secondary education and beyond. A vital element for creating a welcoming and stimulating learning environment is educational gaming. Students' acquisition of soft skills is one of their major advantages. Active engagement is encouraged by Educational Games, which improve learning and retention.

List of Educational Games as a Learning Method for Students of Inclusive Educational Environment

The teaching-learning process relies heavily on students, teachers, and the curriculum. The curriculum provides teachers with a clear understanding of what they need to teach. Once teachers know the content, they consider the most effective teaching methods, and games can be a particularly valuable learning tool. Numerous Educational Games are available today. When selecting an Educational Game, it's important to consider the specific skills being targeted for improvement and development. The game should be enjoyable, age-appropriate, and aligned with students' interests. There are many Educational Games some of them are following-

Table 2: List of Educational Games as a Learning Method

S. No.	Educational Games	Objective
1.	Dragon Box	For learning Algebra
2.	Code Spells	For learning Coding Skills

3.	Mind Snacks	Learning phrases and for forming words
4.	Scribble Naughts	Focuses on the spelling, creativity and logic sides of education, reasoning skills
5.	Game Star Mechanic	Used to teach life skills and creative problem solving
6.	Mind-blown Life	Teaching finance and money management
7.	Civilization Revolution	Teach teen students about the History, Culture & Empires in a fun way
8.	Two Dots	Simple puzzle game that tests students colouring speed and skills
9.	Math Blaster Hyper Blaster 2	Aims to improve student's mathematical skills
10.	Reader Rabbit	Improve language skills
11.	Word Ballons	Vocabulary skills
12.	Hyper Rogue	Puzzle game
13.	Fish School	Beneficial for Pre-Primary Schools
14.	Dinosaur Park Math	Mathematics game suitable for Primary School Students
15.	SimCity	Used in STEM (Science, Technology, Engineering, Mathematics)

Importance of Educational Games in an Inclusive Educational Environment

The importance of Educational Games in an inclusive educational environment is following –

- **Enhanced engagement**- Students are inherently drawn to games. Learning becomes enjoyable and interesting when components like quests, leaderboards, badges, and points are incorporated into the lessons. Students are more likely to participate actively and retain information better when they are motivated and enjoy the learning process.
- **Promoting collaboration**- A lot of Educational Games call for cooperation and teamwork, which helps to develop social skills and a feeling of community. Multiplayer games and group challenges foster collaboration, idea sharing, and mutual support among students, fostering an inclusive atmosphere where each person's input is respected.
- **Adapting to diverse learning modes**- Educational Games facilitate a range of learning modes, including kinaesthetic, visual, auditory, and hybrid approaches. These various preferences can

be accommodated via interactive games that incorporate sound effects, visual aids, and hands-on activities, guaranteeing that every student can learn in a manner that best suits them.

- **Personalized learning**- Educational Games make it possible for students to have personalized learning experiences where they can advance at their own speed. Levels, challenges, and rewards allow teachers to customize the learning process to each student's needs.
- **Make learning easier**- Educational games serve to simplify complex topics, making challenging subjects more accessible to students. Large and tough topics can sometimes overwhelm students, particularly those who may have learning difficulties. Educational Games break down these topics into smaller, more manageable parts, presenting them engagingly and interactively. This is particularly beneficial in an inclusive educational environment, as it ensures that all students can grasp challenging concepts, regardless of their prior knowledge or academic background.
- **Fostering problem-solving and critical thinking**- A lot of Educational Games are made to test students' ability to think critically and solve problems. Students gain strategic thinking, decision-making, and problem-solving abilities through game scenarios, all of which are critical for success in school and life.
- **Reducing anxiety**- Conventional exam settings can cause anxiety in certain students. Another, frequently seen as less stressful, approach to assessment is Educational Games. Because of this decrease in worry, a student's skills and knowledge may be more accurately reflected.
- **Enhanced attentiveness**- Students' attentiveness can be improved by playing Educational Games. Educational Games offer a setting that keeps students' attention in an inclusive educational environment where they may have varying levels of focus and attention. Students remain engaged and focused on the topic at hand because of the dynamic nature of games and their interactive components.
- **Making learning fun**- Educational Games' primary goal is to make learning fun. Students who like their schooling are more likely to have a favorable attitude toward learning. This favorable relationship can cultivate a lifetime love of learning and improve their entire school experience.

- **Instant feedback**- A key component of successful learning, gamified learning frequently incorporates instant feedback. Students can rapidly identify their strengths and areas for development.

Skill development in Students of the Inclusive Educational Environment by using Educational Games as a Learning Method

An inclusive educational environment includes diverse students and each student has some unique talent when a teacher is competent to utilize these talents in their classroom it leads to excellent outcomes and the well-being of all students. For this, it is required that teachers instruct their students effectively and interactively. Developing skills in students is one of the main objectives of providing education. Educational Games are like a boon for skill development in students. When a teacher uses Educational Games as a Learning Method the following skills are developed in a student-

- Recall and retrieval of knowledge
- Memory skills
- Word skills
- Creative skills
- Counting, number, recognition, and mathematic skills
- Lateral thinking or strategic thinking
- Hand-eye coordination
- Technical and problem-solving skills

Nowadays, many types of Educational Games are helpful in skill development list of such types of Educational Games are the following-

Table 3: Types of Educational Games which are helpful in Skill Development

S. No.	Skills	Type of Educational Game
1.	Recall and retrieval of knowledge	Quizzes
2.	Memory skills	Matching Pairs, Puzzle games, Card games
3.	Counting, number recognition and mathematics skills	Snakes and ladders, card games, bingo and countdown
4.	Lateral thinking or strategic thinking	Four in a row, draughts and chess games, board games guessing games, simulation games, video games
5.	Hand – eye coordination	Computer games using a mouse, block games, video games

6.	Word skill	Word building games
7.	Creative skills	Face iMake educational game, Role-playing games, video games
8.	Technical and problem-solving skills	Lightbot Educational Game

Educational Implication

This paper will help teachers in teaching students with diverse needs. Educational games will help students to learn while playing. This paper is very fruitful for teachers and students.

Conclusion

Educational Games offer a promising learning method in today's digital age, potentially fostering a more inclusive educational environment and student well-being. However, like any tool, Educational Games have both advantages and disadvantages. Although it is very beneficial for students as it makes studying easier it has some negative impacts too such as too much screen time on the computer, laptop, mobile, etc. harmful to physical and mental health, games can be a major source of distraction for students, etc. But Educational Games can be beneficial if implemented thoughtfully, their potential drawbacks must be considered. Used judiciously, the negative impacts can be minimized or even eliminated. In this digital era, digital proficiency is essential, and Educational Games can engage and motivate students, sparking their interest in learning. From a psychological perspective, Educational Games hold significant value, offering teachers an effective and accessible way to impart knowledge, and allowing students to learn more easily and effectively.

References

- Al Azawi, R., Bulshi, M. & Farsi, F. (2016). Educational Gamification Vs. Game Based Learning: Comparative Study. *International Journal of Innovation, Management and Technology (IJIMT), 7*(4), 131-136. 10.18178/ijimt.2016.7.4.659
- Allery, L. (2014). Make use of educational games. *Educ. Prim. Care, 25*, 65–66.
- Chaos Theory. (2021). *What are Educational Games?* https://www chaostheorygames.com/blog/what-are-educational-games-2021#:~:text=Educational%20games%20are%20those%20designed,a%20subset%20of%20serious%20gaming.
- Cheung, S. Y. & Ng, K. Y. (2021). Application of the Educational Game to Enhance Student Learning. *Frontiers in Education, 6,*1-10. https://doi.org/10.3389/feduc.2021.623793
- Chowdhury, C., Ray, R., & Nandi, S. (2022). Educational games as an effective Learning Method. *International Advanced Research Journal in Science, Engineering and Technology,* 9 (3), 66-70.

- Ducksters. (2023). *Educational Games*. https://www.ducksters.com/games/
- Editorial Team. (2024). *Gamification for Inclusive Education: Engaging Every Learner*. World Ed Foundation. https://www.worldedfoundation org/ post/ gamification-for-inclusive-education-engaging-every-learner#:~:text=Inclusivity%20Through%20Accessibility%3A%20Educational%20games,cognitive%20abilities%2C%20can%20participate%20fully.
- Edsys. (2018, August 17). *10 Outstanding Educational Games for Students*. https://www.edsys.in/educational-games-for-students/ .
- Edsys. (2023, June 2017). *16 Best Edutainment Games for 2023*. https://www.edsys.in/best-edutainment-games/.
- Kirschner, S. R. (2015). *Inclusive Education*. ResearchGate. https://www.researchgate.net/publication/293337563_Inclusive_Education.
- Li, Y., Chen, D. & Deng, X. (2024). The impact of digital educational games on student's motivation for learning: The mediating effect of learning engagement and the moderating effect of the digital environment. *PLoS One, 19*(1), 1-21. 10.1371/journal.pone.0294350. PMID: 38206923; PMCID: PMC10783726.
- Ministry of Human Resource Development. (2020). National Education Policy 2020. Government of India.
- Neto, L.V., Fontoura Junior, P.H., Bordini, R.A. et al. (2020). Design and implementation of an educational game considering issues for visually impaired people inclusion. *Smart Learning Environments, 7*(4), 1-16. https://doi.org/10.1186/s40561-019-0103-4
- Play Curious. (2023). *Game-based learning vs. Educational Games*. https://playcurious.games/the-history-of-game-based-learning-1530/#:~:text=dice%20in%20games!,The%20history,education%2C%20albeit%20in%20varying%20ways.
- QXAMPLES. (n.d.). *Examples of Educational Games*. Exampleslab. https://www.exampleslab.com/examples-of-educational-games/#:~:text=There%20are%20various%20types%20of,school%20and%20in%20the%20home.
- Rosy, M. M. (2015). Research in Curriculum Development. *Asian J. Nur. Edu. and Research, 5*(3), *431-436*. DOI: 10.5958/2349-2996.2015.00086.5.
- Rouse, K.E. (2013). Gamification in Science Education: The Relationship of Educational Games to Motivation and Achievement. *The University of Southern Mississippi: Hattiesburg, MS, USA*.
- Sager. S. (n.d.). *10 Benefits of Classroom Games for Children (And Teachers Too)*. TeachStarter. https://www.teachstarter.com/us/blog/11-benefits-of-playing-games-in- the-classroom-resources-included/ .
- Sara. (2025). *25 Special Education Quotes About Inclusion*. Learning for a purpose. https://learningforapurpose.com/special-education-quotes/ .
- Sharma, V. & Kumar, J. A. (2024). *Gamification: A new era of inclusion in education*. ResearchGate. https://www.researchgate.net/publication/381124647_GAMIFICATION_A_NEW_ERA_OF_INCLUSION_IN_EDUCATION.
- Teixeira, I. & Vasconcelos, C. (2024). The Use of Educational Games to Promote Learning in Geology: Conceptions of Middle and Secondary School Teachers. *Geosciences, 14*(1), 1-14. https://doi.org/10.3390/geosciences14010016

- Twinkl. (n.d.). *What are Educational Games?*. https://www.twinkl.co.in/parenting-wiki/educational-games#:~:text=Types%20of%20Educational%20Games&text=Memory%20skills%20%2D%20for%20example%2C%20matching,can%20help%20with%20these%20skills.
- Ustundag, S, & Ozcan, G. (2018). Effect of Educational Games on Self-concept Levels of Inclusive Students Studying in Secondary Schools. *Journal of Education and Training Studies, 6*(10), 183-192. http://jets.redfame.com .
- Warren. E. (2021, May 20). *Teaching Methods for Learning?* Good Sensory Learning.https://goodsensorylearning.com/blogs/news/games-as-teaching-strategy .
- Working-Committee of Experts, Department of Education of Groups with Special Needs (DEGSN) & National Council of Educational Research and Training (NCERT). (n.d.). *National Guidelines and Implementation Framework on Equitable and Inclusive Education.* New Delhi.
- Zirawaga, V. S., Olusanya, A. I. & Maduku, T. (2017). Gaming in Education: Using Games as a Support Tool to Teach History. *Journal of Education and Practice, 8*(15), 55-64.

An Analysis of Research Attitude Among Higher Education Students: A Stream-Based Comparison

Shabia and Santosh Arora***

Abstract

Research is a way towards success. A favourable research attitude among higher education students is crucial for their personal, educational and professional growth. The present study aimed at comparing the research attitude among higher education students on the basis of their stream. For the study, a sample of 52 final year postgraduate students were selected randomly from M.J.P. Rohilkhand University campus, Bareilly and affiliated colleges in Bareilly district. Attitude Scale towards Research developed and standardized by Sood and Sharma was used for data collection. The study concluded that majority of arts students had unfavourable research attitude whereas science students showed a moderately favourable research attitude. No significant difference was found in students of arts and science stream and in between girls and boys of both arts and science stream in reference to their attitude towards research. But, boys of science stream were better in comparison to girls. However, girls of arts stream were better than boys of arts stream in their attitude towards research.

Keywords: Attitude, higher education, students, research, success.

Introduction

Present age is the era of science and technology. World is changing rapidly where every country wants to lead toward the development. Education is one of the important factors that can lead a country towards development. Education is the driving force for economic growth of the country and its achievement. In India, education system is divided into

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primary, secondary and tertiary levels. Tertiary education is also called higher education. There are three dimensions of higher education - Teaching, Research and Extension. Teaching and research both benefits each other. Teaching makes research practices better and research is helpful in achieving teaching - learning objectives and provide ways to improve teaching practices. Extension involves dissemination of new findings of the research to the reach of the people and educational institutions. Research provides a way to the people to move ahead in this dynamic and competitive world. Research explores ideas, discoveries, and innovations. It is helpful in bringing a person towards development and success. It means to enlighten the new knowledge and removes previous errors and misconceptions. Research helps students in enhancing their knowledge, modify existing knowledge and remove previous errors and misconceptions. Students can get in depth understanding of any particular topic and field by carrying research in that particular area. It is also helpful in development of various skills within the students such as analytical and critical thinking skills, observation skills, etc. It also develops scientific attitude among them. Research is helpful in increasing students' participation and contribution for the development of innovations in the field of education. To develop new ideas and theories in any educational field students are required to carry out research. For this they must be motivated internally. Students can only get intrinsic motivation when they possess positive research attitude.

Attitude is a tendency to behave in a certain way toward something, determining how much an individual likes or dislikes any object, activity, etc. It can be positive, negative and neutral. Positive attitude act as a driving force while negative attitude act as an obstacle for students towards performing research. Research attitude of postgraduate students means how students perceive about research and research related activities. Students are growth point of any country. They are responsible for its future and development. Especially higher education students who are preparing to enter into the world of work. They are at very crucial phase of their life. To achieve success, they must possess life skills such as analytical skills, problem solving skills, logical thinking skills. Research facilitates them in acquiring these skills. Research also explores them with various career opportunities. Nation seems them as a future researcher who can contribute to its development and progress. To become a researcher, a student must possess positive research attitude. A positive research attitude encourages them to carry out research. In order to develop positive research attitude, it is necessary to study about research attitude of postgraduate students. This will help in taking appropriate steps to improve students' research

attitude. Majumder and Sarkar (2017) studied research attitude of students of higher education and obtained a significant difference between students of arts and science stream students in reference to their research attitude. They identified that students of science stream were having better attitude than arts students. Singh (2015) found significant difference between research attitude of arts and science stream students. Butt and Shams (2013) while comparing research attitude of students of master in education identified that the pre-medical students were having significantly higher mean scores in comparison to arts and computer sciences students.

Objectives of the Study

1. To analyze the level of research attitude among students on the basis of their stream of study (arts & science).
2. To compare research attitude of postgraduate students of arts and science.
3. To compare the research attitude of science stream postgraduate students on the basis of gender.
4. To compare the research attitude of arts stream postgraduate students on the basis of gender.

Hypothesis of the Study

1. There is no significant difference in research attitudes of students on the basis of stream of study.
2. There is no significant difference between boys and girls of science stream in their research attitudes.
3. There is no significant difference in research attitude of boys and girls of arts stream.

Methodology

A sample of 52 final year postgraduate students studying at M.J.P. Rohilkhand University campus, Bareilly and its affiliated colleges of Bareilly district was selected randomly. Postgraduate students of both arts (History, Geography & Home Science) and science (Microbiology, Zoology & Physics) stream were selected as a sample. Attitude Scale towards Research constructed by Sood and Sharma (2012) was used by the researcher to collect data.

Results and Discussion

Table 1: Level of research attitude among students of arts stream (N= 27)

S. No.	Level of research attitude	Range of raw score	Percentage
1	Extremely favourable	196 & above	0%
2	Highly favourable	184 – 195	0%
3	Above average favourable	172 – 183	18.52%
4	Moderately favourable	156 – 171	25.93%
5	Unfavourable	144 – 155	25.93%
6	Highly unfavourable	132 – 143	11.1%
7	Extremely unfavourable	131 & below	18.52%

Table 1 represents level of research attitude among students of arts stream. The table reveals that out of 27 students only 44.45% students were having favourable research attitude while 55.55% students were showing an unfavourable research attitude. 25.93% students were found to have moderate and 18.52% students were having above average level of favourable research attitude. Whereas 25.93% art stream students showed an unfavourable research attitude, 11.1% students possessed highly unfavourable research attitude and 18.52% students were having an extremely unfavourable research attitude. But overall, the majority of arts stream students were found to possess unfavourable level of research attitude.

Table 2: Level of research attitude among science stream students

Sr. No.	Level of research attitude	Score	Percentage
1	Extremely favourable	196 & above	4%
2	Highly favourable	184 – 195	0%
3	Above average favourable	172 – 183	8%
4	Moderately favourable	156 – 171	48%
5	Unfavourable	144 – 155	24%
6	Highly unfavourable	132 – 143	12%
7	Extremely unfavourable	131 & below	4%

Table 2 shows level of research attitude among students of science stream. The table demonstrates that out of 25 science stream students; 60% students were having favourable research attitude while 40% students were showing an unfavourable research attitude. Only 4% students were found to have extremely favourable, 8% students showed above average and 48% students were having moderate favourable level of research attitude. Whereas 24% students showed an unfavourable research attitude, 12% students possessed highly unfavourable and

4% students represented an extremely unfavourable research attitude. On analysing data, it was analyzed that the majority of science stream students were possessing moderately favourable level of research attitude.

Table 3: Comparison of research attitude of postgraduate students of arts and science stream

Dimensions	Arts stream students (N = 27)		Science stream students (N = 25)		t
	Mean	S.D.	Mean	S.D.	
GARRP	50.15	5.75	51.32	6.72	0.67
URPC	30.56	5.03	32.84	4.2	1.78
RRPSL	30.26	6.14	32.56	3.98	1.61
DRRA	40.296	6.53	41.92	4.85	1.02
Research Attitude	151.26	19.96	158.64	15.21	1.51

Table 3 shows that the values of t-ratio are not significant at 0.05 level. Thus, null hypothesis can be accepted and it means that there is no significant difference among students of arts and science stream in reference to any of the four dimensions measuring research attitude namely. Also, no significant difference was found on overall research attitude of of arts and science stream. The result contradicts with the findings of Majumder and Sarkar (2017) and Roul (2018). Both while studying students' attitudes towards research found significant difference in research attitude of art and science stream students.

Table 4: Comparison of research attitude of boys and girls of science stream

Dimensions	Science Stream				t
	Boys (N = 14)		Girls (N = 13)		
	Mean	S.D.	Mean	S.D.	
GARRP	52.00	6.34	50.79	7.19	0.45
URPC	33.46	4.32	32.36	4.20	0.64
RRPSL	33.55	5.22	31.79	2.61	1.01
DRRA	41.64	5.41	42.14	4.56	0.25
Research Attitude	160.64	18.27	157.07	12.82	0.55

Table 4 shows that the value of t-ratios are not significant at 0.05 level. Therefore, the null hypothesis can be accepted and it means that on all the four dimensions of research attitude scale both girls and boys do not differ significantly in terms of their research attitude.

Table 5: Comparison of boys and girls of art stream in reference to research attitude

Dimensions	Art Stream				t
	Boys (N = 14)		Girls (N = 13)		
	Mean	S.D.	Mean	S.D.	
GARRP	49.86	5.88	50.46	5.83	0.27
URPC	29.50	5.57	31.69	4.31	1.15
RRPSL	27.50	6.70	33.23	3.81	2.71*
DRRA	38.86	7.15	41.85	5.67	1.21
Research Attitude	145.71	21.93	157.23	16.37	1.55

***Significant at 0.05 level**

Table 5 shows that the value of t-ratio (=2.71) is significant at 0.05 level. Thus, the corresponding null hypothesis can be rejected. It means that boys and girls of arts and science stream differ from one another on the third dimension 'Relevance of research in personal- social life' of research attitude. Boys and girls obtained mean scores are 27.5 and 3323, respectively. It means that female students have higher research attitude than the male students. Table 5 also shows that in reference to first, second and fourth dimensions- 'General aspects of research and research process', 'Usefulness of research in professional career' and 'Difficulties in research and research anxiety', respectively, both boys and girls do not differ significantly in respect to their research attitude.

Conclusion

Thus, it can be concluded from the study that the majority of art stream students had an unfavourable attitude towards research whereas majority of science stream students showed a moderately favourable research attitude. Both arts and science stream were showing moderately favourable attitude towards general aspects of research, an extremely unfavourable attitude towards research usefulness and its relevance in professional and personal life. In reference to research related difficulties and anxiety, art stream students showed highly unfavourable attitude than students of science stream. Both girls and boys of science stream owned moderately favourable attitude towards research. Both group share similar level of attitude on all the dimensions measuring research attitude. In case of arts stream, girls were having moderately favourable research attitude whereas boys were showing an unfavourable research attitude. Boys and girls of science stream demonstrate a moderately favourable attitude towards general aspects of research and an extremely unfavourable attitude towards research

usefulness in professional development and its relevance in personal-social life. Boys of art stream represented highly unfavourable attitude than girls towards research related difficulties and anxiety. The study further concluded that more research elements to be incorporated to enhance the level of research attitude among higher education students.

References

- Arora, S. & Shabia. (2020). *A study of attitude towards research among postgraduate students* (Unpublished master's Dissertation). Department of B.Ed./M.Ed. (I.A.S.E.), Mahatma Jyotiba Phule Rohilkhand University, Bareilly, Uttar Pradesh, India.
- Arora, S. & Shabia. (2021). Research attitude among postgraduate students. *Gradiva Review Journal, 7*(10), 110-115.
- Best. J. W & Kahn. J. V. (2011). *Research in Education* (10th ed.). New Delhi, India: PHI Learning Private Limited.
- Butt, I. H. & Shams, J. A. (2013). Master in Education students attitude towards research: A comparison between two public sector universities in Punjab. *A Research Journal of South Asian Studies, 28*(1), 97-105.
- Deka, D., Mishra, A. & Patel, H. (2015). Attitudes of postgraduate students towards research. *International Human Research Journal*, *3*(1), 1-12.
- Garrett. H. E (2018). *Statistics in Psychology and Education*. New Delhi, India: Paragon International Publication.
- Kaur, J. (2015). Attitude of post graduate students towards research. *International Multidisciplinary e- Journal*, *4*(5), 310-316.
- Majumder. M. B. & Sarkar. B. (2017). Attitudes of students towards higher studies. *International Journal of Research*, *4*(9), 1173-1179.
- Roul, R. (2018). Attitude of post-graduate students towards research. *Research Guru: Online Journal of Multidisciplinary Subjects*, *12*(2), 757-760.
- Shaukat, S., Siddiquah, A., Abiodullah, M. & Akbar, R. A. (2014). Postgraduate students' attitude towards research. *Bulletin of Education and Research*, *36(1), 111-122.*
- Singh, G. (2015). M.Ed. students attitude towards research in relation to stream. *Online International Interdisciplinary Research Journal, V*, 254-258.
- Sood, V., Sharma, Y.K. (2012). *Manual for Attitude Scale towards Research.* Agra.
- Sureshkumar. K. (2015). Attitude towards research among M.Ed. students. *International Journal of Multidisciplinary Research and Development*, *2*(8), 85-87.

