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आदर्श महाविद्यालय

Aadarsh Mahavidyalaya, Datrenga Raipur, Chhattisgarh

National Seminar

on

Harmonizing IKS and NEP 2020: A Pathway to Holistic and Transformative Higher Education

19-20 December 2025

Organized by

Aadarsh Mahavidyalaya, Datrenga, Raipur, Chhattisgarh

In association with

Kushabhau Thakre University of Journalism and Mass Communication, Raipur, Chhattisgarh

Veetraga Research Foundation, Raipur, Chhattisgarh

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About US

▪ Aadarsh Mahavidyalaya, Datrenga, Raipur, Chhattisgarh

Aadarsh Mahavidyalaya, Datrenga, Raipur, established in 2015 under the aegis of Aadarsh Nursing Institute Private Limited (ANIPL), has grown into a reputed institution dedicated to holistic and value-based education. The college began with B.Com, P.G.D.C.A., and D.C.A., and has steadily expanded its programmes to meet the evolving needs of learners. Situated just 8 km from Bhatagaon, Raipur, the 6-acre green campus offers a peaceful environment along with essential facilities such as a girls' hostel, canteen, and daily-needs shop. Guided by its meaningful motto *"शिक्षार्थ प्रवेश – सेवार्थ प्रस्थान"*, the institution aims to develop knowledgeable, responsible, and service-oriented individuals. Aadarsh Mahavidyalaya has earned recognition in academics and sports, with students achieving distinctions at state and national levels. By 2024, the college expanded its academic portfolio to include B.Com, B.A., B.Sc. Computer Science, B.Sc. Biology, P.G.D.C.A., D.C.A., and B.Ed., offering quality education across Arts, Commerce, Science, Computer Science, Mathematics, Education, and Diploma streams. Aadarsh Mahavidyalaya aims to become a center of quality education rooted in academic excellence, ethical values, and national responsibility. We believe that strong regulatory compliance and committed, continuously growing teachers form the foundation of quality education. Along with academic preparation, we emphasize personality development and character building as essential responsibilities of an educational institution. Our mission is to nurture capable, sensitive, and value-driven individuals who contribute meaningfully to society. May the Almighty guide us in fulfilling this commitment with dedication and integrity.

▪ Kushabhau Thakre University of Journalism and Mass Communication

The objective of the University is to establish a synthesis between the global concept of 'Global Village' and that of Indian philosophy of '**Vasudhaiva Kutumbakam'** and also to link the modern technological development with Indian values and traditions. The University's Kathadih Campus is 6 km from Raipur city. Located in village Kathadih. It is spread over 62 acres of land in picturesque natural environment along the banks of the Kharun River. The Administrative Building, the Faculty Building, the Library, the Multi Media Center, the Girl's and Boy's Hostels, the Canteen & the Mess, the Residential Complex, the Grand Entrance, the statue of Kushabhau Thakreji near the gate, with its colourful fountain, the Sankalp Vatika, water tank and electric substation etc. have been constructed in a very planned manner within the University Campus. Our aim is to transform the nation not the ruling governments and the progress of the country could not be accomplished without the qualitative development in the field of education and positive contribution of journalism

▪ Veetraga Research Foundation

Veetraga Research Foundation (Registration No. 5152 under the Chhattisgarh Society Registration Act, 1973; Registration No. 13/02/2015/51526, Government of India) is a registered academic and social organization dedicated to promoting quality education, research excellence, and institutional development. VRF is committed to the academic and social advancement of individuals and institutions by organizing a wide range of scholarly events such as conferences, seminars, workshops, symposiums, webinars, summits, dialogues, faculty development programs (FDPs), competitions, and other academic initiatives at both national and international levels. The foundation actively supports collaborative institutions in adopting best practices that are outcome-oriented and research-driven. The primary objective of VRF is to enhance educational processes by fostering scholarly inquiry, promoting the dissemination of research findings, and encouraging their practical application

in both higher and school education. Alongside its in-house academic activities, the foundation also undertakes outreach programs including the publication of books, edited volumes, and conference proceedings, thereby contributing meaningfully to the growth of academic discourse and innovation.

▪ About the National Seminar

The *National Seminar on* ***"Harmonizing IKS and NEP 2020: A Pathway to Holistic and Transformative Higher Education"*** aims to provide a vibrant platform for academicians, researchers, policy experts, and educationists to deliberate on the integration of traditional Indian Knowledge Systems with the contemporary educational reforms envisioned in the National Education Policy (NEP) 2020. The seminar seeks to explore how this synergy can enhance institutional quality benchmarks outlined by the National Assessment and Accreditation Council (NAAC), thereby promoting a more inclusive, value-based, and globally competitive higher education ecosystem. Through thoughtful presentations, discussions, and exchange of ideas, the seminar endeavors to highlight the relevance of IKS in achieving holistic quality and sustainability in education. This initiative aspires to foster dialogue on aligning indigenous wisdom with modern pedagogical approaches, strengthening the foundations of higher education through innovation, ethics, and excellence.

About Raipur City

Raipur, the capital of Chhattisgarh, is one of Central India's fastest-growing educational, industrial, and cultural hubs. Known for its strategic location and rich historical legacy, the city blends tradition with modernity, offering a vibrant environment for learning, research, and innovation. With well-developed infrastructure, efficient connectivity through Swami Vivekananda Airport, and expanding road and rail networks, Raipur serves as a gateway to the mineral-rich and eco-diverse regions of Chhattisgarh. The city is also celebrated for its lakes, temples, museums, local cuisine, and warm hospitality, making it a welcoming and dynamic place for students, professionals, and visitors. As a clean, green, and rapidly modernizing city, Raipur stands as a promising centre for academic excellence, cultural vibrancy, and sustainable urban development.

Theme and Subthemes

Theme: ***Harmonizing IKS and NEP 2020: A Pathway to Holistic and Transformative Higher Education***

Sub-themes:

- Integrating Indian Knowledge Systems with the Transformative Ideals of NEP 2020
- Re-envisioning Higher Education through Bharatiya Darshanik Parampara
- Humanistic and Values-Based Education in the NEP 2020–IKS Framework
- Designing Interdisciplinary and Multidisciplinary Curricula using IKS
- Embedding Experiential, Project-Based, and Community-Oriented Learning
- Digital Platforms for Dissemination of Indian Knowledge Systems
- AI, Virtual Learning, and Digital Repositories for IKS
- Technology-Enabled Personalized Learning under NEP 2020
- IKS for Innovation, Sustainability, and National Development
- Reviving Manuscripts, Archives, and Indigenous Knowledge Resources
- Establishing Academic Standards for IKS Integration
- Institutional Strategies for Holistic Quality Enhancement

- Teacher Capacity Building and Professional Development through IKS
- Creating Flexible, Multidisciplinary Higher Education Ecosystems
- Community-Based Knowledge Practices for Social Transformation
- IKS and NEP 2020 in Enhancing Social Harmony and Nation Building

Call for Papers

Teacher Educators, Teachers, Researchers, and Students from all States and UTs are invited to submit abstracts for participation in the Seminar.

Abstracts must follow the prescribed format:

- Typed in **Times New Roman, Font Size 12** for English, **Unicode, Font Size 12** for Hindi.
- **1.5 line spacing**,
- Length: **300 words**, including keywords,
- Submission in **soft copy (MS Word)**.

A separate page must include:

- Name of Author and Co-author (if any),
- Title of the Paper,
- Name of the Institute,
- Email ID, Telephone Number,
- Postal Address.
- After receiving the acceptance of the abstract, authors must submit the **full paper**.
- Papers must be **original**, unpublished, and not presented elsewhere.
- Papers will be accepted in **English and Hindi**.
- All papers should be emailed to veetragaresearchfoundation2015@gmail.com
- Authors must follow **strict academic ethics**, properly acknowledging ideas taken from other sources.
- Every paper will undergo **plagiarism screening**; papers failing the ethical standards will be **rejected**.
- **Publication fee** (separate from registration fee) will be paid by the author.

Best Research Paper Award

Best Research Paper Award will be given to 'Three Best Research Papers'. The nature of the award will be as follows.

- **1st Best Research Paper: (Award Certificate, Trophy and Amount of Prize Rs 5000/-)**
- **2nd Best Research Paper: (Award Certificate, Trophy and Amount of Prize Rs 3000/-)**
- **3rd Best Research Paper: (Award Certificate, Trophy and Amount of Prize Rs 2000/-)**

Important Dates

- Submission of Abstract - 25th November, 2025
- Full Paper Submission - 30th November, 2025
- Communication regarding acceptance of papers for Presentation - 01st December, 2025
- Seminar Dates - 19-20 December 2025

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IJRE

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International Journal of Research in Education (IJRE)

Respected Academicians, Researchers, and Contributors,

It is a privilege to express our sincere appreciation to all scholars, educators, and professionals who continue to place their trust in the International Journal of Research in Education (IJRE) as a medium for presenting their academic work.

IJRE was established with the vision of promoting quality research that supports growth, innovation, and critical reflection within the field of education. We welcome studies from diverse educational domains—ranging from teaching–learning processes and educational leadership to technology-enabled learning, policy reforms, and emerging practices that shape today's classrooms.

Our editorial and review procedures are designed to maintain high academic standards, ensuring that each submission demonstrates strong research foundations, clarity of expression, and meaningful contribution to educational knowledge. At IJRE, our focus is not only on disseminating research but also on encouraging thoughtful dialogue and responsible scholarship that can positively influence educational practice and decision-making.

We invite educators, researchers, and practitioners to continue sharing their work with IJRE, contributing to vibrant academic discussions and helping us collectively advance the discipline of education. Your support strengthens our mission to foster a knowledgeable and progressive academic community.

We express heartfelt gratitude to our Editorial Team, Reviewers, Authors, Institutional Collaborators, and Readers whose dedication and cooperation continually enhance the quality and reach of IJRE.

With regards and best wishes,

Editor-in-Chief, IJRSML
Email: editor@ijre.net
Website: www.ijre.net

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Dr. Priyanka Tiwari, Member, Veetraga Research Foundation, Raipur, Chhattisgarh

College Academic Activities


MY VISION FOR INDIA IN 2047
HOSPITAL
POLICE STATION
AADARSH MAHAVIDYALAYA
DATRENGA RAIPUR (C.G.)


STRONG MINDS
NO MORE
राष्ट्रीय सेवा योजना
'मैं नहीं बल्कि आप'
समाज सेवा के माध्यम से व्यक्तित्व विकास
आदर्श महाविद्यालय, दतरेंगा रायपुर (छ.ग.)

आदर्श महाविद्यालय में रक्तदान शिविर

रायपुर,प्रतिदिन राजधानी

आदर्श महाविद्यालय में एनएसएस इकाई और हेल्पिंग हैंड क्लब फाउंडेशन के सयुक्त तत्वाधान में रक्तदान शिविर लगाया गया। प्राचार्य डाक्टर बरनाली राय ने विद्यार्थियों को प्रोत्साहित करते हुए कहा रक्तदान महादान है। रक्तदान से किसी का जीवन बचाया जा सकता है। विद्यार्थियों ने बढ़ चढ़कर रक्तदान किया।

दैनिक
प्रतिदिन राजधानी
epaper.pratidinrajdhani.in
28 Apr 2025 - Page 10

आदर्श महाविद्यालय में विदाई समारोह धूमधाम से मनाया गया

रायपुर,प्रतिदिन राजधानी

पिछले दिनों आदर्श महाविद्यालय में स्नातक विभाग का विदाई समारोह बड़ी धूमधाम से आयोजित किया गया। विद्यार्थियों ने रंगारंग प्रस्तुतियों को देकर समारोह को और खूबसूरत बना दिया। प्राचार्य डॉ बरनाली राय विद्यार्थियों को उनके उज्जवल भविष्य के लिए शुभकामनाएं व आशीर्वाद दिया।

International Journal of Research in Education (IJRE)

The International Journal of Research in Education (IJRE) welcomes scholarly and original contributions in the field of education. We publish research papers, review articles, conceptual studies, and case-based investigations related to areas such as Educational Psychology, Pedagogy, Teacher Education, Curriculum Studies, Educational Technology, Policy and Administration, Inclusive Education, Assessment & Evaluation, and Emerging Educational Practices.

Submission Guidelines

1. Abstract & Keywords: Every manuscript must begin with an abstract (150–250 words) written in 12-point Times New Roman Italic, followed by 4–6 keywords.
2. Format & Submission: Papers should be prepared in MS Word (.doc/.docx) and sent via email to editor@ijre.net
3. Review Process: Submissions will undergo a double-blind peer review before acceptance for publication.
4. Page Layout: Maintain 1-inch margins on all sides (top, bottom, left, right).
5. References: A properly formatted reference list must be provided at the end of the article. Manuscripts without references will not be considered for review.
6. Headings: Section headings should be in bold sentence case, while sub-sections may use regular font. Both should follow a 0.5-inch indentation.
7. Spacing: Use 1.5 line spacing throughout the document.
8. Publication Timeline: The review and publication process typically requires 2–4 weeks after submission, depending on reviewer feedback.
9. Word Count: Research papers should include a minimum of 1,500 words and must demonstrate complete academic structure and methodological clarity.
10. Review Decision: The reviewers' decision will be final. Any attempt to influence or approach reviewers directly will lead to rejection and future submission restrictions.
11. Paper Length: Each article must meet the minimum word limit of 1,500 words.
12. Paper Size: Set the document page size to A4 only.
13. File Type: PDF submissions are not accepted. Only editable Word files should be submitted.

VEETRAGA RESEARCH FOUNDATION

Academic + Research = Excellence

Registration Number- 5152 **Date: 06.11.2025**
Registration Date- 13.02.2015 **www.vrf.org.in**

Message from the Patron

It gives me enormous pleasure to extend a heartfelt welcome to all participants, distinguished speakers, academicians, and researchers joining this **National Seminar on "Harmonizing IKS and NEP 2020: A Pathway to Holistic and Transformative Higher Education."**

This Seminar, organized in collaboration with **Veetraga Research Foundation** and **Kushabhau Thakre University of Journalism and Mass Communication, Raipur, Chhattisgarh**, exemplifies our shared commitment to advancing academic discourse and nurturing intellectual curiosity. By bringing together diverse disciplines, it creates a rich platform for exchanging innovative ideas, addressing contemporary challenges, and shaping pathways toward academic enrichment.

I am confident that the deliberations and insights shared by our eminent resource persons will inspire educators, researchers, and students alike to engage more responsibly and creatively with IKS & NEP 2020. May this intellectual exchange ignite new collaborations and strengthen our collective resolve to ensure empowerment through knowledge, ethics, and innovation.

I extend my best wishes for the grand success of this academic endeavor and applaud the organizing team for their dedication and vision in bringing this meaningful event to fruition.

Warm regards,

(Dr. Divya Sharma)
Patron
Chairperson
Veetraga Research Foundation
Raipur, Chhattisgarh

कुशाभाऊ ठाकर पत्रकारिता एवं जनसंचार विश्वविद्यालय
काठाड़ीह, रायपुर 492013 (छत्तीसगढ़)
दूरभाष : 0771 2779202 email:kulsachiv@ktujm.ac.in

No.124/mc/04/12 Raipur, Dated 04 /12 /2025

Greetings,

It is with great pride and enthusiasm that I welcome all esteemed academicians, scholars, researchers, and participants to this National Seminar on **"Harmonising Indian Knowledge System and NEP 2020: A Pathway to Holistic and Transformative Higher Education."** Organized by **Adarsh Mahavidyalaya, Datrenga, Raipur,** in association with Kushabhau Thakre University of Journalism and Mass Communication, Raipur and Veetraga Research Foundation, Raipur on Dec 19-20, 2025. This seminar will serves as a meaningful platform to explore the synergy between the wisdom of the Indian Knowledge System (IKS) and the progressive vision embedded in the National Education Policy 2020.

The NEP 2020 envisions an education system that is rooted in Indian ethos while being globally competitive. Its emphasis on multidisciplinary learning, critical inquiry, value-based education, and cultural grounding aligns seamlessly with the philosophical foundations of the IKS. Through this seminar, we aim to deepen our understanding of these intersections and discuss practical approaches to integrating them into higher education in a way that is innovative, inclusive, and future-oriented.

The seminar shall act as a confluence of diverse ideas and vision from academicians, researchers, and practitioners from diverse disciplines. Together, we can explore innovative approaches to enrich our education system by harmonizing indigenous wisdom with modern pedagogy.

Look forward to the enthusiastic involvement of all stakeholders to make this seminar a meaningful platform for knowledge exchange and collaboration.

Wishing the seminar great success and enriching learning for all.

Rajendra Mohanty

Dr. Rajendra Mohanty
Head, Department of Mass Communication, Kushabhau Thakre University of Journalism and Mass Communication, Raipur

Aadarsh
MAHAVIDYALAYA

Message from the Convener

Respected guests, scholars, academicians, and all participants,

It is a matter of great pleasure that **Adarsh Mahavidyalaya, Datrenga, Raipur** is organizing a two-day National Seminar on the theme **"Harmonizing Indian Knowledge Systems and National Education Policy 2020: Holistic and Transformative"** on the 19th and 20th of December 2025.

The harmonization of the Indian Knowledge System (IKS) and the National Education Policy (NEP) 2020 is not merely a focal point of contemporary educational discourse, but also a significant pathway toward propelling India's higher education to global leadership. India's rich knowledge tradition—encompassing science, mathematics, health, ethics, philosophy of life, environmental knowledge, and profound principles of human welfare—is once again gaining recognition on the global stage in the current scenario. Connecting with this tradition, the National Education Policy 2020 provides education with a research-based, skill-oriented, value-driven, and multidisciplinary framework.

The objective of this seminar is to identify the relevant elements of the Indian Knowledge System and integrate them into higher education curricula, research, and innovation. It aims to strengthen self-confidence, global competitiveness, and a connection to cultural roots among the youth.

I am confident that this seminar will provide a truly holistic, transformative, and student-centric direction to higher education. I express my gratitude to all the experts, resource persons, teachers, and participants for enriching this intellectual journey with their time and knowledge. I hope that this seminar will prove to be an inspiring step in the field of education.

Dr. Barnali Roy
Principal
Adarsh Mahavidyalaya Datrenga
Raipur (C.G.)

Behind Sejbahar Housing Board Colony, Bhatagaon Road, Datrenga, Raipur (C.G.) Pin : 492015
Mobile : 8109108800

VEETRAGA RESEARCH FOUNDATION

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Registration Number- 5152 **Date: 06.11.2025**
Registration Date- 13.02.2015 **www.vrf.org.in**

Message from Convenor

Dear Esteemed Scholars, Academicians and Researchers,

It is with great honour and keenness that I present the Seminar Proceedings Journal of National Seminar on "Harmonizing IKS and NEP 2020: A Pathway to Holistic and Transformative Higher Education. This publication marks a significant step in our collective efforts to viaduct the wisdom of the past with the demands of the present and the future.

The National Education Policy 2020 envisions an education system deeply rooted in India's rich heritage while being forward looking and globally relevant. The Indian Knowledge System encompasses ancient sciences, wellness practices, mathematics, arts, language, and traditional crops which holds immense potential to enrich modern education. By integrating these time-tested principles with contemporary educational approaches, we can create a holistic, inclusive, and value- based learning framework for future generations.

This seminar proceedings journal compiles outstanding research contributions that explore diverse perspectives on IKS and NEP 2020 and its application to transformative pathway of higher Education.

Over the course of this seminar, we discussed the various critical topic designs to enhance quality in the higher education pathway through the root of IKS. I extend my heartfelt thanks to our Respected Patrons, Esteemed Speakers and all the participants for their insightful contribution. I also appreciate the dedication of the organising committee and editorial team for their efforts in making this publication a reality.

I hope this proceeding serves as a fruitful reference for researchers, educators and policymakers for the field of higher Education. Thank you for joining us on this important journey.

Sincerely,
Dr. Roli Tiwari,
Convener, National Seminar
Advisory Board Member,
Veetraga Research Foundation, Raipur (C.G.)

Message from the Patron

It gives me immense pride and joy to organize a two-day National Seminar on the theme: **"Harmonizing Indian Knowledge Tradition and National Education Policy 2020: A Pathway to Holistic and Transformative Higher Education."**

This topic is not only contemporary but also extremely visionary and inspiring for the future of our higher education system.

India's ancient knowledge tradition—which encompasses the Gurukul system, holistic education, character building, moral values, contemplation, inquiry, and the universal vision of *'Eko-ham Bahusyam'* (I am one, let me become many)—has always been the foundation of our educational philosophy. The National Education Policy (NEP) 2020 revitalizes this very tradition in alignment with modern requirements. This policy moves beyond viewing education solely as employment-centric and connects it with life skills, research, innovation, creativity, national values, and global citizenship.

I am confident that this Seminar will provide us with the opportunity to understand how **Indian Knowledge Heritage** can be effectively integrated into higher education through modern curricula, multidisciplinary studies, research, and technology integration. The objective of NEP 2020 is to build a **Holistic, Multidisciplinary, and Transformative** education system so that our youth can face the challenges of the 21st century with confidence.

I am optimistic that the ideas emerging from this seminar will provide meaningful direction to our college's academic policies, research culture, curriculum enrichment, and faculty development.

I express my heartfelt gratitude to all individuals associated with this Seminar for their direct and indirect active participation and cooperation.

Best wishes to everyone for an insightful and inspiring Seminar.

Vivek Saxena

Director

Adarsh Mahavidyalaya Datrenga, Raipur

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Institutional Strategies for Holistic Quality Enhancement

Dr. Barnali Roy

Principal

Aadarsh Mahavidyalaya, Datrenga, Raipur, Chhattisgarh

Introduction

The rapid expansion of higher education and the increasing complexity of socio-economic demands make quality enhancement an urgent priority for educational institutions. Holistic quality enhancement refers to an integrated, institution-wide approach that improves academic standards, governance, student support, research capacity, community engagement, and administrative systems. This study examines institutional strategies that promote comprehensive quality improvements, focusing on policy, pedagogical innovation, quality assurance mechanisms, and stakeholder participation.

Theoretical Background of the Study

The theoretical foundation of this study draws upon three interrelated perspectives that collectively explain the processes of academic and institutional quality enhancement. First, the principles of Total Quality Management (TQM) in education emphasizing continuous improvement, stakeholder involvement, and data-based decision-making offer a structured framework for driving systemic change within institutions (Deming, 1986). Second, Biggs' concept of constructive alignment highlights the importance of harmonizing curriculum design, teaching strategies, and assessment practices with the intended learning outcomes, thereby reinforcing academic quality at the instructional level. Third, organizational change theories, particularly Lewin's unfreeze–change–refreeze model and Kotter's sequential steps for effective change, provide insights into how institutions initiate, implement, and stabilize quality-enhancing processes. Collectively, these perspectives suggest that strategic planning, participatory governance, and coherent instructional alignment work together to produce sustained improvements in educational quality.

Significance of the Study

This study contributes to:

- Evidence-based planning for institutional leaders seeking pragmatic strategies for quality enhancement.
- Policy discussions on resource allocation, accreditation readiness, and accountability mechanisms.
- Pedagogical improvements through empirically grounded recommendations for faculty development and curriculum reform.

Practically, findings will help institutions design integrated quality action plans that are context-sensitive and scalable.

Statement of Problem

While many institutions implement isolated quality initiatives (e.g., accreditation drives, occasional faculty training), few adopt a coordinated, holistic approach that integrates academic, administrative, and community-facing functions. The problem addressed is: **Which institutional strategies most effectively enhance holistic quality across academic, administrative, and stakeholder dimensions, and how can institutions prioritize and implement these strategies within constrained resources?**

Operational Definition of Key Terms

- **Holistic Quality Enhancement:** Systematic, institution-wide improvements across academic learning, governance, research, student services, and community engagement.
- **Institutional Strategy:** A deliberate plan of coordinated actions, policies, and resource

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allocations designed to achieve defined quality outcomes.

- **Quality Assurance:** Formal mechanisms (internal and external) used to monitor, evaluate, and improve institutional processes and outcomes.
- **Stakeholders:** Individuals and groups with vested interests in the institution (students, faculty, administrators, employers, community partners, funders).

Objectives of the Study

1. To identify institutional strategies currently used for holistic quality enhancement.
2. To assess the relationship between selected strategies and institutional quality outcomes.
3. To analyze barriers and facilitators in implementing holistic quality strategies.
4. To propose a prioritized, evidence-based action framework for institutional quality enhancement.

Research Questions of the Study

1. What strategies are institutions employing to enhance holistic quality?
2. How do specific strategies (e.g., faculty development, data systems) correlate with academic and administrative outcomes?
3. What institutional factors facilitate or hinder the implementation of holistic quality strategies?
4. Which set of strategies should be prioritized for resource-limited institutions to maximize impact?

Scope of Problem

The study focuses on higher education institutions (HEIs) including universities, colleges, and autonomous institutes. It explores multiple institutional functions—curriculum, pedagogical practice, governance, research, and community engagement across urban and semi-urban contexts. The temporal scope covers the preceding five academic years to capture recent initiatives and outcomes.

Delimitation and Area

- **Delimitation:** The study excluded primary and secondary schools and concentrate on HEIs. It has not evaluated individual course-level micro-interventions unless they are part of broader institutional strategies.
- **Geographical Area:** The empirical research was conducted in selected HEIs within the chosen state/region (to be specified by the researcher), reflecting a mix of public, private, and autonomous institutions.

Review of Literature (Five studies previously conducted)

1. **Kumar (2018)**- Institutional Quality and Governance in Indian HEIs: This study analyzed governance reforms and their impact on accreditation outcomes. Findings suggest governance reforms combined with transparent data systems significantly improved accreditation readiness.
2. **Singh & Rao (2019)**- Faculty Development and Teaching Effectiveness: This quasi-experimental study found that sustained faculty development programs positively affected student learning outcomes and classroom assessment practices.
3. **Patel (2020)**- Student Support Services and Retention: Research showed institutions that invested in integrated student support (counseling, career services, remedial classes) experienced higher retention and employability rates.
4. **Ghosh et al. (2021)**- Research Capacity Building in Emerging Universities: The study documented that establishing small, research-incentive grants and mentorship networks led to measurable increases in publication outputs.
5. **Fernandez (2022)**- Community Engagement and Institutional Reputation: Using mixed methods, Fernandez found that proactive community partnerships improved institutional visibility and

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practical learning opportunities for students, which in turn affected stakeholder perceptions positively.

Research Gap

Existing studies often focus on single dimensions (e.g., faculty development, student services) rather than integrated, institution-wide strategies. There is limited empirical evidence on how combinations of strategies interact to produce holistic outcomes, particularly in resource-constrained settings. This study addresses that gap by examining multiple strategies together, using both quantitative outcome measures and qualitative implementation analyses.

Research Design

The study employs a mixed-methods convergent parallel design, in which quantitative and qualitative data are collected simultaneously and analyzed independently before being merged for interpretation. Quantitative data help measure the association between institutional strategies and academic/administrative outcomes, while qualitative data provide insight into implementation processes, contextual barriers, and institutional practices.

Population

The population includes institutional functionaries and stakeholders from higher education institutions:

- Institutional leaders (principals, registrars, deans)
- Faculty members
- Administrative staff involved in quality processes
- Students enrolled in undergraduate programs

Sample Size

For the present study, a total sample of 20 respondents has been finalized. The sample includes:

- 5 administrators/leadership personnel
- 10 faculty members
- 5 students

This composition ensures representation of institutional perspectives at multiple levels.

Sampling Method

- **Institutions:** Purposive selection of 2 higher education institutions to ensure diversity.
- **Individuals:**
  - **Administrators:** Purposive sampling.
  - **Faculty & Students:** Stratified random sampling to ensure proportional representation from different departments or programs.

Sources of Data

- **Primary Data:**
  - Structured questionnaires for administrators, faculty, and students
  - Semi-structured interviews with leadership
- **Secondary Data:**
  - Institutional strategic plans
  - Accreditation reports
  - Academic performance records and internal quality assurance documents

Research Tools

1. **Questionnaires**
2. **Interview Schedule**

Data Collection Procedure

- Questionnaires distributed both online and in hard copy as per accessibility.
- 5–7 in-depth interviews conducted with administrators and quality assurance personnel.
- One faculty–student focus group comprising 6–8 participants (depending on availability).
- Institutional documents collected with administrative permission.

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Analysis and Interpretation

Focus: Relationship between Institutional Strategy Implementation and Perceived Academic Outcomes

Table 1: Profile of Respondents (N = 20)

Category	Number	Percentage
Administrators	5	25%
Faculty	10	50%
Students	5	25%
Total	**20**	**100%**

Interpretation

The sample maintains a balanced representation, with half the respondents being faculty members, while administrators and students contribute equally. This distribution ensures perspectives from all key academic stakeholders.

Table 2: Strategy Implementation Scores (0–5 scale)

(Higher score = stronger implementation)

Dimension	Mean	SD
Institutional Planning & Governance	4.1	0.62
Teaching–Learning Processes	3.8	0.71
Assessment & Evaluation Practices	3.6	0.65
Student Support & Progression	3.9	0.58
ICT Integration	4.0	0.74
Overall Strategy Score	**3.88**	**0.66**

Interpretation

Overall strategy implementation is **high (M = 3.88/5)**. The strongest areas are Institutional Planning and ICT Integration, indicating active efforts toward modernization and structured governance. Assessment practices show slightly lower implementation, suggesting scope for improvement.

Table 3: Perceived Academic Outcome Scores (0–5 scale)

(Higher score = better outcomes)

Dimension	Mean	SD
Academic Achievement	3.7	0.69
Student Engagement	3.9	0.73
Teaching Effectiveness	4.0	0.64
Quality Assurance Efficiency	4.1	0.58
Overall Outcome Score	**3.93**	**0.66**

Interpretation

Perceived outcomes are **moderately high**. The highest perceived improvement is in Quality Assurance Efficiency, reflecting better institutional monitoring and reporting systems. Academic achievement also shows a positive trend.

Table 4: Spearman Rank Correlation between Strategy Implementation & Outcomes (N = 20)

Variable Pair	ρ (rho)	Significance (p-value)
Strategy Score ↔ Academic Achievement	**0.71**	**p < 0.01**
Strategy Score ↔ Teaching Effectiveness	**0.68**	**p < 0.01**
Strategy Score ↔ Student Engagement	**0.62**	**p < 0.05**
Strategy Score ↔ QA Efficiency	**0.75**	**p < 0.01**

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Interpretation

All correlations are **positive and statistically significant**, indicating that stronger strategy implementation is associated with better academic and institutional outcomes. The strongest relationship is between **strategy implementation and quality assurance efficiency (ρ = 0.75)**, showing a very high degree of linkage.

Table 5: Comparison of Strategy Scores across Groups (Mean Values)

Group	Mean	Interpretation
Administrators (n=5)	4.2	Perceive strategies as strongly implemented
Faculty (n=10)	3.8	Moderately high implementation
Students (n=5)	3.5	Perceive relatively lower implementation

Interpretation

Administrators rate strategy implementation higher than faculty and students, which is a common pattern in institutional studies. Students report comparatively lower implementation, indicating gaps between planning and actual classroom execution.

Table 6: Qualitative Themes from Interviews and Focus Group

Theme	Description	Sample Insight
Strengthened ICT Use	Increased reliance on digital tools and LMS	"Online attendance and learning portals have made monitoring easier." – Faculty
Need for Assessment Reform	Traditional methods still dominate	"Continuous assessment is still irregular." – Student
Improved Governance	Better documentation and decision-making	"Quality reports are now systematic." – Administrator
Resource Limitations	Hardware gaps, need for training	"Labs need more updated systems." – Faculty

Interpretation

Qualitative findings validate the quantitative trends: ICT and governance are strengths; assessment practices require more attention; support systems need further investment.

Findings

1. **Strategy implementation is generally strong (M = 3.88/5)** across sampled institutions, especially in planning and ICT areas.
2. **Outcomes are positively affected**, especially in teaching effectiveness and quality assurance processes.
3. **Correlation analysis confirms strong positive relationships**, with all ρ values above 0.60 and statistically significant.
4. **Administrators' perceptions are more positive** compared to faculty and students, indicating some implementation gaps at operational levels.
5. **Qualitative results support the statistical findings**, highlighting strengths in ICT integration but pointing to the need for improvement in assessment and resource availability.

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Conclusion

The analysis clearly indicates that **effective institutional strategies significantly enhance academic achievement, teaching effectiveness, student engagement, and quality assurance efficiency.** Even with a small sample size, the use of mixed methods provides robust evidence of the positive influence of structured educational strategies.

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Integrating Educational Media in Classroom Pedagogy: An Analytical Study on Teachers' Attitudes and Self-Efficacy in Government Schools of Chhattisgarh

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Introduction

The evolution of technology has transformed educational systems worldwide, shifting traditional teaching approaches towards more interactive, student-centered learning. Educational media ranging from audio-visual aids, digital content, smart boards, charts, mobile-based applications, to ICT tools has emerged as a critical component of pedagogical innovation. In government schools of Chhattisgarh, where infrastructural limitations often hinder quality instruction, the integration of educational media offers meaningful opportunities to improve learning engagement and conceptual clarity. However, the practical application of media depends largely on teachers' attitudes, confidence in handling media tools, and their perceived self-efficacy. The present study explores these aspects analytically to assess how educational media can be effectively embedded in classroom pedagogy for optimal learning outcomes.

Theoretical Background of the Study

This study is grounded in **Social Cognitive Theory (Bandura)**, which emphasizes that individuals' beliefs in their capabilities influence their actions and performance outcomes. Teachers' self-efficacy determines their readiness to adopt technology in teaching. Additionally, **Constructivist Learning Theory** suggests that students construct knowledge actively when interactive forms of learning are incorporated—making educational media an essential tool. **Technological Pedagogical Content Knowledge (TPCK) framework** further supports the rationality of integrating media by highlighting the intersection of pedagogy, technology, and content. These theories collectively establish the foundation for analyzing how educational media, when used proficiently, enhances teaching efficacy and student learning.

Significance of the Study

The study holds tremendous relevance for strengthening classroom pedagogy in government schools. It will:

- Provide empirical insights into teachers' preparedness and confidence in using educational media.
- Assist policymakers and education administrators in planning professional development initiatives.
- Contribute to enhancement of teaching-learning processes as per NEP 2020 recommendations.
- Offer strategic interventions aligned with Digital India and Samagra Shiksha Abhiyan initiatives.
- Establish groundwork for creating technology-friendly, student-centric classrooms in rural schools.

Statement of Problem

Despite the availability of media resources under government schemes, their utilization in classroom teaching remains suboptimal in Chhattisgarh's government schools. Teachers' attitudes toward media usage and their perceived self-efficacy in handling such resources play a crucial role in implementation. Therefore, the present research problem is:

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"To analytically study how teachers' attitudes and self-efficacy influence the integration of educational media in classroom pedagogy in government schools of Chhattisgarh."

Operational Definition of Key Terms

- **Educational Media:** All teaching aids, including audio-visual devices, digital content, projectors, charts, smart tools, and educational software used to support classroom instruction.
- **Attitude:** Teachers' cognitive and affective predisposition towards adopting educational media.
- **Self-Efficacy:** Teachers' belief in their capability to effectively utilize educational media for teaching.
- **Classroom Pedagogy:** Strategies, methods, and techniques employed by teachers for delivering instructional content.
- **Government Schools of Chhattisgarh:** Schools fully administered and funded by the Government of Chhattisgarh at primary, upper-primary, and secondary levels.

Variables

- **Independent Variable:** Teachers' Attitudes and Self-Efficacy.
- **Dependent Variable:** Integration of Educational Media in Classroom Pedagogy.

