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LEARNING WITHOUT BORDERS: PROMOTING HOLISTIC GROWTH THROUGH INTERDISCIPLINARY EDUCATION

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ABSTRACT

In the 21st century, education must extend beyond mere subject-specific learning to adequately prepare individuals for a swiftly evolving and interconnected world. While traditional disciplinary models are valuable for cultivating expertise, they frequently restrict creativity, adaptability, and problem-solving by confining knowledge within strict academic boundaries. As global challenges grow increasingly complex, there is an urgent necessity for an approach that promotes holistic development and equips learners with the capacity to think critically across various domains. This research investigates interdisciplinary education as a transformative model that facilitates learning without borders. By merging diverse fields such as science, technology, humanities, and arts, interdisciplinary learning encourages students to link ideas, analyze problems from various viewpoints, and implement innovative solutions to real-world challenges. It fosters not only intellectual growth but also the development of vital life skills, including collaboration, adaptability, and effective communication. The study further delves into the significance of experiential pedagogy, project-based learning, and technology-enabled platforms in promoting interdisciplinary education. These methods bridge the divide between theory and practice, offering learners opportunities to engage with authentic challenges while nurturing creativity and innovation. Moreover, interdisciplinary education cultivates emotional intelligence, cultural sensitivity, and ethical responsibility, thereby developing well-rounded individuals ready for global citizenship. Ultimately, this research champions the reimagining of education as a process of learning without borders. By moving beyond traditional silos, interdisciplinary education empowers learners to attain holistic growth, embrace lifelong learning, and contribute meaningfully to society in an increasingly dynamic and interconnected world.

KEYWORDS: Interdisciplinary Education, Holistic Growth, Learning Without Borders, Collaborative Learning, Global Citizenship, Lifelong Learning.

2. INTRODUCTION



Education in the present day encounters unparalleled challenges and opportunities. Due to swift technological progress, globalization, and intricate societal issues, traditional educational frameworks—which frequently emphasize rote learning and segregated subjects—are becoming increasingly inadequate? The standard methodology restricts students’ capacity to engage in critical thinking, innovate, and apply knowledge in real-world situations. As highlighted by UNESCO (2021), holistic education, which emphasizes intellectual, emotional, social, and ethical growth, is essential for equipping learners to tackle the diverse challenges of the 21st century (unesco.org). Holistic education seeks to develop individuals who are not only knowledgeable but also empathetic, ethical, and equipped to solve complex issues. Holistic education emphasizes the comprehensive development of the individual. It combines cognitive advancement with social-emotional learning, ethical reasoning, and practical life skills. As noted by Sutarman et al. (2022), integrative learning methods in early childhood education boost curiosity, creativity, and social involvement, establishing a foundation for lifelong learning (researchgate.net). These methods encourage students to approach challenges from various viewpoints, promoting both personal development and social responsibility. Additionally, holistic education is closely aligned with the goals of India’s National Education Policy (NEP) 2020, which advocates for adaptable curricula, experiential learning, and multidisciplinary opportunities to nurture learners who are ethical, skilled, and globally conscious (timesofindia.indiatimes.com).

Interdisciplinary education enhances holistic learning by merging knowledge, methods, and viewpoints from various fields. According to BMC Medical Education (2023), interdisciplinary courses enable students to apply their learning in practical situations, promoting collaboration, problem-solving, and critical thinking (bmcmmededuc.biomedcentral.com). By dismantling disciplinary barriers, students can forge significant connections across different areas, boosting both creativity and analytical skills. For instance, the integration of science, technology, and social studies can empower learners to tackle climate change from not just a scientific angle but also through social, ethical, and policy perspectives. Furthermore, research suggests that holistic and interdisciplinary methods foster vital competencies for the 21st century. Chandresh Chhatlani (2023) emphasizes that holistic learning aids in developing global citizenship by motivating students to appreciate diverse viewpoints and engage responsibly with societal challenges (researchgate.net). Interdisciplinary education specifically encourages adaptability, problem-solving, and teamwork—skills that are essential for confronting intricate, real-world issues that cannot be easily categorized within a single discipline. By combining these educational strategies, we ensure that students are not only academically skilled but also equipped for leadership, ethical decision-making, and active civic participation.