Cross-cultural Awareness and Academic Mobility: Navigating the Global Citizenship in Study Exchange Programs

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Abstract

Study exchange programs offer a platform for multiculturalism, where students engage with the local culture and academic environment of the destination country. Having been an Erasmus+ student myself in Slovakia, Europe, I have explored my positionality in identity formation by delving into the concepts of global citizenship and cosmopolitanism. The paper adopts autoethnography as a methodology to critically explore the lived experiences and cross-cultural adjustments that emerge from this academic mobility. It has further incorporated the data from 12 fellow Erasmus+ students through online Google form questionnaires for further triangulation. By contextualising mine and other fellow students' personal narratives, the paper aims to contribute to the discourse of transnational educational experiences and how they enhance the global mindset of a learner.

Keywords: Multiculturalism, Identity-formation, global harmony, Cooperation, Cultural Empathy

Introduction

Internationalisation promotes diversity and multiculturalism, fostering a global mindset required for meaningful collaborations/ partnerships, the establishment of branch campuses, and other initiatives. Knight (2004) defines internationalisation as a trajectory of incorporation of global and intercultural dimensions for the efficient functioning of tertiary education. The recognition of this interconnectedness fosters

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a sense of global citizenship, where one develops a sense of belonging to other communities and is respectful of cultural differences. Cross-border partnerships foster diverse perspectives, improved recruitment networks, and curriculum innovation (Knight & Liu, 2019). The OECD defines Internationalisation of curriculum as,

> "A curriculum with an international orientation in content and/or form, aimed at preparing students for performing (professionally/socially) in an international and multicultural context and designed for domestic and/or foreign students" (Van Der Wende, 1996).

The idea of global citizenship vis-a-vis cosmopolitanism facilitates the development of values like global responsibility, respecting diversity, empathy and openness to diverse cultures that eventually smoothens the process of mobility. The collaboration of IIT Bombay with Monash University in Australia and IIT Delhi with Queensland University is a notable example of exchange programs where Indian students go for a semester abroad in Australia. Evidence of an outstanding outcome of the aforementioned study exchange program can be illustrated with the following case -

> "In a bid to address heavy metal pollution, researchers from IIT Bombay and Monash University, Australia, with funding support from the Department of Biotechnology

(DBT), have developed a sensor using a copper-based metal-organic framework (MOF) to detect toxic metals in water. Our device has the least complexity and comparable sensing limits to the best of the current DNA-based sensors (the gold standard for sensing devices)" (Press Trust of India, 2025).

Study exchange programs can offer the global skills required in today's neo-liberal times and can provide opportunities for them to be sustainably implemented in the domestic environment. It can also catalyse internationalisation at home.

Internationalisation Initiatives by the Indian Government

The Indian Government is strongly committed to achieving internationalisation by promoting collaborations and establishing MOUs with foreign countries. NEP 2020 promotes courses centred on Indian culture like Yoga, the Indian knowledge system (IKS), folk arts and music to achieve the goal of Internationalisation at home. To foster the vision of India as 'Vishwa Bandhu' in the global world, initiatives like the Opening of the branch campus of the University of Southampton

and Deakin University in India, and the branch campus of IIT Delhi in Dubai, are being set up to effectively implement internationalisation strategies. However, there is an inherent challenge of infrastructure and the financial burden of fees on students. Francois Therin in the Times Higher Education contends that,

> "Depending on the country, employing foreign faculty can be 50 to 75 per cent more expensive than hiring local instructors, so if an IBC [Indian Branch Campuses] aims to provide a truly 'foreign experience' in India, costs will inevitably escalate" (Therin, 2025).

In this discourse, we might witness the idea of global citizenship fading out in cross-cultural mobility, as universal values like equality and justice will be compromised. Needless to say, the idea of Ayurveda, a traditional knowledge system, is very well adopted in foreign universities' curricula. Coursera, an American Organisation, has introduced 4000 courses in Hindi due to the changing nature of jobs in India. Coursera CEO Jeff mentioned that,

> "The initiative is in sync with the government's National Language Translation Mission (NLTM), which focuses on transcending the language barrier in the dissemination of knowledge. With the use of AI, we aim to have more courses in other Indian languages to increase the accessibility" (Srivastava, 2024).

Global Citizenship and Academic Mobility

UNESCO defines global citizenship as,

> "a sense of belonging to a broader community and common humanity. It emphasises political, economic, social and cultural interdependency and interconnectedness between the local, the national and the global" ('Global Citizenship Education: Topics and Learning Objectives', 2015)

However, it operates amidst the structures of educational capitalism as exemplified by learners becoming consumers, collaboration with universities with less state funding and tuition fee hierarchies in branch campuses. The commodification of transnational education risks the dilution of global citizenship ideals due to the prioritisation of economic gain over ethical responsibility. Yemini (2017) uses the work of Veugelers (2011) to summarise 3 forms of global citizenship,

> "Open global citizenship, which distinguishes the interdependence between nation states in the global age and recognises

> opportunities for cultural diversification; moral global citizenship based on equality, human rights, and an emphasis on global responsibility; and sociopolitical global citizenship, which seeks to shift the balance of political power to promote equality and cultural diversity" (Yemini, 2017).

Yemini's and Veugelers' ideas align with the normative ideals of cosmopolitanism that revolve around legal protection and ethical obligations. Global citizenship could be demonstrated as the application of cosmopolitan ideas. However, it is important to strike a difference between the two. Cosmopolitanism represents a more universal and yet individual-oriented outlook, while Global citizenship recognises the cultural diversity of communities and their rights within the nation-state. Cosmopolitanism has often been tagged as 'ideal' and argued that it needs to be embedded empirically and consider the practical implications for addressing power balances and socio-cultural inequalities in a multicultural set-up (Shaw, 2021).

Cross-cultural awareness in Exchange programs

Orozco (2004) argues that the transformative forces of globalisation and extensive migrations are reshaping our encounters with national identities and cultural affiliations. In this evolving dynamics of identity formation, one might face challenges in accessing the cultural beliefs of the domestic country. Manokara et al. (2025) have perfectly captured the idea of cultural cosmopolitan values required in a multicultural landscape by citing various works,

> *"When measured as a trait, indices of cosmopolitanism have been positively associated with people's desire to engage in helping behaviors towards foreigners (McFarland, Webb, and Brown 2012); responsibility to act for the causes of the poor (Reysen and Katzarska-Miller 2013); reduced prejudice towards cultural outgroups (Sparkman and Hamer 2020); benevolence, empathy for human suffering and global social responsibility (Reese and Kohlmann 2015); likelihood of contributing towards global public goods (Buchan et al. 2011); and prosocial intentions during a pandemic* (Wang et al. 2021)" (Manokara et al., 2025).

Universities in India and abroad record testimonials from international students about their experiences abroad. These would demonstrate the key components of cross-cultural awareness promoted by Exchange programs. As per the student exchange portal on the IIT-Delhi website, an exchange student from France at IIT-Delhi shared that India is safer, contrary to a general stereotype in France about

safety issues in India and that Indians are 'Jugadu'. Another illustrative case is from an IMT Hyderabad student in Neoma Business School in France (Source: IMT Hyderabad website). He shared that analytical skills developed from his academic journey in France have prepared him to confront global world complexities and transformed him into a globally conscious person.

Conceptual Framework

The paper builds its theoretical arguments from the disciplines of Sociology and Political Science. Charles Taylor (1994) argues that,

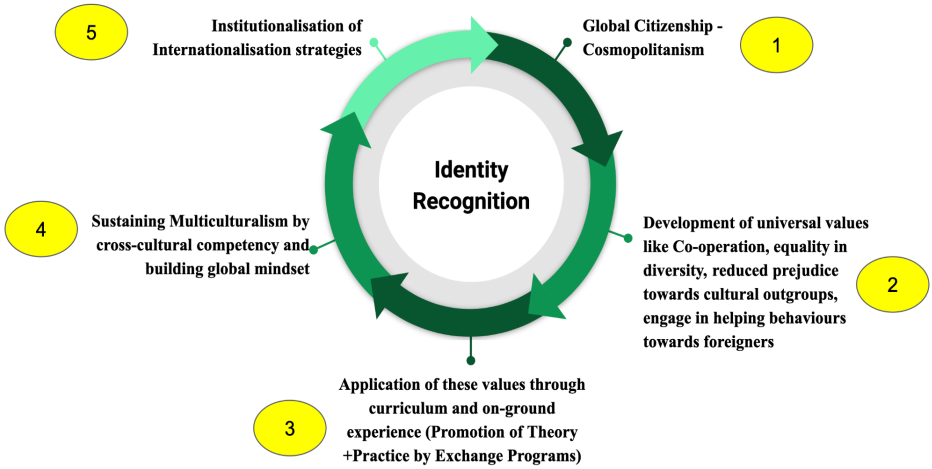
> "Our identity is partly shaped by its recognition or the absence of it" (Taylor, 1994).

The conceptual framework of this paper is heavily grounded on the aforementioned argument. When one moves into a different cultural landscape, the individual seldom questions their 'authentic self' of getting recognition or not in a foreign land. Needless to say, it is important to bring in Erikson's (1968) and Mead's (1913) work on identity and 'self' formulation. Suarez Orozco (2004) builds upon Erikson's model of identity formulation and brings the concept of 'negative social mirroring' to explain when members of a new country may feel uneasy and xenophobic towards new immigrants, and this can heavily impact the identity development of immigrant youth. The paper uses the philosophies of Global citizenship, Cosmopolitanism and Multiculturalism to guide on how one can adapt in a new cultural landscape morally, refrain from getting impacted by stereotypes, and save themselves from 'negative social mirroring'.

The following figure represents the weaving of the above theoretical concepts:

Figure 1

Conceptual Framework of the Paper



Research Design and Methodology

The paper has used the author's personal experiences as the main source of data collection to understand the significance of cross-cultural learning through student-exchange programs. In the quest to understand rich narratives from lived experiences, the paper has adopted autoethnography as its research methodology. Chang (2016) describes autoethnography as a research method that involves the engagement of participants in the cultural analysis. Journal entries remain the primary source of data collection. Participant observation is the primary method adopted by the author for the autoethnography methodology. The data has been collected over the period of three months (October 2024- December 2024). It has further incorporated the responses from peers who participated in Erasmus+ with the author through an online Google form questionnaire. There are a total of 12 respondents, other than the author, from different countries who were asked questions about their experiences of a multi-cultural environment and how it impacted their personality. The following table represents coding and profiling of respondents, whose experiences will be further analysed as narratives:

Table 1

Profiling of Respondents from Google Form Questionnaire

S. No	Respondent	Gender	Country
1	R1	Female	Turkey
2	R2	Female	Kenya
3	R3	Male	Kenya
4	R4	Male	Kenya
5	R5	Male	Kenya
6	R6	Male	Kenya
7	R7	Female	Poland
8	R8	Female	Poland
9	R9	Female	India
10	R10	Female	Latvia
11	R11	Female	Lithuania
12	R12	Female	Bulgaria

Findings and Analysis

The analysis of autoethnographic findings has been thematically coded into the following themes: a) Background, b) Identity creation through Global citizenship – Cosmopolitanism, and c) Multiculturalism in practice.

Background: As an Erasmus+ student in Slovakia, the author had the opportunity to engage in advanced courses of Education Research Methodology, Sociology of Education, Gender in Education and International Perspectives in Education. Other colleagues were from Kenya, Poland, Turkey, Germany, Spain, Portugal, Lithuania, Ukraine, etc. The Dormitory kitchen appeared to be the major source of socialisation, where everyone discussed unique things about their culture, like food habits, festivals, greetings, etc. Indian and Kenyan experiences were different from those belonging to European countries. On a preliminary level, the main difference was the duration of stay, as the Schengen Visa was granted for 90 days for Indian and Kenyan students, whereas for others it was around 150 days. R4 illustrates it better –

> *"One of my biggest takeaways, and a slightly negative one, was the limited duration of the program. My three-month stay felt incredibly short. Just as I was beginning to truly feel at home and understand the local culture, it was time to leave. It felt less like a full immersion and more like just a "test" of what could*

have been." (R4).

Identity creation through Global citizenship-Cosmopolitanism: As asserted in the literature review, Global citizenship is the application of cosmopolitan ideas like cooperation, equality and diversity. Erasmus Student Network (ESN) played a pivotal role in facilitating this application of cosmopolitan values in European settings. Cultural cosmopolitanism pertains to helpful behaviours towards foreigners, reduced prejudices towards cultural groups. Needless to say, there were stereotypes about India, like unhealthy food, more beggars, crowded streets, black magic, etc. One of the colleagues in the dormitory's kitchen came to me and said –

> *"Hey, I have heard that you people are good with black magic. My friend's son is missing after a dispute. Can you connect me with some people in India who can help my friend?"*

The identity of the above respondent, even the country's name, can't be disclosed as that person wanted it to be confidential. It is noteworthy to mention that the university administration, faculty, international coordinators and locals did extend exceptional support. Erasmus+ experiences are an ideal setting for those individuals who want to move out of their comfort zones. The following response by R6 from Kenya represents how the navigation of linguistic barriers fosters intercultural sensitivity -

> *"One of the most noticeable changes was in my approach to communication. Initially, the struggle to converse with non-English speakers was daunting. Yet, relying on translating software and non-verbal cues cultivated a greater sense of patience and creativity in expressing myself. This challenge transformed into a valuable lesson in finding common ground despite linguistic differences." (R6).*

Erasmus and other Study Exchange programs reconfigure identity in transnational academic spaces. Colleagues from Erasmus+ provided rich responses about how this program enhanced their personality. Their responses are further coded into three sub-themes of Personal, Social, and Global. The following table (Table 2) represents the coding of responses. Table 2 maps the frequency of the components of the variables. For instance, R3 expressed that Erasmus+ made him more patient, increased his self-esteem, and made him empathetic and adaptable to a diverse environment. This table also represents that confidence, empathy, open-mindedness, adaptability and appreciation of diversity were some common personality development variables in

responses.

Table 2

Coding of Identity creation variables through the Erasmus+ program

Variables	Components	Respondents
Personal	Self-awareness	R1
	Calmness	R1, R12
	Patience	R1, R3
	Confidence	R7, R9, R2, R8
	Organization	R12
	Self-esteem	R3, R8
Social	Empathy	R9, R3, R4
	Initiating Conversation	R7, R3
	Open-mindedness	R9, R3, R4
	Cultural sensitivity	R6
	Proactiveness	R10, R4
Global	Adaptability	R9, R3, R4
	Broader worldview	R9, R10
	Appreciation of Diversity	R9, R4, R5

Multiculturalism in practice: Colleagues from Poland and Ukraine had relatively fewer adaptation issues since they could understand the majority of the Slovak words, as their countries shared a border with Slovakia. There were a series of cultural shocks, such as the absence of car honking in Slovakia and other European countries I visited. A colleague from Poland (R7) helped me adjust to Slovak traditions. She shared a letter at the end of my stay, which demonstrates indices of cultural cosmopolitanism-

> "*Thanks to you, I discovered another side of me, a side more elegant and vibrant. You showed how to celebrate every moment and cherish people around you (R7)".*

It is worth mentioning some of the responses from Erasmus+ colleagues about their process of adapting to a multicultural environment. R3 mentioned -

> *"One memorable moment was during a cultural food exchange event in our dorm in Trnava. I made Kenyan chapati, and a colleague from Ukraine cooked delicious homemade dumplings (varenyky). We all gathered in the shared kitchen, and it turned into an evening of storytelling, laughter, and learning. It wasn't just about the food; it was about sharing our identities and*

cultures in the most genuine way possible" (R3).

Whereas R2 stated that –

"It was easier adapting after finding out that there were other people from my country who were living in Slovakia and thriving. It didn't feel so foreign after that" (R2).

In the above two responses, we can observe different layers of multiculturalism. While R3 embraced cultural learning through shared spaces, R2 sought familiarity and comfort with people from her own country. In the multicultural settings, there were instances wherein people were surprised to know a few positive and negative elements of different cultures. The following two responses will illustrate this -

"One memorable experience during my Erasmus+ stay in Slovakia was at a karaoke party organised by international students. I chose to sing a traditional Kashmiri song, and to my surprise, the audience listened with genuine interest and appreciation even though most of them didn't understand the language. Afterwards, several students asked me about the song's meaning and the cultural background of Kashmir. This small act of sharing music became a bridge for meaningful conversations about identity, tradition, and belonging" (R9).

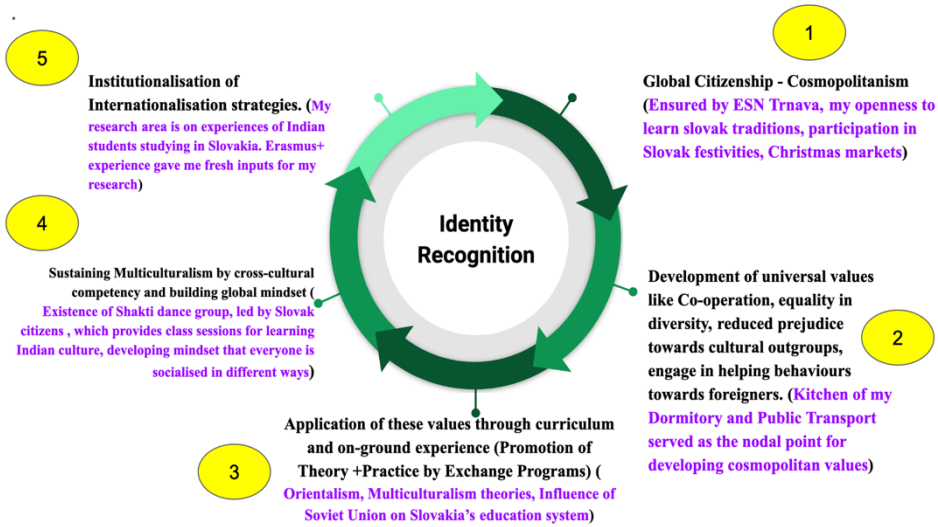
Whereas R8 observed that -

"It was interesting to know that in some countries it looks bad if a person (especially a woman) doesn't cook" (R8).

R9 is an illustration of culture as a form of soft diplomacy, whereas R8 represents cultural dissonance and normative differences. There is another instance of the implementation of cosmopolitan value (openness to learn new culture) during a Diwali fest organised by the Indian Embassy in Bratislava, Slovakia, wherein the 'Shakti Dance group' performed on Bollywood songs. The interesting part is that it is composed of 3 women, Slovak citizens who have learnt Indian dance styles and now even provide class sessions to learn more about Indian culture.

Figure 2

Application of the Paper's conceptual framework



Discussion

This paper has attempted to position transnational identities in the discourse of internationalisation of higher education. Since this method heavily relies on 'self' as a method for obtaining data, it has been critiqued for more individuality and indulgence (Atkinson, 1997; Sparks, 2000). While I do acknowledge the gap between a traditional methodological rigour in other qualitative methodologies and the subjective nature of autoethnography, this approach still offers rich lived experiences required for an academic inquiry. It displays an epistemological trajectory from knowing 'about a phenomenon' to knowing 'with those who experience that phenomenon'. The author's autobiographical text advocates for the pertinence of Edward Said's concept of 'Imaginative Geographies'. Said (1978) defines imaginative geographies as the way individuals socially construct a perception based on their desires, cultural dynamics conditioned by socialisation patterns. Exchange programs provide a unique opportunity for experimental and experiential learning. And this is how short-term exchange programs can play a crucial role in promoting internationalisation strategies of both host and sending countries.

Gaps and Recommendations

Adapting to new cultures and navigating a sense of belongingness

and acceptance can be a challenging experience. The following Table (Table 3) depicts a few existing gaps and suggestions/recommendations for improved cross-border mobility through Exchange programs:

Table 3

Gaps and Recommendations

S. No	Gaps	Recommendations
1.	Lack of consolidated data on the number of Indian students who participated in Exchange programs abroad.	Collaboration of the Indian government with the INIHE (Indian Network for Internationalisation of Higher Education) group of the Association of Indian Universities (AIU) is recommended. Universities can collaborate with AIU to prepare a portal for exchange programs and data of incoming and outgoing students. It is also recommended to include a special section of verified listings of all Exchange programs and scholarships that are available to Indian students on MADAD portal of Ministry of External Affairs, GOI. This initiative can empower Indian students to make informed decisions and select a program that best aligns with their academic goals.
2.	Except for a few top-tier institutions, Collaborations of educational institutes with foreign universities in Tier 2 and Tier 3 cities are still lagging.	Students generally suffer from information asymmetry and financial support when they apply in their individual capacity. It is recommended to establish a National Internationalisation Consortium that would solely work on an Institutional pairing model with components of Joint-academic degrees and pre-approved mobility pathways.
3.	Language barriers.	A1 language proficiency should be kept mandatory before the beginning of the program.
4.	Lack of streamlined curriculum design is impacting credit transfers and academic equivalence.	Application of the UCPS (University Cluster Pilot Study) initiative of Edify Online-AIU is recommended, which could further institutionalize the internalization of the curriculum. The 'shared ecosystem of HEIs' will help in the uniformity of course content that a student studies for a short-term study abroad.

References

- Atkinson, P. (1997). Narrative turn or blind alley? *Qualitative Health Research*, *7*(3), 325–344. https://doi.org/10.1177/104973239700700302
- Chang, H. (2016). Autoethnography as a method. In *Routledge eBooks*. https://doi.org/10.4324/9781315433370
- Erikson, E. H. (1968). *Identity, youth and crisis*. WW Norton & Company.
- Global citizenship education: topics and learning objectives. (2015). In *UNESCO*

eBooks. https://doi.org/10.54675/drhc3544

- Knight, J. (2004). Internationalisation Remodeled: Definition, Approaches, and Rationales. *Journal of Studies in International Education*, *8*(1), 5–31. https://doi.org/10.1177/1028315303260832
- Knight, J., & Liu, Q. (2019). International program and provider mobility in higher education: Research trends, challenges and issues. *Comparative and International Education*, *48*(1). https://doi.org/10.5206/cie-eci.v48i1.9335
- Manokara, K., Hornsey, M.J. and Jetten, J. (2025), The Elite Global Citizen: How Wealth Shapes Cosmopolitan Identity and Charitable Intentions. European Journal of Social Psychology. https://doi.org/10.1002/ejsp.3114
- Mead, G. H. (1913). The Social Self. *The Journal of Philosophy, Psychology and Scientific Methods*, *10*(14), 374–380. https://doi.org/10.2307/2012910
- Orozco, C. S. (2004). Formulating Identity in a Globalised World. In *Globalisation: Culture and Education in the New Millennium*. Essay, University of California Press. https://doi.org/10.1525/9780520930964-010
- Press Trust of India. (2025, March). *IIT Bombay, Australia's Monash University develop sensor for toxic metals*. Business Standard. https://www.business-standard.com/pti-stories/national/iit-bombay-australian-varsity-develop-sensor-to-detect-toxic-metals-in-water-125030701012_1.html
- Said, E. W. (1978). The Problem of Textuality: Two exemplary positions. *Critical Inquiry*, *4*(4), 673–714. https://doi.org/10.1086/447962
- Shaw, K. (2021). Cosmopolitanisms, Negative Cosmopolitanism: Culture and Politics of World Citizenship after Globalisation. *Comparative Literature Studies*. 58 (2): e–22. https://doi.org/10.5325/complitstudies.58.2.0e-19
- Sparkes, A. C. (2000). Autoethnography and Narratives of Self: Reflections on criteria in action. *Sociology of Sport Journal*, *17*(1), 21–43. https://doi.org/10.1123/ssj.17.1.21
- Srivastava, P. (2024, January 12). Coursera introduces 4000 courses in Hindi. *The Times of India*. https://timesofindia.indiatimes.com/education/coursera-launches-4000-courses-in-hindi-and-tamil/articleshow/106737848.cms
- Taylor, C. (1994). *Multiculturalism: Examining the politics of recognition*. Princeton University Press. https://eric.ed.gov/?id=ED381605
- Therin, F. (2025, April 3). It is too late for traditional branch campuses to succeed in India. *Times Higher Education (THE)*. https://www.timeshighereducation.com/opinion/it-too-late-traditional-branch-campuses-succeed-india
- Van Der Wende, M. (1996). Internationalizing the curriculum in higher education: Report on an OECD/CERI study. *Tertiary Education and Management*, *2*(2), 186–195. https://doi.org/10.1080/13583883.1996.9966900
- Yemini, M. (2017). Internationalisation and global citizenship. *Policy and practice in education*, *10*, 973-978.