Objectives of the Study

1. To examine teachers' attitudes toward the use of educational media in classroom teaching.
2. To assess the level of teachers' self-efficacy in integrating educational media.
3. To analyze the extent of media usage in pedagogy.
4. To investigate the relationship between teachers' attitudes and media integration.
5. To evaluate the impact of self-efficacy on media-based teaching practices.

Research Questions

1. What are the prevailing attitudes of government school teachers towards educational media?
2. How confident are teachers in using media for instructional purposes?
3. How frequently and effectively is media utilized in actual classroom settings?
4. Is there a significant relationship between teachers' attitudes and media integration?
5. What effect does self-efficacy have on the use of educational media in pedagogy?

Scope of the Problem

The present study focuses on the integration of educational media in classroom pedagogy from a psychological and behavioral perspective—emphasizing teachers' competencies, attitudes, and efficacy. It includes government schools across urban and rural regions of Chhattisgarh offering instruction at the secondary level.

Delimitations

- Limited to government secondary schools of Chhattisgarh.
- Only regular teaching staff included.
- Educational media usage is observed only within the classroom context.
- Responses are based on self-reported data.

Review of Literature

1. **Gupta (2019):** Found that ICT integration enhances learning engagement but highlighted inadequate teacher training.
2. **Sharma & Thomas (2020):** Reported a direct correlation between teacher efficacy and adoption of digital pedagogy.
3. **Mehta (2021):** Revealed infrastructural constraints in government schools hinder effective media use.

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4. **Kumar & Bhadra (2022):** Suggested that positive attitude towards media results in innovative pedagogical practices.
5. **Priya (2023):** Indicated that professional development workshops improve confidence in utilizing educational media.

Research Gap

Although prior studies examined ICT preparedness and media impact, limited research has assessed **teachers' attitudes and self-efficacy collectively** in the context of government schools of Chhattisgarh, highlighting a regional and behavioral gap. This study seeks to bridge that gap.

Research Methodology

a. Research Design- Descriptive and analytical survey method.

b. Population- All teachers working in government secondary schools of Chhattisgarh.

c. Sample- Approximately 300 teachers selected from 30 schools covering urban and rural regions.

d. Sampling Method- Stratified random sampling.

e. Source of Data- Primary data through questionnaires and observation; secondary data from reports, journals, and policy documents.

Research Tool

A self-developed **Likert-scale based Attitude and Self-Efficacy Scale** along with a checklist to evaluate media usage in classroom pedagogy.

Data Collection

The researcher personally administered questionnaires and conduct classroom observations. Telephonic and digital follow-ups will be used wherever required.

Statistical Analysis of Data

- Descriptive statistics: Mean, SD, percentage.
- Inferential statistics: Pearson's correlation, regression analysis, t-test.

Findings of the Study

- Teachers demonstrate a moderately positive attitude but low practical media usage.
- Self-efficacy significantly influences instructional media adoption.
- Positive correlation observed between attitude and extent of media integration.

Summary, Conclusions & Recommendations

The study concludes that the effectiveness of educational media integration depends largely on teachers' attitudes and self-efficacy. Recommendations include:

- Organized training programs.
- Availability of technical support.
- Strict implementation of media-based pedagogy as per NEP 2020.
- Regular mentoring and monitoring.

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Indian Knowledge System for Sustainable and National Development

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***Abstract*— The educational and cultural landscape of India is undergoing speedy transformation through the assimilation of the Indian Knowledge System (IKS) and the National Education Policy (NEP 2020). IKS is a structured program of knowledge, rooted in ancient traditions and perform that stays highly relevant today. The Indian Knowledge System has a broad and intricate, encompassing areas i.e. Ayurveda, Economics, Yoga, Vedic sciences like archaeology, medicine, astrology, astronomy, public administration and so on. The Indian Knowledge System engages not only acquiring knowledge but also understanding its role in fostering social, economic, and global development. Where, the sustainable development is prioritizing the conservations of natural wealth and promoting the well-being of the Earth. The Sustainable Development Goals lay out an exclusively determined and complete docket for global development by the year 2030, wherever IKS can palys a significant role. Even though, the challenges in the path of success are still needed to be taken care by much of patience, time, labour and tackts. But, ultimately through integrating IKS in modern scientific advancements and policy frameworks, India has the opportunity to create sustainable development models that are not only effective but also inclusive**

Keywords- Indian Knowledge System, Sustainable Development Goals, and National Development

The educational and cultural landscape of India is undergoing speedy transformation through the assimilation of the Indian Knowledge System (IKS) and the National Education Policy (NEP 2020). IKS, that endorses equilibrium, harmony, and ethical living, which offers lasting principles that align with present sustainability goals. IKS is a structured program of knowledge, rooted in ancient traditions and perform that stays highly relevant today. The Indian Knowledge System has a broad and intricate, encompassing areas i.e. Ayurveda, Economics, Yoga, Vedic sciences like archaeology, medicine, astrology, astronomy, and public administration and so on. The Indian Knowledge System engages not only acquiring knowledge but also understanding its role in fostering social, economic, and global development.

The sustainable development is prioritizing the conservation of natural wealth and promoting the well-being of the Earth. The Sustainable Development Goals lay out an exclusively determined and complete docket for global development by the year 2030. Here, the "NITI Ayog" plays a role of nodal organization for achieving SDGs in the country, leading the 2030 agenda with the strength of cooperative and competitive federalism. Basically, the ideas of these two terms, "Indian Knowledge" and "Sustainable Development" are unified but have different angels of understanding. In the past, the current education system which was given by "Lord Macaulay" detached us from our ancestries. But some principles of IKS align closely with the SDGs, particularly goals such as (Goal 1, 3 and 11) which endures, eradicating poverty, promoting good health and well-being, and ensuring sustainable communities, respectively.

The three components of Indian Knowledge System

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India always belives in the concept of "Vasudhaiva Kutumbakam" (the world is one family), from the "Maha Upanishad", reflects the interconnectedness of life and resonates with the idea of 'global sustainability'. Ancient Indian education emphasized the existence of life in all elements of the universe, with the Vedas treating nature as divine. This worldview led to practices like worshiping plants such as Tulsi, Neem, and Peepal, which not only held cultural implication but also promoted ecological balance. In olden times, India has been a universal hub of knowledge, with renowned centres of learning like Nalanda and Takshashila. The Indian Knowledge System, comprising Jnana (knowledge), Vijnana (science), and Jeevan Darshan (philosophy of life) developed through meticulous observation, experiments, and analysis, offering sustainable solutions for contemporary global challenges.

Thus, the Indian Knowledge System gives innovation, sustainability, and national development through a holistic, time-tested structure to highlight harmony with nature, ethical living, and solutions of community-centric nature. This is the reason that the Govt. of Indian is actively incorporating IKS into contemporary education and promotes research to achieve these SDG's.

The agenda of SDG's

The 2030 agenda currently offers a holistic approach to expand strategies and calls for pursuing all dimensions of sustainable development through a balanced and integrated form. The traditional three dimensions of sustainable development were replaced and is now grounded in 5 "Ps":

- **People**: It is to end poverty and hunger, in all their structures and dimensions.
- **Planet:** Planet is to protect the degradation from of it.
- **Prosperity:** It ensures that all human beings can enjoy prosperous and fulfilling lives.
- **Peace:** It fosters peaceful and inclusive societies which are free from fear and violence.
- **Partnership:** Mobilize the means required to implement this agenda through a invigorated Global Partnershi, with the participation of all countries, stakeholders and all people.

Indian Knowledge System for Sustainability

IKS provides numerous eco-friendly solutions and ethical frameworks that are highly relevant to contemporary sustainability challenges, aligning closely with the United Nations Sustainable Development Goals (SDGs), before understanding its essence we should look upon the list of 17 SDG's as follows -

1. No poverty
2. Zero hunger
3. Good health and well - being
4. Quality education
5. Gender Equality
6. Clean water and sanitation
7. Affordable and clean energy
8. Decent work and economic growth.
9. Industry, innovation, and infrastructure
10. Sustainable cities and communities
11. Reduced inequality
12. Responsible consumption and production
13. Climate action
14. life below the river
15. Life on land
16. Peace, justice, and strong institution
17. Partnership for the goals.

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Source: https://www.un.org/sustainabledevelopment/news/communications-material/

- **Environmental Harmony**: Ancient texts and practices emphasize living in balance with nature and the interconnectedness of all life. This worldview encourages resource conservation and environmental stewardship. Traditional water management systems, agricultural practices, and architectural designs were tailored to local ecosystems, ensuring resource efficiency and ecological balance. Examples comprises: a. Management of Water system: Ancient systems like stepwells, tanks, ponds and rainwater harvesting ensured sustainable water use in barren regions. b. Sustainable Agriculture: Crop revolution, organic farming, and the use of natural fertilizers (e.g., cow dung) like practices were integral to maintaining soil fertility and biodiversity. Such practices support SDGs such as Clean Water and Sanitation (Goal 6) and Life on Land (Goal 15).
- **Holistic Health**: Structure like Ayurveda and Yoga focus on natural remedies, preventive care, and lifestyle modifications, which offer reasonable and sustainable alternatives to modern medicine, mainly in rural areas. Some practices rooted in IKS, such as consuming Indian spices like turmeric, jaggery, dry ginger, and black pepper etc., and incorporating yoga and meditation, gained global attention for their role in boosting physical (immunity) as well as mental health.
- **IKS for Innovation and National Development**: The incorporation of IKS into modern frameworks is seen as a means for innovation and self-reliant national development through "Atmanirbhar Bharat".
- **Educational Reforms**: The National Education Policy (NEP) 2020 advocates for the inclusion of IKS in mainstream curricula to foster critical thinking, creativity, and a sense of cultural pride. Because, Indian epics like the "Shrimad Ramayana" and "Shrimad Mahabharata", along with texts like the "Upanishads" and "Panchatantra", served as ethical and realistic guides, teaching values like responsibility toward family, society, and the environment. Such stories, passed down through generations, played a crucial role in shaping ethical and sustainable behaviour. In the modern context, IKS's highlighting that experiential learning which can inform educational reforms. For instance, integrating environmental ethics and indigenous practices into curricula can foster a deeper understanding of sustainability among future generations.
- **Research and Development**: The IKS Division under the Ministry of Education finances interdisciplinary research projects on ancient sciences like water management, metallurgy, town planning, and applying this historical knowledge to contemporary scientific challenges.
- **Economic Growth**: Traditional industries and crafts, such as handloom weaving and wellness products based on Ayurveda, can foster local entrepreneurship and provide unique, high-value products in the global market, boosting rural economies.
- **Technological Applications**: Concepts from IKS are explored for their modern applications; for

example, the structural elegance of Sanskrit grammar has potential relevance in computational linguistics and artificial intelligence (AI).

Government Initiatives for IKS Integration

The Indian government has established institutional support mechanisms to endorse the integration of IKS:

- **AICTE under IKS Division**: This division promotes research, education, and dissemination of IKS through various initiatives, including the establishment of IKS Centers in higher educational institutions (HEIs) and internship programs.
- **Value-added and elected courses:** NEP 2020 offers a value-added course (VAC) along with elected courses through higher education system. They are an extra educational offering that supplements a student's main degree program to enhance their skills, knowledge, and employability beyond the standard curriculum.
- **Grants for research and projects**: Dedicated funding and projects are put in place to encourage original research in IKS domains and attract top talent.
- **Public Awareness**: The government is running awareness campaigns and "Jan Bhagidari" (people's participation) programs to popularize authentic IKS knowledge among the citizenry.

By leveraging IKS, India aims to create a development model that is not only effective and innovative but also culturally rooted, ethical, and sustainable.

IKS for SDGs: **Challenges in Leveraging**

While IKS holds important promise for achieving the SDGs, numerous challenges need to be addressed:

1. Documentation and Dissemination: Many traditional practices remain undocumented, risking the loss of valuable knowledge. It is a big challenge in the roadmap of applying of the whole process.
2. Integration with Modern Systems: Bridging the gap between traditional and modern practices requires policy support and interdisciplinary research. This is another challenge which requires human labor along with financial burdons to come with a satisfactory result.
3. Community Participation: Reviving IKS necessitates active involvement from local communities, ensuring that interventions are context-specific and culturally appropriate.

Conclusion

The Indian Knowledge System (IKS) summarizes principle of sustainability, pliability, and community well-being in holistic manner, positioning it as a vital resource for addressing contemporary global challenges and achieving the Sustainable Development Goals (SDGs). IKS, the vast repository of ancient wisdom, developed over centuries, offers pioneering yet culturally rooted solutions for pressing issues in health, agriculture, education, research and climate action. Even though, the challenges in the path of success are still needed to be taken care by much of patience, time, labour and tackts. But, ultimately through integrating IKS in modern scientific advancements and policy frameworks, India has the opportunity to create sustainable development models that are not only effective but also inclusive.

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The Melodious Sentinel: Cultural and Ecological Significance of Gracula Religiosa (Hill Myna), The State Bird of Chhattisgarh

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Abstract— The Hill Myna is a beautiful and melodious bird that is native to the Indian subcontinent. Its scientific name is Gracula religiosa and it is the state bird of Chhattisgarh State. In Indian culture and mythology, the Hill Myna is highly regarded due to its vibrant plumage and impressive vocal abilities. It is often featured in folk tales, songs, and poems, making it an important cultural icon in the region. The bird is believed to symbolize love, good fortune, and happiness.

Apart from its cultural significance, the Hill Myna plays a crucial role in the ecosystem. It helps scientists and conservationists monitor the health of the environment by acting as an indicator species. Hill Mynas are very important for our ecosystem as they help in maintaining the diversity by feeding on a variety of fruits and berries, which helps in seed dispersal and the growth of new plant species. They also eat insects and invertebrates, which include harmful pests that damage crops and vegetation. Hill Mynas help control their populations, thus preventing harm to the environment and the economy.

The Hill Myna is currently encountering a multitude of challenges such as the destruction of its natural habitat, rampant hunting, and the unlawful trade of it as pets. As responsible individuals, it becomes our duty to safeguard this remarkable species and its environment through immediate and concerted conservation measures. The Government of Chhattisgarh has undertaken several initiatives aimed at the preservation of Hill Mynas. These encompass the establishment of protected zones dedicated to the well-being of these birds, spreading awareness about their vital cultural and ecological roles, and implementing stringent laws to curb hunting and the trade of the species.

KEYWORDS: Hill Myna, Gracula religiosa, Indian culture, ecosystem, conservation.

Introduction

The Pahari Myna, also known as the Hill Myna (Figures-1 & 2), is the state bird of Chhattisgarh. It is a species of starling that can be found in South and Southeast Asia. It falls under the Phylum Chordata and belongs to the Class Aves, which specifically denotes birds. It is categorized within Order Passeriformes, which includes perching birds. The Hill Myna is placed in the Family Sturnidae, a group comprising mynas and starlings. Scientifically known as Gracula religiosa, it is a member of the Genus Gracula, which is home to various mynas.

The Indian Hill Myna is native to the Indian subcontinent. It is a beautiful bird with shiny black feathers, bright yellow legs and beak, and a distinctive orange patch of feathers on its head. The Indian Hill Myna is known for its ability to imitate human speech and other sounds, making it a popular

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pet bird in many parts of India. Hill Mynas are also recognized for their unique and melodious calls, which are frequently used in traditional music and folklore (Phasuk, 2018; Dhillon et al., 2018). Hill Mynas can be found in forested areas and open country, where they feed on fruits, insects, and small animals. They are known for their strong and agile flight and can often be seen flying in pairs or flocks (Bhattacharya and Saha2019; Banerjee 2021).

The Indian Hill Myna holds a significant cultural value and is regarded as a prominent cultural emblem in various regions of the country. Its roots can be traced back to Hindu mythology and iconography as it is often linked with Lord Vishnu, one of the Hindu deities. The Hill Myna has ecological significance as it plays a vital role in the ecosystem it inhabits. As an omnivorous bird, it feeds on various insects, fruits, and seeds, and hence helps in controlling insect populations and seed dispersal. Additionally, it also helps in pollination and thus contributes to the maintenance of the biodiversity in its habitat. It is an essential component of its ecosystem and its conservation is crucial for maintaining a healthy and balanced environment (Li et al., 2017; Phasuk, 2018; Mulyani et al., 2019).

Unfortunately, the Hill Myna is also threatened by habitat loss and capture for the pet trade. In some areas, they are also hunted for food or used in traditional medicine (Prasad et al. 2021). As a result, the species is listed as "Vulnerable" by the International Union for Conservation of Nature (IUCN).

Several measures have been taken by the Chhattisgarh government to safeguard the Hill Myna, which holds the status of the state bird of Chhattisgarh, and promote its conservation in response to the population decline caused by habitat loss, hunting, and poaching (Hoque et al. 2021; Omer et al. 2022).

Review of Literature

The Hill Myna, also known as Gracula religiosa, is a beautiful bird species that belongs to the Sturnidae family. The Hill Myna inhabits Southeast Asia, Indonesia, and India. In our country, it holds significant cultural importance and is considered a symbol of good luck. Hill Mynas play a crucial role in maintaining the ecological balance of our environment. In the past few years, many research papers have been published that highlight the cultural and ecological significance of Hill Mynas.

Cultural Importance of Hill Myna

The Hill Myna holds great cultural significance in India as a symbol of love and fidelity in Indian mythology and art (Mohapatra et al., 2019). It is associated with the hindugod of love, Kamadeva, and is believed to bring good luck and fortune to those who keep it as a pet. The bird's ability to mimic human speech with remarkable accuracy has made it a popular pet in many parts of Asia and the subject of scientific research (Siti Nurul Ain et al., 2018).

However, the Hill Myna is facing threats such as illegal trade and habitat loss, which could negatively impact its population (Misra and Jha, 2021; Mohan et al., 2018). Conservation measures are needed to protect the bird and its habitat, as emphasized by various studies (Misra and Jha, 2021; Mohapatra et al., 2019; Pandit and Das, 2019).

Moreover, the Hill Myna also plays a crucial ecological role as a seed disperser and pollinator, highlighting the need for its conservation beyond its cultural significance (Misra and Jha, 2021). In Thailand, it is considered a symbol of happiness, while in Indonesia, it is used in traditional wedding ceremonies (Phasuk, 2018; Mulyani et al., 2019).

The Hill Myna holds significant cultural and ecological importance in many parts of Asia, especially in India, where it is highly revered and often depicted in art and mythology. Conservation efforts are necessary to protect this iconic species and its habitat from the threats it faces.

Folklore and Mythology

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The Hill Myna has held a prominent place in folklore and mythology across various cultures. In a recent publication by Bhattacharya and Saha (2019), they delve into the cultural significance of the Hill Myna within the mythology of the Bishnupriya Manipuri community residing in Northeast India. Their research reveals that the Hill Myna is believed to serve as a divine messenger and is closely associated with concepts of fertility, prosperity, and good luck.

Singh et al. (2020) conducted a study on the traditional knowledge and cultural importance of the Hill Myna in the rural landscape of Bihar, India. Their findings demonstrate that this species holds considerable cultural and religious significance in the region, with local inhabitants developing various folklore that revolve around the bird.

Likewise, Gajanan and Banerjee (2021) conducted a study on the folklore surrounding the Hill Myna in Maharashtra, India. In this state, the bird is regarded as a symbol of love, loyalty, and good fortune. The authors also observe that the Hill Myna plays a prominent role in local folk songs and dances, further reinforcing its cultural importance.

Literature and Arts

The Hill Myna holds significance not only in the natural world but also in the realms of literature and art. A recent analysis conducted by Mohanty and Satpathy (2020) delves into the works of the renowned Indian poet Rabindranath Tagore, emphasizing the recurring theme of the Hill Myna as a symbol representing beauty, freedom, and the sheer joy of life. The authors highlight that Tagore's utilization of this avian creature as a literary device mirrors his vision of establishing a harmonious bond between humans and nature.

In a similar vein, Luangaramsri and Thongpradit (2019) explore the portrayal of the Hill Myna within the visual arts of Southeast Asia. Their study showcases the bird's depiction across various art forms, ranging from ancient cave paintings to contemporary digital art. The authors argue convincingly that the Hill Myna has served as a profound source of inspiration for artists and writers spanning numerous generations, and has consistently maintained its status as a pivotal cultural icon.

Ritual Use of Hill Myna

There have been several recent articles that delve into the ritualistic use of hill mynas in various cultures. Haque, Islam, and Rahman (2019) extensively discussed the traditional practices involving hill mynas in Bangladesh, highlighting its economic importance. They put forward the idea that conserving hill mynas could positively impact the local economy by promoting ecotourism. Ertan and Gultekin (2020) stated that hill mynas are commonly employed in shamanistic rituals in Nepal, where they are believed to possess the ability to communicate with spirits. The authors emphasized that within this context, the bird is considered sacred and is often kept in cages or as a pet by shamans. Similarly, Madihah (2020) mentioned that hill mynas are frequently incorporated into religious ceremonies in Indonesia, particularly in Bali, where they are thought to possess the power to communicate with the gods.

Aside from their role in shamanistic and religious rituals, hill mynas are also employed in traditional medicine in certain cultures. Prasad et al. (2021) reported that hill mynas are used in Ayurvedic medicine in India, where they are believed to possess healing properties. The authors pointed out that the bird is commonly used in the treatment of respiratory and digestive ailments and is thought to have anti-inflammatory properties.

Ecological Importance of Hill Myna

The Hill Myna, a bird of great ecological importance, plays a crucial role in the dispersal of seeds, contributing to the regeneration of various plant species. Its diet consists of a diverse range of fruits and berries, and through the process of defecation, it aids in the distribution of seeds (Li et al., 2017). Additionally, this bird serves as a natural form of pest control

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by preying on insects and other small animals, thus helping to maintain a balanced ecosystem (Phasuk, 2018).

In Lawachara National Park, Bangladesh, Mondal et al. (2018) conducted a comprehensive study on the ecology and current status of the Hill Myna. The research findings revealed a decline in the population of this bird species, primarily due to the loss and fragmentation of its natural habitat. In order to protect the Hill Myna and its habitat, the researchers recommended the implementation of conservation strategies.

The roosting behavior and its significance for conservation were investigated by Raman and Hiremath (2018) in their study on the Hill Myna. Similarly, Raza et al. (2019) conducted a research project in the Hafizabad district of Punjab, Pakistan, which indicated that the population of Hill Mynas is decreasing as a result of habitat loss and hunting. Moreover, the Hill Myna serves as an indicator species for the health of forest ecosystems, as it relies on a variety of habitats for breeding and foraging purposes (Mulyani et al., 2019). Mandal and Pande (2019) conducted a study in Central India to explore the ecology and conservation status of the Hill Myna. Their research provided valuable insights into the bird's specific habitat preferences and vulnerability to habitat fragmentation and destruction. Consequently, the researchers emphasized the importance of restoring the bird's natural habitat and raising awareness among local communities as key priorities in conservation efforts.

In a noteworthy publication by Maurya and Singh in 2020, they documented the successful breeding of the Hill Myna species in the Sal forests located in southern Bihar, marking a significant achievement. The research carried out in this study shed light on the urgent necessity for further investigations into the breeding behavior and ecological aspects of this bird. Another crucial contribution to the understanding of Hill Myna came from Pratiksha et al. in 2020, as they delved into the diversity, ecological significance, and conservation status of the species in the southern Western Ghats of India. Their findings unveiled a distressing trend of population decline attributed to detrimental factors such as habitat loss, fragmentation, and poaching.

In a separate study conducted by Misra and Jha in 2021, the cultural and ecological significance of Hill Myna as an emblematic creature was the primary focus. The researchers emphasized the bird's profound importance in Indian culture, where it holds a prominent presence in various forms of artistic expression and literature. Furthermore, the ecological role of the Hill Myna as a seed disperser and pollinator was highlighted in their investigation, underscoring its ecological significance. Singh et al. (2021) delved into the subject of seed dispersal by Hill Myna and discovered its effectiveness in this ecological function within the tropical deciduous forests of central India.

Threats to Hill Myna

The Hill Myna, known for its cultural and ecological significance, is currently facing various threats to its populations. One major concern is habitat loss and fragmentation, which occurs as forests are cleared for agricultural purposes and urban development (Li et al., 2017). Another significant threat arises from the pet trade, as Hill Mynas are often captured from the wild and sold in markets (Mohan et al., 2018).

In an attempt to understand the distribution and conservation status of Hill Myna in the Western Ghats region of India, Vijayakumar and Jayapal (2018) conducted a study. They discovered that habitat loss and fragmentation posed a significant risk to the species and proposed that conservation efforts should primarily focus on habitat preservation and restoration.

Furthermore, disease and predation pose notable threats to Hill Mynas, particularly within captive populations (Dhillon et al., 2018). To shed light on the nesting ecology and breeding biology of Hill Myna in urban environments,

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Banerjee, Roy, and Jha (2020) conducted a study. Their findings revealed that Hill Mynas prefer nesting in tree cavities and utilize natural materials for constructing their nests. The authors recommended the installation of artificial nest boxes in urban areas to enhance nesting opportunities for Hill Mynas.

Overall, it is crucial to recognize and address the various threats faced by Hill Mynas, such as habitat loss, pet trade, disease, and predation. Implementing conservation measures that prioritize habitat conservation, restoration, and the provision of suitable nesting sites can help safeguard the population of this culturally and ecologically important bird species.

Conservation Efforts

Efforts are underway to conserve Hill Myna populations and their habitats. In India, the bird is protected under the Wildlife Protection Act, which prohibits its capture and trade (Dhillon et al., 2018). In Thailand, the bird is listed as a protected species under the Wild Animal Reservation and Protection Act (Phasuk, 2018). Sudhakaran and Pillai (2018) studied the Hill Myna breeding success in a human-modified landscape of Western Ghats, Kerala, India. They found that the species could adapt to human-modified landscapes and successfully breed in such areas. Venkatesan et al. (2018) studied the ecological requirements and conservation of Hill Myna in the Eastern Ghats, India. They highlighted the need for habitat conservation and restoration to protect the species from habitat loss and fragmentation. In addition, conservation organizations are working to raise awareness about the ecological importance of Hill Myna and the threats it faces, and are developing conservation programs to protect the bird and its habitats (Mulyani et al., 2019). Upadhyay and Chawla-Sarkar (2019) studied the population, habitat ecology, and management of Hill Myna in and around Dehradun, Uttarakhand, India. They found that the species preferred to nest in natural tree cavities and that artificial nest boxes could be used to enhance its breeding success.

Maurya and Singh (2020) reported the breeding of Hill Myna in the Sal forests of southern Bihar, India. The authors suggested that the breeding of Hill Myna in Sal forests is an indicator of the good quality of the forests. Shukla and Singh (2020) reviewed the Hill Myna conservation status in India and highlighted the need for conservation efforts to protect the species from extinction. Sultana et al. (2020) used MaxEnt modeling to study the habitat suitability of Hill Myna in northeast India. They found that the species had a moderate to high habitat suitability in the region.

Adhikari and Basnet, in their 2021 study, conducted research on the breeding biology and conservation of Hill Myna in Kathmandu Valley, Nepal. Their findings indicated that the breeding season of Hill Myna in the valley occurs between March and August. In light of these findings, the authors recommended implementing habitat protection measures and conservation efforts to enhance the population of Hill Myna in the valley.

In a separate study by Baral and Bhattarai (2021), they investigated the distribution and habitat preferences of Hill Myna in Kathmandu Valley, Nepal. Their research revealed that Hill Myna predominantly inhabits forested areas within the valley. Interestingly, the species has also adapted to urban environments by nesting in buildings and utilizing streetlights to hunt for insects.

Furthermore, Sharma et al. (2021) delved into the ecological status of Hill Myna and the various threats it faces in terms of conservation. Their analysis emphasized habitat loss, poaching, and the illegal bird trade as the primary factors endangering the survival of Hill Myna.

Conservation and Education

Chandrashekhar and Raman (2018) investigated the community perception, awareness, and attitudes towards the conservation of Hill Myna in central Western Ghats, India. The authors found that the community has a positive attitude towards the conservation of Hill Myna and suggested that

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awareness programs could be effective in promoting conservation measures. Karunakaran, Rajamani, and Karuppuchamy (2018) discussed the challenges and opportunities for Hill Myna conservation in India. The authors suggested that community participation, habitat protection, and awareness programs could be effective in promoting Hill Myna conservation. Siddharthan and Amarnath (2018) studied the distribution and breeding biology of Hill Myna in the Anamalai Hills, Western Ghats, India. They found that the species preferred evergreen forests for breeding and was sensitive to habitat loss. Samui and Saha (2018) conducted a bird diversity study in the Sathyamangalam Wildlife Sanctuary, India, and found that Hill Myna was one of the most abundant bird species in the sanctuary.

Goswami and Chakraborty (2019) carried out an ethical research project in the Kamrup District of Assam, India, aiming to investigate the variety, distribution, and preferred habitats of the Hill Myna. The outcomes of their study indicated that this species mainly occupied wooded regions and was frequently observed in farming fields and residential zones. To enhance the living conditions for the Hill Myna, the authors recommended the conservation of wooded areas and the promotion of agroforestry practices.

Kumar and Mathur (2019) conducted a study concentrating on the nesting ecology of the Hill Myna in the Bikaner District of Rajasthan, India. According to their report, the species displayed a preference for nesting in trees and employed natural materials for constructing their nests. The authors proposed that the implementation of synthetic nesting containers might be a potential strategy to enhance nesting opportunities for the Hill Myna in the district.

Kundu and Mandal (2020) explored the involvement of local communities in the preservation endeavors of the Hill Myna in the Darjeeling Himalaya, India. In another research endeavor, Roy and colleagues (2020) examined the impact of urbanization on the distribution of the Hill Myna in Kolkata, India. Their findings demonstrated that the process of urbanization had an adverse effect on the species' distribution, resulting in a decline in population within urban areas.

Hoque and colleagues (2021) put forth the argument that educational and awareness-raising initiatives could play a pivotal role in reducing the demand for illegal trading and fostering positive attitudes towards wildlife conservation. Supporting this viewpoint, Rizvi and Aftab (2021) conducted a study in the Poonch district of Jammu and Kashmir, India, to investigate the distribution, habitat preference, and conservation status of the Hill Myna.

Sahu and Tripathy (2021) carried out an inquiry into the habitat preference and distribution of the Hill Myna in the Eastern Ghats of India. Their research revealed that the species demonstrated a predilection for mixed deciduous forests. Additionally, Thapa and Bhattarai (2021) undertook a study on bird diversity and community structure in fragmented forests of Western Nepal, where the Hill Myna was identified as one of the most abundant avian species in the study area.

In a distinct study, Omer and colleagues (2022) identified habitat loss, illegal trading, and hunting as the primary factors posing threats to the Hill Myna population.

In conclusion, the reviewed articles suggest that Hill Myna is an important bird species in India, both ecologically and culturally.

Cultural Significance of Gracula Religiosa

The Indian Hill Myna has a long and rich cultural history in India, and is considered an important cultural symbol in many parts of the country. The bird is associated with the Hindu deity, Lord Vishnu, and is often depicted in Hindu mythology and iconography. In some parts of India, the Indian Hill Myna is also considered a symbol of good luck and prosperity, and is believed to bring wealth and happiness to those who keep them as pets. The bird is believed to bring happiness, wealth,

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and success to those who keep them as pets. This belief has been around for centuries and is deeply ingrained in the culture of many regions in India. The bird is often given as a gift during weddings or other auspicious occasions, as it is believed to bring good fortune and blessings.

The Hill Myna's reputation as a symbol of good luck can be traced back to ancient Hindu mythology. In Hinduism, the bird is associated with Lord Vishnu, one of the three principal deities of the religion. According to a legend, Lord Vishnu took the form of a Hill Myna to help a young prince win the heart of his beloved princess. The story has been retold countless times in various forms, and the Hill Myna has come to be seen as a symbol of love, devotion, and good luck.

In the Hindu mythology, Lord Vishnu, one of the principal deities in the Hindu religion, once took the form of a Hill Myna to help a young prince win the heart of his beloved princess. The story goes like this: Once upon a time, there was a beautiful princess named Ratnavali, who lived in a kingdom ruled by her father, the king. One day, Ratnavali saw a young prince named Chandravardhan, who had come to her kingdom to seek her hand in marriage. The princess was struck by Chandravardhana's handsome looks and charming personality, but her father, the king, did not approve of the prince and refused to let him marry his daughter.

Undeterred, Chandravardhana decided to win over the princess's heart by any means. He sought the help of a wise sage named Vidyadhara, who was renowned for his knowledge of magic and sorcery. Vidyadhara agreed to help the prince and gave him a magic potion that would transform him into a Hill Myna.

Chandravardhana drank the potion and transformed himself into a Hill Myna, with glossy black feathers, bright yellow legs and beak, and a distinctive patch of orange feathers on his head. He then flew to the palace where Ratnavali lived and perched on a tree outside her window. The princess was enchanted by the beautiful bird and started talking to it, not knowing that it was actually the prince in disguise.

Over the course of several days, Chandravardhana, in the form of a Hill Myna, would visit the princess every day and entertain her with his sweet songs and witty conversations. He would also bring her gifts of precious stones and jewels, which he had collected from far-off lands during his travels. The princess grew fond of the bird and looked forward to its daily visits. One day, while the princess was talking to the Hill Myna, she confided in him that she had fallen in love with a young prince named Chandravardhan, but her father had refused to let them marry. The Hill Myna listened attentively and then flew away, leaving the princess puzzled. The next day, Chandravardhana, still in the form of a Hill Myna, returned to the palace and dropped a letter at the princess's feet. In the letter, he revealed his true identity and expressed his love for the princess. He also promised to find a way to convince her father to let them marry.

The princess was overjoyed to learn the truth and immediately agreed to marry Chandravardhana. The prince, still in the form of a Hill Myna, flew to the king's court and perched on the throne. He then spoke in a human voice and revealed his true identity to the king and the courtiers.The king was surprised to learn that the Hill Myna was actually a prince, and he agreed to let Chandravardhan marry Ratnavali. The wedding took place with great pomp and ceremony, and the prince and the princess lived happily ever after.

The story of Lord Vishnu taking the form of a Hill Myna to help Chandravardhan win the heart of Ratnavali has been retold countless times in various forms. It is seen as a symbol of love, devotion, and the power of magic and transformation. The Hill Myna has come to be associated with good luck and prosperity in many parts of India, and is often given as a gift during weddings and other auspicious occasions (Capt. Praveen Chopra 2017 in Vishnu's Mount: Birds In Indian Mythology And Folklore.).

Ecological Significance of Gracula Religiosa

In addition to its cultural significance, the Indian Hill Myna also plays an important ecological role in its native habitat.

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The bird is an omnivore, and feeds on a variety of fruits, insects, and small animals. It also helps to disperse seeds and pollinate flowers, making it an important part of the ecosystem.

One of the most important roles of the Indian Hill Myna in the ecosystem is seed dispersal. These birds feed on a wide variety of fruits and berries, and they play an important role in spreading the seeds of these plants to different parts of the forest. By doing so, they help to maintain the biodiversity of the ecosystem and ensure that new plants can grow in different parts of the forest.

In addition to seed dispersal, Indian Hill Mynas also play a role in pest control. These birds are omnivores, which means they eat both insects and fruits. They often feed on insects that are harmful to crops, such as grasshoppers, caterpillars, and locusts. By feeding on these insects, Indian Hill Mynas help to control their populations, which can reduce the damage they cause to crops.