Implementing holistic and interdisciplinary education, while beneficial, comes with its own set of

challenges. Traditional educational structures often resist change, and there is a lack of adequate teacher training and limited resources within institutions that can impede the adoption of these methods. Leonard (2012) points out that for integrative learning to be effective, it necessitates a redesign of the curriculum, ongoing professional development, and systematic support (oakland.edu). Tackling these obstacles is crucial for fostering dynamic learning environments where students can excel intellectually, socially, and emotionally. The combination of holistic and interdisciplinary methods signifies a significant shift in education—from a focus on teacher-centered instruction to a more learner-centered, integrative experience. This methodology cultivates well-rounded individuals who are adept at critical thinking, collaboration, and making responsible decisions. Educational institutions that embrace this model can effectively prepare students to confront global challenges, equipping them with the necessary skills and competencies for personal success, societal engagement, and sustainable development.

In summary, education without boundaries—by incorporating holistic and interdisciplinary methods—provides a transformative route for developing adaptable, skilled, and socially responsible individuals. By promoting intellectual, emotional, social, and ethical development, this educational framework equips students to tackle intricate global issues with assurance and innovation. Ongoing research and the application of these strategies are crucial for enhancing teaching methods, addressing institutional obstacles, and achieving the complete potential of holistic and interdisciplinary education.





3. LITERATURE REVIEW

3.1 Moser et al. (2020) – Interdisciplinary Education: Literature Review and Landscape Analysis

Moser and colleagues describe interdisciplinary education as the collaboration of two or more disciplines aimed at enhancing fundamental understanding beyond the limits of a single field. This method highlights the combination of knowledge and techniques from various disciplines to tackle intricate issues and promotes critical thinking and problem-solving abilities.

3.2 Chettiparamb (2007)–Interdisciplinary

Chettiparamb examines the increasing appeal of interdisciplinarity within policy, practice, teaching, and research communities. She contends that interdisciplinarity is not only desirable but also unavoidable, emphasizing its ethical implications and the necessity for a more cohesive educational approach. Her research offers an extensive literature review on interdisciplinary teaching and learning.

3.3 Miseliūnaitė (2022) – Can Holistic Education Solve the World's Problems?

This systematic review analyzes empirical studies related to holistic education, emphasizing its occurrence, results, and obstacles. The research indicates that holistic education is widespread in progressive education systems like Finland, Singapore, Canada, and Taiwan, and plays a role in tackling global development issues.

3.4 Heen (2023) – Review of the Research Literature on Interdisciplinary Education

Heen presents a summary of current research and studies related to interdisciplinary education, encompassing reflections and scholarly work on teaching and learning. This report provides valuable insights into the evolution and challenges faced by interdisciplinary education, enhancing the comprehension of its significance within contemporary education systems.

3.5 Lam (2024) – From Defining to Enacting Interdisciplinary Education

This comparative analysis uncovers seven prevalent strategies utilized by educators in the implementation of interdisciplinary curriculum integration. The results emphasize the significance of precise definitions and deliberate planning in executing effective interdisciplinary education.

3.6 Oudenampsen et al. (2024) – How to Cross the Line: Design Principles for Interdisciplinary Education

This literature review explores key components in education that are vital for fostering interdisciplinary learning. The research highlights the importance of a nurturing learning environment, cooperative teaching methods, and a curriculum designed to promote integration among various disciplines.



3.7 Chandra (2025) – Assessment Style in Interdisciplinary Education

This research explores various assessment approaches in interdisciplinary courses and their effects on student learning. The findings suggest that a range of assessment techniques can be advantageous for students across different fields, fostering a deeper comprehension of the subject matter.

3.8 Johnson (2023) – Holistic Learning Theory: More than a Philosophy

Johnson examines holistic education as a comprehensive learning theory that includes cognitive, emotional, physical, spiritual, and social aspects. The research contends that holistic education goes beyond mere subject expertise to foster the growth of attitudes, values, and skills essential for personal well-being and community involvement.

3.9 Nasir (2024) – Philosophical Foundations of Holistic Education in the 21st Century

This research explores the philosophical underpinnings of holistic education, emphasizing both historical and modern educational philosophies, such as those proposed by Rousseau, Dewey, Steiner, and others. The study offers insights into the ways these philosophies shape contemporary educational practices.

3.10 Nedungadi (2024) – Evaluating Holistic Education and Digital Learning Model

This longitudinal research assesses the Holistic Education and Digital Learning (HEDL) model in rural Indian environments. The results aid in comprehending how digital resources can improve holistic educational methods across various contexts.

3.11 Forbes (2004) – An Analysis of Holistic Schools' Literature

Forbes examines the literature surrounding schools recognized as at least partially holistic to categorize various types of holistic institutions. This research offers a philosophical framework to comprehend the diversity present in holistic educational practices.