Gender Representation: Content Analysis of the NCERT 4th Grade English Language Textbook

*Tenzin Dolma**

Abstract

The researcher aims to investigate the gender representation in the Grade 6 English Language textbook published by the National Council of Educational Research and Training (NCERT) through a content analysis of pre-defined thematic categories. The research aims to assess the extent and nature of gender bias or balance within the text by analysing the following seven categories: frequency of gender, activities of the gender, occupation of the gender, parental role, authors/ poets, language use (focusing on gender-related proper nouns), and famous people or characters. The researcher systematically studies all the textual and visual content in the textbook. The results of this study revealed that biases are present in the selected textbook. Thus, the paper suggests a greater emphasis on developing gender-inclusive learning materials.

Key Words: Gender Representation, Primary School, NCERT, English Language Textbook

Introduction

The Indian classroom structure has changed with the implementation of the Right to Education (RTE) Act in 2009. Across India, the RTE Act aims to provide learning opportunities to children from diverse backgrounds with varying abilities and identities. Thus, considering the diversity of the classroom, there is a need for the school to prepare an educational environment free from fear of discrimination, exclusion, and abuse. To provide access to quality education, the shift from exclusive to inclusive education is necessary (National Council of Educational Research and Training, 2020). Inclusive education strategies can

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promote diversity among leaders within a specific learning environment and help learners reach their full potential. Inclusive education can ensure an educational environment that fosters an equitable and non-discriminatory atmosphere, where every child is respected, valued, and accepted (Central Board of Secondary Education, 2020).

In inclusive education and endeavours to provide equitable opportunities for all, gender equality is essential. To establish a gender inclusive education environment, the Government needs to provide a learning environment with a gender-inclusive curriculum and learning materials. Teachers are also required to receive training in gender-inclusive pedagogy. Inclusive education also plays a substantial part in achieving Sustainable Development Goal 4 (SDG4), which focuses on quality education that aims to ensure equitable and inclusive quality-based education for learners, and also Sustainable Development Goal 5 (SDG5), which focuses on achieving gender equality and empowerment of all female citizens in the country (UNESCO, 2023). Gender representation in textbooks is a crucial educational issue, as students rely on them for between 80% and 95% of their learning time, and teachers base the majority of their instructional decisions on them. Additionally, the gender bias in textbooks is suspected to minimise the achievement of girls (Blumberg, 2008). Textbooks are resources used in schools to impart knowledge and morals in particular subjects. It impacts students' perceptions of gender and other social variables. Because it affects students' motivation and life decisions, representation and discrimination in textbooks are significant. Students form their identities and sense of self through the gendered role models they observe (Bachore, 2022; Campbell, 2010; and Ullah & Skelton, 2012).

Since 1982–1983, the National Council of Educational Research and Training (NCERT) has placed a strong emphasis on eliminating gender gaps, with an emphasis on eliminating sex stereotypes and prejudices in textbooks. Women are still shown in stereotypical ways, though, and "lessons are male-centric." "More than half of the illustrations depict only men and boys, and only six per cent show solely women and girls," according to a Friends of Education survey. There is no female representation in any of the six elementary school mathematics textbooks as a shopkeeper, merchant, executive, engineer, or seller (Ahmed, 2006).

However, in the 2024 Gender Gap Index, India ranked 129th, and among the English-speaking South Asian countries, the portrayal of female characters is low in Indian school textbooks. In Indian textbooks, sexism has been a persistent political problem. The National Council of

Educational Research and Training (NCERT) condemned the extensive promotion of sexist views as sensationalist in 1979 after an examination of Hindi and English textbooks showed this. In another 2017 NCERT textbook study, the researchers found Similar sexist language, which led the Indian Minister of Education to demand "appropriate action." According to a study of NCERT books released between 2020 and 2022, limited progress was observed in developing gender inclusive textbooks (Crawfurd et al., 2024).

Consequently, Primary schools are strategically significant for establishing students' attitudes, transferring knowledge, and developing fundamental skills, as well as for influencing their perspectives on humanity (Halimatussakdiah et al., 2021). A textbook becomes a crucial learning material for children as significant changes occur during the transition from the foundation stage to the preparatory stage. Therefore, it is crucial to offer an inclusive textbook that is free from biases and stereotypes (Sibanda & Herman, 2024). The primary education system plays a vital role in shaping young students' attitudes, addressing gender biases, and influencing their behaviour (Ali & Hussain, 2019). The children in the 4th grade are aged 9 or 10, and that is the age, according to Erik Erikson, when children develop a strong sense of competence and self-worth through their interactions in school.

For this reason, the researcher selected the 4th-grade NCERT English language textbook for the present study.

Methodology

Examining gender representation in the 4th-grade English Textbook was the purpose of this study. For the present study, the researcher used a qualitative research design, utilising content analysis to examine gender representation. The researcher identified predefined themes related to gender and analysed their frequency to provide statistical insights into patterns of representation. The researcher sourced data for the current study from the 4th-grade NCERT English Language textbook. The researcher created a checklist with main categories and systematically examined each unit of the textbook for content related to gender. Then, the researcher organised the data into the predefined categories of analysis. The seven categories chosen for this study are: frequency of gender, activities associated with gender, occupation of individuals by gender, parental roles, authors/poets, language use (focusing on gender-related proper nouns), and famous people or characters. The researcher employed quantitative analysis to evaluate the frequency of the selected categories. For the present paper, the

4th-grade English Language textbook was utilised to examine gender representation. The textbook published by the National Council of Educational Research and Training (NCERT), titled "Marigold," was selected for this study. It contains 165 pages, divided into nine units.

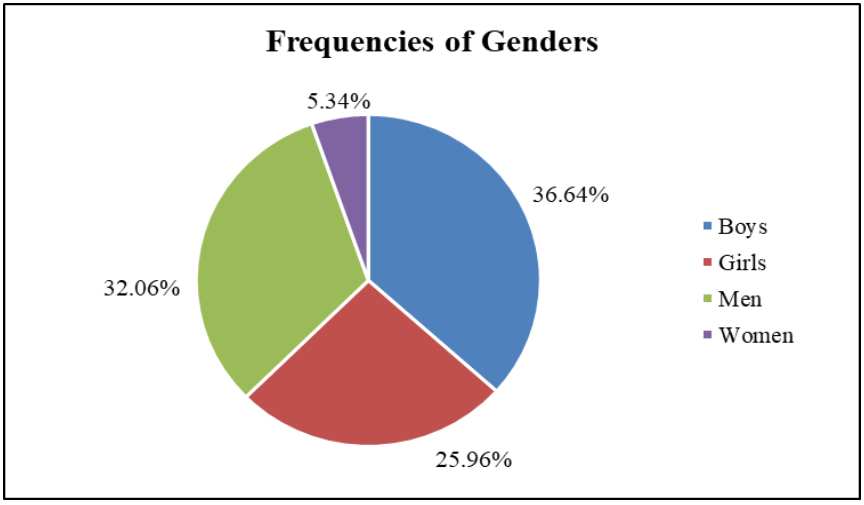
Findings

The visuals in the textbook are analysed to assess the frequency of different gender representations in occupations, activities, famous people or characters, and parental roles. The content is further studied unit-wise to examine the language use (focusing on gender-related proper nouns) and the work of authors and poets included in the textbook.

Frequencies of Genders

In the 4th-grade NCERT English textbook, Marigold, 131 figures were coded. In the textbook, eight of the characters could not be identified as male or female. As shown in Figure 1 below, the total number of adults was 37.4% (49), women accounted for 5.34% (7), and men comprised 32.06% (42). The gender distribution of children indicated that of 62.6% (82) children, 25.96% (34) were girls and 36.64% (48) were boys. Figure 1 represents the frequency distribution of the individuals' genders in the textbook.

Figure 1: Frequencies of Genders (Percentage)

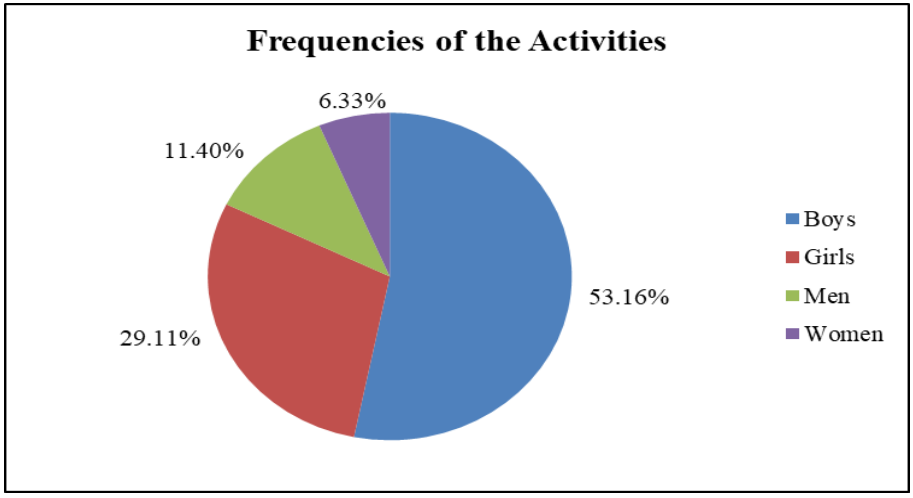


In the selected textbook, children are represented more than adults. Although the difference in the frequency of gender representation between children is not significant, male representation in adults is more frequent than female representation, with a 26.72% difference.

Activities of Genders

Seventy-nine activities were coded from the selected textbook. Of these, 65 activities were coded for children (23 for girls and 42 for boys), and 14 activities were coded for adults (5 for women and 9 for men). As shown in Figure 2 below, a total of 17.73% (14) activities were identified for adults, with 6.33% (5) for women and 11.40% (9) for men. For the children, there were 82.27% (65). Of these, 53.16% (42) were for boys and 29.11 % (23) were for girls. In the selected textbook, children are represented more than adults in activities. Upon examining the type of activities performed by each figure, it is revealed that male figures are more frequently depicted in outdoor activities. In contrast, female figures are more often depicted in indoor activities. In sports-related activities, Male figures are depicted more.

Figure 2: Frequencies of Activities by Gender (Percentage)

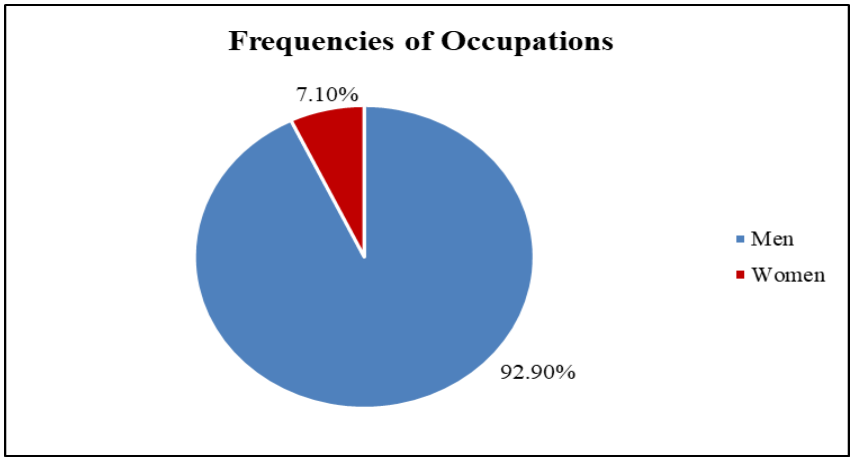


To summarise, a disparity was observed in the representation of figures by gender in the textbook. The male figures are represented more frequently in activities than the female figures, with a 25.2% difference.

Occupations of Genders

From the selected textbook, 14 occupations were coded. Of these, 13 occupations were coded for male figures, while only one occupation was coded for female figures. As shown in Figure 3 below, there were 92.90% (13) occupations for male figures and 7.10% (1) for adult female figures. In the selected textbook, children are not coded for occupational roles, and male figures are more often represented with occupations.

Figure 3: Frequency of occupations (Percentage)

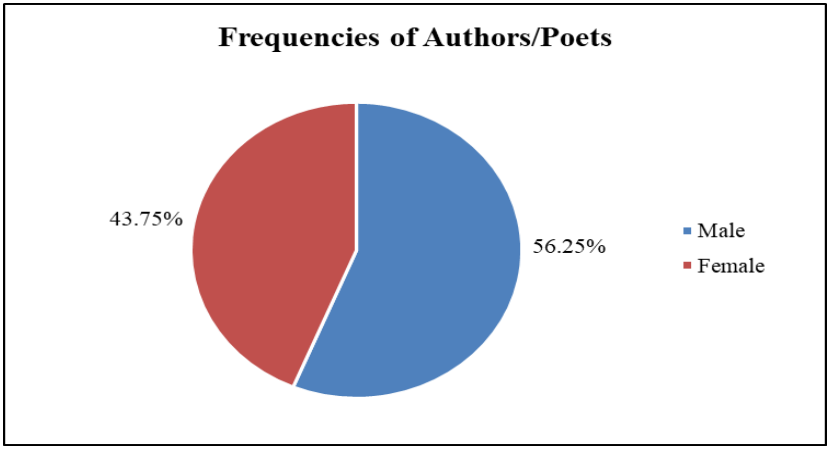


To summarise, a significant gender-based disparity was observed, with male figures being represented more frequently in occupational roles than female figures, a difference of 85.8%.

Authors/Poets

In the selected textbook, the frequency of each gender was studied to examine the gender representation of the work of the authors/poets. From that, it was found that a total of 16 authors'/poets' works are used in the textbook from Unit I to Unit IX. As shown in Figure 4 below, there were 56.25% (9) male authors/poets and 43.75% (7) female authors/poets. In the selected textbook, no significant difference was found in the gender representation in the frequency of the authors' work used in the selected textbook.

Figure 4: Frequency of Authors/ Poets (Percentage)

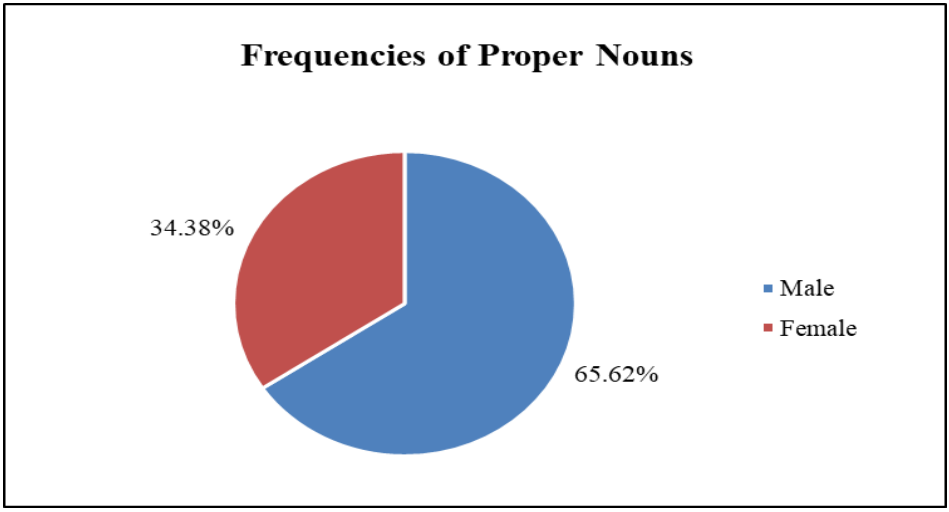


To sum up, the work of male authors/poets is more frequently employed in the textbook, with a 12.5% difference.

Proper Nouns

In the 4th-grade NCERT English textbook, 32 proper nouns were coded. Of these, 11 proper nouns were coded for female figures, and 21 proper nouns were coded for male figures. As shown in Figure 5 , there were 65.62% (21) proper nouns for male figures and 34.38% (11) for female figures.

Figure 5: Frequency of Proper Nouns (Percentage)

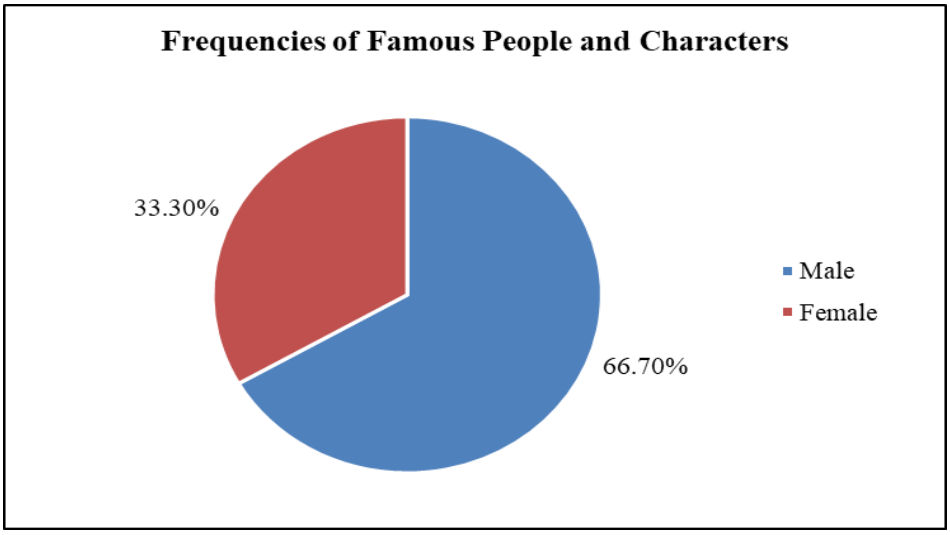


To sum up, the analyses revealed that proper nouns of male figures are represented more frequently, with a 31.24% difference in the textbook.

Famous People and Characters

Nine famous characters and people are found in the textbook. Of these, six were male and 3 were female figures. As shown in Figure 6 , the breakdown was as follows: 66.70% (6) for male figures and 33.30% (3) for adult female figures.

Figure 6: Frequency of Famous People and Characters (Percentage)

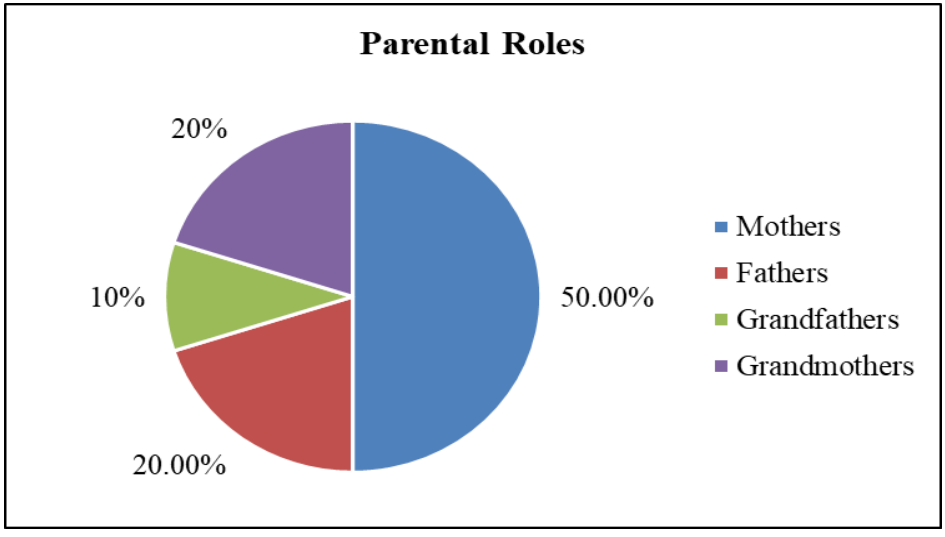


To sum up, male famous figures are represented more with a difference of 33.4%.

Parental Role

In the 4th-grade English Language textbook, 10 people are coded for parental roles as shown in Figure 7. There were 50% (5) mothers compared to fathers, 20% (2) grandfathers, 10% (1) grandmothers, and 20% (2) in total.

Figure 7: Frequency of Parental Roles (Percentage)



To sum up, mothers are represented more than fathers, but no significant difference is found between the numbers of grandmothers and grandfathers.

Discussion

Research on gender representation in Indian textbooks has indicated that females are underrepresented and stereotyped in these texts (Kadri, 2022). The textbook's unbalanced portrayal of gender has an impact on students' mental development and attitudes toward men and women as well as their behaviour, socialisation, and thought processes (Nurlu, 2021). The gender issues in the school textbooks need to be addressed to ensure gender equality. In the current paper, the researcher analysed the representation of gender in the 4th-grade NCERT English Language textbook titled Marigold, based on seven categories: Frequency of gender, activities of the gender, occupation of the gender, parental role, authors/ poets, language use (focusing on gender-related proper nouns), and famous people or characters.

The results of this research paper presented that adult male figures are represented 26.72% more often than female adult figures. In total, male figures are portrayed more than female figures, with a 31.3% difference. This study's results align with the studies (Kuruvilla & K.T., 2015; Dawar & Anand, 2017; Bhog, 2002; Kadri, 2022; Crawfurd et al., 2024; Para, 2024; Srinivas, 2024) on Indian Textbooks and (Nurlu, 2021 and Sibanda & Herman, 2024) on textbooks from abroad. This outcome suggests that there is a need to examine existing textbooks, which often underrepresent female figures.

In the activities of gender, the present study found a gender difference, with male figures represented more frequently than female figures, a difference of 25.2%. The researcher also observed a difference in the representation of activities between males and females. The female figures are more often depicted in indoor activities, while the male figures are more frequently depicted in outdoor activities. The same difference is also evident in the representation of sports activities.

Regarding the occupation of gender, the researcher found that the present paper revealed a significant gender difference in the representation of figures in the English Language textbook under study. Men are displayed more frequently than women in the occupation, with a difference of 85.8%. The occupations of males in the textbook under study were diverse (farmer, magician, principal, Butler, grocer, policeman, wrestler, carpenter, and milkman). However, the female figures, by contrast, are portrayed only as a librarian in the occupational

role. This finding aligns with the study conducted by Nandi et al. (2024), which reported that female figures were represented in generalised roles and were underrepresented in their study. Studies conducted by researchers (Kuruvilla & K.T., 2015; Dawar & Anand, 2017; Nurlu, 2021; Kadri, 2022; Srinivas, 2024) also recorded parallel conclusions, with male figures represented in a diverse range of occupational roles and female figures often depicted in stereotypical roles.

In contrast, the gender representation of literary figures in the textbook reveals that the work of male authors/poets is more frequently utilised, with a 12.5% difference. In the textbook, the work of male authors is more prominently used than that of female authors. In terms of language use, this paper has focused solely on proper nouns in the textbook, examining its contents. The researcher found that male characters are represented more frequently, with a 31.24% difference between the proper nouns of male and female characters in the textbook. The findings of the present paper align with those of studies conducted by researchers (Bachore, 2022; Para, 2024).

Similarly, regarding the famous personalities in the textbook, the researcher found that male individuals are more frequently represented than females, with a 33.4% difference. A similar finding was observed in the work of researcher Nurlu (2021), who also noted that female characters are underrepresented in the textbook. The findings of the present paper also indicated that female figures are more frequently depicted in parental roles, with a 40% difference compared to male figures. From the nature of the parental roles, the researcher observed that females are more often represented in stereotypical roles in the studied textbook.

Thus, it is necessary to study gender representation in textbooks, as India not only ranks low in the Gender Gap Index 2024, but the underrepresentation of female figures also affects the achievement of female students. Therefore, developing a gender-inclusive textbook is crucial for addressing gender-related issues in schools.

Conclusion

The textbook published by the NCERT is used in the majority of Indian schools; hence, it is crucial to address gender-related issues in the NCERT textbooks. Primary education, especially language, has the power to either support or contradict conventional gender norms by offering more inclusive and varied representations of people from diverse backgrounds. It is crucial to focus on the basic learning materials that are accessible to students from all backgrounds. To further enhance

gender sensitivity awareness and eliminate the gender biases that may still be present in textbooks, studying them is necessary. Textbooks are primary learning materials that can shape the perspective of learners from the primary education level through the contents of textbooks. Therefore, it is crucial to study and provide gender-inclusive textbooks to foster a more inclusive and equitable Indian society.