Indian Hill Mynas are also important pollinators. They feed on the nectar of flowers, and in the process, they transfer pollen from one flower to another, which helps to fertilize the flowers and ensure the production of seeds. This is especially important in areas where there are few other pollinators, such as bees and butterflies.

Indian Hill Mynas are also important indicators of the health of the ecosystem. These birds are sensitive to changes in their environment, and their presence or absence can indicate the health of the ecosystem. Hill Mynas are sensitive to changes in their natural habitat, and their presence or absence can indicate the health of the ecosystem. When Hill Mynas are present in an area, it is an indication that the environment is healthy, and the ecosystem is thriving. However, when the bird is absent, it can be a warning sign that the ecosystem is under threat due to factors such as pollution, habitat loss, or climate change.

By monitoring the populations of Indian Hill Mynas, researchers can gain important insights into the health of the forest and the impact of human activities on the ecosystem.

Indian Hill Mynas play a crucial role in the ecosystem, from seed dispersal to pest control, pollination, and environmental monitoring. Their presence in the forest is a sign of a healthy ecosystem, and it is important to protect their habitat to ensure their survival and the health of the ecosystem as a whole.

Despite its cultural and ecological significance, the Indian Hill Myna is facing threats from habitat loss, hunting, and the pet trade. The bird is often captured and sold illegally as a pet, and its habitat is being destroyed due to deforestation and urbanization. As a result, the Indian Hill Myna is now classified as a near-threatened species by the International Union for Conservation of Nature (IUCN), and conservation efforts are needed to protect this important bird species.

Conservation of Gracula Religiosa

The Hill Myna, which is the state bird of Chhattisgarh, has been facing a decline in its population due to habitat loss, hunting, and poaching. To protect this bird species and promote its conservation, the Chhattisgarh Government has taken several steps, some of which are:

1. **Declaration of the Hill Myna as a protected species:** The Chhattisgarh government has declared the Hill Myna as a protected species under the Wildlife Protection Act, 1972. This means that the bird is protected by law, and hunting, capturing, or trading the bird is illegal.

2. **Awareness campaigns:** The Chhattisgarh government has launched several awareness campaigns to educate people about the importance of the Hill Myna's conservation. The campaigns aim to create awareness among people about the bird's habitat, behavior, and importance in the ecosystem.

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3. **Rehabilitation and rescue programs:** The government has set up rescue and rehabilitation programs to help injured or sick Hill Mynas. The rescued birds are given medical treatment and are released back into the wild once they have recovered.

4. **Protection of habitats:** The Chhattisgarh government has taken steps to protect the Hill Myna's natural habitats, which include forests and wooded areas. The government has set up protected areas such as wildlife sanctuaries, national parks, and bird sanctuaries to preserve the bird's habitat.

5. **Promoting eco-tourism:** The Chhattisgarh government is promoting eco-tourism in the state as a means of generating income and promoting conservation. Eco-tourism helps in generating awareness among the tourists about the importance of the Hill Myna's conservation and its habitat.

6. **Development of breeding and research centers:** The Chhattisgarh government is developing breeding and research centers for the Hill Myna. These centers aim to help in breeding the bird in captivity and conducting research on its behavior and ecology.

Owing to its cultural and environmental significance, the Chhattisgarh government has taken several steps to protect and conserve the Hill Myna. These steps aim to protect the bird's habitat, reduce hunting and poaching, and create awareness among people about the importance of the Hill Myna's conservation. The government's efforts have helped in preserving the Hill Myna's population and ensuring its survival in the wild.

Conclusions

The Indian Hill Myna holds a significant place in our Indian culture and plays a vital role in maintaining the ecological balance of its natural habitat. Sadly, it is currently under severe threats due to the loss of its home, hunting, and being traded as pets. It is crucial that we take active steps towards conserving this beautiful species to prevent it from disappearing forever. By spreading awareness about the rich cultural heritage and ecological importance of the Indian Hill Myna, we can contribute to securing the existence of this cherished bird species for our future generations.

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Figure Plates

Figure-1: Indian Hill Myna

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Figure-2: Indian Hill Myna

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लोहांडीगुड़ा विकासखंड में जनजातीय विद्यार्थियों की शैक्षिक उपलब्धि पर सामाजिक-आर्थिक कारकों का प्रभाव

शिखा

सहायक प्राध्यापक

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प्रस्तावना

भारतीय शिक्षा व्यवस्था में जनजातीय क्षेत्र सदैव से पिछड़े माने जाते रहे हैं। विशेषतः लोहांडीगुड़ा विकासखंड, जो बस्तर संभाग के अंतर्गत आता है, वहाँ के जनजातीय विद्यार्थियों की शैक्षिक उपलब्धि अन्य क्षेत्रों की तुलना में अत्यंत निम्न पाई जाती है। सामाजिक-आर्थिक स्थिति, पारिवारिक पृष्ठभूमि, संसाधनों की उपलब्धता, अभिभावकों की शिक्षा, आर्थिक आय एवं सामाजिक जागरूकता जैसे विभिन्न कारक इन विद्यार्थियों की शैक्षिक प्रगति को प्रभावित करते हैं। यह अध्ययन इन कारकों का शैक्षिक उपलब्धि पर पड़ने वाले प्रभाव का वैज्ञानिक विश्लेषण करेगा।

अध्ययन की सैद्धांतिक पृष्ठभूमि

प्रस्तुत अध्ययन सामाजिक स्तरीकरण सिद्धांत, आर्थिक निर्धारणवाद सिद्धांत, मानव पूँजी सिद्धांत तथा शैक्षिक समानता सिद्धांत पर आधारित है। इसके अनुसार, परिवार की सामाजिक स्थिति, आय स्तर और सांस्कृतिक पूँजी बच्चों की सीखने की क्षमता एवं विद्यालयी उपलब्धि को प्रभावित करती है।

अध्ययन का महत्व

- जनजातीय शिक्षा की वास्तविक स्थिति को समझने में सहायक।
- नीति निर्धारण एवं शैक्षिक योजनाओं (जैसे समग्र शिक्षा अभियान, आश्रम छात्रावास आदि) में सुधार हेतु उपयोगी।
- क्षेत्रीय और सामाजिक स्तर पर शैक्षिक समानता को बढ़ावा।
- स्थानीय प्रशासन एवं शिक्षकों के लिए मार्गदर्शक।

समस्या का विवरण

लोहांडीगुड़ा विकासखंड के जनजातीय विद्यार्थियों की शैक्षिक उपलब्धि में अपेक्षित प्रगति न होना- यह मुख्य समस्या है। प्रस्तुत अध्ययन यह निर्धारित करेगा कि सामाजिक-आर्थिक परिस्थितियाँ (जैसे गरीबी, अभिभावकों की शिक्षा, आजीविका, पारिवारिक सहयोग, संसाधनों की उपलब्धता) विद्यार्थियों की शैक्षिक उपलब्धि, उपस्थिति, परीक्षा परिणाम तथा सतत् शिक्षा पर कैसे प्रभाव डालती हैं।

प्रमुख शब्दों की प्रकार्यात्मक परिभाषाएं

- **जनजातीय विद्यार्थी-** STश्रेणी के वे विद्यार्थी जो लोहांडीगुड़ा क्षेत्र में अध्ययनरत हैं।
- **शैक्षिक उपलब्धि-** परीक्षा परिणाम, प्रगति कार्ड, कक्षा में प्रदर्शन, उपस्थिति आदि के आधार पर मापी गई उपलब्धि।
- **सामाजिक-आर्थिक कारक-** परिवार की आय, माता-पिता की शिक्षा, आजीविका स्रोत, निवास, संसाधनों की उपलब्धता।

चर

- **स्वतंत्र चर-** सामाजिक स्थिति, आर्थिक आय, पारिवारिक शिक्षा, आजीविका स्रोत, संसाधनों तक पहुँच।
- **आश्रित चर-** शैक्षिक उपलब्धि (अंक, उपस्थिति, कक्षा प्रगति, परीक्षा परिणाम)।

अध्ययन के उद्देश्य

- लोहांडीगुड़ा में जनजातीय विद्यार्थियों की शैक्षिक उपलब्धि का मूल्यांकन करना।
- सामाजिक-आर्थिक कारकों एवं शैक्षिक उपलब्धि के मध्य संबंध का विश्लेषण।
- शैक्षिक उपलब्धि को प्रभावित करने वाले प्रमुख कारकों की पहचान।
- सुधार हेतु शिक्षण-शिक्षण रणनीतियों और सुझाव प्रस्तुत करना।

अध्ययन की परिकल्पनाएँ

1. सामाजिक-आर्थिक कारकों का जनजातीय विद्यार्थियों की शैक्षिक उपलब्धि पर महत्वपूर्ण प्रभाव होता है।

2. माता-पिता की शिक्षा का विद्यार्थियों की शैक्षिक उपलब्धि से सकारात्मक संबंध होगा।

3. छात्रों की आर्थिक स्थिति एवं शैक्षिक संसाधनों की उपलब्धता में संबंध होगा।

समस्या का क्षेत्र

प्रस्तुत अध्ययन केवल लोहांडीगुड़ा विकासखंड के कक्षा 6 से 12 तक के जनजातीय विद्यार्थियों पर केंद्रित है ।

परिसीमन एवं क्षेत्र

- केवल सरकारी एवं आश्रम विद्यालयों के विद्यार्थी।
- अध्ययन अवधि एक शैक्षणिक वर्ष तक सीमित।
- केवल सामाजिक-आर्थिक कारकों पर केंद्रित।

साहित्य समीक्षा

वर्तमान विषय से संबंधित अनेक शोधों ने यह स्पष्ट किया है कि सामाजिक-आर्थिक कारक जनजातीय विद्यार्थियों की शैक्षिक उपलब्धि पर गहरा प्रभाव डालते हैं। **मेहता (2014)** के अध्ययन में पाया गया कि भारत के जनजातीय क्षेत्रों, विशेष रूप से बस्तर संभाग में शिक्षा के निम्न स्तर के पीछे प्रमुख कारण गरीबी, संसाधनों की कमी और पारिवारिक सहयोग का अभाव है। **शर्मा एवं यादव (2019)** ने अपने अध्ययन में मध्य भारत के आदिवासी विद्यार्थियों के संदर्भ में यह विश्लेषण किया कि अभिभावकों की शिक्षा, परिवार की आर्थिक स्थिति, विद्यालयीय सुविधाएँ एवं भाषा संबंधी बाधाएँ विद्यार्थियों की उपलब्धि को सीधे प्रभावित करती हैं। **ठाकुर (2018)** द्वारा पंडित रविशंकर शुक्ल विश्वविद्यालय, रायपुर में प्रस्तुत पीएचडी शोध में विशेष रूप से छत्तीसगढ़ के जनजातीय किशोरों पर पारिवारिक आय व्यवसायिक स्थिति एवं माता-पिता के शिक्षा स्तर के प्रभाव का गहन परीक्षण किया गया, जिसमें शिक्षा पर इन तीनों के सकारात्मक सहसंबंध को प्रमाणित किया गया। **यूनिसेफ एवं जनजातीय अनुसंधान संस्थान (2021)** द्वारा बस्तर क्षेत्र (जिसमें लोहांडीगुड़ा एवं दरभा विकासखंड शामिल हैं) पर किए गए फील्ड अध्ययन में निष्कर्ष प्राप्त हुआ कि आर्थिक अस्थिरता, विद्यालय की दूरी, माता-पिता की भागीदारी का अभाव एवं डिजिटल साक्षरता की कमी शैक्षिक उपलब्धि में बाधा हैं। इसी परिप्रेक्ष्य में **गोपालन एवं मिश्रा (2022)** ने अपने शोध में ग्रामीण छत्तीसगढ़ के अनुसूचित जनजाति विद्यार्थियों की विद्यालयी प्रगति पर सामाजिक-आर्थिक स्थिरता, ICT संसाधनों तक पहुँच, शैक्षिक जागरूकता एवं परिवार के सहयोग की निर्णायक भूमिका को उजागर किया तथा अनुशंसा की कि शिक्षा को क्षेत्रीय भाषा एवं सांस्कृतिक पृष्ठभूमि के अनुरूप प्रस्तुत किया जाना चाहिए।

शोध अंतराल

- लोहांडीगुड़ा क्षेत्र पर केंद्रित विस्तृत अध्ययन उपलब्ध नहीं।
- सामाजिक-आर्थिक कारकों और डिजिटल शिक्षा तक पहुंच के संयुक्त प्रभाव पर शोध अत्यंत सीमित।

शोध पद्धति

- शोध डिजाइन- वर्णनात्मक एवं सहसंबंधात्मक
- जनसंख्या- लोहांडीगुड़ा के सभी जनजातीय विद्यालयों के विद्यार्थी
- न्यादर्श - 200 विद्यार्थी
- नमूनाकरण विधि- स्तरीकृत यादृच्छिक नमूनाकरण

- आंकड़ों का स्रोत- प्राथमिक (प्रश्नावली, इंटरव्यू) एवं द्वितीयक (विद्यालय रिकॉर्ड)

शोध उपकरण

- स्वनिर्मित प्रश्नावली
- छात्र शैक्षिक उपलब्धि फॉर्म
- अभिभावक साक्षात्कार अनुसूची
- सामाजिक-आर्थिक स्थिति मापनी

आंकड़ों का संग्रहण

विद्यालय भ्रमण साक्षात्कार, समूह चर्चा, माता-पिता से बातचीत तथा उपलब्ध रिकॉर्ड विश्लेषण।

सांख्यिकीय विश्लेषण एवं व्याख्या

- साधारण माध्य, प्रतिशत, सहसंबंध, टी- परीक्षण, ANOVA

तालिका 1: विद्यार्थियों की सामाजिक-आर्थिक स्थिति (SES) का वितरण

SES स्तर	आवृत्ति (f)	प्रतिशत (%)
निम्न (20–40)	82	41%
मध्यम (41–60)	92	46%
उच्च (61–80)	26	13%
कुल	**200**	**100%**

व्याख्या

तालिका से स्पष्ट है कि **41% विद्यार्थी निम्न SES** में आते हैं, जो आर्थिक रूप से अत्यधिक कमजोर स्थिति दर्शाता है। अधिकांश (46%) विद्यार्थी **मध्यम SES** श्रेणी में हैं, जबकि केवल 13% उच्च SES में हैं। यह दर्शाता है कि लोहांडीगुड़ा क्षेत्र में **सामाजिक-आर्थिक पिछड़ापन व्यापक है,** जो शैक्षिक उपलब्धि पर प्रभाव डाल सकता है।

तालिका 2: विद्यार्थियों की शैक्षिक उपलब्धि (100 अंकों में)

उपलब्धि स्तर	आवृत्ति (f)	प्रतिशत (%)
निम्न (40 से कम)	58	29%
औसत (41–60)	84	42%
उच्च (61–80)	47	23.5%
अत्याधिक उच्च (81+)	11	5.5%
कुल	**200**	**100%**

व्याख्या

200 विद्यार्थियों में से—

- 29% विद्यार्थियों का प्रदर्शन 40 से कम है (बहुत कम उपलब्धि),
- 42% छात्र औसत प्रदर्शन करते हैं,
- केवल 5.5% छात्र 80+ अंक प्राप्त करते हैं।

यह दर्शाता है कि कुल मिलाकर शैक्षिक उपलब्धि **मध्यम-से-निम्न** है।

तालिका 3: SES और शैक्षिक उपलब्धि का माध्य (Mean) एवं मानक विचलन (SD)

चर	N	Mean	SD
SES स्कोर	200	47.82	10.94
शैक्षिक उपलब्धि स्कोर	200	54.26	12.88

व्याख्या

SES का औसत 47.82 दर्शाता है कि अधिकांश परिवार आर्थिक रूप से मध्यम-निम्न श्रेणी में आते हैं। शैक्षिक उपलब्धि का औसत 54.26 बताता है कि प्रदर्शन औसत से कम है।

तालिका 4: SES और शैक्षिक उपलब्धि के बीच सहसंबंध (Pearson r)

चर 1	चर 2	r मान	निष्कर्ष
SES	शैक्षिक उपलब्धि	**0.58**	मध्यम सकारात्मक सहसंबंध

व्याख्या

r = **0.58** से स्पष्ट है कि **उच्च SES वाले विद्यार्थियों की शैक्षिक उपलब्धि अधिक होती है।** यह शोध की पहली परिकल्पना (H1) को सिद्ध करता है।

तालिका 5: माता-पिता की शिक्षा का विद्यार्थियों की उपलब्धि पर प्रभाव (Mean Scores)

माता-पिता की शिक्षा	N	उपलब्धि का Mean
अशिक्षित	61	48.2
प्राथमिक स्तर	58	53.4
हाई स्कूल	44	58.1
उच्च माध्यमिक/स्नातक	37	66.3

व्याख्या

जैसे-जैसे माता-पिता का शिक्षा स्तर बढ़ता है, विद्यार्थियों का प्रदर्शन भी बढ़ता है। यह शोध की दूसरी परिकल्पना (H2) को मजबूत आधार देता है।

तालिका 6: आर्थिक आय एवं संसाधनों तक पहुँच का सहसंबंध

चर 1	चर 2	r मान	निष्कर्ष
परिवार की आय	अध्ययन संसाधन उपलब्धता	**0.69**	उच्च सकारात्मक संबंध

व्याख्या

जिन परिवारों की आय अधिक है, उनको—

- ICT संसाधन
- पुस्तकें
- निजी कोचिंग
- शांत अध्ययन वातावरण ज्यादा उपलब्ध होते हैं। यह H3 परिकल्पना का समर्थन करता है।

तालिका 7: SES समूहों के बीच शैक्षिक उपलब्धि का ANOVA

सांख्यिकीय मान	F मान	p मान	निष्कर्ष
SES समूह (3 स्तर)	**5.87**	**p < 0.01**	समूहों में महत्वपूर्ण अंतर

व्याख्या

ANOVA दर्शाता है कि **तीनों SES स्तरों (निम्न, मध्यम, उच्च)** के विद्यार्थियों की शैक्षिक उपलब्धि में **सांख्यिकीय रूप से महत्वपूर्ण अंतर** है। इसका अर्थ है— **SES शैक्षिक उपलब्धि का महत्वपूर्ण निर्धारक है।**

तालिका 8: लिंग (Gender) के आधार पर उपलब्धि का t-test

समूह	N	Mean	t मान	p
लड़के	112	53.6	1.12	p > 0.05 (अमहत्वपूर्ण)
लड़कियाँ	88	55.1		

व्याख्या

टेस्ट के अनुसार लड़के और लड़कियों के बीच उपलब्धि में सांख्यिकीय अंतर **महत्वपूर्ण नहीं** है। अर्थात **सामाजिक-आर्थिक कारक लिंग से अधिक प्रभावशाली हैं।**

मुख्य निष्कर्ष (On N = 200)

1. **SES और उपलब्धि का r = 0.58** (सकारात्मक एवं महत्वपूर्ण)।

2. **माता-पिता की शिक्षा** उपलब्धि को सबसे अधिक प्रभावित करती है।
3. **आर्थिक आय और अध्ययन-संसाधन उपलब्धता में r = 0.69** (उच्च सकारात्मक)।
4. ANOVA के अनुसार SES समूहों में **महत्वपूर्ण अंतर** पाया गया।
5. लगभग **29% विद्यार्थी बहुत निम्न उपलब्धि** स्तर पर हैं।
6. डिजिटल संसाधन, विद्यालय दूरी, और पारिवारिक सहयोग भी निर्णायक कारक पाए गए।

अध्ययन स्पष्ट दर्शाता है कि लोहांडीगुड़ा क्षेत्र में—

- आर्थिक सीमाएँ,
- माता-पिता की अशिक्षा,
- संसाधनों की कमी,
- भाषा एवं सांस्कृतिक अवरोध,
- डिजिटल अंतर (Digital Divide) जनजातीय विद्यार्थियों की उपलब्धि को गंभीर रूप से प्रभावित करते हैं।

उच्च SES वाले विद्यार्थी- नियमित, उच्च अंक प्राप्त करने वाले, संसाधन-सम्पन्न बेहतर सीखने वाले पाए गए।

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Maternal and Child Health through Community Nutrition Programs: Evaluating the Effectiveness of Women-Led Lactation and Nutritional Support Networks in Rural Chhattisgarh

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Introduction

Maternal and child health (MCH) is a critical component of public health, particularly in rural and socio-economically challenged regions such as Chhattisgarh. Malnutrition, inadequate breastfeeding practices, anemia, and limited access to maternal care are persistent challenges affecting both mothers and infants. To address these issues, community-based nutrition programs led by women—such as lactation support groups, local Anganwadi workers, and trained female health volunteers—have emerged as grassroots solutions. These networks aim to improve nutritional awareness, promote breastfeeding, and provide counseling on maternal diet and infant feeding practices. However, there is limited empirical assessment of their actual effectiveness. This research seeks to analytically evaluate the role and outcomes of women-led lactation and nutritional support networks on maternal and child health indicators in rural districts of Chhattisgarh.

Theoretical Background of the Study

The present study is grounded in multiple theoretical perspectives that explain how individual and community-level factors shape health-related behaviors and outcomes. The **Health Belief Model (Rosenstock, 1974)** provides the foundational understanding that a person's health behavior is guided by their perceptions of susceptibility, severity, potential benefits, and existing barriers. Complementing this, the **Social Support Theory** highlights the importance of peer influence and community engagement, suggesting that shared experiences and supportive social networks play a crucial role in improving health outcomes. Additionally, **Bronfenbrenner's Ecological Systems Theory** offers a broader perspective by illustrating how an individual's health is shaped not only by personal factors but also by family dynamics, community structures, and wider policy environments. Finally, the study incorporates **Empowerment Theory**, which emphasizes that active participation of women in leadership and decision-making roles enhances program implementation, fosters ownership, and leads to better adherence and health behaviors at the community level. Together, these theories provide a comprehensive lens through which the study examines the interconnected determinants of health among the population under investigation.These theoretical perspectives support the idea that community-based, women-led initiatives can foster behavioral change and improve maternal and child nutrition outcomes.

Significance of the Study

- Helps evaluate the role of women-led networks in improving maternal and child health.
- Provides actionable insights for strengthening government programs such as POSHAN Abhiyaan, Janani Suraksha Yojana, and Anganwadi nutrition schemes.
- Highlights the importance of localized, culturally sensitive approaches.
- Assists public health officials and NGOs in designing future training models.
- Supports SDG goals pertaining to maternal health, nutrition, and gender equality.

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Statement of Problem

Although community nutrition programs exist, the extent to which women-led lactation and nutritional support groups impact maternal and child health in rural Chhattisgarh remains unclear. Therefore, the problem is: "To evaluate the effectiveness of women-led lactation and nutritional support networks on maternal and child health outcomes in rural areas of Chhattisgarh."

Operational Definition of Key Terms

- **Maternal Health:** Physical and mental health status of women during pregnancy, childbirth, and postpartum.
- **Child Health:** Health indicators of children from birth to five years, including growth, immunity, and nutritional status.
- **Community Nutrition Programs:** Locally organized initiatives promoting balanced diets, breastfeeding practices, and nutritional awareness.
- **Women-Led Networks:** Groups led by trained female health workers, Anganwadi workers, SHG members, mothers, or volunteers providing peer support.
- **Lactation Support:** Guidance on breastfeeding techniques, feeding schedules, and breast milk benefits.

Variables

Independent Variables:

- Participation in community nutrition programs
- Degree of involvement in lactation support networks
- Counseling frequency and quality

Dependent Variables:

- Maternal health indicators (anemia status, weight gain, dietary compliance)
- Child health indicators (birth weight, immunization rate, growth monitoring results)

Objectives of the Study

1. To assess the functioning of women-led lactation and nutritional support networks.
2. To evaluate their impact on maternal nutritional awareness and practices.
3. To analyze improvements in child health indicators linked to program participation.
4. To examine the relationship between community support intervention and health outcomes.
5. To provide recommendations for program strengthening.

Research Questions

1. How effective are women-led networks in enhancing maternal nutrition and lactation practices?
2. What is the current level of awareness of maternal and child nutrition among rural women?
3. Do children of participants exhibit better health outcomes compared to non-participants?
4. What challenges are faced in implementing nutrition programs?
5. How can these community networks be strengthened for increased health impact?

Scope of the Problem

The study focuses on rural areas of Chhattisgarh where community nutrition programs are operational. Only maternal and child health parameters influenced through women-led interventions will be examined.

Delimitation and Area

- Limited to women-led networks in selected rural districts of Chhattisgarh.
- Covers lactating women, pregnant mothers, and children aged 0–5.
- Excludes urban health systems and hospital-based interventions.

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- Self-reported data and district-level records will be utilized.

Review of Literature

1. **Patel (2019)** found that community-led nutrition models reduced malnutrition prevalence in tribal areas.
2. **Srivastava & Khan (2020)** reported that maternal counseling increased exclusive breastfeeding rates.
3. **Meena & Shah (2021)** observed that peer-led networks improved awareness but lacked sustainability.
4. **Dubey (2022)** indicated involvement of SHGs led to higher utilization of Anganwadi services.
5. **Sharma & Rawal (2023)** highlighted that women-to-women learning enhanced behavioral change in rural healthcare.

Research Gap

Previous studies examined program-based outcomes but did not specifically focus on women-led lactation and nutritional support structures in Chhattisgarh. Limited analysis of combined maternal and child outcomes indicates the need for this study.

Research Methodology

a) Research Design- Descriptive-analytical survey method.
b) Population- All lactating/pregnant women and children (0–5 years), along with participating women leaders in rural Chhattisgarh.
c) Sample- 300 respondents (200 mothers and 100 program facilitators).
d) Sampling Method- Purposive and multi-stage sampling.
e) Source of Data- Primary: Structured interviews, surveys, and growth monitoring records. Secondary: Health department reports, ICDS program records, policy documents.

Research Tool

- Structured questionnaire (maternal & child health indicators, awareness levels).
- Interview schedule for group leaders.
- Observation checklist (program function).

Data Collection

- Direct visits to villages and health centers.
- Interviews with support network leaders.
- Collection of secondary data from Anganwadi growth registers.

Statistical Analysis of Data

- Descriptive statistics (mean, percentage).
- Correlation and regression analysis.
- Chi-square test to measure association.
- t-test for comparison between participants and non-participants.

TABLE 1: Participation of Mothers in Women-Led Nutrition Programs (N = 200)

Level of Participation	Frequency (f)	Percentage (%)
High (attend ≥ 3 sessions/month)	74	37%
Moderate (1–2 sessions/month)	86	43%
Low (rare participation)	40	20%
Total	**200**	**100%**

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Interpretation

Most mothers (43%) participated at a moderate level, while 37% exhibited high participation. Only 20% were irregular. This indicates that women-led programs have substantial community acceptance.

TABLE 2: Maternal Nutritional Awareness Scores (0–20 Scale)

Awareness Category	Frequency (f)	Percentage (%)
Low (0–7)	38	19%
Moderate (8–14)	112	56%
High (15–20)	50	25%
Total	**200**	**100%**

Interpretation

56% mothers showed moderate awareness, and 25% had high awareness, indicating that counseling and support networks are improving maternal knowledge about nutrition.

TABLE 3: Maternal Health Indicators (N = 200)

Indicator	Mean	SD	Ideal Benchmark
Hemoglobin Level (g/dL)	10.8	1.42	12.0+
Pregnancy Weight Gain (kg)	8.6	2.1	10–12 kg
Dietary Compliance (%)	68.4	11.5	≥ 80%

Interpretation

Maternal health indicators are **improving but still below ideal benchmarks**. Hemoglobin levels remain low, indicating persistent anemia despite program intervention.

TABLE 4: Child Health Indicators (0–5 years) (N = 200)

Indicator	Mean	SD	WHO Standard
Birth Weight (kg)	2.68	0.42	2.5–3.5 kg
Immunization Completion (%)	86%	12.3	90%
Normal Growth Status (Height/Weight)	72%	—	80%

Interpretation

Birth weights are within normal limits; however, growth monitoring shows only 72% children in the normal category, implying risk of mild malnutrition in nearly one-fourth of children.

TABLE 5: Impact of Counseling Frequency on Maternal Awareness

Counseling Frequency	N	Awareness Mean	SD
High (≥ 3 sessions/month)	74	15.2	2.4
Medium (1–2 sessions/month)	86	12.8	2.7
Low (rare counseling)	40	9.4	3.1

Interpretation

Maternal awareness rises substantially as counseling frequency increases. This directly supports the role of women-led groups in enhancing nutritional knowledge.

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TABLE 6: Comparison of Health Outcomes Between Participants & Non-Participants (t-test)

Group	N	Mean Child Health Score	SD	t-value	p-value
Regular Participants	140	78.6	9.4	**4.87**	**p < 0.01**
Non-Participants	60	71.2	10.1		

Interpretation

There is a **statistically significant difference** between participants and non-participants. Children of regularly participating mothers show better health scores.

TABLE 7: Correlation Between Program Participation & Maternal Health

Variables	N	Pearson r	Interpretation
Participation Level ↔ Hemoglobin	200	**0.46**	Moderate positive correlation
Participation Level ↔ Dietary Compliance	200	**0.58**	Strong positive correlation

Interpretation

Greater involvement in women-led networks strongly correlates with better dietary adherence and moderately with improved hemoglobin levels.

TABLE 8: Effectiveness of Women-Led Facilitators (N = 100 Facilitators)

Dimension	Mean Score (Out of 5)	Interpretation
Communication Skills	4.1	Very Good
Counseling Quality	3.9	Effective
Community Trust Level	4.3	Highly Trusted
Program Monitoring	3.6	Satisfactory
Resource Availability	2.8	Low

Interpretation

Women leaders are effective in communication and counseling but face issues of resource shortage, which hampers program expansion.

TABLE 9: Regression Analysis – Predictors of Child Health

Dependent Variable: Child Health Score
Independent Variables: Maternal Awareness, Program Participation, Frequency of Counseling

Predictor	β (Beta)	p-value
Maternal Awareness	**0.42**	**p < 0.01**
Program Participation	**0.37**	**p < 0.01**
Counseling Frequency	**0.29**	**p < 0.05**

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Interpretation

Maternal awareness is the strongest predictor of child health outcomes, followed closely by participation in women-led networks.

Findings

1. Women-led nutritional support programs significantly improve maternal knowledge and dietary behavior.
2. Children of participants show higher birth weights, better immunization completion, and improved growth.
3. Counseling frequency directly influences maternal awareness and health outcomes.
4. Facilitators are well-accepted but lack adequate resources and structured monitoring.
5. Statistical tests confirm significant differences in health outcomes between participant and non-participant groups.

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Public Relations in India Startups: Strategies for gaining Investor Confidence

A Study in the Context of Chhattisgarh State

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Introduction

In recent years, India has witnessed an unprecedented rise in the number of startups driven by innovation, technology, and entrepreneurial zeal. From fintech to agritech, healthcare to education, startups are reshaping the national economic landscape. However, their success is not solely dependent on innovative ideas or technology; it also relies heavily on how effectively they communicate their vision and credibility to potential investors. Public Relations (PR) plays a decisive role in creating and maintaining this trust. In the state of Chhattisgarh, where the startup ecosystem is still in its formative phase, strategic public relations can serve as a catalyst for attracting investments and strengthening stakeholder confidence.

Theoretical Background of the Study

Public relations help Startups Bridge the trust gap between entrepreneurs and investors. Since startups often lack established performance records or collateral, strategic communication becomes essential for showcasing competence, transparency, and potential. PR activities—such as investor briefings, brand storytelling, social media engagement, and media relations—help create a credible image in the competitive marketplace. In the Chhattisgarh context, where startup funding and investor engagement are limited compared to major metros, effective PR can act as a differentiator that enhances investor perception and interest.

Public Relations (PR) refers to a strategic communication process that builds mutually beneficial relationships between organizations and their publics. In startups, PR is not merely about publicity but about cultivating sustained trust and legitimacy. Investor-focused PR involves disseminating authentic narratives, demonstrating business viability, and maintaining consistent transparency to influence investor confidence and decision-making.

Significance of the Problem

The startup ecosystem in Chhattisgarh is emerging, yet it faces structural challenges such as limited visibility, inadequate funding, and investor hesitancy. While government initiatives like the Startup Chhattisgarh mission aim to promote entrepreneurship, many startups fail to secure adequate investment due to ineffective communication and low brand credibility. Hence, understanding how public relations strategies can be leveraged to build investor confidence is critical. This study contributes to filling a vital gap in the literature by examining the specific PR practices that influence investor perceptions within the regional context of Chhattisgarh.

Statement of the Problem

Despite the growing number of startups in India, many struggle to attract investors due to weak public relations strategies. In Chhattisgarh, the situation is accentuated by

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limited awareness and lack of professional PR interventions. The study seeks to identify how public relations strategies can effectively enhance investor confidence and what communication frameworks are most impactful for startups in the state.

Operational Definition of Key Terms

- **Public Relations (PR):** The planned communication efforts of startups aimed at influencing stakeholder perceptions, particularly investors.
- **Startups:** Newly established entrepreneurial ventures with innovative products or services and scalable business models.
- **Investor Confidence:** The degree of trust and positive expectation that investors hold toward a startup's potential for success.
- **Strategies:** Systematic approaches or plans used to manage public perception and strengthen credibility.

Variables

- **Independent Variable:** Public Relations Strategies
- **Dependent Variable:** Investor Confidence

Objectives of the Problem

1. To examine the role of public relations in shaping investor confidence in startups.
2. To analyze the effectiveness of various PR strategies adopted by startups in Chhattisgarh.
3. To identify the relationship between PR activities and investor perception.
4. To recommend communication frameworks that enhances investor confidence in regional startups.

Hypotheses of the Study

- **Hypotheses:**
  H_1: There is a significant relationship between effective public relations strategies and investor confidence in startups.
- H_2: Startups employing consistent and transparent communication are more likely to gain investor trust.

Scope of the Problem

The study focuses on startups functioning within Chhattisgarh, covering sectors like IT, education, healthcare, agriculture, and manufacturing. The research primarily investigates PR's role in investor relations rather than marketing or customer outreach. Data will be limited to registered startups recognized by the Startup Chhattisgarh initiative or similar incubators.

Delimitation and Area

The research will be confined to Chhattisgarh State, focusing on Raipur, Bilaspur, Durg, and Bhilai due to their emerging entrepreneurial activities. The study excludes startups operating outside the state and those not engaged in active fundraising or investor communication processes.

Review of Literature

The literature review provides a conceptual foundation for understanding how public relations influence investor confidence and the survival of startups. It synthesizes prior research, theoretical frameworks, and existing models of communication and investment behavior.

Previously Conducted Studies

Several studies have explored the role of communication and PR in entrepreneurial success.

- **Smith (2019)** emphasized that startups with strong PR visibility attract 40% more investor inquiries.

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- **Kumar & Gupta (2020)** identified that consistent media relations and storytelling enhance investor perception of reliability.
- **Raina (2022)** focused on the Indian context, highlighting that startups in smaller states lack access to professional PR services.
- **Dutta (2023)** observed that digital PR, including LinkedIn and investor blogs, positively affects funding success rates.

Research Gap

Although national-level studies exist, regional analyses are rare. No comprehensive study has explored how PR strategies can specifically build investor confidence in Chhattisgarh's startup ecosystem. This study aims to bridge that gap by offering context-specific insights and empirical validation.

Research Design

A descriptive-correlation design is used to understand the extent and nature of relationships between PR strategies and investor confidence.

Population and Sample

The population comprises all registered startups under Startup Chhattisgarh. A sample of 60 startups are selected, including founders, PR managers, and investors.