3.12 Sánchez Milara & Cortés Orduña (2024) – Possibilities and Challenges of STEAM Pedagogies

This paper explores the incorporation of STEAM (Science, Technology, Engineering, Arts, and Mathematics) into the educational framework, highlighting the role of the Arts in promoting creativity in conjunction with conventional STEM competencies. The research addresses the obstacles and opportunities associated with the application of STEAM teaching methods in educational environments.



4. OBJECTIVES

- To investigate the effects of interdisciplinary education on the cognitive and problem-solving abilities of students.
- To evaluate how holistic education aids in the social, emotional, and ethical growth of learners.
- To pinpoint successful methods for incorporating various disciplines into classroom instruction.
- To examine the significance of holistic and interdisciplinary education in equipping students for global and real-world challenges.

5. RESEARCH METHODOLOGY

This research utilizes a mixed-methods approach to investigate how interdisciplinary education fosters comprehensive student development. A blend of quantitative and qualitative methods is employed to capture both overarching trends and in-depth insights. The study's target population consists of students enrolled in interdisciplinary or multi-disciplinary programs, faculty engaged in curriculum development, and academic administrators. A stratified random sampling method is implemented to ensure representation across diverse academic disciplines, with a sample size of approximately 80–120 students and 10–15 faculty members. Primary data is gathered through structured questionnaires featuring Likert-scale items that evaluate students' awareness, perceived advantages, skill enhancement, and challenges related to interdisciplinary education. Furthermore, qualitative data is collected through semi-structured interviews with faculty and academic leaders, along with focus group discussions with students to gain insights into their experiences and developmental outcomes. Secondary data from journal articles, institutional reports, policy documents, and international case studies further enriches the analysis. Quantitative data is analyzed using descriptive and inferential statistics, while qualitative responses are examined through thematic analysis to uncover recurring themes associated with creativity, collaboration, problem-solving, and emotional or social growth. Reliability is assured through pilot testing and data triangulation, and ethical considerations such as informed consent, voluntary participation, and confidentiality are rigorously upheld. This extensive methodological framework facilitates a comprehensive exploration of the effectiveness of interdisciplinary education in promoting holistic and multifaceted student development.

1. How familiar are you with the concept of interdisciplinary education?

98 responses



2. How important do you think interdisciplinary learning is for overall student development?

98 responses



3. How often does your institution incorporate interdisciplinary activities?

98 responses



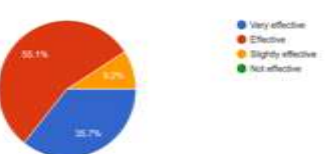
4. Do you think holistic education improves critical thinking skills?

98 responses



5. How effective are interdisciplinary projects in helping students understand real-world problems?

98 responses



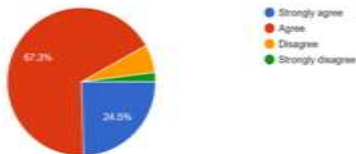
6. How comfortable are you working on projects that combine multiple subjects?

98 responses



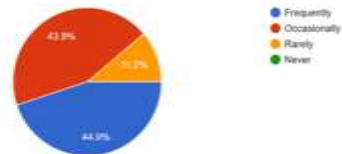
7. Do you think holistic education helps in emotional and social development?

98 responses



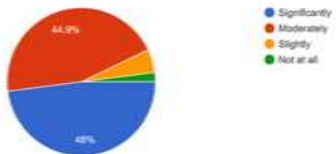
8. How often do you engage in collaborative learning activities?

98 responses



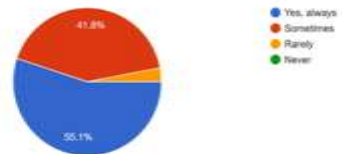
9. How much does interdisciplinary learning enhance creativity?

98 responses



10. Does your curriculum encourage students to think beyond their major subject?

98 responses



11. How well do teachers guide interdisciplinary learning in your institution?
36 responses



12. How motivated are you to participate in interdisciplinary activities?
58 responses



13. Does holistic education contribute to better decision-making skills?
38 responses



14. How much does interdisciplinary education prepare you for real-world challenges?
58 responses



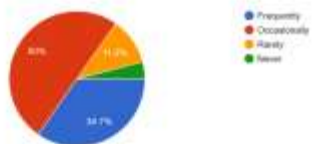
15. How often are problem-solving sessions conducted in your institution?
36 responses