References

- Ahmed, F. B. (2006). Male bias in school texts. *The Tribune Online Edition*. http://www.tribuneindia.com/
- Ali, R., & Hussain, L. (2019). Gender Representation in Primary-Level English and Urdu Textbooks in Pakistan. *Pakistan Journal of Applied Social Sciences*, *10*(1), 83–100. https://doi.org/10.46568/pjass.v10i1.102
- Bachore, M. M. (2022). Analysis of gender representation in English Language learning Materials: The Case of Grade Ten Textbook in Ethiopia. *Journal of Curriculum and Teaching*, *11*(5), 175. https://doi.org/10.5430/jct.v11n5p175
- Bhog, D. (2002). Gender and curriculum. *Economic and Political Weekly*, *37*(17), 1638–1642. https://www.jstor.org/stable/4412041
- Blumberg, R. L. (2008). The invisible obstacle to educational equality: gender bias in textbooks. *Prospects*, *38*(3), 345–361. https://doi.org/10.1007/s11125-009-9086-1
- Campbell, E. (2010). Women in the history textbooks. http://www.education.com/reference/article/womens-history-textbooks/?page=4
- Central Board of Secondary Education. (2020). *Inclusive Education* (1st ed.). CBSE. https://cbseacademic.nic.in
- Crawfurd, L., Mitchell, T., Todd, R., Saint-Miller, C., & Nagesh, R. (2024). Analysing Gender Bias in School Textbooks in India. *Central for Global Development*. https://www.cgdev.org
- Dawar, T., & Anand, S. (2017). Gender Roles Representation and Portrayal: An analysis of Primary Level NCERT Textbooks. *Expressions India*, *3*(2). https://expressionindia.org
- Halimatussakdiah, Suwandi, S., Sumarwati, Wardhani, N. E., Pratama, V. Y., Junaidi, F., & Yuda, R. K. (2021). Analysis of Gender Bias in Thematic Books for Elementary School Students. In S. Jackowicz & O. T. Ozturk (Eds.), Proceedings of ICSES 2021-- International Conference on Studies in Education and Social Sciences (pp. 115-127), Antalya, TURKEY. ISTES Organisation.
- Kadri, M. (2022). A review of gender representation in primary school textbooks in India. *A Review of Gender Representation in Primary School Textbooks in India*. https://doi.org/10.17863/CAM.90574
- Kuruvilla, M., & K.T., T. (2015). Gender Stereotypism in the Pictorial Depictions of Primary School Text Books. *Journal of Humanities and Social Science*, *20*(6). https://www.iosrjournals.org
- Nandi, A., Halder, T., & Das, T. (2024). Gender Stereotypes and Bias in Imagery Depiction of Textbooks prescribed by West Bengal Board of Primary Education, India. *Journal of Innovation and Research in Primary Education*, *3*(2), 53–63.

https://doi.org/10.56916/jirpe.v3i2.755

- National Council of Educational Research and Training. (2020). *Inclusion in Education: A Manual for School Management Committee*. https://nert.nic.in
- Nurlu, Ö. (2021). Analysis of gender fairness of primary school mathematics textbooks in Turkey. *International Journal of Psychology and Educational Studies*, *8*(4), 78–95. https://doi.org/10.52380/ijpes.2021.8.4.543
- Para, S. A. (2024). A qualitative content analysis exploring gender representation in language textbooks published by Jammu and Kashmir board of school education. *Social Sciences & Humanities Open*, *10*, 100959. https://doi.org/10.1016/j.ssaho.2024.100959
- Sibanda, L., & Herman, T. (2024). Do textbooks reflect learners' diversity? A case study of Grade 4 English and life skills textbooks. *South African Journal of Education*, *44*(2), 1–10. https://doi.org/10.15700/saje.v44n2a2328
- Srinivas, R. (2024). Reading Between the lines: A Critical analysis of representation in English textbooks for Telangana State Government schools. *International Journal for Multidisciplinary Research*, *6*(1). https://www.ijfmr.com/
- UNESCO. (2023). *Inclusion and gender equality: Brief on Inclusion in Education*. United Nations Educational, Scientific and Cultural Organization. https://www.gcedclearinghouse.org/
- Ullah, H., & Skelton, C. (2012). Gender representation in the public sector schools textbooks of Pakistan. *Educational Studies, 39(*2), 183-194. https://doi.org/10.1080/03055698.2012.702892

National Education Policy (2020) viz a viz Rural education Concerns: Some Reflections

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Abstract

Education and economy are the crucial motivating factors for the rural development. Rural India comprises a large chunk of its population, experiencing serious problems of poor educational facilities, low learning levels, fragile economic conditions, language barriers, under development and silent educational exclusion This article focuses on the concerns of rural education in context to the NEP (2020) . It is argued that the imagined transformation can be materialized only if the state has an empathetic understanding and awareness of the real contemporary constraints before the rural education system. The issues like; bringing all children to schools; retaining students (especially girls) in school; enabling teachers to deliver the NEP-imagined curriculums; creating sufficient physical and technological infrastructure; delivering the committed education budgets and ensuring every educated gets employment are important issues to be taken care off.

Keywords: education, rural, development, contemporary, National Education Policy, Rural Education

Introduction

Rural India is a home to 65 percent of the nation's population as roughly 800 million people are living in more than 600,000 villages. Education and economy are the crucial motivating factors for the rural development. So rural India needs to be accorded with top priority to ensure good quality education to its children for the sustainable growth and development of the country. The levels of education is not only a reflection of the level of development, but it also provides impetus to build

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an inclusive society. The National Education Policy (2020) document has tried to address the rural education within the category of social and economically disadvantaged groups (SEDG's) under the heading 'Equitable and Inclusive education'. Gender identities, socio-cultural, socio-economic identities and disabilities, geographical identities etc. all are included in the category of SEDGs.

In order to locate clear road mapping for the implementation of the policy and to convert the policy into action, we need a deep dive into the current challenges that rural education in India faces at the grassroots level. NEP (2020), is a very ambitious document with positive imagination to overhaul all the levels of education. The imagined transformation can be materialized only if we are aware about the real constraints of the rural education system faces today. The issues like; bringing all children to schools; retaining students (especially girls) in school; enabling teachers to deliver the NEP-imagined curriculums; creating sufficient physical and technological infrastructure; delivering the committed education budgets and ensuring that every educated gets employment are important to be taken care off. The real picture of the status of rural education is required to be understood.

Present status of Rural Education in India: As per the NSO (2018) survey, 76.1 per cent of students from rural households attend primary and middle schools run by the government as opposed to a meagre 38 per cent of students from urban areas. However, the gap becomes much smaller when it comes to graduates and above, with 49.7 per cent rural and 41 per cent urban students opting to study in government institutions. The enrolment figures at the primary level get improved in the last decades due to intervention of different policies like District Primary Education Programme (DPEP), Sarva Siksha Abhyan initiated in 2000-2001 endeavoured to achieve universal elementary education (UEE), Right to Education act RTE (2009) etc. Secondary education is an important bridge between the primary and higher education. Unfortunately at the same time, the scenario of secondary education in India seems disappointing.

As per the latest Annual Status of Education Report (ASER), students between the ages of 14-18 years from rural India are severely lacking in skills, as they barely retain anything taught in previous years. The survey found that though enrolment in educational institutions has increased from 44 per cent in 2011 to as much as 70 per cent (125 million) in 2017 for 18-year-old population, it is a matter of high concern that those who enrolled and somehow complete the elementary levels of education, dropped out at the secondary level and this figure is much

more in case of rural students. The high dropout rate at the secondary level is alarming, however numerous cases remain invisible and not be shown in the reports due to numerous official and administrative reasons. Table -1 presents similar indications.

Table-1

Enrolment in Rural-Urban India (in % age)

Age Group	Sector	Never attended			Ever attended but currently not attending			Enrolled and currently attending		
		Persons	Males	Females	Persons	Males	Females	Persons	Males	Females
Secondary School Age (15-18 Years)	Rural	7.3	6.0	8.8	30.4	30.4	30.4	62.4	63.6	60.8
	Urban	4.0	3.7	4.4	23.3	24.6	21.8	72.7	71.7	73.8
	Total	6.4	5.4	7.6	28.4	28.8	28.0	65.2	65.8	64.4

Source: NSSO 71st round, 2013-14

Figures reveal that a high percentage of children in the rural areas (3.13%) are out of school as compared to those in the urban areas (2.54%). In the age group of 6-13 years, an estimated 46.95 lakh children are out of school in rural India as compared to 13.69 lakhs children in Urban India. Gender wise disaggregation reveals that 31.66 lakh males and 28.98 lakh females are estimated to be out of school. In proportion, 2.77% of the estimated male population (11.44 crore) and 3.23% of the estimated female population (8.97 crore) are out of school, i.e., a higher percentage of females (as compared to males) are out of school in the 6-13 years age group.

Table-2

Rural -Urban status of Secondary education

Details	Estimated Child population (6-13 years)			Number of Out of School Children			Out of School Children in %age		
	Rural	Urban	Total	Rural	Urban	Total Rural		Urban	Total
All children (6-13 years)	15,01,10,948	5,39,76,326	20,40,87,274	46,95,518	13,68,711	60,64,229	3.13	2.54	2.97
Male	8,32,66,078	3,11,50,340	11,44,16,418	24,50,953	7,15,456	31,66,409	2.94	2.30	2.77
Female	6,68,44,870	2,28,25,986	8,96,70,856	22,44,564	6,53,256	28,97,820	3.36	2.86	3.23
Age 6-10 yrs	9,01,23,249	3,26,47,814	12,27,71,166	26,23,399	7,74,939	33,98,338	2.91	2.37	2.77
Age 11-13 yrs	5,99,87,699	2,13,28,410	8,13,16,108	20,72,119	5,93,772	26,65,891	3.45	2.78	3.28
SC	4,63,96,983	1,43,75,716	6,07,72,699	15,91,869	3,74,158	19,66,027	3.43	2.60	3.24
ST	1,92,90,908	47,00,374	2,39,91,282	9,25,193	82,369	10,07,562	4.80	1.75	4.20

Source: National Sample Survey (2014).

Numerous research studies have evidently proved that rural children being socio economically marginalised give up studies before sufficient levels of education due to lack of educational institutions close to their homes. As reported by surveys, the schools in rural India have

poor infrastructure, huge lack of teachers, particularly in the subjects like Mathematics, Science and English. This leads to very poor quality of education and which is one of the important reasons for the poor enrolment of rural students at the higher education. In a study, Ghuman et. al (2009) revealed that only 3 percent of the rural students enrol in higher education in Punjab. This figure is much smaller in case of the rural scheduled castes and girl students. One cannot deny the fact that dismal academic performance at school stage is the footing of exclusion from all other life opportunities. Because ill equipped children certainly grow as unskilled adults with buried potential and lack of employment opportunities. Poor academic performance not only results in the child having low self-esteem, but also gives birth to poverty, unemployment and exclusion.

Girls education in rural India needs special attention because the girls born in the rural deprived setup face multiple deprivations. The educational exclusion of girls at the secondary level is a serious concern. Also there is ample evidence that rural girls don't go in the science disciplines due to their poor academic base at the school level and also due to the lack of science groups in the rural secondary schools.

National Education Policy (2020)'s take on Rural Education and Implementation Road Map

Education is a necessity that should reach to the remotest and the farthest places. This fact has been taken care in the National Education Policy NEP(2020) document under the heading 'Equitable and Inclusive education'. The document talks about expanding the educational opportunities for the Socially and Economically Disadvantaged Groups (SEDGs) at both school and higher education level. It is promised to help these areas to get the necessary attention and incentives from the governments in the future. The rural children are the socio economically disadvantaged and comprises vast majority from Scheduled castes, scheduled tribes, OBCs, girls, minorities and children from economically weaker sections of the society. To address the issues related with rural education, we need to have a well-defined roadmap and milestones. It is pertinent to mention here that 90 percent of the rural children depends on the government schools for their education. This policy gives a chance to expand the network of government schools in the rural areas. The opening of more and more government schools with all disciplinary courses in the rural areas will certainly benefit the children residing there.

The NEP also lays focus on digital and distance learning to increase

gross enrolment ratio from 26 percent to over 50 percent. We must not forget the reality that mere 4 per cent of rural households have access to computers as compared to 23 per cent in urban areas as per 2018 report. The absence of basic digital infrastructure leads to the further segregation of the poor and disadvantaged, creating a "digital divide" that will grow even stronger due to the absence of or limited internet connectivity/access to technology in rural areas. Further as per UDISE only 9.85 percent of government schools have a functional computer and 4.09 percent have an internet connection. This scenario in itself puts into question the overwhelming reliance on online education and would prove to be a big challenge to implement digital learning at the village level. The NEP recommends a spending of 6 percent of GDP on education. During the implementation, It is pertinent to have more clarifications regarding the expenditure, and government has to be ensured that 6 percent of the GDP must come from public funds rather than relying on public private investment and/or private investors.

For the successful implementation of NEP (2020) , focus must be laid down on ground level issues like infrastructure in the institutions, research facilities, provisions of regular trained teachers, conducive learning environment and facilitating attitude. It is also a reality that real talent lies in the rural population but due to the unavailability of opportunities, a big chunk of population as a human resource residing in the rural areas is going to be wasted. The education policy (2020) has to act as a stepping stone towards reclaiming the pedestal India has lost—as a country with thinkers, philosophers, mathematicians, scientists—and not as a distraction to sway people away from the real issues in education. Rather than emphasising surface level illusionary reforms , it is desired that the children must have a strong academic base.

Vocational Education at Secondary Level

NEP (2020) recommends that vocational education will be integrated into all school and higher education institutions in a phased manner over the next decade. Focus areas for vocational education will be chosen based on skills gap analysis and mapping of local opportunities about an exposure to skill centric experiences and the introduction of vocational education from the upper primary level. The integration of vocational productive skills with the academic subjects is a good idea in itself. During the policy implementation care must be taken about the risk that rural poor students may distract from academics. Because in the rural setup, the knowledge and skill based hierarchies are visibly sharp . The caste structure largely decides about the opportunities, the

uplifting of the children from traditional livelihood with knowledge and academic base would really be a difficult task but needs to be addressed at every cost. It is to ensure that for a rural disadvantaged child, skill education must be supplemented by the theoretical knowledge base. The policy must focus on the employability issues at a time when rural youth is facing the acute problem of unemployment. The vocational education at the secondary level can be introduced in collaboration with the Industrial training institutes i.e. ITIs. Presently, Government's vocational training programs are primarily managed by 13,348 ITIs, including both government and private, which cater to about 36 percent of the 7 million people getting trained in India, providing vocational training to around 19 lakh youths in 126 trades. It is important to mention that number of ITIs in rural areas is negligible. In coherence with the NEP's recommendation, more ITI's should be opened by the government in the rural areas particularly in the remote villages. Currently ITI's are running under the Ministry of Skill Development and Entrepreneurship (MSDE) , all ITI's may be brought under the ministry of education. The policy strongly talks about the introduction of vocations at secondary level , the restructuring of all the vocational courses is possible if all vocational institutions have to be brought at one platform. Also for the implementation of this policy recommendation, the government of India's skill development initiative through Pradhan Mantri Kaushal Vikas Yojana (PMKVY) for recognition and standardisation of skills, must be planned out in collaboration with the local secondary school education programmes at every village level so that those who have capabilities must get opportunities.

Opening of New Educational Institutions

It is encouraging that Policy document, in its section 10 .9, emphasises on the growth of public educational institutions in the country. The implementation of the idea of Institutional restructuring and consolidation of institutions by opening of big institutions with strength of more than 3000 students, needs special attention. It doesn't look fair if we overlook the contribution of small affiliated colleges in imparting education in the towns and villages after independence. The restructuring of such institutions needs serious social audit. Due to bleak economic base , rural people largely depend upon government educational institutions like schools, colleges and universities in proximity to their habitation. The dearth of adequate number of schools and colleges in the neighbourhood of rural students is a big issue ailing rural education. Only 38 per cent of rural households have a secondary school in their 1 km radius, compared to urban households' 70 per cent.

Rural children particularly the girls, and the children from the low socio economic background leave education due to limited or no schools in the village after the elementary level.

The provisions of affordable public education would certainly benefit the rural youth. Opening of more schools and colleges will be beneficial for the communities which are already deprived of education. In India, the number of rural universities is very less. After independence, rural universities were opened in tune with Mahatma Gandhi's idea of education and rural development. Also the rural universities must impart education in the disciplines catering local needs of the students. At present India needs more rural universities at least one in every state. Similarly, women universities are to be opened in every state to offer serious research and teaching on gender issues.

Teacher Education

The policy emphasises on building better teacher education institutions. There is a severe dearth of trained teaching personnel in the country particularly in the rural and other backward locations. Most of the teacher education institutions are in private sector producing poorly trained teachers. As envisioned in the document, rural India needs a robust teacher training system that equips knowledge facilitators to understand the nuances of the diverse rural communities. The children from socio economically disadvantaged groups have multiple issues related to their pedagogic and schooling processes. Numerous research studies pointed out about the language problems of rural students, difficulty in subjects like English, Mathematics, Science etc. mostly because of the way these subjects are being taught in the schools. Education of a socio economically backward child largely depends upon the school teaching and the teacher due to lack of support from the families. For rural schools, teachers specially trained with pedagogical skills and rigorous programmes of training are required. Government Teacher education institutions should be opened in the villages with attached school for the training and internship of teacher trainees. The NEP's recommendation to train Anganwadi workers needs to be addressed after holistic view of the existing reality of anganwadi centres. As imagined by the policy document, the training of Anganwadi workers needs adequately designed curriculum and pedagogical training for delivering quality "Early Childhood Care and Education" (ECCE).

In conclusion, Rural India comprises a large chunk of its population, experiencing serious problems of poor educational facilities, low learning levels, fragile economic conditions, language barriers, under

development and silent educational exclusion. NEP(2020), is an opportunity to address all these systemic issues through close scrutiny of the existing situation. Also the Corona pandemic has created the unprecedented challenges, dislocation of lakhs of rural poor children have shaken their educational and psychological dreams. The success of Policy's implementation largely depends upon the follow up and care of the dislocated children. Tasks to bring them back in the educational mainstream and their rehabilitation are really crucial. The imagined transformation cannot be materialized unless we create more equal socio-economic opportunities in terms of access to good quality education, providing better educational opportunities through changing pedagogic practices and the culture of institutions through motivated personnel. The experience of earlier educational policies tells that it takes long time to get any new education policy implemented. Since education is a concurrent subject under the constitution, its implementation depends largely on state governments . The compatibility and mutual understanding and the concerns of the states must be addressed by the centre government for the successful implementation of the policy. The promotion of rural education should be one of the prime objectives of the Government to make education in reach of the unreached.

References

- Census of India 2011.
- Ghuman, R.S, S, Singh and JS Brar (2009), Professional Education of Punjab : Exclusion of Rural Students, Publication Bureau, Punjabi University Patiala
- The term that the document introduces is Socio-economically Disadvantaged Groups (SEDGs).
- Unified District Information on School Education, Department of School Education, Government of India

माध्यमिक स्तर पर समावेशी शिक्षणशास्त्र का प्रभावी क्रियान्वयन एवं चुनौतियाँ

धर्मेंद्र बहादुर सिंह* एवं अमित कुमार**

सारांश

वर्तमान वैश्विक व राष्ट्रीय परिप्रेक्ष्य में समावेशी शिक्षणशास्त्र एक अत्यंत महत्वपूर्ण और सामाजिक न्यायपरक अवधारणा के रूप में उभरकर सामने आई है, जो सभी छात्रों को समान अवसर प्रदान करने की दिशा में कार्य करती है। शोध आलेख में माध्यमिक स्तर पर समावेशी शिक्षणशास्त्र की अवधारणा, सिद्धांत, रणनीतियाँ, लाभ एवं चुनौतियों का विश्लेषणात्मक अध्ययन किया गया है। शोध आलेख में पाया गया कि किशोरावस्था के दौरान छात्रों का संवेगात्मक, सामाजिक और संज्ञानात्मक विकास तीव्र गति से होता है, अतः इस स्तर पर समावेशी शिक्षण दृष्टिकोण अपनाना अत्यंत आवश्यक है। इस शोध आलेख में विभिन्न शोधपत्रों, आयोगों की रिपोर्ट्स, शिक्षा नीतियों एवं साहित्यिक स्रोतों के विषय वस्तु का विश्लेषण किया गया है। समावेशी शिक्षणशास्त्र की प्रभावी रणनीतियों जैसे- विभेदित अनुदेशन, सार्वभौमिक शिक्षण डिजाइन, सहायक प्रौद्योगिकी, सहयोगात्मक शिक्षण, समावेशी कक्षा वातावरण और शिक्षकों का सतत प्रशिक्षण, सभी छात्रों के संपूर्ण विकास में सहायक सिद्ध होते हैं (फ्लोरिन एंड ब्लैक हॉकिंस, 2011)। यद्यपि इस शिक्षा दृष्टिकोण की उपयोगिता स्पष्ट है, लेकिन इसके कार्यान्वयन में अनेक संरचनात्मक, भौतिक, मानसिक एवं नीतिगत बाधाएँ भी विद्यमान हैं। ऐसे में यह आवश्यक हो जाता है कि शिक्षक, अभिभावक, समुदाय एवं नीति निर्माता मिलकर इस न्यायपूर्ण और लचीली शिक्षा प्रणाली को बढ़ावा देने में सहभागी बनें। यह शोध आलेख समावेशी शिक्षा को केवल एक शैक्षणिक रणनीति नहीं, बल्कि सामाजिक समरसता और लोकतांत्रिक मूल्यों की ओर अग्रसर एक सशक्त युक्ति के रूप में प्रस्तुत करता है, जो विशेष रूप से माध्यमिक स्तर पर अत्यंत प्रभावशाली एवं प्रासंगिक प्रतीत होता है।

बीज शब्दः समावेशी शिक्षा, समावेशी शिक्षाशास्त्र/समावेशी शिक्षणशास्त्र, समावेशी शिक्षण

*शोध छात्र, शिक्षाशास्त्र विभाग, आर्य कन्या डिग्री कालेज प्रयागराज।

**सहायक आचार्य, शिक्षाशास्त्र विभाग, आर्य कन्या डिग्री कालेज प्रयागराज।

प्रस्तावना

शिक्षा व्यक्ति एवं समाज की उन्नति का सबसे प्रभावशाली उपकरण है। यह सार्वभौमिक रूप से स्वीकार किया गया है कि किसी राष्ट्र की उन्नति उसके गुणी एवं योग्य नागरिकों पर निर्भर करती है, योग्य नागरिकों हेतु गुणवत्तापूर्ण शिक्षा प्रणाली का होना अत्यंत आवश्यक है। प्लेटो के अनुसार - ''शिक्षा का कार्य मनुष्य के शरीर एवं आत्मा को वह पूर्णता प्रदान करना है जिसके कि वह योग्य है।'' किसी राष्ट्र के विकास के लिए यह महत्वपूर्ण है कि शिक्षा पर प्रत्येक नागरिक का समान अधिकार होना चाहिए। प्रत्येक व्यक्ति तक शिक्षा की पहुंच संभव हो इसलिए प्राथमिक शिक्षा को अनिवार्य एवं निःशुल्क किया गया है। 86 वें संविधान संशोधन 2002 के द्वारा प्राथमिक शिक्षा को मौलिक अधिकार के तहत निःशुल्क एवं अनिवार्य कर दिया गया है। यह संविधान के अनुच्छेद 21 ए में वर्णित है। कोठारी आयोग (1964-66) ने कहा है कि ''भारत की कक्षाओं में राष्ट्र का निर्माण हो रहा है।''