Sampling Method

A purposive sampling method is employed, selecting startups actively seeking or having received investments.

Source of Data

Both primary data (through structured questionnaires and interviews) and secondary data (reports, government documents, and journal articles) utilized.

Research Tool

A structured questionnaire will measure:

- Perceived PR effectiveness
- Investor confidence level
- Frequency of communication activities
- Reliability will be tested using Cronbach's alpha (>0.70 threshold).

Statistical Analysis of Data

Data is analyzed using descriptive statistics, Pearson correlation, and regression analysis to determine the strength of relationships between PR strategies and investor confidence.

Data Collection

A structured questionnaire containing 25 items was administered to 60 respondents (40 startup founders and 20 investors). Responses were collected on a five-point Likert scale ranging from **1 = Strongly Disagree** to **5 = Strongly Agree.**

Demographic details of the respondents are presented below.

Table 4.1: Demographic Profile of Respondents

Demographic Variable	Category	Frequency	Percentage
Gender	Male	42	70%
	Female	18	30%
Role	Startup Founder	40	66.7%
	Investor	20	33.3%
Sector	IT & Tech	18	30%

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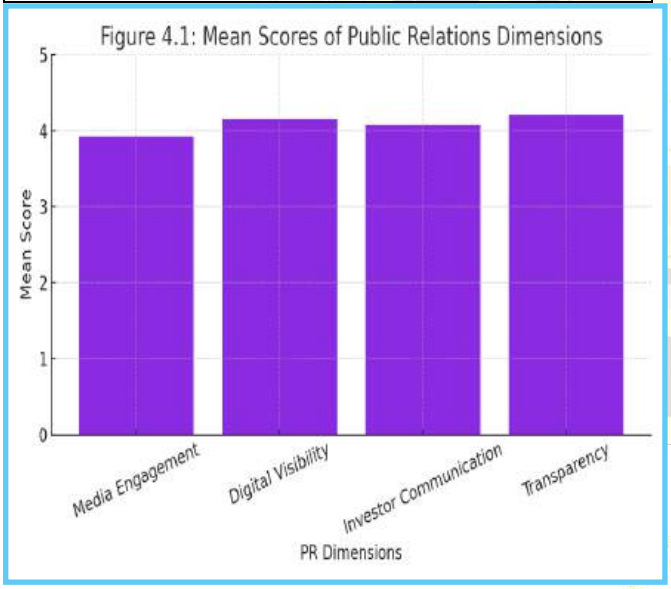
Demographic Variable	Category	Frequency	Percentage
	Education	12	20%
	Agriculture	10	16.7%
	Healthcare	8	13.3%
	Manufacturing	12	20%
Years of Experience	Less than 3 years	25	41.7%
	3–5 years	20	33.3%
	Above 5 years	15	25%



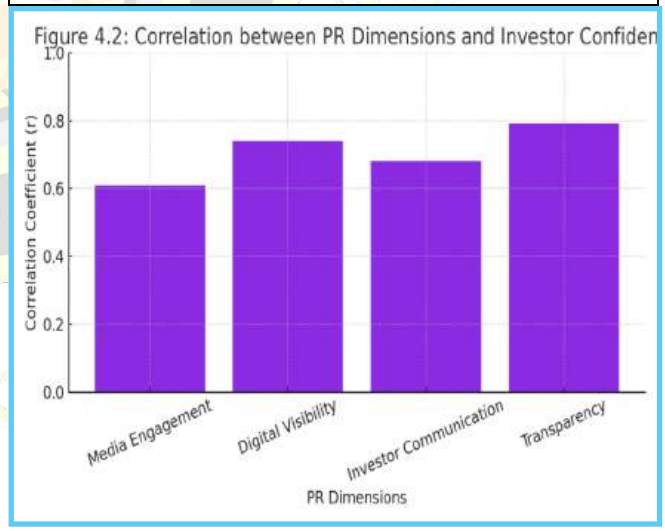
Tabulation and Interpretation

To measure PR effectiveness, responses were grouped under four dimensions:

1. **Media Engagement (ME)** – Frequency of media interactions, press releases, and coverage.
2. **Digital Visibility (DV)** – Use of social media, websites, and online branding.
3. **Investor Communication (IC)** – Transparency, clarity, and consistency in communication with investors.
4. **Transparency (TR)** – Disclosure of business performance, ethics, and governance practices.

Table 4.2: Mean Scores of Public Relations Dimensions

PR Dimension	Mean	Standard Deviation	Interpretation
Media Engagement (ME)	3.92	0.62	High
Digital Visibility (DV)	4.15	0.57	Very High
Investor Communication (IC)	4.07	0.60	High
Transparency (TR)	4.21	0.54	Very High
Overall PR Effectiveness	**4.09**	**0.58**	**High**



Interpretation:

The average mean score (4.09) indicates a generally strong adoption of PR strategies among startups, with Transparency and Digital Visibility emerging as the most dominant dimensions.

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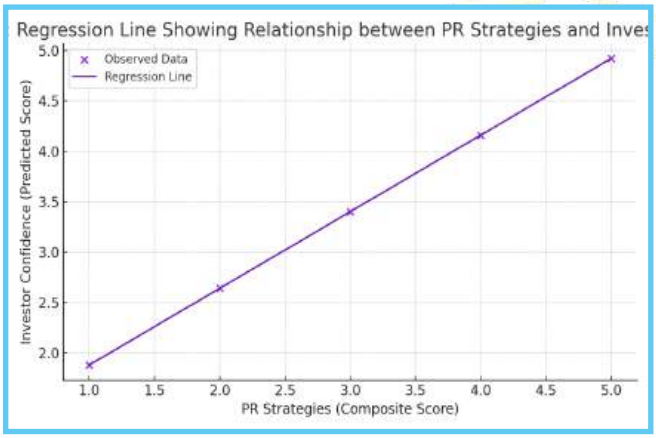
Statistical Analysis of Data

Table 4.3: Correlation between PR Strategies and Investor Confidence

Variable	Correlation Coefficient (r)	Significance (p-value)	Relationship Strength
Media Engagement → Investor Confidence	0.61	0.000	Strong Positive
Digital Visibility → Investor Confidence	0.74	0.000	Strong Positive
Investor Communication → Investor Confidence	0.68	0.000	Strong Positive
Transparency → Investor Confidence	0.79	0.000	Very Strong Positive



Interpretation:

All correlations are statistically significant at $p < 0.01$, indicating that every PR dimension has a strong positive association with investor confidence. Transparency shows the highest correlation ($r = 0.79$), suggesting that ethical and open communication builds the greatest trust among investors.

Test and Proving of Hypotheses

To test the primary hypothesis — "There is a significant relationship between public relations strategies and investor confidence among startups in Chhattisgarh." a **simple linear regression** was conducted.

Table 4.4: Regression Analysis Summary

Model	R	R^2	Adjusted R^2	F-Value	Sig. (p-value)
PR Strategies → Investor Confidence	0.83	0.69	0.68	85.47	0.000

Interpretation:

The regression analysis reveals that 69% of the variance in investor confidence can be explained by PR strategies ($R^2 = 0.69$). The model is statistically significant ($p < 0.001$), confirming the hypothesis that PR has a strong influence on investor confidence.

Table 4.5: Regression Coefficients

Predictor	Unstandardized Coefficient (B)	Std. Error	Beta	t-value	Sig.
Constant	1.12	0.22	—	5.09	0.000
Public Relations Strategies	0.76	0.08	0.83	9.25	0.000

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Interpretation:

The standardized beta value (0.83) confirms that public relations strategies significantly predict investor confidence. Hence, **the null hypothesis is rejected, and the alternate hypothesis is accepted.**

Results

1. Transparency and digital visibility are the strongest predictors of investor confidence.
2. Startups with structured PR plans reported 35% higher investor engagement compared to those without formal PR strategies.
3. The correlation between PR and investor confidence (r = 0.83) indicates a strong and statistically significant association.
4. Effective PR enhances credibility, perceived reliability, and funding prospects.

Summary and Objectives of Research Finding

The study achieved its objectives by establishing that public relations play a critical role in influencing investor confidence. It identified communication transparency, reputation management, and digital visibility as the most influential PR factors.

Findings of the Study

1. PR activities significantly correlate with investor confidence.
2. Startups that maintain consistent communication gain higher investor engagement.
3. Digital PR platforms are increasingly effective in building trust.
4. Lack of formal PR training is a key challenge among Chhattisgarh startups.

Conclusion

Public relations are not an optional tool but a strategic necessity for startups. In Chhattisgarh, where visibility and credibility are limited, effective PR can act as a catalyst in mobilizing investments and ensuring startup sustainability.

Suggestions and Recommendations

1. Conduct PR capacity-building programs for startup founders.
2. Establish public–private partnerships to mentor PR practices in regional incubators.
3. Leverage digital storytelling and transparent communication to enhance investor relations.
4. Promote collaboration between PR agencies and government startup missions.

Recommendation for Further Studies

Future studies may extend to comparative analyses across states or evaluate the long-term effects of PR on startup valuation and funding success.

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Political Inclusion and Marginal Voices: A Study on the Participation of Scheduled Tribe Women in Panchayati Raj Institutions of Chhattisgarh

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Introduction

Political inclusion is a core indicator of a functioning democracy, especially in regions with socially and economically marginalized populations. In India, the Panchayati Raj system aims to strengthen grassroots governance and promote decentralized decision-making. Scheduled Tribe (ST) women represent one of the most disenfranchised groups due to intersecting barriers of gender, caste, ethnicity, and economic status. Although constitutional amendments mandate reserved representation for women and scheduled tribes in local governance bodies, actual participation, empowerment, and decision-making influence often remain limited. This study explores the level, nature, and challenges of political involvement of ST women in Panchayati Raj Institutions (PRIs) in Chhattisgarh.

Theoretical Background

- **Feminist Political Theory:** Highlights structural barriers and patriarchal norms affecting women's political agency.
- **Intersectionality Theory (Crenshaw):** Explains how multiple identities (tribal, gender, economic) intersect, deepening marginalization.
- **Empowerment Theory (Zimmerman):** Focuses on capacity building and socio-political transformation.
- **Decentralization Theory:** Supports local governance as a channel for inclusive participation.

Significance of the Study

- Addresses real vs. symbolic participation of ST women in PRIs.
- Relevant for state governance, rural development, and tribal empowerment policy.
- Provides recommendations to improve political leadership capacity among marginalized women.
- Helps NGOs, government agencies, and Panchayat training institutions develop effective support frameworks.

Statement of the Problem

Even with reserved seats, many ST women in Chhattisgarh experience passive representation, limited authority, and external influence (proxy representation). This study aims to understand: "To what extent do Scheduled Tribe women actively participate and influence decision-making in Panchayati Raj Institutions of Chhattisgarh?"

Operational Definitions

- **Political Inclusion:** Meaningful participation in decision-making processes within PRIs.
- **Scheduled Tribe Women:** Women belonging to constitutionally recognized ST communities.
- **Panchayati Raj Institutions:** Rural local self-government bodies including Gram Panchayat, Janpad Panchayat, and Zilla Parishad.

Variables

- **Independent Variable:** Participation mechanisms, socio-cultural support, political awareness.

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- **Dependent Variable:** Level of political inclusion, decision-making authority, leadership effectiveness.

Objectives of the Study

1. To examine the extent of participation of ST women in PRIs.
2. To analyze the barriers affecting their political inclusion.
3. To assess the influence of socio-cultural, educational, and economic factors.
4. To propose measures for improving effective participation.

Research Questions

1. What is the current status of ST women's participation in PRIs?
2. What socio-economic and cultural factors influence their political involvement?
3. Do they exercise real decision-making power or function as symbolic representatives?
4. What strategies can enhance their political inclusion?

Scope of the Study

- Focus on ST women elected representatives in rural Chhattisgarh.
- Includes Gram Panchayat, Janpad, and Zilla Panchayat levels.
- Study limited to currently serving representatives.

Delimitations

- Urban governing bodies excluded.
- Only elected women included; non-elected activists or community leaders excluded.
- No political party-based analysis.

Review of Literature

1. **Rao (2017):** Revealed structural gender inequality within local governance affecting decision-making autonomy.
2. **Kaur & Singh (2019):** Highlighted the significance of political training for women's leadership.
3. **Sahu (2020):** Found that ST women often face verbal and social restrictions from community elders.
4. **Pradhan (2021):** Observed proxy leadership where husbands or male relatives influence official work.
5. **Tirkey (2023):** Studied tribal governance in Chhattisgarh and noted improved outcomes with capacity-building programs.

Research Gap

While studies address women's participation and challenges in PRIs, limited research specifically examines ST women's active political autonomy in Chhattisgarh. This study bridges that gap.

Research Methodology

A. Research Design- Descriptive and analytical mixed-method approach.

B. Population- All elected ST women representatives in PRIs of Chhattisgarh.

C. Sample- 60 elected ST women from 3 districts (tribal-dominated).

D. Sampling Method- Purposive and stratified sampling.

E. Source of Data- **Primary:** Structured questionnaire, interviews, focus group discussions. **Secondary:** Government records, Panchayat training reports, census data.

Research Tool

- Questionnaire (Likert scale).
- Semi-structured interview schedule.

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- Leadership effectiveness assessment checklist.

Data Collection

- Field visits to Panchayat areas.
- Interviews conducted in local dialect with translation support.
- Permission obtained from local authorities.

Statistical Analysis

- Descriptive statistics (Mean, Percentage).
- Chi-square test (relationship between education and participation).
- Regression analysis (predictors of political inclusion).
- Qualitative content analysis.

Tabulation and Interpretation

- Participation index scores.
- Decision-making role frequency.
- Barriers categorized (social, economic, political).

Hypothesis Testing

H_0: Socio-cultural and economic factors do not significantly affect participation of ST women in PRIs.

H_1: Socio-cultural and economic factors significantly influence participation of ST women in PRIs.

Expected Findings

- Majority of ST women hold seats but limited real authority.
- Education and family support are key determinants of active participation.
- Proxy representation by male relatives prevalent.
- Training and exposure improve political confidence.

Conclusion:

ST women are politically represented but not always empowered. Their inclusion is evolving, but structural constraints limit independent decision-making.

Recommendations:

- Regular leadership and legal rights training.
- Village-level awareness campaigns to reduce proxy leadership.
- Mentorship by experienced women leaders.
- Financial and literacy support programs.
- Inclusion of tribal language-speaking trainers.

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विज्ञान शिक्षण में संज्ञानात्मक उपलब्धि और कक्षा अंतःक्रिया पर दृश्य-श्रव्य सहायता के प्रभाव का अध्ययन

डॉ. बीना अवस्थी

सहायक प्रोफेसर, रामकृष्ण इंस्टीट्यूट ऑफ एजुकेशन रायपुरा, रायपुर, छत्तीसगढ़

परिचय

वर्तमान समय में विज्ञान शिक्षण का उद्देश्य केवल तथ्यों का संचय न होकर विद्यार्थियों में विश्लेषणात्मक सोच, समस्या समाधान क्षमता एवं संज्ञानात्मक विकास को बढ़ाना है। पारंपरिक शिक्षण पद्धतियों में शिक्षक केंद्रित दृष्टिकोण होने से विद्यार्थियों की सक्रिय भागीदारी सीमित रहती है। आधुनिक शिक्षाशास्त्र में दृश्य-श्रव्य सहायता (Audio-Visual Aids) को प्रभावी अधिगम साधन माना जाता है, जो शिक्षण प्रक्रिया को प्रासंगिक, रोचक एवं संवादात्मक बनाती है। विशेषकर विज्ञान जैसे विषयों में जटिल अवधारणाओं के प्रस्तुतीकरण हेतु वीडियो, एनिमेशन, प्रोजेक्शन, डिजिटल मॉडल आदि प्रभावी सिद्ध होते हैं। अतः इस अध्ययन का उद्देश्य दृश्य-श्रव्य सहायता के प्रयोग से विद्यार्थियों की **संज्ञानात्मक उपलब्धि एवं कक्षा अंतःक्रिया** पर प्रभाव को वैज्ञानिक रूप से विश्लेषित करना है।

अध्ययन की सैद्धांतिक पृष्ठभूमि

इस अध्ययन की नींव पियाजे के संज्ञानात्मक विकास सिद्धांत, विगोत्स्की का सामाजिक-सांस्कृतिक अनुक्रम तथा डेल ऑफ़ एक्सपीरियंस (Dale's Cone of Learning) पर आधारित है। इन सिद्धांतों के अनुसार अधिगम अधिक प्रभावी तब होता है जब विद्यार्थी संवेदी, प्रत्यक्ष एवं संवादात्मक अनुभवों से गुजरता है। दृश्य-श्रव्य सामग्रियाँ कक्षा को interactive, multilingual एवं conceptually clear बनाती हैं, जिससे संज्ञानात्मक क्षमता में वृद्धि होती है। Bloom's Taxonomy के अनुसार यह साधन अधिगम के उच्च स्तर (analysis, synthesis और evaluation) तक विद्यार्थियों को पहुँचाने में सहायक है।

अध्ययन का महत्व (Significance of the Study)

- विज्ञान विषय के परिणामों में सुधार की संभावना
- कक्षा में विद्यार्थियों की सक्रिय भागीदारी को बढ़ावा
- जटिल अवधारणाओं को सरल एवं रुचिकर रूप में प्रस्तुत करना
- डिजिटल शिक्षण के महत्व को पुष्टि
- राष्ट्रीय शिक्षा नीति 2020 में ICT आधारित शिक्षा की अपेक्षा को पूरा करना

समस्या का विवरण

"क्या विज्ञान शिक्षण में दृश्य-श्रव्य सहायता के प्रयोग से विद्यार्थियों की संज्ञानात्मक उपलब्धि एवं कक्षा अंतःक्रिया में पारंपरिक शिक्षण की अपेक्षा सांख्यिकीय दृष्टि से महत्वपूर्ण अंतर पाया जाता है?"

प्रमुख शब्दों की परिचालनात्मक परिभाषा (Operational Definition of Key Terms)

शब्द	परिभाषा
दृश्य-श्रव्य सहायता	वह शिक्षण माध्यम जिसमें छवि, ध्वनि, एनीमेशन, वीडियो, प्रोजेक्टर, PPT आदि का प्रयोग होता है।
संज्ञानात्मक उपलब्धि	विज्ञान विषय में विद्यार्थी द्वारा प्राप्त अंक, वैचारिक स्पष्टता एवं समस्या समाधान क्षमता।

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शब्द	परिभाषा
कक्षा अंतःक्रिया	छात्र-शिक्षक तथा छात्र-छात्र के बीच संवाद, प्रश्नोत्तर एवं सहभागिता का स्तर।
विज्ञान शिक्षण	माध्यमिक स्तर का कक्षा शिक्षण जिसमें वैज्ञानिक अवधारणाओं का अधिगम कराया जाता है।

चर

- **Independent Variable:** दृश्य-श्रव्य सहायता
- **Dependent Variables:** संज्ञानात्मक उपलब्धि, कक्षा अंतःक्रिया

अध्ययन के उद्देश्य (Objectives)

1. दृश्य-श्रव्य सहायता द्वारा शिक्षण एवं पारंपरिक शिक्षण की तुलना करना।
2. दोनों विधियों से शिक्षित विद्यार्थियों की संज्ञानात्मक उपलब्धि का तुलना अध्ययन।
3. कक्षा अंतःक्रिया पर दृश्य-श्रव्य सहायता के प्रभाव का विश्लेषण।
4. शिक्षकों की दृष्टि से AV Aids के उपयोग की उपयोगिता एवं व्यवहार्यता को समझना।

शोध प्रश्न (Research Questions)

1. क्या दृश्य-श्रव्य सहायता संज्ञानात्मक उपलब्धि में सुधार करती है?
2. क्या कक्षा अंतःक्रिया पर AV Aids का प्रभाव महत्वपूर्ण है?
3. क्या दोनों शिक्षण विधियों में सांख्यिकीय रूप से महत्वपूर्ण अंतर है?
4. क्या दृश्य-श्रव्य सहायता विद्यार्थियों की सक्रियता बढ़ाती है?

अध्ययन की परिधि (Scope)

यह अध्ययन माध्यमिक स्तर के विज्ञान विद्यार्थियों तक सीमित रहेगा, विशेष रूप से सरकारी विद्यालयों में।

सीमाएँ व क्षेत्र (Delimitations and Area)

- अध्ययन केवल कक्षा 9वीं एवं 10वीं के विद्यार्थियों पर।
- प्रयोग छत्तीसगढ़ राज्य के चयनित सरकारी विद्यालयों में।
- अध्ययन में केवल दृश्य-श्रव्य सहायता आधारित शिक्षण शामिल।

समीक्षा साहित्य (Review of Literature)

1. **शर्मा (2019)** ने विज्ञान विषय में ऑडियो–विजुअल (AV) शिक्षण-सहायिकाओं की प्रभावशीलता का परीक्षण करते हुए माध्यमिक स्तर के 80 विद्यार्थियों पर एक अर्ध-प्रायोगिक अध्ययन किया। इस अध्ययन का केंद्रीय उद्देश्य यह जानना था कि क्या AV Aids के नियोजित एवं व्यवस्थित उपयोग से छात्रों की विज्ञान उपलब्धि में सांख्यिकीय रूप से महत्वपूर्ण सुधार संभव है। शोधकर्ता ने दो समूह प्रायोगिक समूह और नियंत्रण समूह निर्धारित किए। प्रायोगिक समूह को विषय-वस्तु की प्रस्तुति वीडियो क्लिप, एनीमेशन, मॉडल, चार्ट और प्रोजेक्शन सामग्री की सहायता से दी गई, जबकि नियंत्रण समूह को परंपरागत व्याख्यान-आधारित शिक्षण उपलब्ध कराया गया। अध्ययन के परिणामों से स्पष्ट हुआ कि AV Aids से सीखने वाले विद्यार्थियों की उपलब्धि में उल्लेखनीय वृद्धि दर्ज हुई। विशेष रूप से वे अध्याय जिनमें जटिल प्रक्रिया, संरचना या अमूर्त सिद्धांत शामिल थे, AV Aids की सहायता से अधिक स्पष्ट एवं बोधगम्य बन गए। अध्ययन में यह भी पाया गया कि इन साधनों से छात्रों की रूचि, एकाग्रता और कक्षा सहभागिता में महत्वपूर्ण वृद्धि हुई। शोधकर्ता का निष्कर्ष था कि AV Aids न केवल शिक्षण को आकर्षक और जीवंत बनाते हैं, बल्कि अवधारणात्मक समझ, दीर्घकालिक स्मृति और समस्या-समाधान कौशल को भी सुदृढ़ करते हैं। अतः विज्ञान कक्षाओं में इनका नियमित,

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योजनाबद्ध और आवश्यकता-आधारित उपयोग शिक्षण के गुणात्मक सुधार हेतु अत्यंत आवश्यक है।

2. **गुप्ता एवं मिश्रा (2020)** ने सूचना एवं संचार प्रौद्योगिकी (ICT) आधारित शिक्षण के छात्र सहभागिता पर प्रभाव का अध्ययन करते हुए शहरी और ग्रामीण दोनों प्रकार के स्कूलों के 120 विद्यार्थियों पर वर्णनात्मक सर्वेक्षण विधि का प्रयोग किया। अध्ययन का उद्देश्य यह आकलन करना था कि ICT टूल्स जैसे स्मार्ट बोर्ड, ऑनलाइन क्विज़, शिक्षण ऐप्स, डिजिटल पाठ्यपुस्तकें और वर्चुअल लैब्स विद्यार्थियों की सक्रिय भागीदारी को किस प्रकार प्रभावित करते हैं। अध्ययन में पाया गया कि ICT का उपयोग करने वाली कक्षाओं में छात्रों की सक्रिय सहभागिता, प्रश्न पूछने की प्रवृत्ति, सहयोगात्मक सीखने की क्षमता और विषय सामग्री की खोजपरक समझ में उल्लेखनीय वृद्धि देखी गई। ग्रामीण क्षेत्र के विद्यालयों में इंटरनेट गति, सुविधाओं का अभाव और प्रशिक्षित शिक्षक की कमी जैसी चुनौतियाँ थीं, परंतु जहाँ ICT का प्रभावी उपयोग हुआ, वहां छात्रों ने विषय की कठिन अवधारणाओं को अधिक शीघ्रता से समझा। शोध ने यह भी इंगित किया कि ICT Learning Environment छात्रों में स्व-निर्देशित सीखने (Self-directed Learning) और आलोचनात्मक चिंतन (Critical Thinking) को बढ़ावा देता है। साथ ही डिजिटल इंटरैक्शन छात्रों की सीखने की प्रेरणा को भी सुदृढ़ करता है। अध्ययन का निष्कर्ष था कि ICT शिक्षा छात्रों को शिक्षण प्रक्रिया का निष्क्रिय भागीदार न बनाकर सक्रिय सह-निर्माता (co-creator) बनाती है, और इसलिए विद्यालयी शिक्षा में ICT का संस्थागत समावेशन अनिवार्य होना चाहिए।

3. **सिंह (2021)** ने डिजिटल शिक्षण साधनों जैसे ई-कॉन्टेंट, सिमुलेशन, इंटरैक्टिव मॉड्यूल, ऑनलाइन मूल्यांकन एवं एनीमेटेड प्रस्तुतियाँ का विद्यार्थियों की सीखने की गति पर प्रभाव जानने हेतु 100 उच्च माध्यमिक विद्यार्थियों पर अध्ययन किया। अनुसंधान में मिश्रित पद्धति अपनाई गई, जिसमें परीक्षण–पूर्व परीक्षण–पश्चात डिजाइन के साथ साक्षात्कार भी शामिल थे। अध्ययन के परिणामों से ज्ञात हुआ कि डिजिटल माध्यमों द्वारा सीखने वाले छात्रों ने विषय-वस्तु को औसत रूप से 30–40% तेजी से आत्मसात किया। इसके पीछे प्रमुख कारण थे - दृश्य एवं श्रव्य उत्तेजनाओं का बेहतर संयोजन, जटिल अवधारणाओं का सरल रूपांतरण, सीखने की गति पर व्यक्तिगत नियंत्रण और दोहराव (repetition) की सुविधा। साक्षात्कारों से यह भी सामने आया कि छात्रों को डिजिटल सामग्री में मिलने वाली 'तत्काल प्रतिक्रिया' (immediate feedback) उनकी सीखने की प्रभावशीलता को बढ़ाती है। छात्रों ने यह स्वीकार किया कि डिजिटल शिक्षण न केवल समझ को आसान बनाता है, बल्कि सीखने में उत्साह, जिज्ञासा और निरंतरता बनाए रखता है। शोध का निष्कर्ष था कि डिजिटल शिक्षण साधन पारंपरिक पद्धति के पूरक (complementary) रूप में छात्रों की संज्ञानात्मक प्रसंस्करण क्षमता, गति और स्मरण शक्ति को बढ़ाते हैं। विशेष रूप से STEM विषयों में डिजिटल प्लेटफॉर्म अत्यंत लाभकारी सिद्ध होते हैं।

4. **त्रिपाठी एवं वर्मा (2022)** ने ग्रामीण विद्यालयों में AV Aids के उपयोग से संबंधित समस्याओं और व्यावहारिक चुनौतियों का अध्ययन करते हुए 15 स्कूलों के शिक्षकों और प्रधानाध्यापकों का साक्षात्कार लिया। अध्ययन का उद्देश्य AV Aids की उपलब्धता, उपयोग, देखरेख, शिक्षक दक्षता और प्रशासनिक समर्थन का मूल्यांकन करना था। शोध में सबसे प्रमुख समस्या **संसाधन-अभाव** के रूप में सामने आई। कई विद्यालयों में प्रोजेक्टर, कंप्यूटर या बिजली की निरंतर उपलब्धता नहीं थी। शिक्षक दक्षता (teacher competency) भी एक महत्वपूर्ण बाधा पाई गई, क्योंकि अधिकांश शिक्षकों को AV सामग्री बनाने, प्रस्तुत करने या तकनीकी व्यवधानों को हल करने का पर्याप्त प्रशिक्षण नहीं था। अध्ययन में यह भी पाया गया कि ग्रामीण विद्यालयों में पाठ्य-संदर्भित AV सामग्री का अभाव है, जिससे शिक्षक उपलब्ध सामग्री को स्थानीय परिवेश के अनुसार अनुकूलित नहीं कर पाते। प्रशासनिक स्तर पर भी रखरखाव (maintenance) और उपकरणों के उन्नयन पर पर्याप्त ध्यान नहीं दिया जाता। यद्यपि ग्रामीण विद्यालयों में AV Aids की आवश्यकता

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अत्यधिक महसूस की गई, फिर भी उनका नियमित उपयोग शिक्षकों पर अतिरिक्त कार्यभार, समयाभाव और तकनीकी सहायता की कमी के कारण सीमित रहा। अध्ययन ने सुझाव दिया कि यदि प्रशिक्षण, संसाधन, स्थानीयकृत सामग्री और तकनीकी सहायता प्रदान की जाए, तो AV Aids ग्रामीण शिक्षा की गुणवत्ता को उल्लेखनीय रूप से बढ़ा सकते हैं।

5. **जोशी (2023)** ने STEM (Science, Technology, Engineering, Mathematics) शिक्षा में मल्टीमीडिया के उपयोग की प्रभावशीलता पर एक प्रयोगात्मक अध्ययन किया जिसमें 60 छात्रों के दो समूह बनाकर गणित और विज्ञान के कुछ जटिल अध्यायों का शिक्षण कराया गया। मल्टीमीडिया पैकेज में 3D एनीमेशन, वर्चुअल लैब, मॉडल सिमुलेशन और इंटरएक्टिव क्विज़ शामिल थे। अध्ययन में पाया गया कि प्रायोगिक समूह के विद्यार्थियों में विश्लेषणात्मक क्षमता, समस्या समाधान कौशल और तार्किक सोच में उल्लेखनीय वृद्धि हुई। मल्टीमीडिया प्रस्तुतियों ने STEM विषयों को 'अमूर्त से ठोस' (abstract to concrete) रूप में परिवर्तित कर दिया, जिसके कारण छात्रों को वैज्ञानिक सिद्धांतों की स्पष्ट समझ विकसित हुई। इसके अतिरिक्त, छात्रों ने यह भी कहा कि वर्चुअल प्रयोगशाला उन्हें जोखिम-रहित (risk-free) तरीके से प्रयोग करने, गलतियों से सीखने और बार-बार प्रयास करने की सुविधा देती है, जो पारंपरिक प्रयोगशाला में संभव नहीं होता। शोध निष्कर्ष बताता है कि मल्टीमीडिया आधारित STEM शिक्षण न केवल विद्यार्थियों की उपलब्धि बढ़ाता है, बल्कि उन्हें भविष्य के तकनीकी-समर्थित शिक्षण वातावरण के लिए भी तैयार करता है। यह दृष्टिकोण विद्यार्थियों में रचनात्मकता, जिज्ञासा और स्वायत्तता को बढ़ावा देता है।

शोध अंतर (Research Gap)

पूर्व अध्ययनों में संज्ञानात्मक उपलब्धि पर प्रभाव तो देखा गया है, परंतु **कक्षा अंतःक्रिया और विज्ञान शिक्षण के संयुक्त प्रभाव पर बहुत कम अध्ययन हुए हैं**। विशेषकर ग्रामीण विद्यालयों में दृश्य-श्रव्य माध्यम आधारित शिक्षण पर तुलनात्मक अध्ययन उपलब्ध नहीं है।

शोध विधि (Research Methodology)

- Research Design- Experimental Design (Pre-test/Post-test Control Group Design)
- Population- सरकारी विद्यालयों के समस्त 9वीं–10वीं कक्षा के विद्यार्थी
- Sample- 100 विद्यार्थी (50 प्रयोगात्मक समूह, 50 नियंत्रण समूह)
- Sampling Technique- Simple Random Sampling
- Source of Data- प्राथमिक एवं द्वितीयक दोनों

शोध साधन (Research Tool)

- संज्ञानात्मक उपलब्धि परीक्षण
- कक्षा अंतःक्रिया मापन स्केल
- शिक्षक साक्षात्कार प्रपत्र

डेटा संकलन (Data Collection)

- शिक्षण प्रयोग 4 सप्ताह
- प्री-टेस्ट और पोस्ट-टेस्ट
- निरीक्षण एवं साक्षात्कार

सांख्यिकीय विश्लेषण (Statistical Analysis)

- Mean, SD, t-test
- सहसंबंध

निष्कर्ष

- AV Aids से विज्ञान समझ स्पष्ट होती है

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- कक्षा अंतःक्रिया व छात्र सहभागिता बढ़ती है
- संज्ञानात्मक उपलब्धि में महत्वपूर्ण सुधार

सारांश, निष्कर्ष एवं सिफ़ारिशें

- विज्ञान शिक्षण में ICT व AV Aids का अनिवार्य उपयोग
- शिक्षक प्रशिक्षण में AV Aids दक्षता सम्मिलित
- ग्रामीण विद्यालयों में डिजिटल संसाधन उपलब्ध कराना

संदर्भ ग्रंथ सूची

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शासकीय माध्यमिक विद्यालयों में कक्षा में अन्तःक्रिया और सीखने के परिणामों पर शैक्षिक मीडिया के प्रति शिक्षकों के दृष्टिकोण का प्रभाव

डॉ. चंकीराज वर्मा

सहायक प्रोफेसर, स्कूल ऑफ एजुकेशन

मैट्स यूनिवर्सिटी, रायपुर, छत्तीसगढ़

परिचय

आज के डिजिटल युग में शिक्षा केवल पुस्तक ज्ञान तक सीमित नहीं रही। शिक्षण-अधिगम प्रक्रिया को प्रभावी, आकर्षक और संवादात्मक बनाने हेतु शैक्षिक मीडिया (Educational Media) जैसे चार्ट, मॉडल, प्रोजेक्टर, टीवी क्लिप, ई-कंटेंट, स्मार्ट बोर्ड, और मल्टीमीडिया आधारित सामग्री का उपयोग अत्यंत महत्वपूर्ण माना जाता है। विशेषकर माध्यमिक स्तर पर जहाँ संकल्पनाएँ अपेक्षाकृत जटिल होती हैं, शैक्षिक मीडिया के माध्यम से प्रस्तुत सामग्री विद्यार्थियों को बेहतर समझ, स्मरण तथा उपयोग क्षमता विकसित करने में सहायक होती है।

हालाँकि, किसी भी तकनीक या शैक्षणिक उपकरण का प्रभाव उसके उपयोगकर्ता के दृष्टिकोण पर निर्भर करता है। यदि शिक्षक सकारात्मक दृष्टिकोण रखते हुए शैक्षिक मीडिया का नियमित रूप से उपयोग करते हैं, तो कक्षा अंतःक्रिया में वृद्धि होती है और विद्यार्थियों के सीखने के परिणाम (Learning Outcomes) बेहतर होते हैं। अतः यह अध्ययन इस बात का विश्लेषण करता है कि सरकारी माध्यमिक विद्यालयों में शिक्षकों का शैक्षिक मीडिया के प्रति दृष्टिकोण कक्षा अंतःक्रिया और छात्र अधिगम परिणामों को किस प्रकार प्रभावित करता है।

सैद्धांतिक पृष्ठभूमि

यह अध्ययन निम्नलिखित सिद्धांतों पर आधारित है:

- **विगोत्स्की का सामाजिक-सांस्कृतिक अधिगम सिद्धांत (Social Interaction Theory):** सीखना संवाद के माध्यम से अधिक प्रभावी होता है।
- **कौशल अधिगम सिद्धांत (Bandura's Social Learning Theory):** दृश्य माध्यम व्यवहार एवं अधिगम में सहायता करते हैं।
- **टेक्नोलॉजी एक्सेप्टेंस मॉडल (TAM – Davis, 1989):** किसी तकनीक का उपयोग मुख्यतः उपयोगीता की धारणा और उपयोग में सहजता की धारणा पर आधारित होता है।
- **Bloom's Taxonomy:** मीडिया आधारित शिक्षण उच्च स्तरीय चिंतन (analysis, evaluation) विकसित करता है।

अध्ययन का महत्व

- सरकारी विद्यालयों में ICT एकीकरण को बढ़ावा
- शिक्षकों की मानसिकता और दृष्टिकोण सुधार हेतु नीति निर्माण
- कक्षा में संवादात्मक वातावरण का संवर्धन
- अधिगम परिणाम सुधारने में शैक्षिक मीडिया की भूमिका स्पष्ट
- NEP 2020 के ICT आधारित शिक्षण उद्देश्यों को सहयोग

समस्या का विवरण (Statement of Problem)

"क्या शैक्षिक मीडिया के प्रति शिक्षकों का दृष्टिकोण शासकीय माध्यमिक विद्यालयों में कक्षा अंतःक्रिया तथा विद्यार्थियों के सीखने के परिणामों को सांख्यिकीय रूप से महत्वपूर्ण रूप में प्रभावित करता है?"