16. Do you think integrating arts and sciences together improves learning outcomes?
58 responses



17. How often do you receive feedback on interdisciplinary tasks?
38 responses



18. How confident are you in applying knowledge from one discipline to another?
58 responses



19. Do interdisciplinary workshops enhance teamwork and collaboration skills?
38 responses



20. How frequently are students encouraged to explore topics outside their major subject?
58 responses





6. SCOPE FOR FUTURE RESERACH

- 1.Cognitive & Holistic Development: Investigate the effects of interdisciplinary education on students' cognitive, social, emotional, and ethical development.
- 2.Curriculum Implementation: Assess the effectiveness and challenges associated with the integration of interdisciplinary methods at various educational levels.
- 3.Teacher Training & Preparedness: Analyze the impact of teacher training and pedagogical techniques on the effectiveness of holistic and interdisciplinary education.
- 4.Technology & Digital Learning: Explore the contribution of digital tools and AI in enhancing interdisciplinary and holistic learning experiences.
5. Global Comparison & Best Practices: Evaluate international education models (such as those in Finland and Singapore) against the Indian education system to uncover best practices for fostering holistic development.
6. Student Motivation & Engagement: Study the effects of interdisciplinary and holistic approaches on student creativity, critical thinking, engagement, and overall motivation.

7. HYPOTHESIS

- H1: The integration of various disciplines in education significantly enhances students' cognitive growth and their ability to solve problems.
- H2: A holistic approach to education positively influences students' social, emotional, and ethical development.
- H3: Incorporating multiple disciplines into classroom instruction boosts students' engagement and motivation.
- H4: Educational institutions that adopt interdisciplinary and holistic learning strategies report greater overall student satisfaction and improved learning results.

8. STATISTICAL DATA

The survey carried out among 98 students from different academic years yielded significant insights into their views on interdisciplinary and holistic education. The levels of awareness were promising; with almost 65% of participants indicating that they were either somewhat familiar or very familiar with the idea of interdisciplinary learning. When questioned about its significance for comprehensive student development, more than 80% rated it as important or very important. Institutional practices showed varied trends, as the majority of students (approximately 60%) reported that interdisciplinary activities took place only occasionally, indicating room for enhancement. A substantial majority (nearly 75%) concurred or strongly concurred that holistic education fosters critical thinking and social-emotional development. Additionally, around 70% felt that interdisciplinary projects were effective in linking their academic experiences to real-world issues, while close to 68% agreed that such methods greatly boost creativity and collaboration. In summary, the results reveal a distinct



student preference for more integrative and holistic learning approaches, although the implementation at the institutional level seems to be limited

9. RESULTS

The survey conducted among 98 students indicated a significant level of awareness and acceptance regarding interdisciplinary and holistic education. Approximately 65% of the participants stated they were somewhat or very familiar with interdisciplinary learning, while over 80% deemed it essential for overall development. About 75% of the students concurred or strongly concurred that holistic education fosters critical thinking and emotional growth. Furthermore, nearly 70% believed that interdisciplinary projects effectively link classroom learning to real-world challenges. However, despite these favorable perspectives, around 60% of students noted that such activities are practiced only occasionally in their institutions, highlighting that actual implementation is still limited.

10. FINDINGS

The findings indicate that students acknowledge the distinct benefits of interdisciplinary and holistic methods in fostering creativity, teamwork, and problem-solving abilities. No notable differences were observed between genders, indicating a uniform preference for integrative learning among both male and female students.

A significant discovery was the focus on readiness for real-world challenges, with more than two-thirds of participants recognizing that interdisciplinary education equips them more effectively for professional and societal demands. These results underscore an increasing desire among students for education models that emphasize skills and collaboration, although institutions must enhance their implementation to align with student expectations.

11. CONCLUSION

The research unequivocally illustrates that interdisciplinary and holistic education is highly regarded by students, who view it as a crucial element of meaningful and future-oriented learning. The statistical data indicates a significant level of awareness, with almost two-thirds of participants being acquainted with interdisciplinary methods and over 80% recognizing their significance for comprehensive development. Students firmly assert that holistic approaches foster critical thinking, creativity, emotional intelligence, and the ability to solve real-world problems. Additionally, a majority acknowledge that interdisciplinary projects forge meaningful links between academic knowledge and real-life contexts, thus equipping them more effectively for professional, social, and societal challenges. In summary, the research underscores that while students distinctly value and gain from interdisciplinary and holistic methodologies, educational institutions must intensify their efforts to integrate these approaches more consistently and purposefully. Enhancing curriculum design,



improving teacher readiness, and utilizing digital tools can assist in closing the implementation gap. The outcomes not only reaffirm the significance of interdisciplinary learning for cognitive, social, and emotional development but also emphasize the need for institutions to embrace more innovative and adaptable practices to meet the changing expectations.

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