भारत विभिन्नताओं का देश है। यहां दिव्यांग एवं सामाजिक रूप से बहिष्कृत लोगों को शिक्षा की मुख्य धारा में लाना बहुत बड़ा चुनौती है। 1968 की शिक्षा नीति में सर्वप्रथम दिव्यांगजनों के लिए विशेष विद्यालय खोले गए, जिससे समाज में दिव्यांगजनों को भी शिक्षित किया जा सके, वह भी सम्मान से जीवन निर्वाह कर सकें। दिव्यांगजनों के विद्यालय अलग होने के कारण वे शिक्षित तो हो जाते थे लेकिन उनका समाज में समायोजन ठीक ढंग से नहीं हो पता था। यह समाज की एक बड़ी चुनौती बन रहा था। इस चुनौती को दूर करने के लिए 1986 की शिक्षा नीति में एकीकृत शिक्षा का पहल किया गया जिसके अंतर्गत दिव्यांगजन एवं सामान्य छात्रों को एक साथ पढ़ाया जाना था। पुनः विद्यालय संस्था तथा अध्यापकों को विद्यालय एवं कक्षा-कक्ष की संरचना की समस्या का सामना करना पड़ा। इस समस्या दूर करने के लिए भारत ने यूनेस्को द्वारा चलाए गए कार्यक्रम सलमांका सम्मेलन में 1994 में भागीदारी किया। इस सम्मेलन में प्रत्येक बालक को उसकी जरूरत के साथ एक ही छत के नीचे शिक्षा देने की बात किया गया, चाहे वह जिस पृष्ठभूमि से सम्बन्ध रखता हो। इस शिक्षा व्यवस्था का नाम समावेशी शिक्षा रखा गया। समावेशी शिक्षा से तात्पर्य एक ऐसी शिक्षा व्यवस्था से है जिसमें बिना किसी प्रतिबंध के प्रत्येक बालक का स्वागत किया जाता है। समावेशी शिक्षा एक नई शिक्षा पद्धति है जिसमें विभिन्न रूप से अक्षम बालकों (विकलांग, सामाजिक रूप से पिछड़े, आर्थिक रूप से पिछड़े, भाषाई भिन्नता एवं लैंगिक भिन्नता) को सामान्य बालकों के साथ एक ही छत के नीचे शिक्षित किया जाता है। (मालवीय, 2018)

समावेशी शिक्षा प्रणाली शिक्षा के प्रत्येक स्तर के लिए महत्वपूर्ण मानी जाती है। इस शोध आलेख में माध्यमिक स्तर की शिक्षा व्यवस्था में समावेशी शिक्षा एवं शिक्षण शास्त्र पर विशेष ध्यान आकर्षित किया है, क्योंकि इस स्तर पर बालक किशोरावस्था में होता है, इस समय बालक के संवेगों को नियंत्रित करना अति आवश्यक होता है एवं बालक का मानसिक एवं संवेगिक विकास भी तेजी से होता है (एन.सी.ई.आर.टी., 2021)। माध्यमिक स्तर से ही बालक तथा

शिक्षक दोनों पर पाठ्यक्रम आदि को लेकर अतिरिक्त दबाव बढ़ता है इसलिए इस स्तर पर समावेशी शिक्षा एवं शिक्षणशास्त्र अति महत्वपूर्ण हो जाता है।

समावेशी शिक्षणशास्त्र से तात्पर्य सभी छात्रों को सम्मान पूर्वक समान रूप से व्यवहार करने का विचार निहित है। छात्रों के साथ भिन्न व्यवहार करने की बजाय उस अंतर को मिटाने का प्रयास किया जाना चाहिए जो कुछ छात्रों को अलग या कमतर बनाता है (फ्लोरिन -स्प्रेटा, 2013)। समावेशी शिक्षणशास्त्र दृष्टिकोण इस सवाल के जवाब में विकसित किया गया था कि कैसे व्यक्तिगत छात्र दूसरों से अलग व्यवहार किए बिना अतिरिक्त समर्थन या अतिरिक्त सहायता प्राप्त कर सकते हैं। (फ्लोरिन एंड ब्लैक हॉकिंस, 2011)

आजादी के बाद तीसरी शिक्षा नीति 29 जुलाई 2020 को राष्ट्रीय शिक्षा नीति 2020 के रूप में क्रियान्वयन में आई। इस शिक्षा नीति में समावेशी शिक्षा के दायरे को और अधिक विस्तारित किया गया। राष्ट्रीय शिक्षा नीति 2020 के अध्याय 6 के अनुसार शिक्षा सामाजिक न्याय एवं समानता प्राप्त करने का सबसे बड़ा साधन है। यह भी कहा गया है कि भारतीय शिक्षा प्रणाली का उद्देश्य ऐसे बच्चों को लाभ पहुंचाना होना चाहिए जिसके पास सीखने एवं सफल होने का अवसर उनके जन्म या व्यक्तिगत पृष्ठभूमि के कारण न छिन जाए। राष्ट्रीय शिक्षा नीति 2020 में कक्षा 6 से ही छात्रों को व्यवसायिक शिक्षा एवं कोडिंग सीखने की बात की गई है। (एन.ई.पी. 2020 ड्राफ्ट)। इससे छात्रों पर अतिरिक्त मानसिक दबाव बढ़ेगा इसके समाधान के लिए शिक्षकों को उचित समावेशी शिक्षणशास्त्र का उपयोग करना चाहिए तथा उसके सिद्धांतों को पूरी तरह से स्वीकार करना चाहिए। माध्यमिक स्तर में समावेशी शिक्षणशास्त्र या समावेशी शिक्षण के प्रमुख सिद्धांत, समावेशी शिक्षणशास्त्र की रणनीतियां, समावेशी शिक्षणशास्त्र से लाभ तथा समावेशी शिक्षणशास्त्र की चुनौतियों को अग्रलिखित रूप से समझा जा सकता है।

सम्बंधित साहित्य का अध्ययन

सिंह, जैन एवं यादव (2025) ने, माध्यमिक विद्यालय के शिक्षकों की समावेशी शिक्षा के प्रति अभिव्यक्ति का अध्ययन किया। इस अध्ययन का उद्देश्य माध्यमिक विद्यालय के शिक्षकों का समावेशी शिक्षा के प्रति अभिवृत्ति जानने का प्रयास किया गया है। अध्ययन में पाया गया कि ग्रामीण एवं शहरी परिवेश तथा लिंग के आधार पर समावेशी शिक्षा के प्रति अध्यापकों के अभिवृत्ति में भिन्नता है। शहरी विद्यालय के अध्यापकों का ग्रामीण विद्यालय के अध्यापकों की अपेक्षा समावेशी शिक्षा के प्रति अभिवृत्ति अधिक सकारात्मक है। महिला अध्यापकों का समावेशी शिक्षा के प्रति अभिवृत्ति पुरुष अध्यापकों की तुलना में अधिक सकारात्मक पाया गया। इससे यह स्पष्ट होता है की लिंग एक महत्वपूर्ण कारक है जो शिक्षकों की समावेशी शिक्षा के प्रति अभिवृत्ति को प्रभावित करता है।

अपोलोनिया एवं मबुलहेली (2024) ने, गोटेना स्कूल में सांस्कृतिक एवं तार्किक रूप से विविध शिक्षार्थियों के समावेशन को बढ़ाने की रणनीति : शिक्षकों का दृष्टिकोण पर अध्ययन

किया। इस शोध अध्ययन का उद्देश्य विद्यालयों में संस्कृति एवं भाषाई विविधता वाले छात्रों को शिक्षा की मुख्य धारा में लाना है। अफ्रीका में विभिन्न देशों से पलायन करके लोग पहुंच रहे हैं, इस कारण वहां संस्कृति एवं भाषा की विविधता भी बढ़ रही है जो की शिक्षा के क्षेत्र में एक चुनौती है। इस शोध अध्ययन में गुणात्मक विधि का प्रयोग किया गया है। 3 माध्यमिक विद्यालय के 12 अध्यापकों का साक्षात्कार कर डेटा संग्रह किया गया एवं थीम विश्लेषण के माध्यम से परिणाम परिकलित किया गया। परिणाम स्वरूप पाया गया की नीतिगत परिवर्तन की आवश्यकता है। सरकारी नीतियों में सुधार की आवश्यकता है ताकि शिक्षकों को सांस्कृतिक विविधता के अनुसार प्रशिक्षित किया जा सके। शिक्षकों के लिए इन सर्विस ट्रेनिंग एवं कार्यशालाओं की आवश्यकता है ताकि वे विविधता को शिक्षण में प्रभावी ढंग से शामिल कर सकें। शिक्षकों ने कक्षा में प्रयुक्त की जा सकने वाली कई रणनीतियों का सुझाव दिया जैसे लचीलापन, भाषा सहायता और सामूहिक शिक्षण पद्धति। पूर्व सेवा शिक्षकों के प्रशिक्षण पाठ्यक्रम में दिए समावेशी शिक्षक को अनिवार्य किया जाए।

मेथलागल एवं मिचेल ने 1980 से 2019 के दौरान समावेशी शिक्षा से संबंधित 8398 शोध-पत्रों का विश्लेषण किया। इस अध्ययन का उद्देश्य वैज्ञानिक उत्पादकता, अंतर्राष्ट्रीय सहयोग गतिविधियों और वैचारिक ढांचे की जानकारी प्राप्त करना था। वर्णनात्मक विश्लेषण, सह-लेखक सहयोग विश्लेषण और सह-शब्द विश्लेषण का उपयोग अध्ययन के लिए किया गया। प्रमुख शोध क्षेत्रों में विकलांगता से जुड़े मुद्दे, शिक्षण पद्धतियाँ, दृष्टिकोण, सामाजिक प्रक्रिया, पाठ्यचर्या से जुड़े मुद्दे, छात्र एवं अभिभावकों के दृष्टिकोण, अंतर-सांस्कृतिक शिक्षा नीतियाँ आदि शामिल थीं। अध्ययन के निष्कर्षों से पता चला कि वर्षों के दौरान समावेशी शिक्षा के क्षेत्र में शोध कार्य तीव्र गति से बढ़ा है, जिसमें अंतर्राष्ट्रीय सहयोग पैटर्न भी अधिक रहे।

ओहबा एवं मलेन्या ने समावेशी शिक्षा का अध्ययन करने का प्रयास किया और नैरोबी के 5 और मार्साबिट के 9 सार्वजनिक विद्यालयों से डेटा एकत्र किया गया। अध्ययन के लिए प्रश्नावली और साक्षात्कार विधियों का उपयोग किया गया और 126 से अधिक शिक्षकों, 14 प्रमुख शिक्षकों और सरकारी अधिकारियों से डेटा इकट्ठा किया गया। निष्कर्षों से पता चला कि यद्यपि केन्या में एकीकृत शिक्षा प्रणाली प्रमुख है, फिर भी स्थानीय विद्यालय जो विकलांग छात्रों को स्थान प्रदान करते हैं, वे समावेशी वातावरण बनाने में काफी प्रयास करते हैं। यह शोध-पत्र समावेशी शिक्षा से जुड़ी चुनौतियों और संभावनाओं की सराहना करता है और इसीलिए केन्या के संदर्भ में समावेशी नीतियों के क्रियान्वयन पर गहन चिंतन की सिफारिश करता है।

समावेशी शिक्षाशास्त्र/ शिक्षणशास्त्रः अवधारणा एवं सिद्धांत

समावेशी शिक्षणशास्त्र का अभिप्राय ऐसे शिक्षण दृष्टिकोण से है, जो विविध सामाजिक, सांस्कृतिक, आर्थिक, भौतिक अथवा मानसिक पृष्ठभूमि से आने वाले समस्त विद्यार्थियों को समान रूप से गुणवत्तायुक्त एवं न्यायसंगत शिक्षा प्रदान करने की दिशा में सक्रिय रहता है (एन.सी.ई.आर.टी., 2021)। विशेष रूप से माध्यमिक स्तर पर, जहाँ विद्यार्थियों का शारीरिक, मानसिक

एवं संवेगात्मक विकास तीव्र गति से होता है, समावेशी शिक्षण नीतियाँ अत्यंत प्रभावशाली सिद्ध होती हैं। यह अवधारणा केवल विशेष आवश्यकता वाले छात्रों तक सीमित नहीं है, अपितु यह सभी विद्यार्थियों के समग्र एवं संतुलित विकास के लिए आवश्यक मानी जाती है। समावेशी शिक्षणशास्त्र का मूल उद्देश्य शिक्षण प्रक्रिया को इतना लचीला, समावेशी एवं संवेदनशील बनाना है कि प्रत्येक छात्र, चाहे उसकी व्यक्तिगत, सामाजिक अथवा शैक्षिक स्थिति कुछ भी हो, कक्षा में सक्रिय भागीदारी कर सके। इस संदर्भ में विभिन्न सिद्धांतों की पहचान की गई है, जिनमें छात्रों को सहभागिता के समान अवसर देना, विविधता को सकारात्मक दृष्टिकोण से स्वीकार करना, शिक्षण तथा मूल्यांकन प्रक्रियाओं में लचीलापन अपनाना, शिक्षकों द्वारा सहानुभूतिपूर्ण एवं सहयोगात्मक दृष्टिकोण अपनाना, छात्र-केंद्रित शिक्षण विधियों का प्रयोग, सहायक तकनीकी उपकरणों की उपलब्धता एवं उपयोग, अभिभावकों एवं समुदाय की सक्रिय भागीदारी, शिक्षकों के सतत प्रशिक्षण की व्यवस्था तथा नैतिक मूल्यों एवं शैक्षिक नीतियों के प्रति प्रतिबद्धता जैसी व्यवस्थाएँ सम्मिलित हैं। (यूनेस्को, 2020)

समावेशी शिक्षण शास्त्र को लागू करने की रणनीतियाँ

समावेशी शिक्षणशास्त्र को प्रभावी रूप से लागू करने हेतु शिक्षकों द्वारा विविध रणनीतियों को अपनाया जाना अनिवार्य है, जो छात्रों की आवश्यकताओं की पूर्ति में सहायक सिद्ध हों। इन रणनीतियों में विभेदित अनुदेशन, सीखने के लिए सार्वभौमिक डिजाइन (UDL), सहायक प्रौद्योगिकी का प्रयोग, सहयोगात्मक शिक्षण पद्धतियाँ, स्वागत योग्य एवं समावेशी कक्षा वातावरण का निर्माण, शिक्षकों का नियमित प्रशिक्षण, तथा अभिभावकों के साथ सक्रिय सहभागिता प्रमुख हैं। (फ्लोरिन एंड ब्लैक हॉकिंस,2011)

विभेदित अनुदेशन

शिक्षकों को अपने शिक्षण अभ्यास में इस प्रकार का लचीलापन अपनाना चाहिए जिससे वे प्रत्येक छात्र की सीखने की गति, शैली एवं आवश्यकताओं के अनुरूप शिक्षा प्रदान कर सकें। यह दृष्टिकोण छात्रों को उनकी व्यक्तिगत क्षमताओं के अनुरूप सीखने के अवसर प्रदान करता है, जिससे उनके आत्मविश्वास और सीखने की प्रक्रिया को बल मिलता है।

सार्वभौमिक डिजाइन

UDL एक शैक्षिक दृष्टिकोण है जो पाठ्यक्रम और शिक्षण विधियों को इस प्रकार डिजाइन करने की वकालत करता है कि वे सभी प्रकार के विद्यार्थियों की आवश्यकताओं को पूरा कर सकें। UDL तीन प्रमुख सिद्धांतों पर आधारित होता है-

- जुड़ाव के विविध साधनः विद्यार्थियों की सीखने की रुचि बनाए रखने हेतु विभिन्न प्रेरक विधियों का प्रयोग।
- प्रतिनिधित्व के विविध साधनः जानकारी को अनेक रूपों (दृश्य, श्रवण, स्पर्श आदि) में

प्रस्तुत करना ताकि सभी छात्र अपनी समझ के अनुसार विषयवस्तु ग्रहण कर सकें।

- क्रिया एवं अभिव्यक्ति के विविध साधनः छात्रों को विभिन्न तरीकों से अपनी समझ प्रदर्शित करने के अवसर देना, जैसे- लेखन, वाचन, प्रदर्शन आदि।

सहायक प्रौद्योगिकी

समावेशी शिक्षण की सफलता में सहायक प्रौद्योगिकी की भूमिका अत्यंत महत्त्वपूर्ण है। यह विशेष रूप से दिव्यांग अथवा विशेष आवश्यकता वाले छात्रों के लिए समान अवसर उपलब्ध कराती है। इसमें ब्रेल यंत्र, टेक्स्ट-टू-स्पीच सॉफ्टवेयर, स्क्रीन रीडर, संवेदी उपकरण आदि शामिल हैं, जो छात्रों की सीखने की प्रक्रिया को सुलभ और प्रभावशाली बनाते हैं।

सहयोगात्मक शिक्षण

यह एक शिक्षण पद्धति है जिसमें छात्र समूहों में मिलकर कार्य करते हैं और एक-दूसरे के साथ विचारों का आदान-प्रदान करते हुए समस्याओं का समाधान निकालते हैं। इस पद्धति के मुख्य घटक हैंः समूह कार्य, पारस्परिक क्रिया, सक्रिय भागीदारी, सामूहिक उत्तरदायित्व तथा विभिन्न कौशलों का एकीकृत उपयोग। यह दृष्टिकोण सामाजिक कौशल के विकास के साथ-साथ सीखने को भी प्रभावशाली बनाता है।

स्वागत योग्य एवं समावेशी कक्षा वातावरण

शिक्षकों को ऐसा कक्षा परिवेश निर्मित करना चाहिए जिसमें प्रत्येक छात्र का सम्मान हो और कोई भी भेदभाव न हो। छात्रों को अपनी अभिव्यक्ति की स्वतंत्रता मिले, उनकी विविधता को स्वीकार किया जाए, और उन्हें सहयोगात्मक रूप से सीखने के अवसर प्रदान किए जाएँ। एक सुरक्षित, समावेशी और संवेदनशील कक्षा वातावरण छात्रों की सामाजिक-भावनात्मक भलाई को सुदृढ़ करता है।

शिक्षकों का प्रशिक्षण

समावेशी शिक्षणशास्त्र के प्रभावी कार्यान्वयन के लिए शिक्षकों को समय-समय पर विशेष प्रशिक्षण दिया जाना चाहिए। इस प्रशिक्षण में विभेदित अनुदेशन, UDL, सहायक तकनीक, सहयोगात्मक शिक्षण एवं कक्षा प्रबंधन से संबंधित सैद्धांतिक व व्यावहारिक पहलुओं को सम्मिलित किया जाना चाहिए। इसके अतिरिक्त, शिक्षकों को स्वयं भी यह सीखने की निरंतर कोशिश करनी चाहिए कि एक स्वागत योग्य, लचीला और न्यायसंगत कक्षा वातावरण कैसे विकसित किया जाए।

माता-पिता एवं परिवार से संवाद

शिक्षकों और अभिभावकों के मध्य समन्वय समावेशी शिक्षणशास्त्र को सफल बनाने में एक महत्त्वपूर्ण कारक है। शिक्षक, बालक की सीखने की प्रकृति, व्यवहारिक विशेषताओं और उसकी

रुचियों को समझने के लिए परिवारजनों से संवाद करें और बालक की प्रगति के लिए मिलकर रणनीति बनाएं।

माध्यमिक स्तर पर समावेशी शिक्षा शिक्षण के लाभ

माध्यमिक स्तर के शैक्षिक परिप्रेक्ष्य में समावेशी शिक्षणशास्त्र की अवधारणा छात्रों, शिक्षकों एवं सम्पूर्ण विद्यालय समुदाय के लिए बहुआयामी लाभ प्रदान करती है। यह शिक्षा पद्धति विविध पृष्ठभूमि एवं क्षमताओं से आने वाले सभी छात्रों को समान अवसर प्रदान करने की दिशा में कार्य करती है, जिससे उनकी शैक्षिक उपलब्धियों के साथ-साथ सामाजिक समावेशन को भी प्रोत्साहन मिलता है (यूनेस्को, 2020)। समावेशी शिक्षण दृष्टिकोण विद्यार्थियों के आत्म-सम्मान तथा आत्मविश्वास में वृद्धि करता है, जिससे उनमें स्वतंत्र निर्णय क्षमता, समस्याओं को सुलझाने की दक्षता और सामाजिक संवाद कौशल का विकास होता है (फ्लोरिन एंड ब्लैक हॉकिंस, 2011)। इस प्रकार की शिक्षा पद्धति के अंतर्गत विकसित सकारात्मक एवं सहानुभूति-आधारित स्कूल संस्कृति न केवल भेदभाव को कम करती है, बल्कि शैक्षणिक उत्कृष्टता और सामाजिक न्याय की दिशा में भी सार्थक योगदान देती है। इसके अतिरिक्त, समावेशी शिक्षण प्रक्रिया से जुड़े नवाचार शिक्षकों की व्यावसायिक दक्षता को समृद्ध करते हैं और शिक्षा व्यवस्था में लचीलापन, सक्रिय सहभागिता, तथा समुदाय आधारित शिक्षा को बढ़ावा मिलता है (एन.सी.ई.आर.टी., 2021)। इस प्रकार, समावेशी शिक्षणशास्त्र न केवल छात्र-केन्द्रित शिक्षण को सशक्त करता है, बल्कि शिक्षकों और पूरे शैक्षिक वातावरण के विकास में भी सहायक सिद्ध होता है।

माध्यमिक स्तर पर समावेशी शिक्षण के कार्यान्वयन में चुनौतियाँ

यद्यपि समावेशी शिक्षणशास्त्र का दृष्टिकोण अत्यंत महत्वाकांक्षी और सकारात्मक है, किंतु माध्यमिक स्तर पर इसके प्रभावी कार्यान्वयन में अनेक संरचनात्मक, प्रशासनिक एवं मानसिक बाधाएँ विद्यमान हैं। सबसे प्रमुख अवरोध यह है कि वर्तमान पाठ्यचर्या एवं मूल्यांकन प्रणाली में लचीलापन का अभाव है, जिसके कारण शिक्षकों को छात्रों की विविध आवश्यकताओं के अनुरूप अनुकूलन करना कठिन होता है (एन.सी.ई.आर.टी., 2021)। इसके साथ ही, कई बार शिक्षकों के भीतर पूर्वाग्रह एवं अज्ञानता भी पाई जाती है, जिससे वे भिन्न क्षमताओं वाले छात्रों के प्रति संवेदनशीलता नहीं दिखा पाते। वर्तमान में अधिकांश विद्यालयों में समावेशी कक्षा वातावरण का अभाव है और शिक्षकों को समावेशी शिक्षण हेतु आवश्यक प्रशिक्षण नहीं मिल पाता, जिसके परिणामस्वरूप वे विशेष आवश्यकता वाले विद्यार्थियों के साथ प्रभावी ढंग से संवाद और सहायता स्थापित नहीं कर पाते (फ्लोरिन एंड ब्लैक हॉकिंस, 2011)। शैक्षिक संसाधनों और सहायक तकनीकी उपकरणों की सीमित उपलब्धता भी इस दिशा में एक प्रमुख अवरोध उत्पन्न करती है। अनेक विद्यालयों में भौतिक अवसंरचना, जैसे- रैम्प, श्रवण यंत्र, ब्रेल उपकरण आदि का अभाव देखा गया है, जिससे दिव्यांग छात्रों के लिए विद्यालय जाना और शिक्षण में भाग लेना चुनौतीपूर्ण हो जाता है। इसके साथ ही, विद्यालयों में बालकों के मध्य डराने-धमकाने की प्रवृत्तियाँ, सामाजिक कलंक और अभिभावकों की सीमित भागीदारी भी समावेशन को प्रभावित