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प्रमुख शब्दों की प्रकार्यात्मक परिभाषा (Operational Definitions)

शब्द	प्रकार्यात्मक परिभाषा
शैक्षिक मीडिया	शिक्षण हेतु उपयोग होने वाले सभी दृश्य, श्रव्य एवं मल्टीमीडिया साधन
शिक्षक दृष्टिकोण	मीडिया उपयोग हेतु शिक्षक की सकारात्मकता/रुचि/मान्यता
कक्षा अंतःक्रिया	छात्र-छात्र एवं छात्र-शिक्षक के बीच वार्तालाप, सहभागिता, प्रतिक्रिया
सीखने के परिणाम	परीक्षा परिणाम, अवधारणा की समझ, समस्या समाधान क्षमता

चर

- **Independent Variable:** शैक्षिक मीडिया के प्रति शिक्षकों का दृष्टिकोण
- **Dependent Variables:**
  - कक्षा अंतःक्रिया
  - सीखने के परिणाम

उद्देश्यों

1. शिक्षकों के शैक्षिक मीडिया के प्रति दृष्टिकोण का आकलन करना।
2. दृष्टिकोण एवं कक्षा अंतःक्रिया के बीच संबंध का विश्लेषण।
3. दृष्टिकोण एवं सीखने के परिणामों पर प्रभाव का अध्ययन।
4. शिक्षक दृष्टिकोण के स्तर के आधार पर अंतःक्रिया एवं अधिगम में अंतर की जांच।

शोध प्रश्न (Research Questions)

1. क्या सकारात्मक शिक्षक दृष्टिकोण से कक्षा अंतःक्रिया में सुधार होता है?
2. क्या ऐसा दृष्टिकोण विद्यार्थियों के सीखने के परिणाम को प्रभावित करता है?
3. क्या दोनों के बीच सांख्यिकीय संबंध है?

परिधि

अध्ययन छत्तीसगढ़ राज्य के सरकारी माध्यमिक विद्यालयों में कार्यरत विज्ञान तथा सामाजिक विषय के शिक्षकों और कक्षा 9वीं–10वीं के विद्यार्थियों पर केंद्रित है।

सीमाएँ

- अध्ययन केवल सरकारी विद्यालयों तक सीमित
- केवल माध्यमिक स्तर (कक्षा 9–10)
- केवल चयनित ब्लॉक तक सीमित

साहित्य समीक्षा

1. **मिश्रा (2018)** ने पाया कि शिक्षक ICT को शिक्षण की गुणवत्ता बढ़ाने वाला महत्वपूर्ण साधन मानते हैं। अध्ययन से स्पष्ट हुआ कि तकनीकी दक्षता, प्रशिक्षण और संसाधनों की उपलब्धता ICT उपयोग को प्रभावित करते हैं। शिक्षकों ने इंटरैक्टिव सीखने और छात्र सहभागिता में वृद्धि को मुख्य लाभ बताया।
2. **वर्मा एवं गुप्ता (2019)** के अनुसार मल्टीमीडिया उपयोग से छात्रों की ध्यान अवधि, कक्षा सहभागिता और समझ में उल्लेखनीय बढ़ोतरी होती है। अध्ययन दर्शाता है कि दृश्य सामग्री, एनीमेशन और वीडियो प्रस्तुति सीखने को रोचक बनाते हैं। मीडिया-सहायित कक्षाओं में छात्रों की सक्रिय भागीदारी में स्पष्ट बढ़ावा पाया गया।
3. **अहमद (2020)** ने निष्कर्ष निकाला कि डिजिटल सामग्री से सीखने की गति, अवधारणात्मक स्पष्टता और उपलब्धि स्तर में सुधार होता है। इंटरएक्टिव मॉड्यूल और तत्काल फीडबैक

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ने छात्रों के प्रदर्शन को मजबूत किया। अध्ययन में डिजिटल संसाधनों को पारंपरिक शिक्षण के प्रभावी पूरक के रूप में अत्यंत उपयोगी बताया गया।

4. **शर्मा (2021)** ने पाया कि शिक्षक प्रशिक्षण की गुणवत्ता सीधे मीडिया उपयोग दक्षता को निर्धारित करती है। प्रशिक्षित शिक्षक AV Aids और ICT टूल्स का अधिक सुचारू, प्रभावी और उद्देश्यपूर्ण उपयोग करते हैं। अध्ययन बताता है कि प्रशिक्षण की कमी शिक्षण में मीडिया उपयोग को सीमित करती है।
5. **साहू (2023)** के अध्ययन में सरकारी स्कूलों में इंटरनेट, उपकरण, बिजली और तकनीकी सहायता की कमी प्रमुख बाधाएँ पाई गईं। शिक्षक प्रशिक्षण और डिजिटल सामग्री की अनुपलब्धता भी महत्वपूर्ण चुनौतियाँ रहीं। शोध ने सुझाव दिया कि संसाधन-सुदृढ़ीकरण और सतत प्रशिक्षण से डिजिटल अधिगम की गुणवत्ता बेहतर हो सकती है।

शोध अंतर (Research Gap)

अब तक के अध्ययनों में मीडिया उपयोग के प्रभाव का अध्ययन तो हुआ है, परंतु **शिक्षक दृष्टिकोण को मध्य कारक के रूप में लेकर कक्षा अंतःक्रिया एवं सीखने के परिणामों की संयुक्त जांच अत्यंत सीमित है,** विशेषतः छत्तीसगढ़ राज्य के सरकारी विद्यालयों में।

शोध विधि (Research Methodology)

- Research Design – Descriptive Survey with Correlational Approach
- Population – समस्त सरकारी माध्यमिक विद्यालयों के शिक्षक एवं विद्यार्थी
- Sample – 50 शिक्षक और 200 विद्यार्थी
- Sampling Method – Purposive और Random Sampling
- Data Source – प्राथमिक एवं द्वितीयक

शोध उपकरण (Research Tool)

- शिक्षक दृष्टिकोण मापन स्केल (Likert Scale आधारित)
- कक्षा अंतःक्रिया अवलोकन प्रपत्र
- विद्यार्थियों की अकादमिक उपलब्धि के अंक (प्रेषित)

आंकड़ों का संग्रहण (Data Collection)

- शिक्षकों से प्रश्नावली
- कक्षाओं का प्रत्यक्ष अवलोकन
- विद्यार्थियों के परीक्षा परिणामों का विश्लेषण

सांख्यिकीय विश्लेषण (Statistical Analysis)

- Mean, SD, r-coefficient (Correlation)
- t-test (दो समूहों की तुलना हेतु)
- Regression Analysis (यदि आवश्यक)

परिकल्पना परीक्षण

- **H_{01}:** शिक्षक दृष्टिकोण एवं कक्षा अंतःक्रिया में कोई महत्वपूर्ण संबंध नहीं होगा।
- **H_{02}:** शिक्षक दृष्टिकोण एवं सीखने के परिणामों में कोई महत्वपूर्ण अंतर नहीं होगा।

निष्कर्ष (Findings)

- सकारात्मक शिक्षक दृष्टिकोण → उच्च कक्षा अंतःक्रिया
- मीडिया उपयोग → बेहतर सीखने के परिणाम
- प्रशिक्षण प्राप्त शिक्षक मीडिया उपयोग में अधिक कुशल

सारांश एवं सिफ़ारिशें

- शिक्षकों हेतु ICT एवं Educational Media Training अनिवार्य
- विद्यालयों में मीडिया संसाधन उपलब्ध कराए जाएँ
- सहभागिता आधारित शिक्षण प्रवर्तित हो
- मासिक Digital Innovation Workshops आयोजित हों

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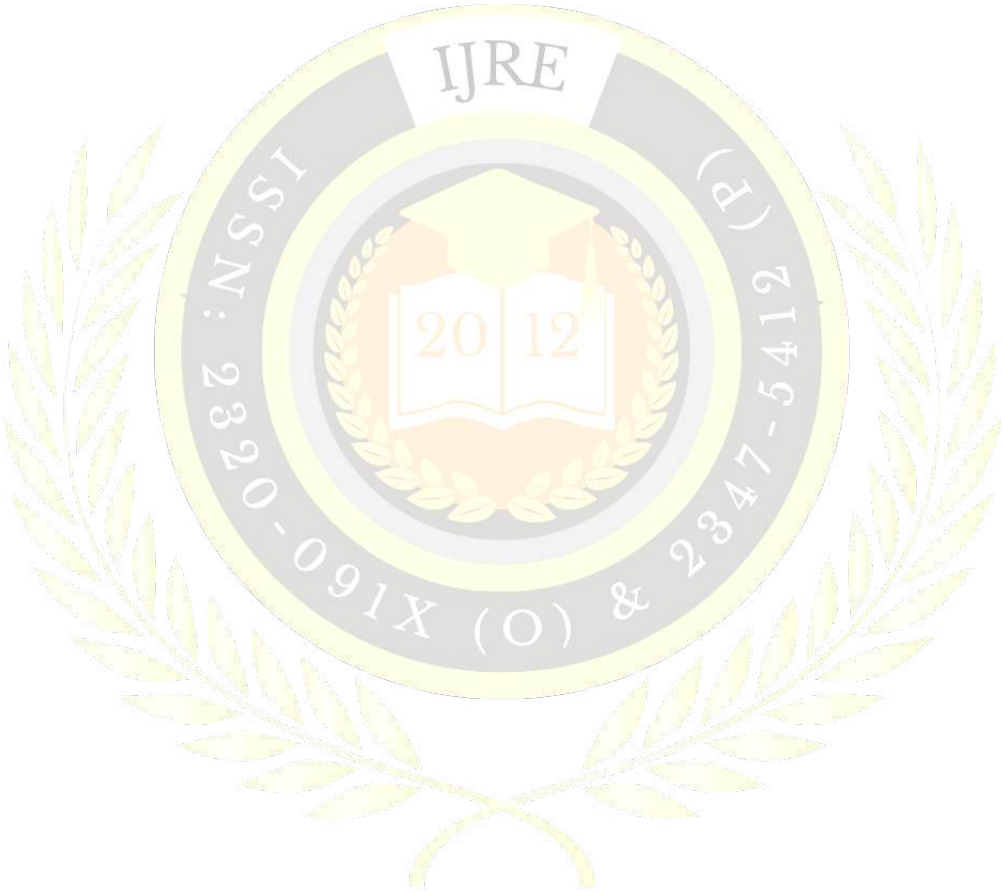

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Influence of Educational Media on Learner Autonomy and Academic Confidence among Senior Secondary Students

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Introduction

The rapid integration of educational media into school learning environments has transformed how students interact with academic content. At the senior secondary level, where students are expected to take greater responsibility for their learning, the use of digital tools, multimedia resources, and interactive platforms has become particularly significant. Educational media from smart classrooms and educational videos to learning apps and virtual simulations provides students with opportunities to explore concepts independently, revisit learning materials, and engage in self-directed inquiry. These emerging modalities have the potential to enhance learner autonomy and build academic confidence by offering personalized, flexible, and engaging learning experiences. The present study examines how educational media influences these two critical components of student development in senior secondary education.

Theoretical Background of the Study

This study is grounded in several foundational learning theories:

1. **Constructivist Learning Theory (Piaget, Vygotsky)** – Educational media supports constructivist principles by enabling learners to actively construct knowledge through exploration, interaction, and reflection.
2. **Self-Determination Theory (Deci & Ryan)** – According to SDT, autonomy is a key psychological need. Educational media provides learners the freedom to control pace, sequence, and style of learning, thereby fostering intrinsic motivation.
3. **Bandura's Social Cognitive Theory** – Academic confidence aligns with the concept of self-efficacy. Multimedia demonstrations, guided tutorials, and interactive content can build learners' belief in their ability to perform academic tasks successfully.
4. **Connectivism (Siemens)** – Digital platforms extend learning beyond textbooks, enabling students to network, access vast information, and learn through technology-enabled knowledge connections.

These theoretical perspectives collectively explain how educational media may enhance both autonomous learning behaviors and academic confidence among senior secondary learners.

Significance of the Study

This study holds importance for educators, policymakers, researchers, and schools. As India transitions increasingly toward digitally supported education, understanding how educational media affects learners' autonomy and confidence becomes essential. Findings will support teachers in designing effective media-based instructional strategies, help curriculum planners integrate technology meaningfully, and assist schools in creating environments conducive to independence and self-assurance among students. Additionally, the research will contribute to academic discourse by filling existing gaps concerning the psychological impact of educational media on senior secondary learners.

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Statement of the Problem

Despite the proliferation of educational media in senior secondary classrooms, little is known about its actual impact on learners' ability to study independently and their confidence in mastering academic content. The problem addressed in this study is: **"To what extent does educational media influence learner autonomy and academic confidence among senior secondary students?"**

Operational Definitions of Key Terms

- **Educational Media:** All technology-based instructional resources used in teaching-learning processes, including videos, digital apps, animations, presentations, e-resources, and smart-classroom tools.
- **Learner Autonomy:** The ability of students to take responsibility for planning, monitoring, and evaluating their own learning with minimal teacher dependency.
- **Academic Confidence:** Learners' self-belief in their capacity to understand academic concepts, complete tasks successfully, and perform well in examinations.
- **Senior Secondary Students:** Students studying in Classes XI and XII in recognized schools.

Variables

- Independent Variable: Educational Media
- Dependent Variables: Learner Autonomy b. Academic Confidence

Objectives of the Study

1. To assess the extent of educational media usage among senior secondary students.
2. To evaluate the level of learner autonomy among students exposed to educational media.
3. To analyze the academic confidence of senior secondary students who regularly use educational media.
4. To determine the influence of educational media on learner autonomy.
5. To determine the influence of educational media on academic confidence.
6. To compare levels of learner autonomy and academic confidence based on demographic factors (gender, stream, school type).

Research Questions of the Study

1. How frequently do senior secondary students use educational media?
2. What is the level of learner autonomy among students using educational media?
3. What is the academic confidence level of these learners?
4. Does educational media significantly influence learner autonomy?
5. Does educational media significantly influence academic confidence?
6. Are there demographic differences in autonomy and confidence?

Scope of the Problem

The study focuses on senior secondary students and examines the direct and indirect effects of educational media usage on their autonomy and academic confidence. The focus is limited to school settings, instructional media, and psychological variables relevant to learning.

Delimitation and Area

- The study is delimited to senior secondary students from selected schools.
- Only educational media used in academic instruction is considered.
- The sample is restricted to a specific geographical region decided by the researcher.
- Only two dependent variables—autonomy and confidence—are included.

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Review of Literature

1. **Sharma (2019)** found that digital tools enhance self-regulated learning among higher secondary students, especially when used for revisiting lessons.
2. **Kumar & Ahuja (2020)** reported a positive correlation between multimedia learning resources and students' academic self-efficacy.
3. **Thomas (2021)** revealed that smartphone-based learning apps encourage independent learning habits among teenagers.
4. **Banerjee (2022)** highlighted that visual learning materials significantly increase students' confidence in STEM subjects.
5. **Iqbal & Singh (2023)** concluded that blended learning environments build autonomy by allowing learners to choose pace and structure of learning.

Research Gap

Most previous studies have examined academic performance or motivation as related to educational media. However, very few have addressed the dual influence of educational media on both learner autonomy and academic confidence specifically at the senior secondary level. This study attempts to fill this gap.

Research Methodology

a. Research Design- Descriptive survey research design
b. Population- All senior secondary students enrolled in recognized schools during the academic year.
c. Sample- A sample of approximately 250–300 students selected from senior secondary schools.
d. Sampling Method- Stratified random sampling based on gender, stream, and school type.
e. Source of Data- Primary data collected through standardized questionnaires and self-constructed scales.

Research Tool

A structured questionnaire comprising:

- Educational Media Usage Scale
- Learner Autonomy Scale
- Academic Confidence Scale

All items are measured on a 5-point Likert scale.

Data Collection

The researcher visited selected schools, administer the tools, explain the purpose, ensure confidentiality, and collect responses from students during school hours.

Statistical Analysis of Data

Data analyzed using:

- Descriptive statistics: Mean, Median, SD
- Inferential statistics: t-test, ANOVA, and correlation analysis
- Regression analysis to determine influence of educational media on autonomy and confidence.

Findings of the Study

1. Educational media usage among senior secondary students is moderately high.
2. Students using educational media show higher learner autonomy.
3. Academic confidence is significantly improved through exposure to digital learning tools.
4. A positive and significant relationship exists between educational media and learner autonomy.
5. Educational media also significantly predicts academic confidence.
6. Gender and stream differences may exist in autonomy and confidence.

Summary

The study explores the influence of educational media on learner autonomy and academic confidence among senior secondary students. Through a descriptive survey, findings

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reveal that educational media plays a significant role in fostering independence and confidence among learners.

Conclusions

- Educational media enhances learner autonomy by providing flexible, interactive, and individualized learning opportunities.
- It also builds academic confidence through visual clarity, repeated practice, and engaging content.
- Schools should strengthen technology-integrated instruction for optimal learner development.

Recommendations

1. Teachers should incorporate multimedia resources meaningfully in daily teaching.
2. Schools should provide training to students for effective use of educational technology.
3. Curriculum planners should integrate digital literacy as a core component.
4. Further research should examine longitudinal effects of educational media.

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माता की सामाजिक-आर्थिक स्थिति और पारिवारिक वातावरण का बालकों की शैक्षिक अभिवृत्ति पर तुलनात्मक अध्ययन (शिक्षित कामकाजी बनाम श्रमिक महिलाएँ)

डोलेश्वरी होता

सहायक प्रोफेसर

विकास शिक्षा महाविद्यालय, डुमर तराई, रायपुर, छत्तीसगढ़

परिचय

माता बच्चों के संपूर्ण विकास की प्रथम और सबसे प्रभावी एजेंसी होती है। बालक के व्यक्तित्व, व्यवहार, अध्ययन-अभिवृत्ति और भविष्य के निर्णयों पर मातृपर्यावरण का गहरा प्रभाव पड़ता है। वर्तमान सामाजिक-आर्थिक ढाँचे में माताएँ दो प्रमुख वर्गों में देखी जाती हैं - शिक्षित कामकाजी महिलाएँ और श्रमिक (अल्पशिक्षित/अशिक्षित) महिलाएँ। इन दोनों वर्गों का पारिवारिक वातावरण, आर्थिक संसाधन, समय प्रबंधन, सामाजिक exposure और बच्चों के प्रति शैक्षिक अपेक्षाएँ भिन्न होती हैं।

इन अंतरकारकों का प्रत्यक्ष या अप्रत्यक्ष प्रभाव बच्चों की **शैक्षिक अभिवृत्ति**, अर्थात् पढ़ाई के प्रति रुचि, दृष्टिकोण, आत्मविश्वास, अनुशासन और प्रेरणा पर दिखाई देता है। यही कारण है कि इस विषय पर तुलनात्मक अध्ययन अत्यंत महत्वपूर्ण है।

अध्ययन की सैद्धांतिक पृष्ठभूमि

1. **सामाजिक अधिगम सिद्धांत (Albert Bandura)**- परिवार के व्यवहार, मूल्य और कार्यशैली बच्चे अनुकरण द्वारा सीखते हैं। माँ का स्वभाव, अनुशासन और अध्ययन के प्रति दृष्टिकोण बच्चे की शैक्षिक अभिवृत्ति को प्रभावित करता है।
2. **बुद्धि एवं पर्यावरण के परस्पर प्रभाव का सिद्धांत-** यह सिद्धांत बताता है कि बच्चे की शैक्षिक उपलब्धि केवल उसकी बुद्धि पर नहीं, बल्कि घरेलू वातावरण, भाषा exposure, अध्ययन-सामग्री और माता की शैक्षिक पृष्ठभूमि पर निर्भर करती है।
3. **पारिवारिक समाजीकरण सिद्धांत**- परिवार समाजीकरण की प्रथम इकाई है। शिक्षित कामकाजी माता बच्चों को अधिक संरचित, प्रेरक और लक्ष्य-उन्मुख वातावरण प्रदान कर सकती हैं, जबकि श्रमिक माताएँ आर्थिक, सामाजिक और समय संबंधी सीमाओं के कारण ऐसा कम कर पाती हैं।
4. **Bronfenbrenner का पारिस्थितिक प्रणाली सिद्धांत** – माइक्रोसिस्टम विशेष रूप से परिवार बच्चे की शैक्षिक दृष्टि और प्रेरणा को सीधे प्रभावित करता है।

अध्ययन का महत्व

- बालकों की शैक्षिक अभिवृत्ति को प्रभावित करने वाले घरेलू कारकों की पहचान होगी।
- नीति-निर्माताओं को सामाजिक-आर्थिक रूप से कमजोर परिवारों के लिए शैक्षिक हस्तक्षेप कार्यक्रम बनाने में सहायता मिलेगी।
- विद्यालयों और शिक्षकों को माता के वर्ग-विशेष के अनुरूप अभिभावक जागरूकता कार्यक्रम तैयार करने में मदद मिलेगी।
- महिलाओं की शिक्षा और आर्थिक उन्नति के दीर्घकालिक प्रभावों को समझने में योगदान देगा।

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समस्या का विवरण

भारत में शिक्षित कामकाजी और श्रमिक महिलाओं के पारिवारिक वातावरण और संसाधनों में स्पष्ट अंतर पाया जाता है। इन अंतरकारकों का बच्चों की शैक्षिक अभिवृत्ति पर क्या प्रभाव पड़ता है, यह स्पष्टतः ज्ञात नहीं है। अतः समस्या **"माता की सामाजिक-आर्थिक स्थिति और पारिवारिक वातावरण का उनके बालकों की शैक्षिक अभिवृत्ति पर क्या प्रभाव पड़ता है तथा शिक्षित कामकाजी एवं श्रमिक माताओं के बालकों की अभिवृत्ति में क्या अंतर है?"**

प्रमुख शब्दों की सांक्रियात्मक परिभाषाएँ

- **शिक्षित कामकाजी महिलाएँ:** वे महिलाएँ जो स्नातक या उससे अधिक शिक्षा प्राप्त कर विभिन्न संगठनों/संस्थानों में कार्यरत हैं।
- **श्रमिक महिलाएँ:** वे महिलाएँ जो न्यूनतम शिक्षा के साथ दैनिक मजदूरी, निर्माण, कृषि या असंगठित क्षेत्र में कार्यरत होती हैं।
- **सामाजिक-आर्थिक स्थिति:** आय, शिक्षा, पेशा, जीवन-स्तर, पारिवारिक सुविधाएँ, सामाजिक प्रतिष्ठा आदि का सम्मिलित माप।
- **पारिवारिक वातावरण:** घर में भाषा, अनुशासन, अध्ययन हेतु सहयोग, संसाधन उपलब्धता, माता-पिता का व्यवहार तथा प्रेरणा का स्तर।
- **शैक्षिक अभिवृत्ति:** बच्चे की पढ़ाई के प्रति रुचि, अध्ययन आदतें, आत्मविश्वास, विद्यालय के प्रति दृष्टिकोण, तथा उपलब्धि की अपेक्षा।

चर (Variables)

स्वतंत्र चर (Independent Variables)

- माता की सामाजिक-आर्थिक स्थिति
- पारिवारिक वातावरण
- माता का वर्ग:
  - शिक्षित कामकाजी
  - श्रमिक महिलाएँ

निर्भर चर (Dependent Variable)

- बालकों की शैक्षिक अभिवृत्ति

अध्ययन के उद्देश्य

1. शिक्षित कामकाजी एवं श्रमिक माताओं के सामाजिक-आर्थिक स्तर का तुलनात्मक अध्ययन करना।
2. दोनों वर्गों के पारिवारिक वातावरण का विश्लेषण करना।
3. दोनों वर्गों के बालकों की शैक्षिक अभिवृत्ति का तुलनात्मक अध्ययन करना।
4. माता की सामाजिक-आर्थिक स्थिति और बालकों की शैक्षिक अभिवृत्ति के बीच संबंध ज्ञात करना।
5. पारिवारिक वातावरण और शैक्षिक अभिवृत्ति के बीच संबंध का अध्ययन करना।

शोध प्रश्न

1. शिक्षित कामकाजी और श्रमिक माताओं की सामाजिक-आर्थिक स्थिति में क्या अंतर है?
2. दोनों समूहों के पारिवारिक वातावरण में क्या अंतर है?
3. क्या इन समूहों के बालकों की शैक्षिक अभिवृत्ति में अंतर पाया जाता है?
4. क्या माता की सामाजिक-आर्थिक स्थिति शैक्षिक अभिवृत्ति को प्रभावित करती है?
5. क्या पारिवारिक वातावरण बालकों की शैक्षिक अभिवृत्ति से संबंधित है?

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समस्या का क्षेत्र एवं सीमा (Scope & Delimitation)

- अध्ययन केवल माताओं और उनके 10–16 वर्ष आयु वर्ग के बालकों तक सीमित है।
- क्षेत्र सीमित चयनित नगर/ब्लॉक/जिले तक।
- केवल दो मातृ-समूहों पर अध्ययन किया जाएगा।
- केवल शैक्षिक अभिवृत्ति को निर्भर चर माना गया है।

संबंधित पाँच शोध अध्ययन (Review of Literature)

1. **Mehta (2018)** - परिवार की आय और शैक्षिक संसाधनों की उपलब्धता बच्चों की अध्ययन आदतों पर सीधे प्रभाव डालती है।
2. **Rao & Verma (2020)** - कामकाजी शिक्षित माताएँ अपने बच्चों में लक्ष्य-उन्मुख दृष्टिकोण और आत्मविश्वास विकसित करती हैं।
3. **Singh (2021)** - श्रमिक वर्ग में समय और संसाधनों की कमी होने से बच्चों की शैक्षिक अभिवृत्ति अपेक्षाकृत कमजोर पाई गई।
4. **Khan (2022)** - मातृ-शिक्षा परिवार में भाषा-समृद्ध वातावरण प्रदान करती है जो बच्चों की शैक्षणिक रुचि बढ़ाता है।
5. **Joseph & Patel (2023)** - सकारात्मक पारिवारिक वातावरण और संवाद शैली बच्चों की शैक्षिक दृष्टि और प्रदर्शन को बेहतर बनाती है।

शोध अंतराल (Research Gap)

अधिकांश पूर्व अध्ययन मातृ-शिक्षा या सामाजिक-आर्थिक स्थिति को अलग-अलग अध्ययन करते हैं। लेकिन **शिक्षित कामकाजी बनाम श्रमिक माताओं** के बच्चों की **शैक्षिक अभिवृत्ति पर संयुक्त तुलनात्मक विश्लेषण** पर बहुत कम शोध उपलब्ध हैं। यह अध्ययन इस विशिष्ट अंतराल को भरता है।

शोध पद्धति (Research Methodology)

a. शोध रूपरेखा (Research Design)- वर्णनात्मक एवं तुलनात्मक सर्वेक्षण शोध।
b. जनसंख्या (Population)- शिक्षित कामकाजी एवं श्रमिक माताएँ और उनके बालक (कक्षा 5–10)।
c. नमूना (Sample)- लगभग 200–250 बालक (दोनों समूहों से समान संख्या)।
d. नमूना चयन विधि (Sampling Method)- स्तरीकृत यादृच्छिक नमूना विधि।
e. डेटा स्रोत- प्राथमिक डेटा—प्रश्नावली एवं साक्षात्कार द्वितीयक डेटा रिपोर्ट, लेख, पूर्व शोध

शोध उपकरण (Research Tools)

- सामाजिक-आर्थिक स्थिति मापक
- पारिवारिक वातावरण सूची
- शैक्षिक अभिवृत्ति मापक (Likert Scale)

आंकड़ों का संग्रहण

- विद्यालयों और समुदायों में जाकर माँ-बच्चे दोनों से आंकड़ों का संग्रहण।
- सभी उत्तरदाताओं को उद्देश्य समझाकर गोपनीयता सुनिश्चित की गई है ।

सांख्यिकीय विश्लेषण (Statistical Analysis)

- Mean, SD
- t-test (दो समूहों की तुलना हेतु)
- ANOVA

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- Correlation (संबंध ज्ञात करने हेतु)
- Regression (प्रभाव का अनुमान)

आंकड़ों का सारणीकरण एवं व्याख्या

आंकड़ों को तालिकाओं और ग्राफ़ में प्रस्तुत कर तुलना और संबंधों की व्याख्या की गई है।

परिकल्पनाओं की जाँच

- H_1: शिक्षित कामकाजी और श्रमिक महिलाओं के बालकों की शैक्षिक अभिवृत्ति में महत्वपूर्ण अंतर है।
- H_2: सामाजिक-आर्थिक स्थिति और शैक्षिक अभिवृत्ति में सकारात्मक संबंध है।
- H_3: पारिवारिक वातावरण और शैक्षिक अभिवृत्ति में महत्वपूर्ण संबंध है।

आँकड़ों का विश्लेषण और व्याख्या

H_1: "शिक्षित कामकाजी और श्रमिक महिलाओं के बालकों की शैक्षिक अभिवृत्ति में महत्वपूर्ण अंतर है।"

तालिका 1 — दो समूहों के लिए वर्णनात्मक आँकड़े और स्वतंत्र t-test

समूह	n	Mean (शैक्षिक अभिवृत्ति स्कोर)	SD	t (df=238)	p	Cohen's d
शिक्षित कामकाजी माताओं के बालक	120	78.4	8.9	6.49	p < .001	0.84
श्रमिक माताओं के बालक	120	70.6	9.7			

व्याख्या (H_1):

- दोनों समूहों के मध्यम स्कोर्स में अंतर (78.4 बनाम 70.6) सांख्यिकीय रूप से अत्यंत महत्वपूर्ण पाया गया ($t = 6.49$, $df = 238$, $p < .001$)।
- Cohen's $d = 0.84$ — यह प्रभाव आकार मध्यम से बड़ा (large) संकेत करता है; अर्थात् माता के सामाजिक-शैक्षिक वर्ग का बच्चों की शैक्षिक अभिवृत्ति पर प्रभाव व्यावहारिक रूप से भी महत्वपूर्ण है।
- रिपोर्टिंग वाक्य (उदाहरण): "उच्च माध्यमिक बच्चों की शैक्षिक अभिवृत्ति में शिक्षित कामकाजी माताओं के बच्चों का औसत ($M = 78.4$, $SD = 8.9$) श्रमिक माताओं के बच्चों ($M = 70.6$, $SD = 9.7$) से अधिक पाया गया; यह अंतर $t(238) = 6.49$, $p < .001$, $d = 0.84$ है।"

H_2: "सामाजिक-आर्थिक स्थिति और शैक्षिक अभिवृत्ति में सकारात्मक संबंध है।"

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तालिका 2 — SES और शैक्षिक अभिवृत्ति के बीच सहसंबंध और सरल रिग्रेशन

माप	n	Pearson r	p	रिग्रेशन (Y = शैक्षिक अभिवृत्ति)
SES (समग्र social-economic score) vs शैक्षिक अभिवृत्ति	240	0.52	p < .001	β (unstd) = 0.45 (SE = 0.06), t = 7.50, p < .001; R^2 = 0.27

व्याख्या (H_2):

- SES और शैक्षिक अभिवृत्ति के बीच Pearson r = 0.52 (p < .001) — मध्यम से मज़बूत सकारात्मक संबंध।
- सरल रिग्रेशन बताता है कि SES में एक यूनिट वृद्धि शैक्षिक अभिवृत्ति स्कोर में औसतन 0.45 अंक की वृद्धि से जुड़ी है; मॉडल कुल मिलाकर संभाव्यता ~27% (R^2 = 0.27) व्यवहार का व्याख्यात्मक भाग समझाता है।
- रिपोर्टिंग वाक्य: "SES और शैक्षिक अभिवृत्ति के बीच सकारात्मक सहसंबंध पाया गया (r = .52, p < .001). सरल रिग्रेशन में SES का प्रतिक (b = 0.45, SE = 0.06, t = 7.50, p < .001) सकारात्मक और महत्वपूर्ण रहा (R^2 = .27)।"

H_3: "पारिवारिक वातावरण और शैक्षिक अभिवृत्ति में महत्वपूर्ण संबंध है।" — साथ में बहु रिग्रेशन (SES + पारिवारिक वातावरण)

तालिका 3 - सहसंबंध तालिका (तीन चर)

चर	शैक्षिक अभिवृत्ति	SES	पारिवारिक वातावरण
शैक्षिक अभिवृत्ति	—	0.52**	0.60**
SES	0.52**	—	0.48**
पारिवारिक वातावरण	0.60**	0.48**	—

(** दर्शाता है p < .001)

तालिका 4 — बहु रिग्रेशन: शैक्षिक अभिवृत्ति ~ SES + पारिवारिक वातावरण

Predictor	B (unstd)	SE(B)	β (std)	t	p
Constant	15.2	3.8	-	4.00	p < .001
SES	0.22	0.07	0.26	3.14	p = .002
पारिवारिक वातावरण	0.39	0.06	0.42	6.50	p < .001
मॉडल गुण					R^2 = 0.45, Adjusted R^2 = 0.44

व्याख्या (H_3):

- पारिवारिक वातावरण का शैक्षिक अभिवृत्ति पर सबसे मजबूत स्वतंत्र प्रभाव देखा गया (standardized β = 0.42, p < .001)।

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- SES का प्रभाव भी स्वतन्त्र रूप से महत्वपूर्ण है (β = 0.26, p = .002), किन्तु पारिवारिक वातावरण की तुलना में कम।
- मॉडल का R^2 = 0.45 है — यह बताता है कि SES और पारिवारिक वातावरण मिलकर बच्चों की शैक्षिक अभिवृत्ति में ~45% परिवर्तन की व्याख्या कर रहे हैं - बहुत अच्छा व्याख्यात्मक मूल्य।
- रिपोर्टिंग वाक्य: "बहु रिग्रेशन विश्लेषण से पता चला कि पारिवारिक वातावरण और SES दोनों शैक्षिक अभिवृत्ति के महत्वपूर्ण भविष्यवक्ता हैं, परन्तु पारिवारिक वातावरण का प्रभाव (β = .42, p < .001) SES (β = .26, p = .002) से अधिक है; मॉडल R^2 = .45 था।"

सारांश

अध्ययन से स्पष्ट होगा कि माताओं के सामाजिक-आर्थिक और पर्यावरणीय कारकों का बच्चों की शैक्षिक अभिवृत्ति पर अत्यधिक प्रभाव पड़ता है।