करते हैं (एन.सी.ई.आर.टी., 2021)। दूसरी ओर, शैक्षिक स्टाफ के मध्य सहयोग और समन्वय का अभाव साझा प्रयत्नों को विफल कर सकता है। समावेशी शिक्षा के स्पष्ट और व्यावहारिक शैक्षिक मॉडल एवं दिशानिर्देशों की अनुपस्थिति भी शिक्षकों के लिए चुनौती बनकर उभरती है, जिससे वे विविध शैक्षिक आवश्यकताओं को सुचारु रूप से संबोधित करने में असमर्थ हो जाते हैं। अंततः, प्रणालीगत बाधाएँ, जागरूकता की कमी, और दिव्यांग छात्रों की न्यून नामांकन दर इस तथ्य को रेखांकित करती है कि समावेशी शिक्षा के क्षेत्र में अभी भी गहन प्रयासों की आवश्यकता है (एन.सी.ई.आर.टी., 2021)। माध्यमिक स्तर पर समावेशी शिक्षणशास्त्र का अध्ययन यह स्पष्ट करता है कि वर्तमान वैश्विक एवं राष्ट्रीय शैक्षिक परिप्रेक्ष्य में यह अवधारणा केवल एक शैक्षणिक नीति न रहकर एक सामाजिक न्यायपरक शैक्षिक आंदोलन का स्वरूप धारण कर चुकी है। यह शिक्षण दृष्टिकोण न केवल विविध क्षमताओं, भाषाओं, वर्गों एवं लिंग के छात्रों के समान, गुणवत्तापूर्ण एवं समावेशी शिक्षा के अधिकार को सुनिश्चित करता है, बल्कि एक मानवीय, नैतिक एवं लोकतांत्रिक समाज के निर्माण की दिशा में भी महत्त्वपूर्ण भूमिका निभाता है। माध्यमिक स्तर की शिक्षा, जहाँ विद्यार्थी जीवन के संवेगात्मक, सामाजिक एवं संज्ञानात्मक विकास के एक निर्णायक मोड़ पर होता है, समावेशी शिक्षण शास्त्र की प्रभावशीलता विशेष रूप से प्रासंगिक हो जाती है (फ्लोरिन एंड ब्लैक हॉकिंस, 2011)। इस स्तर पर शिक्षकों की भूमिका केवल ज्ञान के प्रदाता के रूप में नहीं, अपितु एक मार्गदर्शक, सहायक एवं संवेदनशील परिवर्तनकर्ता के रूप में परिवर्तित हो जाती है, जो छात्रों की भिन्नताओं को स्वीकार्यता और संसाधन के रूप में देखता है, न कि बाधा के रूप में।

निष्कर्ष

सम्पूर्ण शोध आलेख से यह परिलक्षित होता है कि यद्यपि समावेशी शिक्षणशास्त्र को व्यवहार में लाने हेतु अनेक रणनीतियाँ जैसे- विभेदित अनुदेशन, सार्वभौमिक डिजाइन, सहायक प्रौद्योगिकी, सहयोगात्मक शिक्षण एवं स्वागतपूर्ण कक्षा वातावरण प्रभावी सिद्ध हो सकते हैं, तथापि इनके प्रभावी क्रियान्वयन में अनेक चुनौतियाँ यथा- प्रशिक्षण की कमी, संसाधनों का अभाव, पाठ्यचर्या में लचीलापन न होना, भौतिक अवसंरचना की सीमाएँ, शिक्षक-दृष्टिकोण की असंवेदनशीलता और प्रशासनिक सहयोग की न्यूनता- अभी भी विद्यमान हैं (फ्लोरिन एंड ब्लैक हॉकिंस, 2011)। इन चुनौतियों के समाधान हेतु यह आवश्यक है कि समावेशी शिक्षणशास्त्र को शिक्षा नीति, शिक्षक प्रशिक्षण, विद्यालय प्रबंधन और सामुदायिक सहभागिता के स्तर पर संपूर्णता से आत्मसात किया जाए (एन.सी.ई.आर.टी., 2021)। विशेष आवश्यकता वाले छात्रों के लिए नीतिगत रूप से संरचित सहयोग, शिक्षकों हेतु सतत व्यावसायिक विकास कार्यक्रम, अभिभावकों की सहभागिता को प्रोत्साहित करने वाले उपाय, एवं विद्यालयों में सहयोगात्मक एवं उत्तरदायी शैक्षिक संस्कृति की स्थापना इन सबकी अनिवार्यता अब केवल वांछनीय नहीं, बल्कि अपरिहार्य बन गई है। अतः कहा जा सकता है कि समावेशी शिक्षणशास्त्र माध्यमिक शिक्षा को गुणवत्ता, समानता एवं समरसता की नई दिशा प्रदान कर सकता है, बशर्ते इसे केवल एक

सैद्धांतिक विचारधारा न मानकर, व्यावहारिक रूप में सुव्यवस्थित, सुसंगत एवं समग्र रूप से लागू किया जाए। राष्ट्रीय शिक्षा नीति 2020 में समावेशी शिक्षा एवं शिक्षणशास्त्र को प्रत्येक स्तर पर लागू करने की बात की गई है,चाहे वह स्कूल स्तर पर हो या विश्वविद्यालय। समावेशी शिक्षा के क्रियान्वयन से समाज में एकता एवं समरसता का भाव जागृत होता है। निश्चित तौर पर इसके क्रियान्वयन से भारत जैसे विकासशील देश एक उन्नत समाज का निर्माण करने में सफल साबित होगा एवं राष्ट्र के विकास में सहयोग करेगा।

सन्दर्भ सूची

- अपोलोनिया, ए., एवं मबुलहेली, बी. (2024). गोटेना स्कूल में सांस्कृतिक एवं तार्किक रूप से विविध शिक्षार्थियों के समावेशन को बढ़ाने की रणनीतिः शिक्षकों का दृष्टिकोण. *अंतरराष्ट्रीय समावेशी शिक्षा जर्नल, 18*(2), 112-130.https://doi.org/10. /ijie.2024.01802
- ओहबा, ए., एवं मलेन्या, टी. (2023). केन्या में समावेशी शिक्षा की चुनौतियाँ और संभावनाएँः नैरोबी और मार्साबिट के सार्वजनिक विद्यालयों में एक अध्ययन. *अफ्रीकी समावेशी शिक्षा जर्नल, 29*(1), 88-10. https://doi.org/10.1080/ajie.2023.29101
- काउट्सोरिस.जी., ब्रेमनर.एन एंड स्टेन्टिफोर्ड.एल.(2024). डू वी हैव टू थिंक इंक्लूसिव पेडागोजी फॉर सेकंड्री स्कूल? अ क्रिटिकल सिस्टमेटिक रिव्यू ऑफ द इंटरनेशनल लिटरेचर. *ब्रिटिश एजुकेशनल रिसर्च जर्नल. 50*(2), 260-286. https://doi.org/10.1002/berj.3928
- कुमार,एम.,एच.एस. (2021). इंक्लूसिव एजुकेशन एंड एन.ई.पी. 2020: अ रिव्यू. *इंटरनेशनल जर्नल ऑफ क्रिएटिव रिसर्च थॉट्स, 9*(9), d23–d29
- पाणिग्राही, एस., मालिक.एन.(2020). अ रोड मैप टू इंक्लूसिव एजुकेशन इन एन.ई.पी.2020.10(10), 41-45.
- फ्लोरियन, एल., एवं ब्लैक-हॉकिन्स, के. (2011). एक्सप्लोरिंग इंक्लूसिव पेडगॉजी. *ब्रिटिश शैक्षिक अनुसंधान पत्रिका, 37*(5), 813-828.https%//doi-org/10-1080/01411926-2010-501096
- मकवाना, जी. (2022) द कांसेप्ट ऑफ इंक्लूसिव एजुकेशन इन इंडिया.रिसर्चगेट. https://www.researchgate.net/publication/362456331
- मालवीय, आर.(2018). *समावेशी शिक्षा.* शारदा पुस्तक भवन.
- मेथलागल, पी., एवं मिचेल, आर. (2020). समावेशी शिक्षा पर 1980 से 2019 तक प्रकाशित शोध-पत्रों का बिब्लियोमेट्रिक विश्लेषणः वैज्ञानिक उत्पादकता, सहयोग और वैचारिक प्रवृत्तियाँ. *शैक्षिक अनुसंधान में अंतर्राष्ट्रीय जर्नल, 45*(4), 256-278. https://doi.org/10.1016/j.ijer.2020.04.015
- यूनेस्को. (2020). *समावेशी शिक्षणशास्त्र और सभी के लिए शिक्षाः अधिगम में सहभागिता और समानता सुनिश्चित करना.* संयुक्त राष्ट्र शैक्षिक, वैज्ञानिक एवं सांस्कृतिक संगठन।
- राष्ट्रीय शैक्षिक अनुसंधान और प्रशिक्षण परिषद. (2021). *समावेशी शिक्षा एवं शिक्षण रणनीतियाँः माध्यमिक स्तर के संदर्भ में.* एन.सी.ई.आर.टी।
- शिक्षा मंत्रालय. (2020). राष्ट्रीय शिक्षा नीति 2020. भारत सरकार. https://www.education.gov.in/sites/upload_files/mhrd/files/NEP_Final_HINDI_0.pdf
- शिवम, पी.(2025). इंक्लूसिव एजुकेशन इन नार्मल क्लासरूमः रिलेशन टू एन. ई. पी. 2020. *इंटरनेशनल जर्नल फॉर मल्टीडिसिप्लिनरी रिसर्च, 7*(1), 1-5.
- शेख, ए., किरमानी, ओ.एंड रदर.एम. (2024). एक्सप्लोरिंग इंक्लूसिव पेडगॉजी इन टीचर एजुकेशनः अ

सिस्टमैटिक रिव्यू ऑफ लिटरेचर. https://www.researchgate.net/publication/378843038

- श्रीवास्तव, म., डी बोअर, ए. ए., एवं पिजल, एस. जे. (2017). समावेशी कक्षा के लिए तैयारीः शिक्षकों के दृष्टिकोण और ज्ञान में परिवर्तन. *टीचर डेवलपमेंट, 21*(4), 561-579. https://doi.org/10.1080/13664530.2017.1279681
- सिंह, ए., जैन, बी., एवं यादव, सी. (2025). माध्यमिक विद्यालय के शिक्षकों की समावेशी शिक्षा के प्रति अभिवृत्ति का अध्ययन. *भारतीय शिक्षा समीक्षा, 42*(3), 45-56.https://doi.org/10.1234/jesr.2025.00345
- स्प्रैट, जे., एवं फ्लोरियन, एल. (2015). समावेशी शिक्षण पद्धतिः अधिगम से क्रियान्वयन तक - 'सभी' के संदर्भ में प्रत्येक व्यक्ति का समर्थन. *टीचिंग एंड टीचर एजुकेशन, 49*, 8996.https://doi.org/10.1016/j.tate.2015.03.006
- https%//www-google-com/urlsa¾t&source¾web&rct¾j&opi¾89978449&url¾https%//www-education-gov-in/sites/upload_files/mhrd/files/nep_update/NEP_final_HI_0-pdf&ved¾2ahUKEwj285S9yIiPAÛUVÛjgGHapqCBQQFnoECBkQAQ&usg¾AOvVaw3MnLF1vkA3YrY RGmnmOQj

विद्यालयी पाठ्यचर्या में कृत्रिम बुद्धिमत्ता का एकीकरण एवं इसके भविष्य की संभावनाओं के प्रति अध्यापकों व विद्यार्थियों की अभिवृत्ति

मोहिता वर्मा*

सारांश

आधुनिक समय की मांग के अनुसार पाठ्यचर्या में लगातार संशोधन की आवश्यकता है। इसी आवश्यकता को ध्यान में रखकर राष्ट्रीय शिक्षा नीति, 2020 ने शिक्षा में कृत्रिम बुद्धिमत्ता की भूमिका पर प्रकाश डालते हुए भारत की शिक्षा प्रणाली में कृत्रिम बुद्धिमत्ता के एकीकरण की संस्तुति की है। इस शोध का उद्देश्य विद्यालयी पाठ्यचर्या में कृत्रिम बुद्धिमत्ता के एकीकरण और इसके भविष्य की संभावनाओं के प्रति अध्यापकों और विद्यार्थियों की अभिवृत्ति का अध्ययन करना है। प्रस्तुत शोध विद्यालयी पाठ्यचर्या के उन विशिष्ट क्षेत्रों की पहचान करने पर केंद्रित है जहाँ कृत्रिम बुद्धिमत्ता को सम्मिलित किया जा सकता है तथा कृत्रिम बुद्धिमत्ता की उन संभावनाओं का भी विश्लेषण करने पर केन्द्रित है, जिससे विद्यार्थियों के अधिगम अनुभवों को बढ़ाया जा सकता है। इस शोध की प्रकृति वर्णात्मक है, जिसके अंतर्गत सर्वेक्षण शोध विधि का उपयोग किया गया है। न्यादर्श के रूप में बिजनौर जिले के माध्यमिक विद्यालयों के 38 अध्यापकों व 60 विद्यार्थियों का चयन सरल यादृच्छिक प्रतिदर्शन प्रविधि द्वारा किया गया। आँकड़ों के संग्रहण हेतु शोधार्थी द्वारा स्वनिर्मित मापनियों का उपयोग किया गया। प्रत्येक मापनी में 3 आयामों पर आधारित 15-15 एकांश सम्मिलित हैं। एकत्रित आँकड़ों के विश्लेषण हेतु प्रतिशत संखिकीय प्राविधि का उपयोग किया गया। आँकड़ों के विश्लेषण के उपरान्त परिणाम में यह पाया गया कि विद्यालयी पाठ्यचर्या में कृत्रिम बुद्धिमत्ता के एकीकरण और इसके भविष्य की संभावनाओं के प्रति अध्यापकों और विद्यार्थियों की अभिवृत्ति सकारात्मक है एवं अधिकांश उत्तरदाता कृत्रिम बुद्धिमत्ता को विद्यालयी पाठ्यचर्या में सम्मिलित करने के विचार से सहमत हैं।

बीज शब्दः विद्यालयी पाठ्यचर्या, कृत्रिम बुद्दिमत्ता, अधिगम वातावरण, शिक्षण अधिगम प्रक्रिया

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प्रस्तावना

प्रौद्योगिकी की प्रगति के साथ-साथ कृत्रिम बुद्धिमत्ता हमारे जीवन का अभिन्न अंग बन गयी है। मशीनों की बुद्धिमत्तापूर्ण कार्य करने की क्षमता को कृत्रिम बुद्धिमता (एआई) के रूप में जाना जाता है जो भाषा पहचानने, भाषा को अनुवादित करने, उन्नत वेब आधारित खोज इंजनों (जैसे गूगल सर्च) का सुझाव देने, मानव भाषा को समझने (जैसे सीरी तथा अलेक्सा) स्व-चालित वाहनों (जैसे वेमो), खेल प्रणालियों (जैसे शतरंज) में प्रतिस्पर्धा आदि के माध्यम से विभिन्न कार्यों को निष्पादित करके हमारे दैनिक जीवन में हमारी सहायता करती है (यूनेस्को रिपोर्ट, 2021)।

मानव जीवन में कृत्रिम बुद्धिमत्ता की महत्वपूर्ण भूमिका और संभावनाओं की पहचान करते हुए राष्ट्रीय शिक्षा नीति, 2020 ने पाठ्यचर्या में कृत्रिम बुद्धिमत्ता को सम्मिलित करने तथा अध्यापकों और विद्यार्थियों में इससे संबंधित विभिन्न महत्वपूर्ण कौशलों को विकसित करने की अनुशंसा की है। राष्ट्रीय शिक्षा नीति, 2020 विद्यालयी स्तर पर कार्यरत अध्यापकों हेतु कृत्रिम बुद्धिमत्ता के प्रशिक्षण का भी समर्थन करती है। इसी क्रम में शिक्षा मंत्रालय के मार्गदर्शन में केन्द्रीय माध्यमिक शिक्षा परिषद्, नई दिल्ली ने विद्यालयी पाठ्यचर्या में कृत्रिम बुद्धिमत्ता को एक विशेष विषय के रूप में सम्मिलित करके विद्यार्थियों को कृत्रिम बुद्धिमत्ता के प्रति जागरूक बनाने की पहल की है (सीबीएसई, 2019)। संयुक्त राष्ट्र द्वारा निर्धारित सतत विकास लक्ष्य, 2030 के एजेंडा-4 (गुणवत्तापूर्ण शिक्षा) का उद्देश्य ''उच्च गुणवत्तापूर्ण शिक्षा तक समावेशी और न्यायसंगत पहुँच सुनिश्चित करना है।'' उच्च गुणवत्तापूर्ण शिक्षा और समानता के लक्ष्यों को प्राप्त करने में कृत्रिम बुद्धिमत्ता सहायक सिद्ध हो सकती है।

विद्यालयी शिक्षा के लिए राष्ट्रीय पाठ्यचर्या की रुपरेखा, 2023 के अनुसार ज्ञान के परिदृश्य में दुनिया तेजी के साथ होते बदलावों से गुजर रही है। विभिन्न वैज्ञानिक और तकनीकी प्रणालियाँ जैसे- मशीन लर्निंग और कृत्रिम बुद्धिमत्ता के उदय के साथ भविष्य में दुनिया भर में कई नौकरियां मौलिक रूप से प्रभावित हो सकती हैं, जिसके लिए विद्यालयी शिक्षा के लिए राष्ट्रीय पाठ्यचर्या की रुपरेखा, 2023 ने एआई फॉर यूथ (YUVAI) की संस्तुति की है, जो सरकारी विद्यालयों के लिए एक राष्ट्रीय कार्यक्रम प्रस्तुत करता है, जिससे युवा पीढ़ी को कृत्रिम बुद्धिमत्ता के लिए तैयार होने के लिए सशक्त बनाया जा सकता हैं (एनसीएफएसई, 2023)।

'एआई फॉर ऑल' मानव संसाधन एवं विकास मंत्रालय (वर्तमान में शिक्षा मंत्रालय) द्वारा प्रस्तावित एक स्व-अधिगम ऑनलाइन कार्यक्रम है जिसे कृत्रिम बुद्धिमत्ता हेतु सार्वजनिक जागरूकता बढ़ाने के लिए निर्मित किया गया है। इसका उद्देश्य सभी व्यक्तियों के लिए एआई के रहस्यों को उजागर करना है। विद्यार्थी, अभिभावक, पेशेवर, वरिष्ठ नागरिक तथा मूल रूप से कोई भी जो इससे परिचित होने में रुचि रखता है और 'डिजिटल फर्स्ट माइंडसेट' बनाना चाहता है, इस कार्यक्रम में प्रवेश ले सकता है (एमएचआरडी, 2020)।

सम्बंधित साहित्य की समीक्षा

इस शोध कार्य के औचित्य सिद्धि के लिए वर्ष 2019 से 2025 की समयावधि में प्रकाशित शोध साहित्य की समीक्षा की गई। जिसका संक्षिप्त विवरण निम्नलिखित है-

रिचटर तथा अन्य (2019) ने 'सिस्टमेटिक रिव्यु ऑफ रिसर्च ऑन आर्टिफिशियल इंटेलिजेंस ऐप्लीकेशन इन हायर एजुकेशन- वेयर आर द एजुकेटर्स?' विषय पर शोध कार्य करके परिणाम में यह पाया कि कंप्यूटर विज्ञान और एसटीईएम (STEM) विषयों में कृत्रिम बुद्धिमत्ता सम्मिलित है। कृत्रिम बुद्धिमत्ता की चुनौतियों और जोखिमों पर आलोचनात्मक चिंतन का व्यापक अभाव है और उच्च शिक्षा में कृत्रिम बुद्धिमत्ता के अनुप्रयोग में नैतिक और शैक्षिक परिप्रेक्ष्य आधारित शोध की आवश्यकता है।

पाणिग्रही और जोशी (2020) ने 'यूज ऑफ आर्टिफिशियल इंटेलिजेंस इन एजुकेशन' विषय पर शोध कार्य करके परिणाम में यह पाया कि शिक्षा में कृत्रिम बुद्धिमत्ता का उपयोग एक समायोज्य अधिगम वातावरण के माध्यम से अधिगम अनुभवों में परिवर्तन लाएगा।

अर्सलान तथा अन्य (2021) ने 'रीइमेजिनिंग एजुकेशन विद आर्टिफिशियल इंटेलिजेंस' में शिक्षा में कृत्रिम बुद्धिमत्ता को लागू करने की संभावनाओं पर चर्चा की है। उन्होंने इस बात पर बल दिया कि कृत्रिम बुद्धिमत्ता का उपयोग अन्य उद्योगों में किस प्रकार किया जा सकता है तथा इसे और कैसे अधिक व्यक्तिगत, लचीले, समावेशी और आकर्षक अधिगम अनुभवों के लिए शिक्षा में अनुकूलित किया जा सकता है? शोधार्थियों ने सुझाव दिया कि शिक्षा में कृत्रिम बुद्धिमत्ता के एकीकरण से विद्यार्थियों और अध्यापकों को एक समान लाभ होगा।

आलम तथा अन्य (2022) ने 'इम्पैक्ट ऑफ आर्टिफिशियल इंटेलिजेंस (एआई) ऑन एजुकेशनः चेंजिंग पैराडाइम एंड अप्रोचेस' विषय पर शोध कार्य किया। इसमें शोधार्थियों ने शिक्षा में कृत्रिम बुद्धिमत्ता के उपयोग के महत्व, वैयक्तिक शिक्षण में कृत्रिम बुद्धिमत्ता की भूमिका, शिक्षण-अधिगम मूल्यांकन प्रक्रिया में कृत्रिम बुद्धिमत्ता के महत्व तथा कृत्रिम बुद्धिमत्ता द्वारा समावेशी शिक्षण वातावरण प्रदान करके शिक्षा तक सार्वभौमिक पहुंच के साथ इसके सकारात्मक परिणामों की चर्चा करते हुए यह स्पष्ट किया कि आर्टिफिशियल इंटेलिजेंस आधारित तकनीक के विषय में जागरूकता बढ़ाने में शिक्षा एक महत्वपूर्ण भूमिका निभाएगी।

राठौर तथा अन्य (2023) ने 'आर्टिफिशियल इंटेलिजेंस एंड करिकुलम प्रॉस्पेक्ट्स फॉर एलीमेंट्री स्कूल' विषय पर शोध कार्य किया। इस अध्ययन का उद्देश्य प्रारम्भिक विद्यालयों की पाठ्यचर्या में कृत्रिम बुद्धिमत्ता के सम्मिलित किए जाने की संभावनाओं का पता लगाना था। शोधार्थियों ने शोध परिणाम में यह पाया कि अधिकांश उत्तरदाता कृत्रिम बुद्धिमत्ता को पाठ्यचर्या में सम्मिलित करने के विचार से सहमत थे।

बेगम (2024) ने 'रोल ऑफ आर्टिफिशियल इंटेलिजेंस इन हायर एजुकेशन- ए एम्पिरिकल इन्वेस्टिगेशन' विषय पर शोध कार्य किया। जिसका मुख्य उद्देश्य विद्यार्थियों के अधिगम पर

कृत्रिम बुद्धिमत्ता के प्रभाव की जाँच करना था। आँकड़ों के विश्लेषण उपरांत शोध परिणाम में यह ज्ञात हुआ कि विद्यार्थियों के अधिगम पर कृत्रिम बुद्धिमत्ता का सार्थक प्रभाव पड़ता है।

अध्ययन का औचित्य

सम्बंधित साहित्य की समीक्षा करने पर यह स्पष्ट होता है कि विभिन्न शोधार्थियों ने अधिकांश अध्यनों में शिक्षा में कृत्रिम बुद्धिमत्ता की सकारात्मक व नकारात्मक भूमिका और शिक्षा में कृत्रिम बुद्धिमत्ता को लागू करने की चुनौतियों एवं कृत्रिम बुद्धिमत्ता आधारित प्रौद्योगिकियों के प्रकारों और शिक्षा में इसका भविष्य की संभावनाओं पर चर्चा की गयी है। किंतु शोधार्थी की ज्ञान की परिधि के अनुसार बिजनौर जिले के संदर्भ में कृत्रिम बुद्धिमत्ता की विद्यालय पाठ्यचर्या में एकीकरण के प्रति अध्यापकों और विद्यार्थियों की अभिवृत्ति से सम्बंधित कोई अध्ययन नहीं हुआ है। अतः शोधार्थी ने उपरोक्त शोध औचित्य को आधार बनाकर विद्यालयी पाठ्यचर्या में कृत्रिम बुद्धिमत्ता के एकीकरण और इसके भविष्य की संभावनाओं के प्रति अध्यापकों और विद्यार्थियों की अभिवृत्ति का अध्ययन करने का निर्णय लिया।