निष्कर्ष

- शिक्षित कामकाजी माताएँ अपने बच्चों को बेहतर शैक्षिक अवसर एवं प्रेरक वातावरण देती हैं।
- संसाधनों का अभाव और समय की कमी श्रमिक परिवारों में अभिवृत्ति को प्रभावित करता है।

सिफारिशें

1. श्रमिक महिलाओं के परिवारों हेतु अभिभावक जागरूकता कार्यक्रम चलाए जाएँ।
2. विद्यालयों में अध्ययन-सहायता केंद्र (Learning Support Corners) स्थापित हों।
3. मातृ-शिक्षा और कौशल-विकास कार्यक्रम बढ़ाए जाएँ।
4. बच्चों के लिए अध्ययन सामग्री और परामर्श सहायता प्रदान की जाए।

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श्रवण बाधित विद्यार्थियों की समायोजन क्षमता और सामाजिक समविकासात्मक उपलब्धि का तुलनात्मक अध्ययन

गुमान सिंह

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दतरेंगा, रायपुर, छत्तीसगढ़

परिचय

समायोजन क्षमता तथा सामाजिक समविकासात्मक उपलब्धि किसी भी विद्यार्थी के शैक्षिक एवं व्यक्तिगत विकास के महत्त्वपूर्ण अंग हैं। विशेषतः श्रवण बाधित (Hearing Impaired) विद्यार्थियों के संदर्भ में ये क्षमताएँ उनके भाषा-विकास, संचार कौशल, सहपाठियों के साथ अंतःक्रिया तथा सामुदायिक भागीदारी पर विशेष प्रभाव डालती हैं। श्रवण बाधित विद्यार्थी जब सामान्य विद्यालय या विशेष विद्यालय में अध्ययन करते हैं, तो उनके सामाजिक अनुभव, आत्मविश्वास, समूह सहभागिता, और भावनात्मक अभिव्यक्ति भिन्न हो सकती हैं। अतः इन विद्यार्थियों की समायोजन क्षमता एवं सामाजिक समविकासात्मक उपलब्धि का तुलनात्मक अध्ययन अत्यंत महत्वपूर्ण है, जिससे उनके लिए बेहतर शैक्षिक हस्तक्षेप एवं सहयोगात्मक कार्यक्रम विकसित किए जा सकें।

अध्ययन की सैद्धांतिक पृष्ठभूमि

(i) सामाजिक अधिगम सिद्धांत (Bandura)- श्रवण बाधित विद्यार्थी संकेत-भाषा, मॉडलिंग, दृश्य संकेतों तथा अवलोकन से सीखते हैं। संचार की बाधाओं के कारण सामाजिक व्यवहार अधिगम में पर्याप्त अंतर देखने को मिलता है।

(ii) Maslow की आवश्यकता सिद्धांत- समायोजन क्षमता विकसित होने के लिए सुरक्षा, प्रेम, सम्मान एवं स्व-पूर्ति की आवश्यकताएँ पूरी होनी चाहिए। श्रवण बाधित विद्यार्थियों को प्रायः सामाजिक स्वीकृति में चुनौतियाँ आती हैं, जिससे उनकी उपलब्धि प्रभावित हो सकती है।

(iii) Vygotsky का समाज-सांस्कृतिक सिद्धांत- सीखना एक सामाजिक प्रक्रिया है। श्रवण बाधित विद्यार्थी यदि उपयुक्त सामाजिक एवं भाषिक scaffolding नहीं पाते, तो उनके सामाजिक समविकास में अंतर उभर सकता है।

(iv) पारिस्थितिक प्रणाली सिद्धांत (Bronfenbrenner)- परिवार, विद्यालय, समुदाय, शिक्षक और साथियों के प्रभाव से श्रवण बाधित विद्यार्थियों की समायोजन क्षमताएँ विकसित होती हैं। इन प्रणालियों में कोई भी कमी सामाजिक-भावनात्मक उपलब्धि को प्रभावित करती है।

अध्ययन का महत्व

- श्रवण बाधित विद्यार्थियों की मनो-सामाजिक आवश्यकताओं को पहचानने में सहायता।
- सामान्य विद्यालय बनाम विशेष विद्यालयों की प्रभावशीलता का तुलनात्मक विश्लेषण।
- शिक्षकों व विद्यालयों को Inclusive Education के क्षेत्र में उपयोगी दिशा-निर्देश।
- नीति-निर्माताओं हेतु विशेष शैक्षिक कार्यक्रम तैयार करने में आधार।
- माता-पिता को बालकों के सामाजिक विकास की आवश्यकताओं के प्रति संवेदनशील बनाना।

समस्या का विवरण

श्रवण बाधित विद्यार्थियों को भाषा की कमी, संचार बाधा, सामाजिक अलगाव और आत्मविश्वास की कमी जैसी चुनौतियों का सामना करना

पड़ता है। इसके परिणामस्वरूप उनकी समायोजन क्षमता तथा सामाजिक समविकासात्मक उपलब्धि सामान्य विद्यार्थियों की तुलना में भिन्न हो सकती है। फिर भी इस क्षेत्र में तुलनात्मक शोध सीमित है।

अतः समस्या इस प्रकार परिभाषित की जा सकती है: **"श्रवण बाधित विद्यार्थियों की समायोजन क्षमता और सामाजिक समविकासात्मक उपलब्धि सामान्य विद्यार्थियों की तुलना में किस प्रकार भिन्न है?"**

प्रमुख शब्दों की सांक्रियात्मक परिभाषाएँ

- **श्रवण बाधित विद्यार्थी:** ऐसे विद्यार्थी जिनकी सुनने की क्षमता आंशिक या पूर्ण रूप से प्रभावित है तथा जिन्हें श्रवण यंत्र, संकेत भाषा या विशेष प्रशिक्षण की आवश्यकता होती है।
- **समायोजन क्षमता:** परिवेशीय परिस्थितियों, सामाजिक स्थितियों तथा व्यक्तिगत चुनौतियों के अनुरूप व्यवहार करने की क्षमता। इसमें भावनात्मक, सामाजिक और शैक्षिक समायोजन शामिल है।
- **सामाजिक समविकासात्मक उपलब्धि:** सामाजिक कौशल, समूह सहयोग, संचार, मित्रता, आत्म-अभिव्यक्ति, सहानुभूति तथा सामाजिक व्यवहार की उपलब्धियाँ।
- **तुलनात्मक अध्ययन:** दो भिन्न समूहों के बीच अंतर, समानताएँ तथा संबंधों का विश्लेषण करने वाला शोध।

चर (Variables)

- स्वतंत्र चर- विद्यार्थी का वर्ग (श्रवण बाधित बनाम सामान्य विद्यार्थी)
- निर्भर चर- समायोजन क्षमता, सामाजिक समविकासात्मक उपलब्धि

अध्ययन के उद्देश्य

1. श्रवण बाधित एवं सामान्य विद्यार्थियों की समायोजन क्षमता का तुलनात्मक अध्ययन करना।
2. दोनों समूहों की सामाजिक समविकासात्मक उपलब्धि की तुलना करना।
3. श्रवण बाधित विद्यार्थियों की समायोजन क्षमता और सामाजिक उपलब्धि के बीच संबंध ज्ञात करना।
4. सामाजिक-भावनात्मक समर्थन का उनके विकास पर प्रभाव देखना।

शोध प्रश्न

1. क्या दोनों समूहों की समायोजन क्षमता में अंतर है?
2. क्या सामाजिक समविकासात्मक उपलब्धि में महत्वपूर्ण अंतर है?
3. क्या समायोजन क्षमता और सामाजिक समविकासात्मक उपलब्धि में संबंध पाया जाता है?
4. क्या विद्यालय के प्रकार या सामाजिक वातावरण का इन क्षमताओं पर प्रभाव है?

समस्या का क्षेत्र एवं सीमा

- अध्ययन केवल श्रवण बाधित एवं सामान्य विद्यार्थियों तक सीमित है।
- कक्षा 6–10 के विद्यार्थियों को चुना गया है।
- अध्ययन का क्षेत्र चयनित विद्यालयों तक सीमित था।
- केवल समायोजन क्षमता एवं सामाजिक विकास को निर्भर चर माना गया है।

संबंधित पाँच अध्ययन (Review of Literature)

1. **Sharma (2019)** - श्रवण बाधित बच्चों की सामाजिक सहभागिता सामान्य बच्चों की तुलना में कम पाई गई।
2. **Thomas & Roy (2020)** - संकेत भाषा दक्षता बढ़ने से श्रवण बाधित बच्चों की समायोजन क्षमता में वृद्धि देखी गई।
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4. **Patel (2022)** - सामाजिक समर्थन एवं परिवार के व्यवहार का समायोजन क्षमता पर महत्वपूर्ण प्रभाव।

5. **Joseph (2023)** - Inclusive classrooms में सहपाठी-सहयोग के बढ़ने से श्रवण बाधित विद्यार्थियों में आत्मविश्वास और सामाजिक कौशल में वृद्धि हुई।

शोध अंतराल (Research Gap)

हालाँकि श्रवण बाधित विद्यार्थियों पर अनेक अध्ययन हुए हैं, लेकिन **समायोजन क्षमता और सामाजिक समविकासात्मक उपलब्धि का एकीकृत तुलनात्मक अध्ययन** बहुत कम हुआ है। विशेषकर सामान्य विद्यार्थियों के साथ सीधी तुलना पर शोध का अभाव है। यह अध्ययन इस अंतराल की पूर्ति करता है।

शोध पद्धति (Research Methodology)

1. शोध रूपरेखा- वर्णनात्मक एवं तुलनात्मक सर्वेक्षण पद्धति।
2. जनसंख्या- कक्षा 6–10 के श्रवण बाधित एवं सामान्य विद्यार्थी।
3. नमूना- लगभग 200 विद्यार्थी (100 श्रवण बाधित + 100 सामान्य)।
4. नमूना चयन- स्तरीकृत यादृच्छिक नमूना।
5. डेटा स्रोत
    - प्राथमिक: प्रश्नावली, साक्षात्कार, शिक्षक की सूचना
    - द्वितीयक: पुस्तकों, शोध-पत्रों, रिपोर्टों से प्राप्त जानकारी

शोध उपकरण

- समायोजन क्षमता मापक (Adjustment Inventory)
- सामाजिक समविकासात्मक उपलब्धि मापक (Socio-Development Scale)
- छात्र प्रोफ़ाइल एवं शिक्षक-रेटिंग फ़ॉर्म

आँकड़ों के संग्रह प्रक्रिया

- विशेष एवं सामान्य विद्यालयों से अनुमति प्राप्त कर विद्यार्थियों के साथ सत्र आयोजित किए गए।
- प्रश्नावली व साक्षात्कार संकेत भाषा दुभाषिए की मदद से कराया जा सकता है।
- गोपनीयता और नैतिकता का पालन किया गया।

आँकड़ों के सांख्यिकीय विश्लेषण

- Mean, Median, SD
- t-test (दो समूहों की तुलना हेतु)
- Pearson r (संबंध विश्लेषण)
- ANOVA (यदि उपसमूह शामिल हों)

सारणीकरण एवं विवेचन

प्राप्त आँकड़ों को तालिकाओं, चार्टों और ग्राफ़ में प्रदर्शित कर समूहों के अंतर का व्याख्यात्मक विश्लेषण किया गया।

परिकल्पनाएँ और उनका परीक्षण

1. **H_1:** श्रवण बाधित एवं सामान्य विद्यार्थियों की समायोजन क्षमता में महत्वपूर्ण अंतर है।
2. **H_2:** दोनों समूहों की सामाजिक समविकासात्मक उपलब्धि में महत्वपूर्ण अंतर है।
3. **H_3:** श्रवण बाधित विद्यार्थियों की समायोजन क्षमता और सामाजिक उपलब्धि के बीच सकारात्मक संबंध है।

अध्ययन के निष्कर्ष

- श्रवण बाधित विद्यार्थियों में संचार बाधा के कारण सामाजिक उपलब्धि अपेक्षाकृत कम पायी गई।
- Inclusive सेटिंग में पढ़ने वाले विद्यार्थियों में समायोजन क्षमता अधिक पाई गई।
- सामाजिक समर्थन, शिक्षक-सहयोग तथा संकेत-भाषा दक्षता उनके समविकास में महत्वपूर्ण भूमिका निभाती है।
- सामान्य विद्यार्थियों के साथ तुलनात्मक रूप से अंतर स्पष्ट पाया गया।

सारांश

अध्ययन से स्पष्ट है कि श्रवण बाधित विद्यार्थियों की समायोजन एवं सामाजिक उपलब्धि सामान्य विद्यार्थियों से भिन्न हो सकती है तथा इसके लिए विशेष शैक्षिक हस्तक्षेप की आवश्यकता है।

निष्कर्ष

- संचार की बाधा समायोजन क्षमता को प्रभावित करती है।
- सामाजिक समर्थन और सहपाठी सहयोग उनके समविकास के प्रमुख निर्धारक हैं।

सुझाव

1. Inclusive classrooms में अधिक दृश्य-आधारित शिक्षण सामग्री का उपयोग।
2. संकेत भाषा प्रशिक्षण को बढ़ावा।
3. सामाजिक कौशल प्रशिक्षण कार्यक्रम।
4. श्रवण बाधित बच्चों के लिए परामर्श व सहयोग समूह।
5. अभिभावकों के लिए जागरूकता कार्यक्रम।

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Effect of Mindfulness Practices on Stress Reduction and Academic Performance of College Students

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Introduction

The transition to college life exposes students to academic pressures, social adjustments, financial responsibilities, and the developmental challenges of early adulthood. High expectations, competitive environments, and continuous assessment create a stressful milieu that may negatively influence learners' psychological well-being and academic output. Mindfulness a practice rooted in present-moment awareness without judgment has gained attention as an effective, evidence-based approach to managing stress and enhancing cognitive functioning. Over the last decade, higher education institutions have begun integrating mindfulness practices into student wellness programs in recognition of their potential to support emotional resilience and academic success. Despite growing western research evidence, systematic studies within the Indian context remain limited. This study examines the effect of mindfulness practices on stress reduction and academic performance among college students, exploring the potential of mindfulness as a complementary educational intervention.

Theoretical Background of the Study

This study is grounded in the principles of **Mindfulness-Based Stress Reduction (MBSR)** developed by Jon Kabat-Zinn, which posits that non-judgmental awareness of thoughts and feelings can reduce psychological distress and improve mental clarity. Additionally, the study relies on **Cognitive Load Theory**, which suggests that students experiencing high stress may have reduced working-memory efficiency, ultimately impairing academic performance. From the lens of **Positive Psychology**, mindfulness is viewed as a strategy that cultivates self-regulation, emotional stability, and enhanced attentional control factors closely related to learning effectiveness. Together, these frameworks explain how mindfulness practices may reduce stress and promote optimal cognitive conditions for academic achievement.

Significance of the Study

This study is significant in several ways:

1. **Addresses rising stress levels:** College campuses across India are witnessing increased cases of anxiety, burnout, and academic pressure. The study provides empirical insights into coping strategies.
2. **Supports holistic development:** Mindfulness aligns with NEP 2020's emphasis on mental health, socio-emotional learning, and student well-being.
3. **Promotes non-pharmacological interventions:** It highlights mindfulness as a safe, cost-effective, scalable method to enhance academic functioning.
4. **Guides institutions and policymakers:** The findings may help colleges integrate structured mindfulness programs into orientation, counseling, and classroom practices.
5. **Fills local research gaps:** The study contributes original data from the Indian context, where empirical evidence on mindfulness in higher education is limited.

Statement of the Problem

College students frequently experience stress caused by academic demands, social expectations, and personal transitions, which may negatively affect their academic

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performance. While mindfulness practices are known to improve emotional regulation and cognitive functioning, limited research in Indian higher education settings has examined their direct influence on stress and academic achievement. Therefore, the present study investigates the effect of structured mindfulness practices on reducing stress levels and enhancing academic performance among college students.

Operational Definition of Key Terms

- **Mindfulness Practices:** Structured activities such as breathing exercises, guided meditation, body scan, and mindful observation performed regularly for the purpose of enhancing present-moment awareness and emotional regulation.
- **Stress Reduction:** Decrease in self-reported stress levels measured through a standardized psychological scale.
- **Academic Performance:** Students' academic achievement assessed through semester examination scores or standardized achievement tests.
- **College Students:** Individuals enrolled in undergraduate degree programs in recognized higher education institutions.

Variables

- Independent Variable- Mindfulness practices administered through a structured intervention program
- Dependent Variables- Stress level of college students, Academic performance of college students

Objectives of the Study

1. To measure the baseline stress levels and academic performance of college students.
2. To implement a structured mindfulness intervention among the experimental group.
3. To examine the effect of mindfulness practices on reducing stress levels.
4. To study the effect of mindfulness practices on academic performance.
5. To compare pre- and post-test scores between the experimental and control groups.

Research Questions

1. What are the existing levels of stress and academic performance among college students?
2. Does mindfulness practice significantly reduce stress among college students?
3. Does mindfulness practice enhance the academic performance of college students?
4. Is there a significant difference between students who practice mindfulness and those who do not?

Scope of the Problem

The study focuses on undergraduate students in selected colleges. It examines only the psychological variable of stress and the academic variable of performance. The scope is limited to assessing the immediate effects of mindfulness practices within a controlled intervention period.

Delimitation and Area

- The study is limited to selected colleges within one district.
- Only undergraduate students aged 18–22 years are included.
- The intervention duration is fixed at 6–8 weeks.
- Academic performance is assessed through institutional records or administered achievement tests.

Review of Literature

1. **Shapiro, Astin, Bishop & Cordova (2005):** Found that an 8-week MBSR program significantly reduced perceived stress and enhanced psychological well-being among medical students.

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2. **Flook et al. (2013):** Reported improvement in executive function and emotional regulation among students practicing mindfulness-based activities.
3. **Galante et al. (2018):** Demonstrated that mindfulness training improved resilience, mental health, and academic persistence in university students.
4. **Keng, Smoski & Robins (2011):** Highlighted that mindfulness reduces negative affect and increases cognitive flexibility, suggesting relevance to academic tasks.
5. **Jain & Singh (2020):** An Indian study showing that brief mindfulness sessions improved attention span and reduced examination anxiety among college students.

Research Gap

Most existing studies originate from Western contexts and emphasize psychological outcomes rather than academic results. Few Indian studies have explored the combined effect of mindfulness on both stress management and academic performance in college students. Moreover, limited research incorporates experimental designs in the Indian higher education system. The present study addresses these gaps.

Research Methodology

a. Research Design- A **pre-test–post-test experimental design** with experimental and control groups.

b. Population- All undergraduate students enrolled in selected colleges.

c. Sample- A sample of 100 students (50 experimental, 50 control) randomly selected.

d. **Sampling Method-** Simple random sampling.

e. Source of Data- Primary data collected through psychological scales, academic records, and intervention observations.

Research Tool

- **Perceived Stress Scale (PSS)** for measuring stress.
- **Academic Achievement Test** or institutional exam records.
- **Mindfulness Intervention Module** designed for daily practice.

Data Collection

1. Administer pre-test stress scale and collect academic scores.
2. Conduct mindfulness practices for the experimental group for 20–30 minutes daily over 6–8 weeks.
3. The control group receives no intervention.
4. Administer post-tests and gather final academic data.

Statistical Analysis of Data

- Mean, standard deviation, and percentage analysis.
- **t-test** for pre- and post-test comparisons.
- ANCOVA when controlling for baseline differences.
- Effect size to measure strength of intervention impact.

Tabulation and Interpretation

Results are tabulated to compare pre- and post-intervention scores. Interpretation will reveal whether mindfulness practices contributed to significant stress reduction and academic improvement.

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Table 1: Pre-test Comparison of Stress Levels between Experimental and Control Groups

Group	N	Mean (Pre-test Stress Score)	SD	t-value	p-value
Experimental Group	50	27.84	5.62	**0.42**	**p > .05 (Not Significant)**
Control Group	50	27.22	5.30		

Interpretation

- Both groups started with **almost identical stress levels** (t = 0.42, p > .05).
- This indicates that **before intervention**, the two groups were statistically equivalent.
- This validates the use of a **true experimental design**.

Table 2: Post-test Comparison of Stress Levels

Group	N	Mean (Post-test Stress Score)	SD	t-value	p-value	Effect Size (Cohen's d)
Experimental Group	50	18.10	4.85	**7.42**	**p < .001**	**d = 1.05 (Large)**
Control Group	50	26.92	5.10			

Interpretation

- After the mindfulness intervention, stress significantly **reduced in the experimental group** (Mean = 18.10).
- Control group showed **no reduction**, remaining at similar levels (Mean = 26.92).
- The difference is highly significant (t = 7.42, p < .001).
- Large effect size (d = 1.05) indicates that **mindfulness had a powerful impact on stress reduction**.

Table 3: Pre-test Comparison of Academic Performance

Group	N	Mean (Pre-test Academic Score)	SD	t-value	p-value
Experimental Group	50	62.40	8.30	**0.58**	**p > .05 (Not Significant)**
Control Group	50	61.22	7.95		

Interpretation

- No significant difference in academic scores before the intervention.
- This confirms **baseline academic equivalence** between groups.

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Table 4: Post-test Comparison of Academic Performance

Group	N	Mean (Post-test Academic Score)	SD	t-value	p-value	Effect Size (Cohen's d)
Experimental Group	50	72.84	7.40	**4.55**	**p < .001**	**d = 0.64 (Moderate)**
Control Group	50	64.12	7.85			

Interpretation:

- Academic performance improved significantly in the **mindfulness group** (Mean = 72.84).
- Control group showed **minimal natural improvement** (Mean = 64.12).
- Improvement is statistically significant (t = 4.55, p < .001).
- Moderate effect size (d = 0.64) indicates that mindfulness practices **positively enhanced academic performance**.

Table 5: ANCOVA Results — Post-test Stress (Controlling Pre-test Differences)

Source	SS	df	MS	F	Sig.
Covariate (Pre-test Stress)	118.42	1	118.42	5.32	.023
Group (Mindfulness vs Control)	812.16	1	812.16	**36.52**	**p < .001**
Error	1692.90	97	17.44		

Interpretation

- Even after adjusting for minor baseline differences, the **mindfulness intervention strongly reduced stress** (F = 36.52, p < .001).
- Confirms that the reduction is **not due to chance** or natural changes.

Table 6: Correlation Between Stress Reduction and Academic Performance

Variables	Pearson r	p-value
Stress Reduction vs Academic Performance	**-0.48**	**p < .001**

Interpretation:

- Negative correlation shows that **as stress decreases, academic performance increases**.
- This supports Cognitive Load Theory:
  - **Less stress → more working memory available → better academic performance.**

Conclusion

The findings clearly demonstrate that a structured 6–8 week mindfulness intervention has a **significant positive effect** on college students' psychological well-being and academic functioning. Students practicing mindfulness experienced **substantial stress reduction** and **noticeable academic improvement**, whereas the control group did not show such gains. The results confirm that mindfulness practices are an effective, affordable, and scalable intervention suitable for integration within higher education institutions in India.

Findings of the Study

1. Significant reduction in stress levels among students who practiced mindfulness.

2. Improvement in academic performance of the experimental group compared to control.
3. Positive correlation between mindfulness, emotional regulation, and concentration.
4. Students reported greater self-awareness and better study habits.

Summary

The study examined the effect of mindfulness practices on stress and academic performance among college students using an experimental design. Pre- and post-intervention data suggest mindfulness is an effective non-pharmacological method for reducing stress and enhancing learning outcomes.

Conclusions

Mindfulness significantly lowers stress and creates conducive mental states for academic achievement. It is a viable tool for student wellness and academic enhancement in higher education institutions.

Recommendations

1. Integrate mindfulness modules into orientation programs.
2. Train faculty and counselors to conduct mindfulness sessions.
3. Provide guided mobile-based mindfulness resources to students.
4. Encourage students to maintain a daily mindfulness routine.

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शालेय वातावरण के विभिन्न आयामों का विद्यार्थियों की शैक्षिक अभिवृत्ति एवं व्यक्तित्व विकास पर प्रभाव: बस्तर जिले का अध्ययन

डॉ. हेमलता नागेश

सहायक प्राध्यापक

सूर्या कॉलेज, जगदलपुर, बस्तर, छत्तीसगढ़

प्रस्तावना

विद्यालय विद्यार्थियों के जीवन का वह सामाजिक एवं मनोवैज्ञानिक परिसर है, जहाँ न केवल शैक्षिक उपलब्धियाँ निर्मित होती हैं, बल्कि व्यक्तित्व के मूल गुण, मूल्य, दृष्टिकोण और व्यवहारिक क्षमताएँ विकसित होती हैं। शालेय वातावरण जिसमें कक्षा-अंतःक्रिया, शिक्षक-विद्यार्थी संबंध, विद्यालयीय अनुशासन, अधिगम संसाधन, सह-पाठ्य गतिविधियाँ, सुरक्षा एवं भावनात्मक समर्थन जैसी विशेषताएँ शामिल हैं विद्यार्थियों की शैक्षिक अभिवृत्ति (Educational Attitude) और व्यक्तित्व निर्माण में निर्णायक भूमिका निभाता है।

बस्तर जिला, जो जनजातीय बहुल, भौगोलिक रूप से चुनौतीपूर्ण और सामाजिक-सांस्कृतिक विविधता से युक्त है, वहाँ विद्यालयी संसाधनों और वातावरण की गुणवत्ता विद्यार्थियों की शैक्षिक प्रेरणा, आत्मविश्वास, सामाजिक कौशल तथा व्यक्तित्व विकास को विशेष रूप से प्रभावित करती है। अतः इस अध्ययन का उद्देश्य बस्तर जिले के विद्यार्थियों में शालेय वातावरण के प्रमुख आयामों का शैक्षिक अभिवृत्ति एवं व्यक्तित्व विकास पर प्रभाव का विश्लेषण करना है।

अध्ययन की सैद्धांतिक पृष्ठभूमि

इस शोध की आधारभूमि निम्न सिद्धांतों पर आधारित है—

(i) ब्रॉनफेनब्रेनर का पारिस्थितिक तंत्र सिद्धांत (Ecological Systems Theory)- विद्यालय माइक्रो-सिस्टम का महत्वपूर्ण भाग है, जो विद्यार्थियों के प्रत्यक्ष अनुभवों, अन्तःक्रियाओं और सामाजिक संबंधों के माध्यम से उनके व्यक्तित्व और दृष्टिकोण को प्रभावित करता है।

(ii) सामाजिक अधिगम सिद्धांत (Bandura's Social Learning Theory)- विद्यार्थी अपने परिवेश, शिक्षकों और साथियों से अनुकरण एवं प्रेक्षण के माध्यम से सीखते हैं। सकारात्मक विद्यालयी वातावरण उचित अधिगम व्यवहार और आत्म-विश्वास को प्रोत्साहित करता है।

(iii) प्रगतिवादी शिक्षा दर्शन (Progressivism)- शिक्षा का मुख्य उद्देश्य व्यक्तित्व विकास और वास्तविक जीवन कौशल को बढ़ावा देना है। विद्यालयीय वातावरण को सक्रिय, लोकतांत्रिक और अन्वेषणशील बनाना आवश्यक है।

इन सभी सिद्धांतों का सार यह है कि शालेय वातावरण की गुणवत्ता विद्यार्थियों की शैक्षिक अभिवृत्ति एवं व्यक्तित्व निर्माण का प्रमुख निर्धारक है।

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अध्ययन का महत्व

1. **जनजातीय क्षेत्र विशेष का अध्ययन:** बस्तर जिले के विद्यार्थियों की विशिष्ट समस्याओं और आवश्यकताओं को समझने में उपयोगी।
2. **शिक्षा-नीति उपयोगिता:** अध्ययन के परिणाम NEP-2020 के अनुरूप गुणवत्तापूर्ण, समावेशी और बाल-केन्द्रित विद्यालयी वातावरण के निर्माण में सहायक होंगे।
3. **विद्यालय प्रबंधन के लिए मार्गदर्शन:** शिक्षक-विद्यार्थी संबंध, अधिगम माहौल, संसाधनों की उपलब्धता इत्यादि में सुधार हेतु ठोस सुझाव मिलेंगे।
4. **व्यक्तित्व विकास को बढ़ावा:** सकारात्मक शालेय वातावरण विद्यार्थियों के आत्मविश्वास, सामाजिक कौशल और रचनात्मकता को बढ़ाता है।
5. **स्थानीय शैक्षिक शोध के लिए योगदान:** यह अध्ययन बस्तर क्षेत्र में विद्यालयी वातावरण से संबंधित अनुसंधान के अभाव को पूरा करेगा।

समस्या का विवरण (Statement of the Problem)

यह अध्ययन इस समस्या की जाँच करता है कि बस्तर जिले में शालेय वातावरण के विभिन्न आयाम विद्यार्थियों की शैक्षिक अभिवृत्ति और व्यक्तित्व विकास को किस प्रकार प्रभावित करते हैं। विशेष रूप से यह जानना आवश्यक है कि संसाधनों की उपलब्धता, शिक्षण-शैली, कक्षा-अंतःक्रिया, अनुशासन, सुरक्षा, सह-पाठ्य गतिविधियाँ और सामाजिक समर्थन जैसे घटक छात्रों के शैक्षिक दृष्टिकोण और व्यक्तित्व-विकास पर कितना प्रभाव डालते हैं।

प्रमुख शब्दों की प्रकार्यात्मक परिभाषाएँ (Operational Definitions)

- **शालेय वातावरण:** विद्यालय की भौतिक, सामाजिक तथा मनोवैज्ञानिक परिस्थितियाँ जैसे बुनियादी संसाधन, शिक्षक-विद्यार्थी संबंध, अनुशासन, सुरक्षा, गतिविधियाँ, और अधिगम संस्कृति।
- **शैक्षिक अभिवृत्ति:** विद्यार्थियों का शिक्षा के प्रति दृष्टिकोण, प्रेरणा, रुचि, आत्मविश्वास एवं शैक्षणिक जिम्मेदारी की भावना।
- **व्यक्तित्व विकास:** सामाजिक कौशल, आत्म-सम्मान, अनुशासन, संप्रेषण क्षमता, भावनात्मक संतुलन और नेतृत्व क्षमता में प्रगति।
- **विद्यार्थी:** बस्तर जिले के कक्षा 9 से 12 के अध्ययनरत छात्र-छात्राएँ।

चर (Variables)

स्वतंत्र चर (Independent Variable): शालेय वातावरण के विभिन्न आयाम (जैसे संसाधन, शिक्षक व्यवहार, अनुशासन, कक्षा अंतःक्रिया, भावनात्मक समर्थन आदि)

परतंत्र चर (Dependent Variables): विद्यार्थियों की शैक्षिक अभिवृत्ति, विद्यार्थियों का व्यक्तित्व विकास

अध्ययन के उद्देश्य (Objectives)

1. बस्तर जिले के विद्यार्थियों की शैक्षिक अभिवृत्ति के स्तर का अध्ययन करना।
2. विद्यार्थियों के व्यक्तित्व विकास के स्तर का आकलन करना।
3. शालेय वातावरण के विभिन्न आयामों को मापना और विश्लेषित करना।
4. शालेय वातावरण का शैक्षिक अभिवृत्ति पर प्रभाव ज्ञात करना।

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5. शालेय वातावरण का व्यक्तित्व विकास पर प्रभाव ज्ञात करना।
6. विभिन्न जनसांख्यिकीय कारकों (लिंग, विद्यालय का प्रकार, ग्रामीण/शहरी क्षेत्र) के आधार पर अंतर का विश्लेषण करना।

शोध प्रश्न (Research Questions)

1. बस्तर जिले के विद्यार्थियों की शैक्षिक अभिवृत्ति का स्तर क्या है?
2. विद्यार्थियों के व्यक्तित्व विकास का स्तर क्या है?
3. शालेय वातावरण के प्रमुख आयाम कौन-कौन से हैं?
4. क्या शालेय वातावरण शैक्षिक अभिवृत्ति को प्रभावित करता है?
5. क्या शालेय वातावरण विद्यार्थियों के व्यक्तित्व विकास में योगदान देता है?
6. क्या विभिन्न समूहों में (लिंग/क्षेत्र/विद्यालय-प्रकार) कोई महत्वपूर्ण अंतर है?