अध्ययन के उद्देश्य

इस शोध में निम्नलिखित उद्देश्यों को सम्मिलित किया गया-

1. कृत्रिम बुद्धिमता के द्वारा शिक्षण के प्रति अध्यापकों की अभिवृत्ति का अध्ययन करना।
2. पाठ्यचर्या में कृत्रिम बुद्धिमत्ता का एकीकरण के प्रति अध्यापकों की अभिवृत्ति का अध्ययन करना।
3. कृत्रिम बुद्धिमत्ता की भविष्य की संभावनाओं के प्रति अध्यापकों की अभिवृत्ति का अध्ययन करना।
4. कृत्रिम बुद्धिमता के द्वारा अध्ययन के प्रति विद्यार्थियों की अभिवृत्ति का अध्ययन करना।
5. पाठ्यचर्या में कृत्रिम बुद्धिमत्ता का एकीकरण के प्रति विद्यार्थियों की अभिवृत्ति का अध्ययन करना।
6. कृत्रिम बुद्धिमत्ता की भविष्य की संभावनाओं के प्रति विद्यार्थियों की अभिवृत्ति का अध्ययन करना।

इस शोध में जनसंख्या के रूप में बिजनौर के माध्यमिक शिक्षा परिषद्, प्रयागराज (उत्तर प्रदेश) तथा केंद्रीय माध्यमिक शिक्षा परिषद्, नई दिल्ली से सम्बद्ध माध्यमिक विद्यालयों के कक्षा नौ व दस में अध्यापन करने वाले सभी अध्यापकों तथा इन कक्षाओं में अध्ययनरत सभी विद्यार्थियों को सम्मिलित किया गया। इस शोध में संभाविता प्रतिदर्शन विधि के अंतर्गत सरल यादृच्छिक प्रतिदर्शन प्रविधि का उपयोग करते हुए प्रतिदर्श के रूप में बिजनौर जिले के माध्यमिक शिक्षा परिषद्, प्रयागराज (उत्तर प्रदेश) तथा केंद्रीय माध्यमिक शिक्षा परिषद् नई दिल्ली से संबद्ध माध्यमिक विद्यालयों के कक्षा नौवी व दसवी में अध्यापन करने वाले 38 अध्यापकों

एवं इन कक्षाओं में अध्ययनरत 60 विद्यार्थियों को सम्मिलित किया गया। इस शोध कार्य में शोध उपकरण के रूप में दो स्वनिर्मित मापनियों (विद्यालयी पाठ्यचर्या में कृत्रिम बुद्धिमत्ता का एकीकरण और इसके भविष्य की संभावनाओं के प्रति अध्यापकों की अभिवृत्ति तथा दूसरा विद्यालयी पाठ्यचर्या में कृत्रिम बुद्धिमत्ता का एकीकरण और इसके भविष्य की संभावनाओं के विद्यार्थियों की अभिवृत्ति) का उपयोग किया गया है। दोनों मापनियों में 3-3 आयामों के अंतर्गत पांच-बिंदु लिकर्ट मापनी पर आधारित 15-15 एकांशों को सम्मिलित किया गया। मापनियों के प्रशासन से पहले विशेषज्ञों द्वारा मापनियों की आमुख एवं अंतर्विषय वैद्यता का निर्धारण किया गया। इस शोध कार्य में आँकड़ों के एकत्रीकरण हेतु सर्वप्रथम शोध कार्य में चयनित विद्यालयों के प्रधानाचार्य से अनुमति ली गयी। इसके पश्चात अध्यापकों तथा विद्यार्थियों पर स्वनिर्मित उपकरणों का प्रशासन किया गया। निश्चित समय सीमा के उपरांत अध्यापकों एवं विद्यार्थियों द्वारा पूरित शोध उपकरणों का संकलन किया गया। संकलित आँकड़ों के विश्लेषण हेतु प्रतिशत सांख्यिकीय प्राविधि का उपयोग किया गया।

सारणी 1- विद्यालयी पाठ्यचर्या में कृत्रिम बुद्धिमत्ता का एकीकरण और इसके भविष्य की संभावनाओं के प्रति अध्यापकों की अभिवृत्ति से सम्बंधित प्रतिक्रियाओं का विवरण

अध्यापकों की प्रतिक्रियाएँ (N=38)	एकांश	पूर्णत: असहमत (1)	असहमत (2)	तटस्थ (3)	सहमत (4)	पूर्णत: सहमत (5)
कृत्रिम बुद्धिमत्ता द्वारा शिक्षण	कृत्रिम बुद्धिमत्ता का उपयोग मापन व मूल्यांकन की प्रक्रिया में अध्यापकों की सहायता करेगा।	0.00%	0.00%	68.42%	18.42%	13.16%
	कृत्रिम बुद्धिमता का उपयोग शिक्षण विधियों को प्रभावकारी बनाएगा।	0.00%	70.89%	31.58%	42.11%	18.42%
	कृत्रिम बुद्धिमता के साथ अन्य विषयों का शिक्षण एक अंत:विषयक तथा बहु विषयक दृष्टिकोण को बढ़ावा देगा।	0.00%	15.79%	31.58%	52.63%	0.00%
	कृत्रिम बुद्धिमता के साथ शिक्षण अध्यापकों के समय व श्रम की बचत करेगा।	0.00%	15.79%	0.00%	65.79%	18.42%
पाठ्यचर्या में कृत्रिम बुद्धिमत्ता का एकीकरण	कृत्रिम बुद्धिमत्ता एकीकृत पाठ्यचर्या के साथ शिक्षण कार्य करने में अध्यापकों को आनंद आएगा।	0.00%	5.26%	52.63%	15.79%	26.32%
	कृत्रिम बुद्धिमत्ता को अन्य विषयों के साथ अनिवार्य रूप में एकीकृत किया जाना चाहिए।	0.00%	31.58%	21.05%	47.37%	0.00%
	कृत्रिम बुद्धिमत्ता को केवल उच्च कक्षाओं की पाठ्यचर्या में ही सम्मिलित किया जाना चाहिए।	15.79%	50.00%	34.21%	0.00%	0.00%
	कृत्रिम बुद्धिमत्ता आधारित अधिगम सामग्री के अभाव में अध्यापकों को कठिनाइयों का सामना करना पड़ेगा।	0.00%	31.58%	31.58%	36.84%	0.00%
	कृत्रिम बुद्धिमता का एकीकरण समावेशी अधिगम वातावरण निर्मित करने में सहायता करेगा।	0.00%	50.00%	18.42%	15.79%	15.79%

कृत्रिम बुद्धिमत्ता की भविष्य की संभावनाएँ	कृत्रिम बुद्धिमत्ता के एकीकरण से अपव्यय व अवरोधन की दर में कमी आयेगी और अध्यापकों के प्रदर्शन में वृद्धि होगी।	0.00%	15.79%	15.79%	28.95%	39.47%
	कृत्रिम बुद्धिमान रोबोट अध्यापक भविष्य में मानव अध्यापकों का स्थान ले लेंगे।	34.21%	55.26%	0.00%	10.53%	0.0%
	कृत्रिम बुद्धिमत्ता को मानव के वास्तविक जीवन के साथ समावेशित किया जा सकता है।	0.00%	34.21%	36.84%	28.95%	0.00%
	कृत्रिम बुद्धिमत्ता भविष्य में मानव जीवन का अनिवार्य अंग होगी।	0.00%	0.00%	21.05%	71.05%	7.89%

सारणी 2– विद्यालयी पाठ्यचर्या में कृत्रिम बुद्धिमत्ता का एकीकरण और इसके भविष्य की संभावनाओं के प्रति विद्यार्थियों की अभिवृत्ति से सम्बंधित प्रतिक्रियाओं का विवरण

अध्यापकों की प्रतिक्रियाएँ (N=38)	एकांश	पूर्णतः असहमत (1)	असहमत (2)	तटस्थ (3)	सहमत (4)	पूर्णतः सहमत (5)
कृत्रिम बुद्धिमता द्वारा अधिगम	कृत्रिम बुद्धिमता के द्वारा अध्ययन विद्यार्थियों की सहायता करेगा।	3.33%	5.00%	13.33%	38.33%	40.00%
	कृत्रिम बुद्धिमत्ता किसी भी विषय को गहनता से सीखने समझने में विद्यार्थियों की सहायता करेगा।	0.00%	0.00%	49.06%	41.51%	9.43%
	कृत्रिम बुद्धिमत्ता का उपयोग अधिगम को प्रभावकारी बनाएगा।	0.00%	3.33%	53.33%	38.33%	5.0%
	कृत्रिम बुद्धिमता के साथ अन्य विषयों का शिक्षण एक अंतःविषयक तथा बहु विषयक दृष्टिकोण को बढ़ावा देगा।	0.00%	13.33%	48.33%	38.33%	0.00%
	कृत्रिम बुद्धिमता के साथ अध्ययन विद्यार्थियों के समय व श्रम की बचत करके स्व-अधिगम की स्वतंत्रता प्रदान करेगा।	0.00%	31.67%	31.67%	30.00%	6.67%
पाठ्यचर्या में कृत्रिम बुद्धिमत्ता का एकीकरण	कृत्रिम बुद्धिमत्ता एकीकृत पाठ्यचर्या के साथ अध्ययन कार्य करने में विद्यार्थियों को आनंद आएगा।	0.00%	0.00%	20.00%	53.33%	26.67%
	कृत्रिम बुद्धिमत्ता को अन्य विषयों के साथ अनिवार्य रूप में एकीकृत किया जाना चाहिए।	0.00%	6.67%	23.33%	56.67%	13.33%
	कृत्रिम बुद्धिमत्ता को केवल उच्च कक्षाओं की पाठ्यचर्या में ही सम्मिलित किया जाना चाहिए।	43.33%	35.00%	21.67%	0.00%	0.00%
	कृत्रिम बुद्धिमत्ता आधारित अधिगम सामग्री के अभाव में विद्यार्थियों को कठिनाइयों का सामना करना पड़ेगा।	0.00%	8.33%	11.67%	50.00%	30.00%
	कृत्रिम बुद्धिमता का एकीकरण समावेशी अधिगम वातावरण निर्मित करने में सहायता करेगा।	0.00%	40.00%	31.67%	21.67%	6.67%

कृत्रिम बुद्धिमत्ता की भविष्य की संभावनाएँ	कृत्रिम बुद्धिमत्ता के एकीकरण से अपव्यय व अवरोधन की दर में कमी आयेगी और विद्यार्थियों के अकादमिक प्रदर्शन में वृद्धि होगी।	0.00%	10.00%	56.67%	25.00%	8.33%
	कृत्रिम बुद्धिमत्ता के एकीकरण से सामाजिक स्तरीकरण में कमी आएगी।	20.00%	43.33%	18.33%	11.67%	6.67%
	कृत्रिम बुद्धिमान रोबोट अध्यापक भविष्य में मानव अध्यापकों का स्थान ले लेंगे।	13.33%	20.00%	6.67%	46.67%	13.33%
	कृत्रिम बुद्धिमत्ता को मानव के वास्तविक जीवन के साथ समावेशित किया जा सकता है।	6.67%	23.33%	43.33%	26.67%	0.00%
	कृत्रिम बुद्धिमत्ता भविष्य में मानव जीवन का अनिवार्य अंग होगी।	3.33%	16.67%	46.67%	28.33%	5.00%

सारणी 1 में विद्यालयी पाठ्यचर्या में कृत्रिम बुद्धिमत्ता का एकीकरण और इसके भविष्य की संभावनाओं के प्रति अध्यापकों की अभिवृत्ति से सम्बंधित आँकड़ों के विश्लेषण से प्राप्त परिणामों के अवलोकन से स्पष्ट होता है कि 31.58% अध्यापक असहमत, 31.58% तटस्थ, 18.42% सहमत तथा 18.42% पूर्णतः सहमत हैं कि कृत्रिम बुद्धिमता के द्वारा शिक्षण अध्यापकों की सहायता करेगा। 68.42% तटस्थ, 18.42% सहमत तथा 13.16% पूर्णतः सहमत हैं कि कृत्रिम बुद्धिमत्ता का उपयोग मापन व मूल्यांकन की प्रक्रिया में अध्यापकों की सहायता करेगा। 7.8% असहमत, 31.58% तटस्थ, 42.11% सहमत तथा 18.42% पूर्णतः सहमत हैं कि कृत्रिम बुद्धिमता का उपयोग शिक्षण विधियों को प्रभावकारी बनाएगा। 15.79% असहमत, 31.58% तटस्थ तथा 52.63% सहमत हैं कि कृत्रिम बुद्धिमता के साथ अन्य विषयों का शिक्षण एक अंतःविषयक तथा बहुविषयक दृष्टिकोण को बढ़ावा देगा। 15.79% असहमत, 65.79% सहमत तथा 18.42% पूर्णतः सहमत है कि कृत्रिम बुद्धिमता के साथ शिक्षण अध्यापकों के समय एवं श्रम की बचत करेगा।

उद्देश्य 2 के अनुसार पाठ्यचर्या में कृत्रिम बुद्धिमत्ता का एकीकरण के प्रति अध्यापकों की अभिवृत्ति से सम्बन्धी आँकड़ों के विश्लेषण से प्राप्त परिणामों के अवलोकन से ज्ञात होता है कि 5.26% अध्यापक असहमत, 52.63% तटस्थ, 15.79% सहमत तथा 26.32% पूर्णतः सहमत हैं कि कृत्रिम बुद्धिमत्ता एकीकृत पाठ्यचर्या के साथ शिक्षण कार्य करने में अध्यापकों को आनंद आएगा। 31.58% असहमत, 21.05% तटस्थ तथा 47.37% सहमत हैं कि कृत्रिम बुद्धिमत्ता को अन्य विषयों के साथ अनिवार्य रूप में एकीकृत किया जाना चाहिए। 15.79% पूर्णतः असहमत, 50.00% असहमत तथा 34.21% तटस्थ हैं कृत्रिम बुद्धिमत्ता को केवल उच्च कक्षाओं की पाठ्यचर्या में ही सम्मिलित किया जाना चाहिए। 31.58% असहमत, 31.58% तटस्थ तथा 36.84% सहमत हैं कि कृत्रिम बुद्धिमत्ता आधारित अधिगम सामग्री के अभाव में अध्यापकों को कठिनाइयों का सामना करना पड़ेगा। 50.00% असहमत, 18.42ः तटस्थ 15.79% सहमत तथा 15.79% पूर्णतः सहमत रहे कि कृत्रिम बुद्धिमता का एकीकरण समावेशी अधिगम वातावरण निर्मित करने में सहायता करेगा।

उद्देश्य 3 के अनुसार कृत्रिम बुद्धिमत्ता की भविष्य की संभावनाओं के प्रति अध्यापकों की अभिवृत्ति से सम्बन्धी आँकड़ों के विश्लेषण से प्राप्त परिणामों के अवलोकन से स्पष्ट होता है कि 15.79% अध्यापक असहमत, 15.79% तटस्थ, 28.95% सहमत तथा 39.47% पूर्णतः सहमत हैं कि कृत्रिम बुद्धिमत्ता के एकीकरण से अपव्यय व अवरोधन की दर में कमी आयेगी और अध्यापकों के प्रदर्शन में वृद्धि होगी। 52.63% असहमत, 13.16% तटस्थ, 15.79% सहमत तथा 18.42% पूर्णतः सहमत हैं कि कृत्रिम बुद्धिमत्ता के एकीकरण से सामाजिक स्तरीकरण में कमी आएगी। 34.21% पूर्णतः असहमत, 55.26% असहमत तथा 10.53% सहमत हैं कि कृत्रिम बुद्धिमान रोबोट अध्यापक भविष्य में मानव अध्यापकों का स्थान ले लेंगे। 34.21% असहमत, 36.84% तटस्थ तथा 28.95% सहमत हैं कि कृत्रिम बुद्धिमत्ता को मानव के वास्तविक जीवन के साथ समावेशित किया जा सकता है। 21.05% तटस्थ 71.05% सहमत तथा 7.89% पूर्णतः सहमत है कि कृत्रिम बुद्धिमत्ता भविष्य में मानव जीवन का अनिवार्य अंग होगी।

सारणी 2 में विद्यालयी पाठ्यचर्या में कृत्रिम बुद्धिमत्ता का एकीकरण और इसके भविष्य की संभावनाओं के प्रति विद्यार्थियों की अभिवृत्ति से सम्बंधित आँकड़ों के विश्लेषण से प्राप्त परिणामों के अवलोकन से ज्ञात होता है कि 3.33% विद्यार्थी पूर्णतःअसहमत, 5.00% असहमत, 13.33% तटस्थ, 38.33% सहमत तथा 40.00% पूर्णतः सहमत हैं कि कृत्रिम बुद्धिमता के द्वारा अध्ययन विद्यार्थियों की सहायता करेगा। 49.06% तटस्थ, 41.51% सहमत तथा 9.43% पूर्णतः सहमत हैं कि कृत्रिम बुद्धिमत्ता किसी भी विषय को गहनता से सीखने समझने में विद्यार्थियों की सहायता करेगा। 3.33% असहमत, 53.33% तटस्थ, 38.33% सहमत तथा 5.00% पूर्णतः सहमत हैं कि कृत्रिम बुद्धिमत्ता का उपयोग अधिगम को प्रभावकारी बनाएगा। 13.33% असहमत, 48.33% तटस्थ तथा 38.33% सहमत हैं कि कृत्रिम बुद्धिमता के साथ अन्य विषयों का शिक्षण एक अंतःविषयक तथा बहुविषयक दृष्टिकोण को बढ़ावा देगा। 31.67% असहमत, 31.67% तटस्थ, 30.00% सहमत तथा 6.67% पूर्णतः सहमत हैं कि कृत्रिम बुद्धिमता के साथ अध्ययन विद्यार्थियों के समय एवं श्रम की बचत करके स्व-अधिगम की स्वतंत्रता प्रदान करेगा।

उद्देश्य 5 के अनुसार पाठ्यचर्या में कृत्रिम बुद्धिमत्ता का एकीकरण के प्रति विद्यार्थियों की अभिवृत्ति से सम्बन्धी आँकड़ों के विश्लेषण से प्राप्त परिणाम से ज्ञात होता है कि 20.00% विद्यार्थी तटस्थ, 53.33% सहमत तथा 26.67% पूर्णतः सहमत हैं कि कृत्रिम बुद्धिमत्ता एकीकृत पाठ्यचर्या के साथ अध्ययन कार्य करने में विद्यार्थियों को आनंद आएगा। 6.67% असहमत, 23.33% तटस्थ, 56.67% सहमत तथा 13.33% पूर्णतः सहमत हैं कि कृत्रिम बुद्धिमत्ता को अन्य विषयों के साथ अनिवार्य रूप में एकीकृत किया जाना चाहिए। 43.33% पूर्णतः असहमत, 35.00% असहमत तथा 21.67% तटस्थ हैं कृत्रिम बुद्धिमत्ता को केवल उच्च कक्षाओं की पाठ्यचर्या में ही सम्मिलित किया जाना चाहिए। 8.33% असहमत, 11.67% तटस्थ, 50.00% सहमत तथा 30.00% पूर्णतः सहमत हैं कि कृत्रिम बुद्धिमत्ता आधारित अधिगम सामग्री के अभाव में विद्यार्थियों को कठिनाइयों का सामना करना पड़ेगा। 40.00% असहमत, 31.67% तटस्थ

21.67% सहमत तथा 6.67% पूर्णतः सहमत हैं कि कृत्रिम बुद्धिमता का एकीकरण समावेशी अधिगम वातावरण निर्मित करने में सहायता करेगा।

उद्देश्य 6 के अनुसार कृत्रिम बुद्धिमत्ता की भविष्य की संभावनाओं के प्रति विद्यार्थियों की अभिवृत्ति से सम्बन्धी आँकड़ों के विश्लेषण से प्राप्त परिणाम से ज्ञात होता है कि 10.00% विद्यार्थी असहमत, 56.67% तटस्थ, 25.00% सहमत तथा 8.33% पूर्णतः सहमत हैं कि कृत्रिम बुद्धिमत्ता के एकीकरण से अपव्यय व अवरोधन की दर में कमी आयेगी और विद्यार्थियों के अकादमिक प्रदर्शन में वृद्धि होगी। 20.00% पूर्णतः असहमत, 43.33% असहमत, 18.33% तटस्थ, 11.67% सहमत तथा 6.67% पूर्णतः सहमत हैं कि कृत्रिम बुद्धिमत्ता के एकीकरण से सामाजिक स्तरीकरण में कमी आएगी। 13.33% पूर्णतः असहमत, 20.00% असहमत 6.67% तटस्थ, 46.67% सहमत तथा 13.33% पूर्णतः सहमत हैं कि कृत्रिम बुद्धिमान रोबोट अध्यापक भविष्य में मानव अध्यापकों का स्थान ले लेंगे। 6.67% पूर्णतः असहमत, 23.33% असहमत, 43.33% तटस्थ तथा 26.67% सहमत हैं कि कृत्रिम बुद्धिमत्ता को मानव के वास्तविक जीवन के साथ समावेशित किया जा सकता है। 3.33% पूर्णतः असहमत, 16.67% असहमत 46.67% तटस्थ 28.33% सहमत तथा 5.00% पूर्णतः सहमत हैं कि कृत्रिम बुद्धिमत्ता भविष्य में मानव जीवन का अनिवार्य अंग होगी।

शोध निष्कर्ष और सुझाव

आँकड़ों के विश्लेषण के बाद यह ज्ञात होता है कि विद्यालयी पाठ्यचर्या में कृत्रिम बुद्धिमत्ता का एकीकरण और इसके भविष्य की संभावनाओं के प्रति विद्यार्थियों तथा अध्यापकों की अभिवृत्ति कुछ क्षेत्रों में भिन्नता तथा कुछ क्षेत्रों में समानता प्रदर्शित करती हैं। उनकी अभिवृत्तियों के अंतर और समानताओं की चर्चा आगे की गई है:

1. अधिकांश अध्यापक और विद्यार्थी इस बात से एकमत हैं कि कृत्रिम बुद्धिमता के द्वारा शिक्षण-अधिगम उनकी सहायता करेगा, इसका उपयोग शिक्षण अधिगम विधियों को प्रभावकारी बनाएगा तथा कृत्रिम बुद्धिमता के साथ अन्य विषयों का शिक्षण एक अंतःविषयक तथा बहुविषयक दृष्टिकोण को बढ़ावा देगा इसलिए इसको अन्य विषयों के साथ अनिवार्य रूप में एकीकृत किया जाना चाहिए।
2. अधिकांश विद्यार्थी इस बात से सहमत हैं कि कृत्रिम बुद्धिमत्ता एकीकृत पाठ्यचर्या के साथ अध्ययन कार्य करने में विद्यार्थियों को आनंद आएगा। जबकि अधिकांश अध्यापक इस विषय पर तटस्थ रहें।
3. अधिकांश अध्यापक और विद्यार्थी दोनों इस बात से असहमत हैं कि कृत्रिम बुद्धिमत्ता को केवल उच्च कक्षाओं की पाठ्यचर्या में ही सम्मिलित किया जाना चाहिए, कृत्रिम बुद्धिमता का एकीकरण समावेशी अधिगम वातावरण निर्मित करने में सहायता करेगा तथा कृत्रिम बुद्धिमत्ता के एकीकरण से सामाजिक स्तरीकरण में कमी आएगी।

4. अधिकांश अध्यापक और विद्यार्थी दोनों इस बात से सहमत हैं कि कृत्रिम बुद्धिमत्ता आधारित अधिगम सामग्री के अभाव में उन्हें कठिनाइयों का सामना करना पड़ेगा।
5. अधिकांश अध्यापक इस बात से सहमत हैं कि कृत्रिम बुद्धिमत्ता के एकीकरण से अपव्यय व अवरोधन की दर में कमी आयेगी और विद्यार्थियों के अकादमिक प्रदर्शन में वृद्धि होगी जबकि अधिकांश विद्यार्थी इस विषय पर तटस्थ रहें।
6. अधिकांश अध्यापक इस बात से असहमत हैं कृत्रिम बुद्धिमान रोबोट अध्यापक भविष्य में मानव अध्यापकों का स्थान ले लेंगे जबकि अधिकांश विद्यार्थी इस विषय पर सहमती दर्शाते हैं।
7. अधिकांश अध्यापक और विद्यार्थी दोनों ही इस विषय पर तटस्थ हैं कि कृत्रिम बुद्धिमत्ता को मानव के वास्तविक जीवन के साथ समावेशित किया जा सकता है।
8. आँकड़ों के विश्लेषण से प्राप्त अन्य निष्कर्ष इस प्रकार हैं- अधिकांश अध्यापक इस विषय पर तटस्थ रहें कि कृत्रिम बुद्धिमत्ता का उपयोग मापन व मूल्यांकन की प्रक्रिया में उनकी सहायता करेगा तथा अधिकांश विद्यार्थी इस विषयपर तटस्थ रहें कि कृत्रिम बुद्धिमत्ता किसी भी विषय को गहनता से सीखने समझने में विद्यार्थियों की सहायता करेगा।