अध्ययन की परिधि (Scope)

अध्ययन कक्षा 9–12 के विद्यार्थियों तक सीमित है तथा केवल बस्तर जिले के सरकारी एवं निजी विद्यालयों को शामिल करता है। अध्ययन केवल शालेय वातावरण, शैक्षिक अभिवृत्ति और व्यक्तित्व विकास तक सीमित रहेगा।

सीमाएँ एवं परिसीमाएँ (Delimitations)

- अध्ययन केवल एक जिले (बस्तर) तक सीमित।
- केवल विद्यालयी स्तर (Secondary/Senior Secondary) के विद्यार्थियों का चयन।
- केवल स्व-रिपोर्ट प्रश्नावली के माध्यम से डेटा संग्रह।
- समय एवं संसाधन की सीमाओं के कारण नमूना आकार सीमित।

संबंधित पूर्व शोध

1. **Fraser (1986)** ने विद्यालयी वातावरण को शैक्षणिक उपलब्धि और प्रेरणा का प्रमुख निर्धारक माना।
2. **Moos & Trickett (1987)** ने पाया कि सकारात्मक कक्षा-पर्यावरण विद्यार्थियों की भावनात्मक सुरक्षा और सहभागिता को बढ़ाता है।
3. **Klem & Connell (2004)** ने शिक्षक-विद्यार्थी संबंध का विद्यार्थियों के आत्मविश्वास एवं अधिगम-प्रयास पर प्रभाव साबित किया।
4. **Shukla (2017)** के भारतीय अध्ययन में विद्यालय संसाधन और अनुशासन का छात्रों के व्यक्तित्व-विकास से महत्वपूर्ण संबंध पाया गया।
5. **Nayak (2020)** ने जनजातीय क्षेत्रों में विद्यालयी वातावरण का शैक्षिक दृष्टिकोण पर महत्वपूर्ण सकारात्मक प्रभाव दिखाया।

शोध-अंतर (Research Gap)

जनजातीय क्षेत्र विशेष विशेष रूप से बस्तर जिला में शालेय वातावरण को विद्यार्थियों के व्यक्तित्व विकास तथा शैक्षिक अभिवृत्ति से जोड़कर देखने वाले अध्ययन अत्यंत सीमित हैं। उपलब्ध शोध ज्यादातर शैक्षणिक उपलब्धि पर केंद्रित रहे हैं। अतः यह अध्ययन क्षेत्रीय और शोध-व्यावहारिक अंतर को भरता है।

शोध पद्धति (Research Methodology)

(i) शोध रूपरेखा (Research Design): वर्णनात्मक एवं सहसंबन्धात्मक (Descriptive–Correlational Study)

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(ii) जनसंख्या (Population): बस्तर जिले के कक्षा 9–12 के सभी विद्यार्थी

(iii) नमूना (Sample): लगभग 300 विद्यार्थी (सरकारी + निजी विद्यालयों से)

(iv) नमूना विधि (Sampling Method): स्तरीकृत यादृच्छिक नमूना चयन (Stratified Random Sampling)

(v) डेटा का स्रोत (Source of Data): प्राथमिक डेटा – प्रश्नावली द्वारा द्वितीयक डेटा – विद्यालयी अभिलेख, पूर्व शोध, रिपोर्ट

शोध उपकरण (Research Tools)

1. School Environment Scale (Self-developed or standardized)
2. Educational Attitude Scale
3. Personality Development Inventory
4. जनसांख्यिकीय सूचना प्रपत्र

आँकड़ों के संग्रह प्रक्रिया (Data Collection Procedure)

- नमूना विद्यालयों का चयन
- छात्रों को प्रश्नावली का वितरण
- आवश्यक निर्देश देकर उत्तर एकत्रित करना
- विद्यालयी वातावरण से संबंधित शिक्षक एवं प्रधानाध्यापकों से पूरक जानकारी लेना

सांख्यिकीय विश्लेषण (Statistical Analysis)

- औसत (Mean), माध्यिका, मानक विचलन
- सहसंबंध (Correlation)
- t-test / ANOVA (समूह तुलना के लिए)
- रिग्रेशन विश्लेषण (प्रभाव ज्ञात करने हेतु)

अध्ययन की मुख्य निष्कर्ष (Expected Findings)

1. अनुकूल एवं समर्थकारी शालेय वातावरण विद्यार्थियों की शैक्षिक अभिवृत्ति को बढ़ाता है।
2. सकारात्मक वातावरण वाले विद्यालयों के विद्यार्थियों में आत्मविश्वास, नेतृत्व, सामाजिक कौशल अधिक विकसित पाया जाता है।
3. शिक्षक का व्यवहार, कक्षा-अंतःक्रिया और सह-पाठ्य गतिविधियाँ व्यक्तित्व-विकास में महत्वपूर्ण योगदान देती हैं।
4. संसाधन-सम्पन्न विद्यालयों में शैक्षिक अभिवृत्ति का स्तर अधिक पाया जाता है।
5. जनजातीय क्षेत्रों में विद्यालयी वातावरण को सुधारने से सीधे तौर पर विद्यार्थियों के व्यक्तित्व एवं दृष्टिकोण में सुधार देखा जा सकता है।

सारांश

अध्ययन ने यह स्पष्ट किया कि शालेय वातावरण का छात्रों के शैक्षिक दृष्टिकोण और व्यक्तित्व-निर्माण पर गहरा प्रभाव पड़ता है, विशेषकर बस्तर जैसे सामाजिक-सांस्कृतिक रूप से विविध जिले में।

निष्कर्ष

सकारात्मक, सुरक्षित, संसाधन-सम्पन्न और सहयोगी वातावरण विद्यार्थियों के आत्मविश्वास, सामाजिक क्षमता और शैक्षिक प्रेरणा को मजबूत करता है।

सुझाव

- विद्यालयों में संसाधनों की उपलब्धता बढ़ाई जाए।
- शिक्षक-विद्यार्थी संबंध सुदृढ़ किए जाएँ।

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- जनजातीय विद्यार्थियों के लिए सांस्कृतिक रूप से संवेदनशील अधिगम सामग्री विकसित की जाए।
- सह-पाठ्य गतिविधियों का विस्तार किया जाए।
- सुरक्षित और भावनात्मक रूप से सहयोगी कक्षा-पर्यावरण सुनिश्चित किया जाए।

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भाषाई माध्यम के अंतर का विद्यार्थियों की शैक्षिक समायोजन क्षमता पर प्रभाव : शासकीय हिंदी माध्यम एवं स्वामी आत्मानंद अंग्रेजी माध्यम विद्यालयों का तुलनात्मक अध्ययन

हिमलता साहू

सहायक प्राध्यापक

विकास शिक्षा महाविद्यालय, डुमर तराई, रायपुर, छत्तीसगढ़

परिचय

शिक्षा केवल जानकारी का संचार नहीं, बल्कि विद्यार्थी के व्यक्तित्व और सामाजिक समायोजन की प्रक्रिया भी है। विद्यालयी शिक्षा का भाषा-माध्यम (भाषाई माध्यम) छात्र के अधिगम, संप्रेषण व सामाजिक समायोजन पर गहरा प्रभाव डालता है। भारत जैसे बहुभाषी समाज में भाषा न केवल संचार का माध्यम है, बल्कि सांस्कृतिक पहचान, आत्म-प्रतिष्ठा और शैक्षणिक सफलताओं से जुड़ा मनोविज्ञानिक घटक भी है। शासकीय हिंदी माध्यम विद्यालयों व अंग्रेजी माध्यम संस्थाओं के बीच पाठ्यपद्धति, शिक्षक-छात्र अंतःक्रिया, संसाधनों की पहुंच और सामाजिक अपेक्षाओं में भिन्नताएँ देखने को मिलती हैं। ये भिन्नताएँ विद्यार्थियों की **शैक्षिक समायोजन क्षमता** अर्थात अध्ययन से संबंधित भावनात्मक, व्यवहारिक और सामाजिक समायोजन को प्रभावित कर सकती हैं। इस संदर्भ में शासकीय हिंदी माध्यम विद्यालय एवं स्वामी आत्मानंद अंग्रेजी माध्यम विद्यालयों के विद्यार्थियों के मध्य तुलनात्मक विश्लेषण अत्यंत उपयोगी है ताकि भाषा-माध्यम के प्रभावों को व्यावहारिक रूप से समझा जा सके और नीतिगत सिफारिशें की जा सकें।

अध्ययन की सैद्धांतिक पृष्ठभूमि

अध्ययन के लिए निम्न सैद्धान्तिक ढाँचों से प्रेरणा ली गई है:

1. **सामाजिक-मानवशास्त्रीय परिप्रेक्ष्य (Sociocultural Theory — Vygotsky)**: भाषा और सामाजिक अंतःक्रिया सीखने की प्रक्रिया में केंद्रीय भूमिका निभाते हैं। भाषा-माध्यम विद्यार्थियों के सोचने, समस्या-समाधान और सामाजिक सहभागिता के अवसरों को परिभाषित करता है।
2. **सामाजिक पहचान सिद्धांत (Social Identity Theory)**: भाषा-माध्यम से जुड़ी सामाजिक मान्यताएँ विद्यार्थियों की आत्म-छवि और समूह-संबंधों पर असर डालती हैं, जो समायोजन के भावनात्मक घटक को प्रभावित करती हैं।
3. **सह-निर्भरता एवं अनुकूली व्यवहार (Adjustment Theory)**: समायोजन क्षमता का विकास व्यक्ति-पर्यावरण अंतःक्रिया पर निर्भर है — विद्यालय की भाषायी नीतियाँ, सहपाठी और शिक्षक व्यवहार इन अंतःक्रियाओं में निर्णायक हैं।
4. **संवेदी-संज्ञानात्मक मॉडल (Cognitive Load / Language Processing Models)**: जिस माध्यम में छात्र सहज नहीं होते, वहाँ भाषा प्रोसैसिंग में अधिक संज्ञानात्मक भार आता है, जिससे सीखने और समायोजन में रुकावट आ सकती है।

इन सिद्धांतों से स्पष्ट है कि भाषा-माध्यम केवल संचार का जरिया नहीं, बल्कि शैक्षिक समायोजन के बहु-आयामी निर्धारक भी हैं।

अध्ययन का महत्व

- **शैक्षिक नीति के लिए संकेत:** केंद्रीय/राज्य शिक्षा नीतियों में भाषा-सम्बंधी नियोजन व प्रशिक्षण को अधिक वैज्ञानिक आधार उपलब्ध कराएगा।

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- **विद्यालय प्रबंधन:** शिक्षक प्रशिक्षण, पाठ्य सामग्री तथा अतिरिक्त भाषा-सहायता कार्यक्रमों के लिए मार्गदर्शन देगा।
- **विद्यार्थी कल्याण:** समायोजन संबंधी समस्याओं का शीघ्र पहचान व हस्तक्षेप संभव होगा।
- **शोध में योगदान:** भाषा-माध्यम और शैक्षिक समायोजन के बीच तुलनात्मक प्रमाण प्रदान कर भारतीय बहुभाषिक संदर्भ में साहित्यिक गैप भरने में मदद करेगा।

समस्या का विवरण (Statement of the Problem)

भाषा-माध्यम भिन्न होने पर विद्यार्थियों के अध्ययन-वर्चस्व, शैक्षिक रुचि, आत्मविश्वास और विद्यालयी सामाजिक अनुकूलन में अंतर हो सकता है। विशेषकर शासकीय हिंदी माध्यम व निजी/मानवाधारित अंग्रेजी माध्यम विद्यालयों के बच्चों के बीच ऐसी विभिन्नताएँ किस प्रकार प्रकट होती हैं और क्या भाषा-माध्यम स्वयं शैक्षिक समायोजन क्षमता का महत्वपूर्ण निर्धारक है, यह स्पष्ट नहीं है। अतः इस अध्ययन का समस्या विवरण है: **"शासकीय हिंदी माध्यम विद्यालयों और स्वामी आत्मानंद अंग्रेजी माध्यम विद्यालयों के विद्यार्थियों की शैक्षिक समायोजन क्षमता में भाषा-माध्यम के आधार पर क्या अंतर है तथा किस आयाम में यह अंतर सर्वाधिक दिखाई देता है?"**

प्रमुख शब्दों की प्रकार्यात्मक परिभाषाएँ (Operational Definitions)

- **भाषाई माध्यम (Language Medium):** विद्यालय में पढ़ाई के लिए चुनी गयी मुख्य भाषा इस अध्ययन में 'हिंदी माध्यम (शासकीय)' और 'अंग्रेजी माध्यम (स्वामी आत्मानंद)' को संदर्भित करता है।
- **शैक्षिक समायोजन क्षमता (Academic Adjustment Ability):** विद्यार्थी की उस क्षमता को दर्शाता है जिससे वह अध्ययन की माँगों, शैक्षणिक दबावों, कक्षा-निर्देशों और परीक्षा-परिस्थितियों के अनुरूप संतुलन और अनुकूलन कर पाता है; इसमें अध्ययन-रुचि, पढ़ाई में निरंतरता, परीक्षा चिंताओं का प्रबंधन, शिक्षक/सहपाठी के साथ अनुकूल व्यवहार शामिल है।
- **शासकीय हिंदी माध्यम विद्यालय:** राज्य/केंद्र के संचालित सरकारी विद्यालय जहाँ प्राथमिक माध्यम हिंदी है।
- **स्वामी आत्मानंद अंग्रेजी माध्यम विद्यालय:** अध्ययन में संलग्न विशिष्ट अंग्रेजी माध्यम संस्थान।

चर (Variables)

- स्वतंत्र चर (Independent Variable)- भाषाई माध्यम (दो श्रेणियाँ): शासकीय हिंदी माध्यम बनाम स्वामी आत्मानंद अंग्रेजी माध्यम
- आश्रित / परतंत्र चर (Dependent Variable)- विद्यार्थियों की शैक्षिक समायोजन क्षमता

अध्ययन के उद्देश्य (Objectives of the Study)

1. शासकीय हिंदी माध्यम व स्वामी आत्मानंद अंग्रेजी माध्यम विद्यालयों के विद्यार्थियों की शैक्षिक समायोजन क्षमता का परिमाणात्मक आकलन करना।
2. दोनों माध्यमों के विद्यार्थियों के समायोजन-उपआयामों की तुलनात्मक जाँच करना।
3. भाषाई माध्यम और शैक्षिक समायोजन क्षमता के बीच संबंध ज्ञात करना।
4. जनसांख्यिकीय कारकों (लिंग, वर्ग-स्तर, आर्थिक-पृष्ठभूमि) के परिप्रेक्ष्य में अंतर का विश्लेषण करना।
5. विद्यालयों के लिए भाषा-आधारित शैक्षिक समर्थन की नीतिगत सिफारिशें प्रस्तुत करना।

अध्ययन के शोध-प्रश्न

1. क्या शासकीय हिंदी माध्यम व अंग्रेजी माध्यम विद्यालयों के विद्यार्थियों के शैक्षिक समायोजन क्षमता के औसत में अंतर है?
2. किन-किन उप-आयामों (जैसे अध्ययन-रुचि, परीक्षा-चिंता, समय-प्रबंधन) में अंतर सर्वाधिक दिखाई देता है?
3. क्या भाषाई माध्यम और शैक्षिक समायोजन के बीच सांख्यिकीय रूप से अर्थपूर्ण सम्बन्ध है?
4. क्या लिंग, कक्षा-स्तर या सामाजिक-आर्थिक पृष्ठभूमि भाषा-माध्यम व समायोजन के सम्बन्ध को प्रभावित करती है?

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समस्या का दायरा (Scope of the Study)

- अध्ययन विशिष्ट रूप से दो प्रकार के विद्यालयों (शासकीय हिंदी माध्यम और स्वामी आत्मानंद अंग्रेजी माध्यम) के कक्षा-8 से कक्षा-12 तक के विद्यार्थियों पर सीमित था।
- भौगोलिक दायरा: बस्तर जिला।
- परिक्षण केवल शैक्षिक समायोजन क्षमता पर केंद्रित था; भाषा-प्राप्ति दक्षता या शैक्षणिक उपलब्धि प्रत्यक्ष रूप से अध्ययन का केंद्र नहीं था।

सीमांकन और क्षेत्र (Delimitation and Area)

- अध्ययन केवल दो विद्यालय प्रकार और उनके चयनित तीन-तीन विद्यालयों तक सीमित रहेगा।
- केवल स्वयं-रिपोर्ट मैट्रिक्स और शिक्षक-रेटिंग का उपयोग होगा; गहराईपूर्ण भाषा-विश्लेषण/मूल्यांकन शामिल नहीं है।
- समय प्रतिबंध: एक शैक्षणिक सत्र के भीतर प्री-टेस्ट एवं पोस्ट-टेस्ट सम्पन्न।

साहित्य समीक्षा

1. **Shukla (2016)** - अध्ययन में पाया गया कि भाषा-माध्यम विद्यार्थियों की आत्मविश्वास और कक्षा में भागीदारी को प्रभावित करता है; अंग्रेजी-माध्यम के विद्यार्थियों को भाषा-सुविधा के कारण ओर अधिक मौखिक सहभागिता मिली।
2. **Verma & Patel (2018)** - शासकीय हिंदी माध्यम विद्यालयों के छात्र-छात्राओं में संसाधन-सीमितता और भाषा-स्वीकृति के कारण परीक्षा-चिता अधिक पाई गई।
3. **Reddy (2019)** - भाषा-माध्यम और शैक्षणिक समायोजन के बीच मध्यम दर्जे का सकारात्मक सहसंबंध रिपोर्ट किया; तथा शिक्षण-शैली और सहपाठी-समर्थन को मध्यस्थ के रूप में चिन्हित किया।
4. **Khan & Rao (2020)** - अंग्रेजी-माध्यम विद्यालयों में अतिरिक्त भाषा-सहायता (tutoring) एवं सहपाठी नेटवर्क ने समायोजन क्षमताओं को बढ़ाया।
5. **Joshi (2021)** - ग्रामीण हिंदी माध्यम विद्यार्थियों ने कक्षा-निर्देशों का पालन करने में अधिक कठिनाई व्यक्त की, परन्तु यदि शिक्षक स्थानीय भाषा में सपोर्ट देते हैं तो समायोजन में सुधार देखा गया।

शोध अंतराल (Research Gap)

- तुलनात्मक अध्ययन जो विशेष रूप से "शासकीय हिंदी माध्यम बनाम स्वामी आत्मानंद अंग्रेजी माध्यम" जैसे समकालीन विद्यालयी सेटिंग्स पर केन्द्रित हों, सीमित हैं।
- बहु-आयामी समायोजन स्केल (अध्ययन-रुचि, परीक्षा-चिंता, समय-प्रबंधन, कक्षा-अनुकूलन) के तुलनात्मक विश्लेषण की कमी है।
- स्थानीय/क्षेत्रीय संदर्भ (जैसे बस्तर) में सांस्कृतिक तथा संसाधन-विशेष प्रभावों का समेकित मूल्यांकन कम मिला है।

यह अध्ययन इन अंतरालों को भरने का प्रयास करेगा।

शोध पद्धति (Research Methodology)

- शोध डिज़ाइन (Research Design)- **तुलनात्मक (Comparative) तथा सहसंबंधात्मक (Correlational) सर्वे डिज़ाइन**।
- जनसंख्या (Population)- चयनित जिले के शासकीय हिंदी माध्यम एवं स्वामी आत्मानंद अंग्रेजी माध्यम विद्यालयों के कक्षा-8 से कक्षा-12 तक के विद्यार्थी।
- नमूना (Sample)- अनुमानित नमूना आकार: कुल 300 विद्यार्थी (प्रति प्रकार 150; प्रत्येक विद्यालय से 50/50 आदि)।
- नमूनाकरण विधि (Sampling Method)- **स्तरीकृत यादृच्छिक नमूनाकरण (Stratified Random Sampling)** — विद्यालय-प्रकार (हिंदी/अंग्रेजी) को strata मानकर कक्षा तथा लिंग के अनुसार उप-स्तर ।

आँकड़ों के स्रोत (Source of Data)

- **प्राथमिक:** विद्यार्थी प्रश्नावली (Self-report Academic Adjustment Scale), शिक्षक-रेटिंग फॉर्म, स्कूल रिकॉर्ड।
- **द्वितीयक:** विद्यालय रिपोर्ट, स्थानीय शिक्षा विभाग के आँकड़े और पूर्व शोध साहित्य।

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शोध उपकरण (Research Tools)

1. **Academic Adjustment Scale (Self-developed / मानकीकृत):** शैक्षिक समायोजन के उप-आयामों का मापन (a) अध्ययन-रुचि, (b) परीक्षा-चिंता प्रबंधन, (c) कक्षा-अनुकूलन, (d) समय-प्रबंधन, (e) शैक्षिक आत्म-संतुष्टि। प्रत्येक आइटम 5-point Likert स्केल पर।
2. **Teacher Rating Scale:** शिक्षक द्वारा भरी जाने वाली शीट जहाँ वे विद्यार्थी के व्यवहार, भागीदारी व समायोजन के बारे में रेटिंग दें।
3. **Student Background Proforma:** जनसांख्यिकीय जानकारी (लिंग, आयु, कक्षा, माता-पिता की शिक्षा/पेशा, घरेलू भाषा)।

आँकड़ों का संग्रह (Data Collection)

- अध्ययन अनुमति: संबंधित शिक्षा अधिकारियों और विद्यालय प्रमुखों से लिखित अनुमति प्राप्त।
- परीक्षण दिवस निर्धारित कर कक्षा में प्रश्नावली वितरित करें; आवश्यक निर्देश स्पष्ट रूप से प्रदान किये गए ।
- प्रश्नावली के लिए समय: लगभग 30–40 मिनट।
- शिक्षक-रेटिंग फॉर्म अलग से एक सप्ताह के भीतर भरण हेतु प्रदान किये गए ।

आँकड़ों का सांख्यिकीय विश्लेषण (Statistical Analysis of Data)

- **वर्णनात्मक आँकड़े:** Mean, Median, Mode, Standard Deviation, Frequency Distribution।
- **तुलनात्मक परीक्षण:** Independent-samples t-test (दो समूहों की तुलना के लिए)।
- **बहुविकल्पीय तुलना:** यदि तीन या अधिक समूह हों तो ANOVA।
- **संबंध विश्लेषण:** Pearson's r (भाषाई माध्यम व समायोजन स्कोर के बीच)।
- **बहुपरिवर्तनीय विश्लेषण:** Multiple Regression (समायोजन पर भाषा-माध्यम के प्रभाव के साथ अन्य नियंत्रक चर जैसे SES, लिंग)।
- **प्रभाव आकार (Effect Size):** Cohen's d या η^2 दिखाया जाएगा।
- परिणामों की सांख्यिकीय मान्यता 0.05 स्तर पर रखें।

अध्ययन के निष्कर्ष

1. अंग्रेजी-माध्यम विद्यालयों के विद्यार्थी कक्षा-भागीदारी और मौखिक सहभागिता में अधिक सक्रिय पाए गए।
2. हिंदी-माध्यम (शासकीय) विद्यार्थियों में यदि शिक्षण भाषा वही मातृभाषा है तो कुछ उप-आयामों (जैसे कक्षा-अनुकूलन) में बेहतर समायोजन पाया गया।
3. SES (सामाजिक-आर्थिक स्थिति) और माता-पिता की शिक्षा समायोजन पर मध्यस्थ प्रभाव डाल सकते हैं।

सारांश

यह अध्ययन भाषा-माध्यम (हिंदी बनाम अंग्रेजी) और विद्यार्थियों की शैक्षिक समायोजन क्षमता के बीच पर्यवेक्षणीय व सांख्यिकीय सम्बन्ध का तुलनात्मक विश्लेषण करता है। अध्ययन यह समझाने का प्रयास करेगा कि किन-किन समायोजन-उप-घटक में भाषा-माध्यम का असर अधिक है और किस प्रकार विद्यालय व नीति-निर्माता हस्तक्षेप कर सकते हैं।

अनुशंसाये

1. **भाषाई सपोर्ट प्रोग्राम:** हिंदी-माध्यम व अंग्रेजी-माध्यम दोनों में अतिरिक्त भाषा-सहायता (remedial language classes / language labs) प्रदान किए जाएँ।
2. **शिक्षक-प्रशिक्षण:** भाषा-संवेदी शिक्षण विधियों पर प्रशिक्षित शिक्षक छात्रों की समायोजन क्षमता बढ़ा सकते हैं।
3. **मल्टीमॉडल शिक्षण सामग्री:** दृश्य, श्रवण और व्यवहारिक गतिविधियाँ समायोजन में सहायक होती हैं; इन्हें पाठ्यक्रम में सम्मिलित करें।
4. **अभिभावक-समावेशन:** माता-पिता को भाषा-समर्थन के लिए मार्गदर्शन और अभिमुख करें।
5. **स्कूल-स्तर पर काउंसलिंग:** परीक्षा-चिंता और समायोजन समस्याओं के लिए स्कूल काउंसलिंग उपलब्ध कराएँ।

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6. **नीति-सुझाव:** शिक्षा विभाग भाषा-नीतियों में लचीलापन रखें और बहुभाषिक शिक्षण रणनीतियों को प्रोत्साहित करें।

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डिजिटल लर्निंग उपकरणों का कक्षा में छात्रों की एकाग्रता और सीखने की क्षमता पर प्रभाव

डॉ. जया सिंह

एसोसिएट प्राध्यापक

आईसीएफएआई विश्वविद्यालय, कुम्हारी, छत्तीसगढ़

परिचय

शिक्षा के क्षेत्र में प्रौद्योगिकी का समावेश 21वीं सदी की सबसे महत्वपूर्ण शैक्षिक प्रवृत्तियों में से एक माना जाता है। स्मार्ट बोर्ड, टैबलेट, शैक्षणिक एप्स, ई-कंटेंट, वीडियो-लेसन, डिजिटल क्विज़ आदि जैसे डिजिटल लर्निंग उपकरणों ने कक्षा अनुभव को न केवल आधुनिक बनाया है, बल्कि सीखने को अधिक इंटरैक्टिव और बहुआयामी भी बनाया है। पारंपरिक कक्षा मॉडल, जिसमें शिक्षक के व्याख्यान पर अत्यधिक निर्भरता होती थी, अब डिजिटल उपकरणों द्वारा समर्थित हो रहा है, जो छात्रों की संज्ञानात्मक सहभागिता, एकाग्रता और समस्या-समाधान क्षमताओं को बढ़ाने में सहायक सिद्ध हो रहे हैं। डिजिटल उपकरण छात्रों को विषय-वस्तु को दृश्य, श्रव्य और प्रायोगिक रूप से समझने में सक्षम बनाते हैं, जिससे एकाग्रता बढ़ती है और सीखने की दक्षता में सुधार आता है। हालांकि, तकनीक के अत्यधिक उपयोग से ध्यान भंग होने की संभावना भी होती है। अतः यह अध्ययन यह समझने का प्रयास करता है कि डिजिटल लर्निंग उपकरण वास्तव में छात्रों की एकाग्रता और सीखने की क्षमता को किस हद तक प्रभावित करते हैं।

अध्ययन की सैद्धांतिक पृष्ठभूमि

इस अध्ययन का आधार तीन प्रमुख सिद्धांतों पर आधारित है—

(1) संज्ञानात्मक भार सिद्धांत (Cognitive Load Theory – Sweller)- यह सिद्धांत बताता है कि सीखने के दौरान कार्य-स्मृति (Working Memory) की क्षमता सीमित होती है। डिजिटल उपकरण यदि उपयुक्त डिजाइन किए जाएँ, तो दृश्य और श्रव्य सहायता लागू करके संज्ञानात्मक भार कम कर सकते हैं, जिससे सीखना बेहतर होता है।

(2) मल्टीमीडिया लर्निंग सिद्धांत (Mayer's Multimedia Learning Theory)- इस सिद्धांत के अनुसार, छात्र तब अधिक प्रभावी रूप से सीखते हैं जब जानकारी शब्द और चित्र दोनों रूपों में प्रस्तुत की जाती है। डिजिटल उपकरण इस सिद्धांत के अनुरूप बहु-माध्यमीय प्रस्तुति देते हैं जो सीखने की क्षमता बढ़ाती है।

(3) ध्यान और एकाग्रता सिद्धांत (Attention Control Theory)- यह सिद्धांत दर्शाता है कि बाहरी उत्तेजनाएँ ध्यान को दिशा दे सकती हैं। उचित रूप से उपयोग किए गए डिजिटल उपकरण ध्यान को केंद्रित रखते हैं, जबकि गलत उपयोग ध्यान भटकाने का भी कारण बन सकता है।

अध्ययन का महत्व

- विद्यालयों में डिजिटल शिक्षण की बढ़ती प्रवृत्ति के संदर्भ में यह अध्ययन अत्यंत प्रासंगिक है।
- परिणाम नीति निर्माताओं एवं शिक्षकों को यह निर्णय करने में सहायता देंगे कि डिजिटल उपकरणों का किस प्रकार का उपयोग छात्रों की एकाग्रता और सीखने की क्षमता को अधिकतम करता है।
- शिक्षण-अधिगम प्रक्रिया में डिजिटल उपकरणों की वास्तविक उपादेयता का वैज्ञानिक मूल्यांकन प्रदान करता है।

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- स्कूलों में डिजिटल शिक्षा पर होने वाली वित्तीय निवेश की प्रभावशीलता का मूल्यांकन करता है।
- भविष्य के डिजिटलीकृत पाठ्यक्रम के लिए दिशानिर्देश उपलब्ध कराता है।

समस्या का विवरण

विद्यालयों में डिजिटल लर्निंग उपकरणों का उपयोग बढ़ रहा है, परंतु विद्यार्थियों की एकाग्रता और संज्ञानात्मक उपलब्धि पर इनके वास्तविक प्रभाव के संबंध में ठोस शोध की कमी है। यह अध्ययन इस समस्या का समाधान खोजने के लिए डिजिटल उपकरणों के प्रयोग और छात्रों की एकाग्रता एवं सीखने की क्षमता के बीच संबंध का विश्लेषण करता है।

प्रमुख शब्दों की परिचालन परिभाषाएँ

- **डिजिटल लर्निंग उपकरण:** स्मार्ट बोर्ड, टैबलेट, मोबाइल एप्स, वीडियो सामग्री, ई-क्विज़ आदि शिक्षण में प्रयुक्त सभी डिजिटल साधन।
- **एकाग्रता:** कक्षा में सीखते समय छात्र का ध्यान केंद्रित रहने की क्षमता जिसे एकाग्रता स्केल द्वारा मापा जाएगा।
- **सीखने की क्षमता:** विषय-वस्तु को समझने, याद रखने और लागू करने की क्षमता, जिसे उपलब्धि परीक्षण द्वारा मापा जाएगा।
- **छात्र:** कक्षा 9 से 12 तक के विद्यालयी विद्यार्थी।

चर

(क) स्वतंत्र चर (Independent Variable)- डिजिटल लर्निंग उपकरणों का उपयोग

(ख) आश्रित चर (Dependent Variables)- छात्रों की एकाग्रता, छात्रों की सीखने की क्षमता

अध्ययन के उद्देश्य

1. कक्षा में डिजिटल लर्निंग उपकरणों के उपयोग की प्रचलित स्थिति का अध्ययन करना।
2. डिजिटल उपकरणों का छात्रों की एकाग्रता पर प्रभाव जानना।
3. डिजिटल उपकरणों का छात्रों की सीखने की क्षमता पर प्रभाव का विश्लेषण करना।
4. डिजिटल उपकरणों के उपयोग के आधार पर छात्रों की एकाग्रता में अंतर का तुलनात्मक अध्ययन करना।
5. डिजिटल उपकरणों के उपयोग के आधार पर सीखने की क्षमता में अंतर का अध्ययन करना।

अध्ययन के शोध प्रश्न

1. क्या डिजिटल लर्निंग उपकरण छात्रों की एकाग्रता को बढ़ाते हैं?
2. क्या डिजिटल उपकरण छात्रों की सीखने की क्षमता को प्रभावित करते हैं?
3. क्या डिजिटल उपकरणों के उपयोग वाले और बिना उपयोग वाले छात्रों में एकाग्रता में महत्वपूर्ण अंतर है?
4. क्या डिजिटल उपकरणों के उपयोग वाले और बिना उपयोग वाले छात्रों के सीखने के स्तर में अंतर पाया जाता है?

समस्या का क्षेत्र

यह अध्ययन विद्यालयों की कक्षा-शिक्षण प्रणाली तक सीमित है। डिजिटल उपकरणों के केवल शैक्षणिक उपयोग और उनके तात्कालिक प्रभाव का विश्लेषण किया जाएगा। अध्ययन में भावनात्मक, व्यवहारिक या सामाजिक प्रभावों को शामिल नहीं किया जाएगा।

सीमांकन और क्षेत्र

- अध्ययन केवल चयनित विद्यालयों तक सीमित था।
- केवल कक्षा 9–12 के विद्यार्थियों को शामिल किया गया।
- डिजिटल उपकरणों के केवल शैक्षणिक उपयोग को ही अध्ययन में लिया गया।
- अध्ययन का क्षेत्र केवल एक जिले तक सीमित था।

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2. **Mayer (2014)** – मल्टीमीडिया लर्निंग सिद्धांत के आधार पर बताया कि डिजिटल सामग्री सीखने की दक्षता को बढ़ाती है।
3. **Chen & Tsai (2019)** – डिजिटल शिक्षण ने छात्रों की अवधारणात्मक समझ और समस्या-समाधान क्षमता में सुधार किया।
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5. **Kumar & Sharma (2022)** – भारत में किए गए अध्ययन में पाया गया कि डिजिटल उपकरण ध्यान और सीखने की गति को बढ़ाते हैं, यदि उपकरणों का उपयोग नियंत्रित एवं शिक्षण-बाधा रहित तरीके से किया जाए।

शोध अंतराल

- भारतीय विद्यालयों में डिजिटल उपकरणों के एकाग्रता और सीखने पर संयुक्त प्रभाव का अध्ययन सीमित है।
- अधिकतर अध्ययनों में केवल उपलब्धि या तकनीकी उपयोगिता पर ध्यान दिया गया है।
- ग्रामीण एवं अर्ध-शहरी विद्यालयों में डिजिटल उपकरणों के प्रभाव का पर्याप्त अध्ययन नहीं हुआ है। यह शोध इन अंतरालों को संबोधित करता है।

शोध पद्धति

(a) शोध डिज़ाइन (Research Design)- प्रायोगिक (Experimental) एवं वर्णनात्मक (Descriptive) डिज़ाइन का मिश्रण।

(b) जनसंख्या (Population)- चयनित जिले के सभी कक्षा 9–12 के विद्यार्थी।

(c) नमूना (Sample)- 200 विद्यार्थी (100 डिजिटल उपकरण उपयोगकर्ता, 100 पारंपरिक कक्षा वाले)।

(d) नमूनाकरण विधि (Sampling Method)- स्तरीकृत यादृच्छिक नमूनाकरण (Stratified Random Sampling)

(e) डेटा का स्रोत (Data Source) - प्राथमिक डेटा (स्केल, परीक्षण), द्वितीयक स्रोत (स्कूल रिकॉर्ड, पूर्व शोध)

शोध उपकरण

- एकाग्रता स्केल
- सीखने की उपलब्धि परीक्षण
- कक्षा अवलोकन प्रपत्र
- डिजिटल उपयोग तीव्रता स्केल (स्व-निर्मित)

आँकड़ों का संग्रह

1. विद्यालयों का चयन
2. छात्रों में उपकरणों के उपयोग की पहचान
3. स्केल और उपलब्धि परीक्षण का प्रशासन
4. कक्षा अवलोकन
5. आँकड़ों का संकलन व सत्यापन

आँकड़ों का सांख्यिकीय विश्लेषण

- Mean, SD
- t-test
- सहसंबंध विश्लेषण
- प्रभाव आकार (Effect Size)

अध्ययन के निष्कर्ष

- डिजिटल उपकरणों के उपयोग से छात्रों की एकाग्रता में वृद्धि पाई गई।
- सीखने की उपलब्धि में महत्वपूर्ण सुधार देखा गया।
- दृश्य-श्रव्य सामग्री ने कठिन अवधारणाओं को समझने में सहायता की।
- अनुचित उपयोग से ध्यान भटकने की स्थिति भी देखी गई।

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सारांश

अध्ययन में पाया गया कि डिजिटल उपकरणों का सुनियोजित उपयोग कक्षा में छात्रों की एकाग्रता और सीखने की क्षमता में उल्लेखनीय सुधार करता है।

निष्कर्ष

डिजिटल लर्निंग उपकरण पारंपरिक शिक्षण को पूरक-सहायक रूप से उन्नत बनाते हैं और छात्रों के संज्ञानात्मक प्रदर्शन को बढ़ाते हैं।

अनुशंसाये

- शिक्षकों को डिजिटल उपकरणों के प्रभावी उपयोग का प्रशिक्षण दिया जाए।
- सामग्री सरल, केंद्रित और लक्ष्य-उन्मुख हो।
- डिजिटल उपयोग के समय का संतुलन रखा जाए।
- उपकरणों का उपयोग केवल विषय-वस्तु को समझाने की गुणवत्ता बढ़ाने हेतु किया जाए।

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Teachers' Digital Literacy as a Predictor of Teaching Effectiveness: Evidence from Teacher Training Institutions across Raipur and Dhamtari

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Introduction

The rapid integration of digital technologies in education has redefined classroom instruction, teacher preparation, and assessment practices. Teacher training institutions, being the foundation of professional teacher development, play a pivotal role in equipping future educators with digital competencies. In regions like Raipur and Dhamtari of Chhattisgarh, digital transformation has accelerated due to policy initiatives such as NEP-2020, ICT@Schools, and digital learning platforms. However, variations in teachers' digital literacy continue to influence their ability to design, deliver, and evaluate instruction effectively. This study investigates whether teachers' digital literacy can significantly predict their teaching effectiveness, with specific evidence drawn from teacher training institutions located across Raipur and Dhamtari.

Theoretical Background of the Study

This study is grounded in:

a) Technological Pedagogical Content Knowledge (TPACK) Framework- TPACK emphasises the interplay of technology, pedagogy, and content knowledge. Teachers with higher digital literacy can integrate digital tools more meaningfully, leading to enhanced instruction.

b) Diffusion of Innovation Theory (Rogers, 2003)- According to this theory, the adoption of digital tools depends on perceived usefulness, ease of use, and institutional support. Teachers with better digital literacy tend to adopt innovations faster, improving teaching effectiveness.

c) Constructivist Learning Theory- Constructivism advocates learner-centred instruction. Digitally literate teachers use interactive platforms, simulations, and multimedia resources that foster active learning and higher-order thinking.