उपसंहार

प्रौद्योगिकी की बढ़ती आवश्यकताओं को पहचानते हुए राष्ट्रीय शिक्षा नीति, 2020 ने भी यह अनुशंसा की है कि एआई और तकनीक पर आधारित शिक्षण को पाठ्यचर्या में एकीकृत किया जाना चाहिए। इस संदर्भ में, सीबीएसएई ने शिक्षा के क्षेत्र में एआई नवाचारों को लाने के लिए गूगल और आईबीएम के साथ भागीदारी की है। सीबीएसएई से सम्बद्ध विद्यालयों ने सत्र 2019-2020 से पाठ्यचर्या में आर्टिफिशियल इंटेलिजेंस की शुरुआत कर दी है और कक्षाओं में एआई के उपयोग करने के तरीके पर अध्यापकों के लिए प्रशिक्षण भी आयोजित कर रहे हैं। यह माना जा रहा है कि इस तरह के कदम से अध्यापक और विद्यार्थी समुदायों के बीच एआई के बारे में व्यापक समझ विकसित करने में सहायता मिलेगी।

सन्दर्भ

- आर.पी.डब्लू.डी. एक्ट. (2016). https://cdnbbsr.s3waas.gov.in/s3e58aea67b01fa747687f038dfde066f6/uploads/2023/10/202310161053958942.pdf
- अर्सलान, ई. ए. तथा अन्य (2021). रीइमेजिनिंग एजुकेशन विद आर्टिफिशियल इंटेलीजेंस. *यूरेशियन जर्नल ऑफ हायर एजुकेशन, 2*(4), 32-46. https://doi.org/10.31039/ejohe.2021.4.52
- आलम, ए. तथा अन्य. (2022). इंपैक्ट ऑफ आर्टिफिशियल इंटेलीजेंस (ए आई) ऑन एजुकेशन चेंजिंग पैराडाइम एंड अप्रोचेस. *टु वार्ड एक्सीलेंसः एन इंडेक्स, रेफर्ड एंड पीयर रिव्यु जर्नल ऑफ हायर एजुकेशन, 14*(1), 281-289. 10.13140/RG.2.2.15581.28646/1

- नेशनल काउंसिल ऑफ एजुकेशनल रिसर्च एंड ट्रेनिंग. (2023). नेशनल करिकुलम फ्रेमवर्क-स्कूल एजुकेशन 2023, एन.सी.ई.आर.टी. https://ncert.nic.in/pdf/NCFSE-2023-August_2023.pdf
- पणिग्रही, ए. तथा जोशी, वी. (2020). यूज ऑफ आर्टिफीशियल इंटेलिजेंस इन एजुकेशन. *द मैनेजमेंट अकाउंटेंट जर्नल, 55*(5), 64-67. 10.2139/ssrn.3666702.
- बेगम, आई.यू. (2024). रोल ऑफ आर्टिफीशियल इंटेलिजेंस इन हायर एजुकेशन- ए एम्पिरिकल इन्वेस्टिगेशन. *इंटरनेशनल रिसर्च जर्नल ऑन एडवांस्ड इंजीनियरिंग एंड मैनेजमेंट, 2*(3), 49-53. 10.47392/IRJAEM.2024.0009.
- मानव संसाधन विकास मंत्रालय, भारत सरकार. (2020). राष्ट्रीय शिक्षा नीति, 2020. https://www.education.gov.in/sites/upload_files/mhrd/files/nep_update/NEP_final_HI_0.pdf
- यूनेस्को. (2021). एआई एंड एजुकेशन गाइडेंस फॉर पॉलिसी मेकर्स. यूनेस्को डिजिटल लाइब्रेरी. https://unesdoc.unesco.org/ark:/48223/pf0000376709
- राठौर, ए. ए. तथा अन्य. (2023). आर्टिफीशियल इंटेलिजेंस एंड करिकुलम प्रॉस्पेक्ट्स फॉर एलीमेंट्री स्कूल. *पाकिस्तान जर्नल ऑफ ह्यूमेनिटीज एंड सोशल साइंस, 11*(4), 4635-4644. 10-52131/pjhss.2023.v11i4.1909
- रिचटर, ओ. जेड. तथा अन्य (2019). सिस्टमेटिक रिव्यु ऑफ रिसर्च ऑन आर्टिफीशियल इंटेलिजेंस ऐप्लीकेशन इन हायर एजुकेशन- वेयर आर द एजुकेटर्स?. *इंटरनेशनल जर्नल ऑफ एजुकेशनल टेक्नोलॉजी इन हायर एजुकेशन, 16*(39). https://doi.org/10.1186/s41239-019-0171-0.
- सतत विकास लक्ष्य. (2015). ट्रांस्फोर्मिंग आवर वर्ल्डः दी 2030 एजेंडा फॉर सस्टेनेबल डेवलपमेंट https://sustainabledevelopment.un.org/post2015/transformingourworld/publication
- सीबीएसई. (2019). कृत्रिम बुद्धिमत्ता इंटीग्रेशन अक्रॉस सब्जेक्ट्स फॉर सीबीएसई करिकुलम क्यूरेटेड विद सपोर्ट फ्रॉम इंटेल. https://cbseacademic.nic.in/web_material/Curriculum20/AI_Integration_Manual_Introduction.pdf

भारतीय मनोविज्ञान के आलोक में सकारात्मक मनोविज्ञान आधारित सकारात्मक शिक्षा : एक एकीकृत दृष्टि

सत्यम स्वरूप* एवं रुचि दूबे**

सारांश

विश्व स्वास्थ्य संगठन द्वारा घोषित वर्ष 2025 के मानसिक स्वास्थ्य दिवस की थीम से स्पष्ट है कि आज मानसिक स्वास्थ्य केवल चिकित्सकीय विषय न होकर वैश्विक और मानवीय चिंता का केंद्र बन गया है। वर्तमान डिजिटल युग में मनुष्य निरंतर नकारात्मक सूचनाओं, हिंसक दृश्य सामग्रियों और प्रतिस्पर्धी परिवेश से घिरा हुआ है, जिससे उसके भीतर की नकारात्मक प्रवृत्तियाँ और अधिक पोषित हो रही हैं। परिणामस्वरूप व्यक्ति तथा समाज दोनों स्तरों पर मानसिक असंतुलन, असंवेदनशीलता, हिंसा, जलवायु परिवर्तन, बेरोजगारी और धार्मिक उन्माद जैसी आपदाएँ उभरकर सामने आ रही हैं। ऐसे समय में शिक्षा का उद्देश्य मनोवैज्ञानिक सुदृढ़ता, करुणा और संतुलन की भावना का संवर्धन होना चाहिए। सकारात्मक शिक्षा इसी दिशा में एक महत्त्वपूर्ण प्रयास है, जो विद्यार्थियों में आत्म-जागरूकता, सहनशीलता और जीवन-संतोष जैसे गुणों का विकास करती है। भारतीय मनोविज्ञान के आधारभूत सिद्धांत - आत्मबोध, समत्व व कर्मयोग और वसुधैव कुटुंबकम की संस्कृति - सकारात्मक शिक्षा को एक समग्र और आधार प्रदान करते हैं, जिससे शिक्षा न केवल मानसिक स्वास्थ्य के संरक्षण का माध्यम बनती है, बल्कि मानवीय चेतना के विकास का पथ भी प्रशस्त करती है। प्रस्तुत समीक्षा-पत्र का उद्देश्य इन्हीं दो धाराओं - सकारात्मक शिक्षा और भारतीय मनोविज्ञान - के समन्वय द्वारा एक एकीकृत दृष्टि प्रस्तुत करना है। द्वितीयक स्रोतों के अध्ययन से स्पष्ट है की भारतीय मनोविज्ञान के माध्यम से समुचित दृष्टिकोण उत्पन्न कर सकारात्मक गुणों को बढ़ाया जा सकता है।

बीज शब्द: भारतीय मनोविज्ञान, सकारात्मक शिक्षा, मानसिक स्वास्थ्य

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व्यक्ति लगातार संघर्ष की स्थिति में है बाहरी परिस्थितियां नकारात्मक रूप से विद्यमान है एवं समाज के भीतर नकारात्मकता का संचार निरंतर हो रहा है। समाज में बढ़ते जघन्य अपराध, पशु क्रूरता, अंधविश्वास, पाखंड, धर्म का अंधानुकरण, अवैज्ञानिक दृष्टिकोण मानसिक रोगों को जन्म दे रहे हैं एवं व्यक्ति इनका सामना करने में खुद को असक्षम महसूस कर रहा है यद्यपि शिक्षा एवं सार्थकता का स्तर बढ़ा है परंतु आत्मबोध की कमी में व्यक्ति अंधी दौड़ मे शामिल होने को तत्पर है। अतः बहुत आवश्यक है कि व्यक्तियों में सकारात्मक गुणों को विकसित करने का समुचित प्रयास किया जाए एवं यह केवल ऊपरी तौर पर नहीं बल्कि मानवीय गुणों को वर्धित करके ही किया जा सकता है। सर्वप्रथम मास्लो (1954) ने अपनी पुस्तक 'मोटिवेशन एंड पर्सनैलिटी' में मनोरोगियों और अस्वस्थ लोगों के स्थान पर मनोविज्ञान में स्वस्थ लोगों का अध्ययन करके 'पॉजिटिव साइकोलॉजी' अर्थात सकारात्मक मनोविज्ञान को विकसित करने का सुझाव दिया था। यद्यपि सकारात्मक मनोविज्ञान को मुख्य धारा में लाने का कार्य सेलिगमैन (1998) द्वारा अमेरिकन साइकोलॉजिकल एसोसिएशन में दिए गए अध्यक्षीय भाषण के माध्यम से हुआ। सेलिगमैन और शिकसेन्टमीहाई (2000) के अनुसार सकारात्मक मनोविज्ञान का उद्देश्य व्यक्तियों, समुदायों एवं समाजों का वर्धमान होना संभव बनाने वाले कारकों का वर्णन एवं निर्माण करना है। सकारात्मक मनोविज्ञान में मानव गुणों एवं व्यवहारों के सकारात्मक पक्षों पर ध्यान दिया जाता है। यह मानव की आत्मसक्षमता, तल्लीनता, प्रामाणिक प्रसन्नता, अर्जित आशावादिता, आशा, तन्यकता, जीवन संतुष्टि एवं कठिन चुनौतियों का सामना करने की क्षमता जैसे आंतरिक गुणों को विकसित करने का अध्ययन करता है एवं वैज्ञानिक अध्ययनों के आधार पर जीवन में सार्थकता, प्रसन्नता, तन्यकता को बढ़ाने हेतु जीवन के अधिक पुष्पित-पल्लवित होने के लिए उपयुक्त उपागमों एवं उपायों को प्रस्तावित करता है। ग्रेनविल क्लीव (2016) के अनुसार सकारात्मक मनोविज्ञान 'इष्टतम मानव कार्यशीलता' और जीवन को जीने योग्य बनाने वाले कारकों का वैज्ञानिक अध्ययन है। इस प्रकार सकारात्मक मनोविज्ञान व्यक्ति को सकारात्मक गुणों को विकसित करने, बढ़ाने एवं जीवन में उत्कृष्टता प्राप्त करने के लिए प्रेरित करता है। वर्तमान समय में जीवन मूल्यों में गिरावट, बढ़ते अपराध, हिंसा, शोषण, अवसाद आदि की समस्या से विद्यार्थी गण भी अछूते नहीं है; विद्यालयों में शिक्षक विद्यार्थी संबंधों के स्तर में लगातार गिरावट देखी जा सकती है इसका प्रमुख कारण सामाजिक और मानवीय मूल्यों में निरंतर ह्रास होना है। सकारात्मक शिक्षा जोकि सकारात्मक मनोविज्ञान को केंद्र में रखकर प्रदान की जाती है इन समस्याओं का समाधान करने में उपयोगी साबित हो सकती है। सकारात्मक शिक्षा के अंतर्गत विद्यार्थियों को मूल्यों के प्रति समर्पण के लिए पुरस्कृत एवं नवोन्मेष के लिए प्रोत्साहित किया जाता है। सकारात्मक शिक्षा धनोपार्जन और उपभोग को द्वितीय स्थान पर रखती है विद्यार्थियों में एक दूसरे और पृथ्वी की भलाई के लिए मानवीय मूल्यों के विकास पर बल देती है; यह विद्यार्थियों को स्वयं को जानने अर्थात आत्म जागरूकता के लिए प्रेरित और मार्गदर्शित करती है। सकारात्मक शिक्षा के निम्नलिखित मुख्य उद्देश्य हो सकते हैं- विद्यार्थियों को उत्कृष्ट होने के लिए प्रेरित करना, विद्यार्थियों में सांवेगिक बुद्धि को बढ़ाना, विद्यार्थियों में सद्गुणों का विकास

करना, विद्यार्थियों को समग्र स्वास्थ्य प्रदान करना.

भारतीय मनोविज्ञान व्यक्ति को चेतना, मन और शरीर का योग मानता है; चेतना अभौतिक जबकि मन और शरीर भौतिक माने गए हैं। भारतीय मनोविज्ञान में मानव व्यवहार के व्यापक अध्ययन करने और उसे रूपांतरित करने की विधियां हैं (राव एवं परांजपे, 2017)। भारतीय मनोविज्ञान के अनुसार व्यक्ति एक जीव है जो ज्ञाता, भोक्ता और कर्ता है और अपने इन तीनों रूपों की सीमाओं को अभ्यास द्वारा पार करके अपने वास्तविक स्व अर्थात 'आत्मन' का अनुभव कर सकता है, ऐसी स्थिति में व्यक्ति को शुद्ध सत्य, परम-आनंद और शुद्ध-इच्छा का अनुभव होता है; परम आनंद में स्थित व्यक्ति अननुबंधित होता है। राव (2010) के अनुसार भारतीय मनोविज्ञान में व्यक्ति किसी अननुबंधित अवस्था को वास्तविक स्वतंत्रता और मोक्ष की प्राप्ति कहा गया है। इसी अवस्था को उपनिषदों में 'ब्रह्म' और सांख्य प्रणाली में 'पुरुष' कहा गया है। जब मनुष्य को संवेदना रहित ज्ञान प्राप्त होता है तब मन संवेदना के बंधन से मुक्त अर्थात अननुबंधित सत, चित्त और आनंद की अवस्था में स्थित हो जाता है। भारतीय मनोविज्ञान के मूल स्रोत वेद, उपनिषद जैसे प्राचीन ग्रंथ हैं। ऋग्वेद में मन और चित्त का भेद बताया गया है। कठोपनिषद में आत्मन को रथी पर रथी, बुद्धि को सारथी, मानस को लगाम और इंद्रियों को रथ के घोड़े की भांति बताया गया है। तैत्तिरीय उपनिषद में आत्मा को अन्नमय कोश, प्राणमय कोश, मनोमय कोश, विज्ञानमय कोश और आनंदमय कोश रूपी पंचकोशों के आवरण में लिपटा हुआ बताया गया है। माडूक्य उपनिषद में चेतना की जागृति, स्वप्नावस्था, गहन निद्रा अवस्था एवं तुरीय अवस्था का वर्णन मिलता है। तुरीय अवस्था में व्यक्ति को चेतना की उच्चतम अवस्था का अनुभव होता है। योगशास्त्र में चित्तवृत्तियों के निरोध के उपायों के बारे में बताया गया है। योग द्वारा विचारों को अनुबंधनों से मुक्ति की 'कैवल्य' अवस्था प्राप्त होती है। श्रीमद्भगवद्गीता में व्यक्ति को परिणाम की चिंता किए बिना 'निष्काम कर्म' करने का उपदेश दिया गया है जिसका मनोविज्ञान है कि परिणाम से आसक्ति और आसक्ति से तनाव, प्रतिस्पर्धा और क्रोध उत्पन्न होते हैं। अतः भारतीय मनोविज्ञान का मूल उद्देश्य व्यक्ति को उसके भय, आसक्ति बंधनों, कष्टों एवं दुखों से मुक्त करना और चेतना के उच्चतम व्यवस्था को प्राप्त करने में सहायता करना है।

अध्ययन का उद्देश्य

प्रस्तुत शोध पत्र का उद्देश्य द्वितीयक स्रोतों के माध्यम से भारतीय मनोविज्ञान के आलोक में सकारात्मक शिक्षा पर एकीकृत दृष्टि डालना है।

समीक्षात्मक अध्ययन

सकारात्मक मनोविज्ञान आधारित सकारात्मक शिक्षा में जिन सद्गुणों, मूल्यों एवं व्यवहारों को विकसित करने का प्रयास किया जाता है उसे विकसित करने का प्रयास भारतीय मनोविज्ञान द्वारा प्राचीन काल से ही किया जा रहा है। राय (2021) के अनुसार आधुनिक शिक्षा प्रणाली में श्रीमद्भागवतगीता, उपनिषदों एवं पतंजलि योग दर्शन को पाठ्यक्रम में अध्यक्ष स्थान देकर

विद्यार्थियों में मानवीय मूल्यों जैसे मेहनत, साहस एवं ईमानदारी का विकास किया जा सकता है और समाज में फैली हिंसा को कम करके शांति स्थापित की जा सकती है। डबास, सिंह एवं कियान (2018) के अनुसार पाठ्यक्रम में भगवद्गीता हस्तक्षेप के द्वारा विद्यार्थियों में सकारात्मक गुणों-आशा, आशावादिता एवं तन्यकता को विकसित किया जा सकता है। भगवद्गीता, सकारात्मक मनोविज्ञान के लिए दिशानिर्देशों का एक प्रमाण है जिसमें श्रीकृष्ण ने व्यक्तियों के आत्मबल को उनके प्रतिदिन के कर्म और कर्म संस्कृति के माध्यम से पुनर्जीवित करने का मार्ग बताया है। अधिकारी (2013) के अनुसार गीता के दिशानिर्देश व्यक्ति को संघर्ष, द्वंद्व और वर्तमान वैश्विक दुनिया की त्रासदी से बचाने में मददगार हैं। दास एवं राय (2024) के अनुसार सकारात्मक मनोविज्ञान में आज जो बात की जाती है वह बहुत पहले ही श्रीकृष्ण ने कुरुक्षेत्र के मैदान में अर्जुन को उदासी और भ्रम से बाहर निकालने और युद्ध के लिए तैयार करने के लिए कही था। उनके शोध निष्कर्ष के अनुसार शैक्षिक परिदृश्य में भागवत गीता में केवल विद्यार्थियों के व्यक्तिगत स्वास्थ्य को घोषित करती है बल्कि सामंजस्यपूर्ण और चुनौतीपूर्ण परिस्थितियों का सामना करने के योग्य भी बनाती है। कुमार एवं कुमार (2013) के अनुसार गीता के कर्म योग का मनोविज्ञान सकारात्मक शिक्षा के व्यावहारिक पहलुओं की दिशा में अनोखी भूमिका निभा सकता है जिस व्यक्ति की जीवनशैली में सुधार हो सकता है और तनाव आदि के उपचार में सहायता मिल सकती है। व्यक्ति द्वारा किए जा रहे कर्म के यांत्रिक या आंतरिक मूल्य या दोनों मूल्य हो सकते हैं। गीता का कर्मयोग वक्र को यांत्रिक मूल्य के अंतर्गत आने वाले- प्रोत्साहन, शक्ति और सम्मान आदि के लिए नहीं बल्कि आंतरिक मूल्यों के लिए परिणाम की कामना के बिना कर्म करने की सलाह देती है। रेड्डी (2012) के अनुसार भगवद्गीता का हस्तक्षेप रोगियो में तनाव, कुंठा की कुछ समस्याओं को कम करने में सहायक है। राठौर (2023) के अनुसार पतंजलि योग विधियां- आसान, प्राणायाम और ध्यान, तनाव को कम करने और स्वास्थ्य को बनाए रखने में सहायक है। जोशी (2020) के अनुसार विद्यार्थियों के द्वारा योगनिद्रा के अभ्यास के द्वारा कुण्ठा-चिंता एवं अवसाद को काम किया जा सकता है। इव्ट्जन एवं पापनटोनियो (2013) के अनुसार योग-अभ्यास की सीमा और जीवन की सार्थकता और कृतज्ञता के बीच सकारात्मक सहसंबंध है। शुक्ला (2016) के अनुसार भारतीय शास्त्र- भगवद्गीता और आध्यात्मिक अभ्यास-योग, ध्यान व प्रार्थना संतुलन प्राप्त करने के लिए मन को अनुशासित करने में मदद करते हैं।

सुझाव

विद्यार्थियों को नियमित रूप से योग अभ्यास के लिए प्रोत्साहित किया जाना चाहिए। योग अभ्यास व्यक्ति के स्वास्थ्य के हीडोनिक व यूडेमोनिक दोनो पक्षों से संबंधित है (इव्ट्जन एवं पापनटोनियो, 2013)। पाठ्यचर्या में भारतीय शास्त्रों और आध्यात्मिक अभ्यास को विशेष स्थान दिया जाना चाहिए। शास्त्र और अभ्यासन का सकारात्मक मनोविज्ञान आधारित सकारात्मक शिक्षा के लक्ष्यों- ज्ञान, बुद्धि, साहस, मानवता, न्याय और उत्कृष्टता की प्राप्ति के लिए महत्वपूर्ण निहितार्थ है।

संदर्भ सूची

- जोशी, आर. (2020). एंजायटी एंड डिप्रेशन रिलेटेड टू योगनिद्रा एमंग प्रोफेशनल स्टूडेंट्स. *योग मीमांसा. 52*(1): P 29-33.
- इव्ट्जन, आई. एंड पापनटोनियो, ए. (2013). योगा मीट्स पॉजिटिव साइकोलॉजीः एग्जामनिंग थे इंटीग्रेशन आफ हीडोनिक (ग्रेटीट्यूड) एंड यूडेमोनिक (मीनिंग) वेल बीइंग इन रिलेशन टू द एक्सटेंट आफ योगा प्रैक्टिस. *जर्नल ऑफ बॉडी वर्क एंड मूवमेंट थैरेपीज, 18.*
- शुक्ला, पी. (2016). पॉजिटिव साइकोलॉजी, इंडियन साइकोलॉजी एंड स्पिरिचुअलिटी. *देव संस्कृति इंटरडिसीप्लिनरी इंटरनेशनल जर्नल, 7.*
- राय, आर. (2021). एन्सिएन्ट इंडियन स्क्रिप्चर एंड ह्यूमन वैल्यूज इंटरनेशनल जर्नल ऑफ एडवांस्ड रिसर्च. ISSN No. 2320-54
- डबास, पी. सिंह, ए. एंड कियान, एम. (2018). भगवद्गीता टीचिंग एंड पॉजिटिव साइकोलॉजी : एफीकेसी फार सेमी अर्बन इंडियन स्टूडेंट ऑफ एनसीआर. *कागेन्ट साइकोलाजी, 5*(1).
- अधिकारी, एच. (2013). द भगवदगीताः ए मिरर आफ पॉजिटिव साइकोलॉजी. *इंडियन जर्नल ऑफ पॉजिटिव साइकोलॉजी, 4.*
- कुमार, ए. एंड कुमार, एस. (2013). कर्मयोगः ए पाथ टुवर्ड्स वर्क इन पॉजिटिव साइकोलॉजी. *इंडियन जर्नल ऑफ साइकियाट्री, 55.*
- रेड्डी, एम.एस. (2012). साइकोथेरेपी- इनसाइट्स फ्रॉम श्रीमद् भगवद्गीता. *इंडियन जर्नल ऑफ साइकोलॉजिकल मेडिसिन, 34.*
- राठौर, वी. (2023). ए साइंटिफिक एक्सप्लोरेशन आफ स्ट्रेस मैनेजमेंट टेक्निक्स इन पतंजलि योग सूत्र. *योग मीमांसा, 55*(2). 114-118.