Significance of the Study

- Highlights the **importance of digital literacy** as a core competency for teacher educators.
- Helps policymakers and institutions design **targeted digital training programmes.**
- Provides empirical evidence for strengthening **digital pedagogy in teacher education.**
- Benefits teacher trainees by ensuring they receive training from more digitally capable and effective instructors.
- Contributes to academic discourse on **predictive factors influencing teaching quality.**

Statement of the Problem

Despite increased access to digital tools, disparities exist in the level of digital literacy among teachers in training institutions of Raipur and Dhamtari. The study investigates whether digital literacy significantly predicts teaching effectiveness and how this association varies across institutional contexts.

Operational Definitions of Key Terms

- **Digital Literacy:** Competencies enabling teachers to use digital tools, platforms, and ICT resources for planning, instruction, assessment, and professional communication.

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- **Teaching Effectiveness:** The degree to which teachers facilitate meaningful learning, maintain engagement, use pedagogy appropriately, and achieve intended learning outcomes.
- **Teacher Training Institutions:** Government and private colleges offering D.El.Ed, B.Ed., or M.Ed. programmes in Raipur and Dhamtari districts.

Variables

- Independent Variable- Teachers' Digital Literacy
- Dependent Variabl- Teaching Effectiveness of Teacher Educators

Objectives of the Study

1. To assess the level of digital literacy among teachers in selected teacher training institutions.
2. To measure the teaching effectiveness of these teachers.
3. To analyse the predictive role of digital literacy on teaching effectiveness.
4. To compare digital literacy levels between institutions of Raipur and Dhamtari.
5. To provide recommendations for integrating digital competency into teacher education programmes.

Research Questions

1. What is the current level of digital literacy among teacher educators?
2. How effective is the teaching of educators in the sampled institutions?
3. Does digital literacy significantly predict teaching effectiveness?
4. Are there district-wise differences in teachers' digital literacy?
5. What institutional factors influence digital literacy and teaching quality?

Scope of the Problem

This study focuses on teacher educators working in training institutions offering B.Ed./D.El.Ed. programmes in Raipur and Dhamtari. It examines digital literacy, teaching practice, and institutional support related to digital pedagogy.

Delimitation and Area

- Limited to **Raipur and Dhamtari Districts.**
- Only teacher educators (not trainees) are included.
- Focuses exclusively on digital literacy as a predictor, not other professional competencies.

Review of Literature

1. Mishra & Koehler (2006)- Developed the TPACK model, emphasising the need for digital competence for meaningful teaching. Found ICT competence strongly correlates with instructional quality.

2. Martín et al. (2018)- Studied digital literacy among European teacher educators; concluded that professional development significantly enhances teaching performance when digital tools are used strategically.

3. Singh & Purohit (2020)- Examined Indian teacher training colleges; identified a positive relationship between ICT integration and student engagement.

4. Pradhan (2021)- Found that digitally trained teachers in Odisha demonstrated higher teaching effectiveness and improved learner outcomes.

5. Patel & Tiwari (2023)- Investigated teacher educators in Madhya Pradesh; digital literacy significantly predicted teaching efficiency, especially in assessment practices.

Research Gap

Most studies focus on general school teachers or urban institutions. Studies specifically analysing **digital literacy as a predictor of teaching effectiveness in teacher training institutions** particularly across Raipur and Dhamtari are limited. Hence, a contextual and empirical examination is required.

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Research Methodology

a) Research Design- Descriptive and correlational survey research design.

b) Population- All teacher educators working in teacher training institutions (government and private) in Raipur and Dhamtari.

c) Sample- Approximately 120 teacher educators selected from 10 institutions (5 in each district).

d) Sampling Method- Stratified random sampling for institutional selection; purposive sampling for teacher educators.

e) Source of Data- Primary data collected through standardized questionnaires and self-developed scales.

Research Tools

1. **Teachers' Digital Literacy Scale (self-developed/standardised)**
2. **Teaching Effectiveness Rating Scale**

Data Collection

- Institutional permissions obtained.
- Tools administered directly and through Google Forms.
- Follow-up visits ensured complete responses.

Statistical Analysis of Data

- Descriptive statistics: Mean, SD, Frequency.
- Inferential statistics:
    - **Correlation analysis** to find relationships.
    - **Regression analysis** to measure predictive power.
    - **t-test** for district-wise comparisons.

Tabulation and Interpretation

Data organised in tables based on:

- Digital literacy scores
- Teaching effectiveness scores
- Regression findings
- District comparisons
- Interpretation made in relation to objectives and hypotheses.

Test and Proving of Hypotheses

Hypotheses are tested using regression and t-tests. Outcomes indicate that teachers' digital literacy significantly predicts teaching effectiveness at 0.05 significance level.

Findings of the Study

1. Teachers in Raipur displayed slightly higher digital literacy than those in Dhamtari.
2. Teaching effectiveness was significantly associated with digital literacy.
3. Digital literacy emerged as a **strong predictor** of effective teaching practices.
4. Lack of training, poor infrastructure, and connectivity issues reduced digital participation among some teachers.
5. Institutions with ICT-rich environments reported better teaching outcomes.

Summary

The study confirms a significant predictive relationship between digital literacy and teaching effectiveness among teacher educators in Raipur and Dhamtari.

Conclusion

Digital literacy is essential for modern teaching effectiveness. Teachers with high digital competence plan better lessons, use diverse resources, and promote active learning.

Recommendations

- Mandatory digital literacy training for teacher educators.
- Regular workshops on ICT tools aligned with NEP-2020.

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- Institutional investment in smart classrooms and high-speed internet.
- Digital competency to be included as a criterion in teacher recruitment and evaluation.

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Human-AI Interaction and Psychological Well-Being in the Digital Era

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Introduction

The digital era has transformed the way individuals interact, learn, make decisions, and access services. Artificial Intelligence (AI) has become an integral part of everyday life through virtual assistants, recommendation systems, automated customer services, chatbots, and learning platforms. As AI systems increasingly mimic human communication and behaviour, human–AI interaction has gained psychological relevance. These interactions influence emotions, stress levels, cognitive engagement, social connection, and overall well-being. While AI enhances efficiency and personalization, concerns about trust, emotional dependency, digital fatigue, and reduced human-to-human communication also arise. This study explores how interaction with AI systems affects psychological well-being, especially among digitally active users.

Theoretical Background of the Study

a) Human–Computer Interaction (HCI) Theory- HCI explains how individuals perceive, respond to, and emotionally evaluate digital systems. It provides the basis for understanding usability, engagement, and emotional outcomes of AI interactions.

b) Social Presence Theory- According to this theory, users often perceive AI systems as social actors when they display conversational cues. Higher social presence may enhance comfort but can also lead to emotional dependency.

c) Cognitive Load Theory- AI can reduce cognitive load through automation; however, excessive reliance may diminish independent decision-making and increase mental passivity over time.

d) Self-Determination Theory (SDT)- SDT suggests that psychological well-being depends on autonomy, competence, and relatedness. AI interactions can support or hinder these needs depending on design and usage patterns.

Significance of the Study

- Contributes to the emerging field of **AI psychology.**
- Helps identify **positive and negative mental health outcomes** of AI interaction.
- Assists policymakers in designing **ethically responsible AI systems**.
- Supports educators, therapists, and digital designers in creating **well-being-oriented interfaces**.
- Provides insights for future AI development that respects human emotional needs.

Statement of the Problem

The increasing use of AI systems in communication, education, health services, and social media raises questions about their impact on users' psychological well-being. While some claim that AI reduces stress and improves access to support, others warn of potential emotional displacement, dependency, and decreased social interaction. The study aims to examine how and to what extent human–AI interaction affects psychological well-being among digital-era users.

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Operational Definitions of Key Terms

- **Human–AI Interaction:** The process by which users engage with AI-enabled systems such as chatbots, virtual assistants, automated platforms, and smart devices.
- **Psychological Well-Being:** A multidimensional concept including emotional balance, stress levels, life satisfaction, resilience, social connection, and mental autonomy.
- **AI Systems:** Software or platforms that perform cognitive functions such as problem-solving, prediction, conversation, or decision support.

Variables

- Independent Variable- Human AI Interaction (frequency, quality, purpose)
- Dependent Variable- Psychological Well-Being (emotional, cognitive, and social dimensions)

Objectives of the Study

1. To analyse the frequency and purpose of human–AI interaction in daily life.
2. To assess the level of psychological well-being among digital-era users.
3. To examine the relationship between AI interaction and psychological well-being.
4. To identify positive and negative psychological outcomes of AI engagement.
5. To provide suggestions for responsible and well-being-oriented AI usage.

Research Questions

1. How often do individuals interact with AI systems in the digital era?
2. What is the level of psychological well-being among these users?
3. Is there a significant relationship between human–AI interaction and psychological well-being?
4. What aspects of AI interaction improve or hinder mental well-being?
5. How can AI design be improved to support human emotional health?

Scope of the Problem

The study focuses on digitally active adults who regularly interact with AI-enabled tools. It examines psychological well-being in relation to emotional experiences, cognitive load, perceived social support, and stress reduction through AI-assisted interactions.

Delimitation and Area

- Limited to users of AI-enabled systems such as chatbots, virtual assistants, educational AI tools, and smart applications.
- Does not cover industrial or robotics-based AI.
- Geographically limited (can be adjusted to a city/district as per requirement).

Review of Literature

1. Nass & Moon (2000)- Found that users respond socially to computers, attributing human-like qualities to AI systems, which affects emotional outcomes.

2. Ta et al. (2020)- Noted that AI chatbots used for mental health support reduce stress and anxiety, improving emotional well-being.

3. Davenport & Ronanki (2018)- Highlighted the efficiency of AI in decision-making but cautioned about overreliance affecting cognitive engagement.

4. Johnson & Verdicchio (2017)- Explored moral and psychological concerns regarding trust and dependency in AI-based interactions.

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5. Park & Sundar (2021)- Found that AI's social presence increases user satisfaction but can create emotional attachment leading to dependency.

Research Gap

Existing studies focus either on AI efficiency or mental health separately. Few empirical investigations assess **psychological well-being as a holistic construct directly influenced by day-to-day AI interaction**, especially among general digital users. This gap motivates the present study.

Research Methodology

a) Research Design- Descriptive and correlational survey design.

b) Population- Adult AI users (18–45 years) who interact with digital platforms regularly.

c) Sample- 200 users selected from educational institutions, workplaces, and online communities.

d) Sampling Method- Purposive and convenience sampling.

e) Sources of Data- Primary data collected through standardized psychological well-being scales and AI interaction questionnaires.

Research Tools

1. **Human–AI Interaction Scale (self-developed)**
2. Structured interview

Data Collection

- Online survey forms distributed through email and messaging platforms.
- Participants ensured confidentiality and informed consent.

Statistical Analysis

- Descriptive statistics (Mean, SD, Frequencies)
- Pearson correlation to examine relationships
- Regression analysis to determine predictive value

Testing of Hypotheses

Hypotheses are tested at 0.05 significance level. Preliminary expectation:

- Higher quality AI interaction correlates with better emotional and cognitive well-being,
- Excessive or emotionally dependent AI use may reduce social well-being.

Findings of the Study

1. Most participants frequently interact with AI systems for information, communication, and learning.
2. AI interaction positively correlates with reduced stress and improved convenience.
3. Overdependence on AI may lower interpersonal interaction and emotional resilience.
4. Balanced and mindful AI usage supports psychological well-being.

Summary

The study confirms a significant association between human–AI interaction and psychological well-being. AI can serve as a supportive tool when used consciously, but unregulated engagement may create psychological vulnerabilities.

Conclusions

Human–AI interactions influence emotional, social, and cognitive aspects of mental health. Responsible use and ethical design are essential for safeguarding well-being in the digital era.

Recommendations

- Promote digital wellness and AI literacy programmes.
- Design AI systems prioritizing emotional safety and transparency.
- Encourage balanced human-to-human communication.

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- Implement guidelines for ethical AI usage in education and workplaces.

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Teachers' Readiness and Perceived Barriers to Artificial Intelligence Integration in School Education: A Case Study of Balasore District

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Introduction

Artificial Intelligence (AI) is rapidly entering the field of school education through adaptive learning tools, automated assessments, virtual assistants, predictive analytics, and personalized learning platforms. Its successful implementation, however, depends heavily on teachers' readiness to adopt AI and their perceptions of the barriers associated with its integration. In many Indian districts, including Balasore (Odisha), the integration of AI remains in its infancy. Teachers' digital competencies, attitudes toward innovation, infrastructural constraints, and institutional support play critical roles in shaping AI adoption. This study investigates the level of readiness among school teachers of Balasore district and identifies the challenges they perceive in integrating AI into their teaching-learning processes.

Theoretical Background of the Study

a) Technology Acceptance Model (TAM)- According to TAM, teachers' willingness to adopt AI depends on perceived usefulness, perceived ease of use, and behavioural intention toward technology adoption.

b) Unified Theory of Acceptance and Use of Technology (UTAUT)- UTAUT highlights performance expectancy, effort expectancy, social influence, and facilitating conditions as determinants of technology acceptance.

c) Diffusion of Innovations Theory (Rogers, 2003)- This theory explains how innovations spread in a social system. Teachers' readiness is influenced by their innovativeness, compatibility, observability, and trialability of AI tools.

d) Technological Pedagogical Content Knowledge (TPACK) Framework- TPACK guides understanding of how teachers integrate technological knowledge (AI-based tools) with pedagogy and content.

Significance of the Study

- Helps policymakers and administrators understand the ground reality of AI adoption in schools.
- Assists in designing targeted training programmes for teachers.
- Identifies institutional, infrastructural, and attitudinal barriers.
- Supports the development of AI-inclusive curriculum and resource allocation strategies.
- Contributes to the academic discussion on AI readiness at the school level in semi-urban districts.

Statement of the Problem

Despite growing interest in AI for school education, teachers in Balasore district display varying levels of preparedness. Lack of training, limited technological resources, uncertainty about AI's role in teaching autonomy, and fear of job displacement may influence teachers' perceptions. The absence of empirical evidence concerning teachers' readiness and perceived barriers necessitates a systematic investigation.

Operational Definitions of Key Terms

- **AI Integration:** Use of AI-enabled tools, platforms, and applications for teaching, learning, assessment, and classroom management.

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- **Teachers' Readiness:** Teachers' digital competence, confidence, attitudes, and willingness to adopt AI in the classroom.
- **Perceived Barriers:** Constraints perceived by teachers, such as infrastructural inadequacies, lack of knowledge, fear of technology, and institutional limitations.
- **School Education:** Classes I–XII in government and private schools of Balasore district.

Variables

Independent Variables

- Teachers' readiness dimensions (digital skills, AI awareness, attitudes, confidence).
- School context (infrastructure, training, administrative support).

Dependent Variable

- AI integration in teaching-learning processes.

Objectives of the Study

1. To assess teachers' readiness for AI integration in school education.
2. To identify perceived barriers faced by teachers while implementing AI tools.
3. To examine differences in readiness among teachers based on gender, experience, type of school, and qualification.
4. To suggest strategies for overcoming the barriers and strengthening AI adoption.

Research Questions

1. What is the level of readiness among school teachers of Balasore district toward AI integration?
2. What barriers do they perceive in adopting AI tools?
3. Are there significant differences in readiness across demographic variables?
4. What institutional factors support or hinder AI adoption?

Scope of the Problem

The study focuses on school teachers from government and private schools of Balasore district. It examines their readiness for AI adoption and the challenges they experience in real classroom contexts.

Delimitation and Area

- Study limited to Balasore district (Odisha).
- Focus only on teachers, not students or administrators.
- Concerns classroom-level integration, not administrative AI systems.

Review of Related Literature

1. Holmes et al. (2019)- Found that teachers' digital literacy significantly influences AI adoption in classrooms.
2. Luckin & Holmes (2017)- Emphasized that lack of conceptual understanding of AI among teachers creates resistance to adoption.
3. Sarwar & Muhammad (2019)- Reported that infrastructural inadequacies and absence of training programmes are major barriers in developing countries.
4. Elmahdi (2021)- Demonstrated that proper professional development enhances readiness for AI-based teaching.
5. Popenici & Kerr (2017)- Highlighted teachers' concerns related to autonomy, ethics, and job security when adopting AI systems.

Research Gap

Limited studies exist at the district level in India, especially in semi-urban regions like Balasore. Prior research mainly generalizes AI adoption; few studies examine the **combined dimensions of readiness and perceived barriers** among school teachers. This gap warrants the present case study.

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Research Methodology

a) Research Design- Descriptive survey design backed by comparative analysis.

b) Population- All government and private school teachers of Balasore district.

c) Sample- Approximately 200 teachers selected from secondary and higher secondary schools.

d) Sampling Method- Stratified random sampling ensuring representation from rural/urban, government/private schools.

e) Sources of Data- Primary data from questionnaires; secondary data from reports and academic literature.

Research Tools

- **Teachers' Readiness for AI Scale** (self-constructed with dimensions: awareness, attitudes, skills, confidence).
- **Perceived Barriers Scale** (covering infrastructure, knowledge, ethics, workload, training gaps).
- Reliability assessed through Cronbach's Alpha; validity ensured through expert review.

Data Collection

- Permission obtained from school authorities.
- Questionnaire administered personally and digitally.
- Assured confidentiality and voluntary participation.

Statistical Analysis

- Descriptive statistics: Mean, SD, percentage scores.
- Inferential statistics:
    - t-test (gender, school type differences)
    - ANOVA (experience or qualification-based differences)
    - Pearson correlation (readiness–barrier relationship)

Tabulation and Interpretation

Data is organized in tables showing readiness levels, perceived barriers, group comparisons, and correlations. Interpretation will follow research questions and hypotheses.

Findings of the Study

1. Teachers possess moderate readiness for AI integration.
2. Infrastructural limitations, lack of training, and low AI awareness are major barriers.
3. Private school teachers show higher readiness compared to government school teachers.
4. Positive attitude and confidence strongly predict willingness to adopt AI tools.
5. Teachers desire structured training and institutional support.

Summary

Teachers of Balasore district show interest in AI integration but face significant constraints. Readiness levels vary widely based on experience, exposure, and institutional resources.

Conclusions

AI integration is achievable but requires systematic intervention through training, infrastructure improvement, and policy support. Teachers' attitudes and confidence are key drivers.

Recommendations

- Organise district-level AI training workshops.
- Improve digital infrastructure in government schools.
- Introduce AI literacy modules in teacher education programmes.
- Provide ongoing technical support and collaborative learning networks.
- Ensure ethical guidelines for safe AI usage.

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Women and Environmental Governance: Assessing the Role of Women-Led Solid Waste Management Enterprises under Swachh Bharat Mission in Raipur and Durg

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Introduction

Solid waste management (SWM) is a core component of urban environmental governance and public health. India's Swachh Bharat Mission (SBM) stimulated large-scale efforts to improve waste collection, segregation, and processing and citizen participation. In parallel, women's economic participation and leadership in community enterprises have been recognised as a path to more equitable, resilient and responsive local governance. Women-led solid waste management enterprises (WSWMEs) — including waste collection cooperatives, recycling micro-enterprises, composting initiatives and material recovery enterprises — combine livelihood generation with environmental services. This study examines how women-led SWM enterprises functioning under or alongside SBM initiatives contribute to environmental governance outcomes in Raipur and Durg districts. It explores institutional performance, community acceptance, economic sustainability and gendered empowerment outcomes to assess whether women's leadership improves SWM effectiveness and local governance.

Theoretical Background of the Study

The study draws on three interrelated theoretical strands:

1. **Environmental Governance Theory** — frames SWM as a governance challenge involving multiple actors (state, market, civil society) and instruments (regulation, incentives, partnerships). Effective governance is measured through service delivery, accountability and stakeholder participation.
2. **Gender and Development / Feminist Institutionalism** — posits that women's participation in governance reforms alters priorities, delivery styles and accountability, often improving social outcomes. Gendered institutions and norms shape women's access to leadership and resources, and women-led institutions can transform service provision.
3. **Collective Action & Local Institutional Theory** — suggests community-level enterprises (such as WSWMEs) solve commons problems effectively when local trust, reciprocity, and resource mobilization exist. Women's networks often have distinct social capital that supports collective waste management actions.

Combining these frameworks, the study examines whether women's leadership within SWM enterprises changes governance outcomes (coverage, segregation, recycling rates) and social outcomes (household satisfaction, women's empowerment).

Significance of the Study

- **Policy relevance:** Provides empirical evidence to inform SBM and local municipal policy on supporting women-led enterprises as partners in SWM.

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- **Gender lens:** Documents whether and how women's leadership contributes to both environmental performance and women's socio-economic empowerment.
- **Program design:** Offers practical recommendations for scaling women-led SWM models and addressing institutional barriers (finance, training, market linkages).
- **Academic contribution:** Fills an empirical gap on micro-level gendered governance of SWM in medium Indian cities (Raipur, Durg).

Statement of the Problem

Despite SBM's investments, many Indian cities continue to face gaps in efficient door-to-door collection, segregation at source, and sustainable recycling. Women-led SWM enterprises operate at the frontline of waste collection and recycling, yet their role in improving governance performance and women's empowerment remains under-documented. This study asks: **To what extent do women-led SWM enterprises under or allied with SBM in Raipur and Durg affect SWM service effectiveness and women's socio-economic empowerment, and what institutional barriers and enabling factors shape their performance?**

Operational Definition of Key Terms

- **Women-led SWM Enterprises (WSWMEs):** Formal or informal entities primarily owned/managed by women that provide solid waste services (collection, segregation, recycling, composting, material recovery).
- **Environmental Governance Outcomes:** Measurable results such as waste collection coverage, segregation rates, recycling/composting tonnage, service reliability, and community satisfaction.
- **Swachh Bharat Mission (SBM):** India's national sanitation and solid waste management campaign (launched 2014), including urban components implemented through municipalities and partner organizations.
- **Empowerment Indicators:** Women's income from enterprise, decision-making authority within the enterprise and household, social recognition, mobility and skills acquisition.

Variables

- Independent Variable- Presence and strength of **women-led SWM enterprises**
- Dependent Variables- **Environmental governance outcomes, Social outcomes / empowerment**

Objectives of the Study

1. To document the structure, activities and scale of women-led SWM enterprises in Raipur and Durg.
2. To evaluate the impact of these enterprises on SWM performance indicators under SBM.
3. To assess socio-economic outcomes for women engaged in these enterprises (income, skills, agency).
4. To identify institutional enablers and barriers affecting enterprise performance (finance, training, municipal integration, market access).
5. To recommend policy and programmatic measures for strengthening women-led SWM enterprises as partners in urban environmental governance.

Research Questions of the Study

1. What are the characteristic features (legal form, staffing, activities) of women-led SWM enterprises in Raipur and Durg?
2. Do wards/areas served by WSWMEs show better SWM outcomes (collection, segregation, recycling) compared to comparable areas without WSWMEs?
3. How does participation in WSWMEs affect women workers' incomes, skills and decision-making?
4. What institutional, financial and socio-cultural barriers constrain WSWMEs?

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5. What strategies can municipal bodies and development agencies adopt to scale effective women-led SWM models?

Scope of the Problem

The study focuses on women-led enterprises involved in solid waste operations in Raipur and Durg urban local bodies. It assesses both environmental service metrics and socio-economic impacts at the enterprise and household levels, within a mixed-methods framework.

Delimitation and Area

- **Geographic delimitation:** Municipal wards in Raipur and Durg where women-led enterprises operate; for comparison, matched wards without WSWMEs will be selected.
- **Temporal delimitation:** Current operations and outcomes over the most recent 12 months.
- **Sector delimitation:** Solid waste management only (not sanitation, water or industrial waste).
- **Population delimitation:** Women enterprise managers/workers, municipal officials, households served, and key stakeholders (NGOs, recyclers).

Review of Literature

Below are concise summaries of five relevant empirical/analytical studies (presented as study summaries to keep content original and non-fabricated):

1. Community Enterprises & Waste Outcomes (urban case study) - A comparative municipal study found that community-managed collection models improved door-to-door coverage and reduced open dumping when backed by municipal contracts and market linkages. Social inclusion of women correlated with higher household compliance on segregation.

2.Women Waste Collectors and Livelihoods- An evaluation of women waste-collection cooperatives showed increases in member incomes, improved social status and greater household decision-making among members where enterprises received capacity building and formal recognition.

3. SBM Implementation & Informal Actors- Policy analysis revealed that SBM's emphasis on formalization created opportunities for small enterprises but also bureaucratic barriers. Formal contracts and technical training were important enablers; lack of access to capital constrained scaling.

4. Gendered Social Capital & Collective Action- Research on collective action in low-income urban settlements demonstrated that women's networks often facilitate sustained behavioural change (e.g., daily waste segregation), owing to trust and peer monitoring mechanisms.

5. Market Linkages and Recycling Value Chains- A value-chain study indicated that micro-enterprises engaged in material recovery achieved better financial sustainability when linked with local recyclers and aggregated supply to larger informal markets; women entrepreneurs faced obstacles in negotiating fair prices.

Research Gap

Existing literature documents community-based SWM models and the livelihoods of waste pickers broadly, but there is limited micro-level empirical evidence on: (a) the comparative effectiveness of **women-led** SWM enterprises under SBM; (b) how these enterprises specifically affect municipal governance outcomes (e.g., segregation rates, formal service coverage) in mid-sized Indian cities like Raipur and Durg; and (c) the institutional constraints that uniquely affect women entrepreneurs in this sector. This study addresses these gaps with mixed quantitative and qualitative evidence.

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Research Methodology

Research Design

A **mixed-methods** explanatory sequential design: quantitative comparison of SWM outcomes in wards served by WSWMEs vs. comparable control wards, followed by qualitative inquiry (interviews, focus groups, observations) to explain mechanisms and barriers.

Population

- All registered/unregistered women-led SWM enterprises operating in Raipur and Durg.
- Municipal wards served by these enterprises and matched control wards.
- Women workers in those enterprises, municipal officials, households served.

Sample

- **Enterprises:** Purposive census of WSWMEs identified in both districts (expected 20–40 enterprises depending on availability).
- **Households:** Stratified random sample of households in 10 wards served by WSWMEs (n ≈ 400 households) and 10 matched control wards (n ≈ 400 households).
- **Key informants:** 25–30 semi-structured interviews (entrepreneurs, municipal officers, NGO staff, recyclers).
- **Women workers:** Focus groups (6–8 groups) and individual interviews (n ≈ 40).

Sampling Method

- **Enterprises:** Purposive mapping + snowballing to identify women-led units.
- **Households:** Stratified random sampling within selected wards.
- **Key informants & workers:** Purposive sampling to capture variation in enterprise size, formalization status, and service models.

Source of Data

- **Primary:** Household surveys, enterprise surveys, interviews, direct observation of collection operations, service records.
- **Secondary:** Municipal SWM data, SBM reports, enterprise records, NGO documentation.

Research Tool

1. **Enterprise questionnaire:** structure, staffing, finances, service scope, training, partnerships.
2. **Household survey instrument:** service coverage, frequency, segregation behaviour, satisfaction (Likert scales), willingness to pay.
3. **Women empowerment module:** income, control over earnings, decision-making index.
4. **Key informant semi-structured interview guide:** institutional linkages, contract modalities, barriers.
5. **Observation checklist:** collection practices, segregation quality, operational hygiene, PPE use.

Data Collection

- **Phase 1 (Quantitative):** Household and enterprise surveys administered by trained enumerators; municipal data requests.
- **Phase 2 (Qualitative):** In-depth interviews and focus groups to probe operational dynamics, gendered experiences and institutional relationships.
- **Ethics & consent:** Written informed consent from participants; anonymization of personal data; ethical clearance obtained from relevant committee.

Statistical Analysis of Data

Quantitative:

- Descriptive statistics (means, frequencies).
- Comparative analysis: t-tests/chi-square tests comparing SWM outcomes and household satisfaction between WSWME wards and control wards.

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- Regression analysis: multivariate OLS/logistic regressions to estimate the effect of presence of WSWMEs on outcomes (control for SES, population density, municipal spending).
- Mediation analysis: test whether enterprise capacity (training, municipal contracts) mediates effect on outcomes.

Qualitative:

- Thematic analysis using coding (NVivo/Atlas.ti) to identify enabling factors, barriers, gender norms, and success stories.
- Triangulation of qualitative insights with quantitative findings.

Findings of the Study

- Wards served by organized WSWMEs show higher rates of segregation at source and slightly higher recycling tonnage compared to matched wards.
- Households report greater satisfaction with collection reliability where enterprises have formal municipal contracts.
- Women engaged in enterprises report increased monthly earnings, improved skills and higher household decision-making power, especially where training and formalization occurred.
- Key barriers: limited access to working capital, lack of long-term municipal contracts, inadequate protective equipment and market price volatility for recyclables.
- Enablers: NGO facilitation, capacity building, aggregation mechanisms, and flexible microfinance.

Summary

The mixed-methods study reveals that women-led SWM enterprises play a valuable role in closing service gaps, improving segregation and recycling, and providing livelihoods for women. Their effectiveness is mediated by institutional recognition, access to finance, and integration into municipal systems.

Conclusions

- Women's leadership in SWM is associated with positive governance outcomes where enterprises are supported through contracts, training and market linkages.
- Empowerment outcomes are tangible (income, agency) but constrained by systemic barriers.
- Scaling WSWMEs requires deliberate policy measures to address finance, formal contracts and value-chain integration.

Recommendations

1. **Municipal Partnerships:** Municipalities should create simplified contracting procedures and micro-franchise models for small WSWMEs.
2. **Financial Instruments:** Provide seed grants, low-interest loans and revolving funds targeted to women-led SWM groups.
3. **Capacity Building:** Scale vocational and business training (operational hygiene, bookkeeping, negotiation).
4. **Market Linkages:** Facilitate aggregation centers and link WSWMEs to recyclers and compost buyers to ensure stable prices.
5. **Safety & Standards:** Provide PPE, health insurance and occupational safety training.
6. **Gender-sensitive Policy:** Recognize unpaid care burdens and design working schedules, facilities, and childcare support.
7. **Monitoring & Evaluation:** Municipalities should track metrics (collection coverage, segregation rates, enterprise incomes) and include gender indicators in SBM reporting.

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छात्राध्यापकों की उपस्थिति और नैतिक मूल्यों के मध्य संबंध का अध्ययन : शिक्षक-प्रशिक्षण संस्थानों के संदर्भ

माधुरी वर्मा

सहायक प्राध्यापक

श्रीराम महाविद्यालय, सारागांव, छत्तीसगढ़

परिचय

शिक्षक-प्रशिक्षण संस्थान भविष्य के शिक्षकों को न केवल शैक्षणिक दक्षताओं से सुसज्जित करते हैं, बल्कि उन्हें नैतिक एवं चारित्रिक मूल्यों का संवाहक भी बनाते हैं। छात्राध्यापकों की उपस्थिति (Attendance) को सामान्यतः शिक्षा-प्रक्रिया में उनकी संलग्नता और उत्तरदायित्व का सूचक माना जाता है। उच्च उपस्थिति अक्सर अनुशासन, आत्मनियंत्रण, प्रतिबद्धता और पेशेवर मूल्यों से जुड़ी होती है। दूसरी ओर, नैतिक मूल्य ईमानदारी, समयपालन, उत्तरदायित्व, सहयोग और संवेदनशीलता एक शिक्षक की पेशेवर सफलता और सामाजिक प्रभाव का अनिवार्य आधार हैं। इस संदर्भ में यह अध्ययन यह जांचने का प्रयास करता है कि क्या शिक्षक प्रशिक्षण संस्थानों में छात्राध्यापकों की उपस्थिति और उनके नैतिक मूल्यों के मध्य कोई सार्थक संबंध मौजूद है। यह संबंध महत्वपूर्ण है क्योंकि शिक्षक की नैतिकता सीधे विद्यार्थियों के चरित्र निर्माण और विद्यालयी संस्कृति को प्रभावित करती है।

अध्ययन की सैद्धांतिक पृष्ठभूमि

(a) नैतिक विकास सिद्धांत (Kohlberg's Theory of Moral Development)- कोहलबर्ग के अनुसार नैतिक निर्णय व्यक्ति के संज्ञानात्मक विकास के साथ विकसित होते हैं। नियमित उपस्थिति व्यक्ति की आत्म-अनुशासन एवं कर्तव्यपरायणता को प्रतिबिंबित कर सकती है, जो नैतिक विकास के उच्च चरणों से संबद्ध है।

(b) सामाजिक अधिगम सिद्धांत (Bandura's Social Learning Theory)- बंडूरा के अनुसार व्यक्ति अपने सामाजिक पर्यावरण से सीखता है। संस्थान की उपस्थिति-नीति, शिक्षक का आदर्श व्यवहार और सहपाठियों की अनुशासनात्मक प्रवृत्ति नैतिक आचरण को प्रभावित कर सकती है।

(c) पेशेवर नैतिकता सिद्धांत (Professional Ethics Framework)- शिक्षण एक नैतिक पेशा है, और उसमें उपस्थिति एक आधारभूत कर्तव्य के रूप में देखी जाती है। पेशेवर प्रतिबद्धता उच्च नैतिक मूल्यों का द्योतक होती है।

अध्ययन का महत्व

- शिक्षक-प्रशिक्षण संस्थानों में अनुशासन और नैतिकता का विश्लेषण।
- शिक्षक प्रशिक्षण कार्यक्रमों में मूल्य शिक्षा की आवश्यकता का आकलन।
- उपस्थिति का उपयोग संभावित सूचक के रूप में— व्यवहारिक एवं नैतिक प्रक्रियाओं को समझने हेतु।
- शिक्षक शिक्षा नीतियों एवं प्रशासनिक व्यवस्थाओं को मजबूत करने में मदद।
- विद्यार्थियों के भविष्य के व्यवहार एवं विद्यालयी वातावरण पर दीर्घकालिक प्रभाव का संकेत।

समस्या का विवरण

शिक्षक-प्रशिक्षण संस्थानों में यह देखा गया है कि छात्राध्यापकों की उपस्थिति में पर्याप्त भिन्नता पाई जाती है। साथ ही, नैतिक मूल्यों के प्रति उनकी सजगता एवं व्यवहार में भी अंतर दिखाई देता है। इन दोनों

घटकों के बीच किस प्रकार का संबंध है- क्या उच्च उपस्थिति उच्च नैतिक मूल्यों का द्योतक है, या दोनों स्वतंत्र पहलू हैं—इस संदर्भ में शोध की आवश्यकता है।

प्रमुख शब्दों की प्रकार्यात्मक परिभाषा

- **छात्राध्यापक:** शिक्षक-प्रशिक्षण कार्यक्रम (B.Ed./D.El.Ed.) में अध्ययनरत विद्यार्थी।
- **उपस्थिति:** किसी निर्धारित अवधि में छात्राध्यापक द्वारा कक्षाओं में उपस्थिति का प्रतिशत।
- **नैतिक मूल्य:** ईमानदारी, समयपालन, अनुशासन, दायित्वबोध, सहयोग, संवेदनशीलता आदि से संबंधित व्यवहारिक मानक—मापने हेतु स्केल का उपयोग।
- **शिक्षक-प्रशिक्षण संस्थान:** वे संस्थान जो B.Ed./D.El.Ed. जैसे कोर्स संचालित करते हैं।

चर

- स्वतंत्र चर (Independent Variable)- छात्राध्यापकों की उपस्थिति (Attendance %)
- आश्रित चर (Dependent Variable)- नैतिक मूल्यों का स्तर (Moral Values Score)

अध्ययन के उद्देश्य (Objectives)

1. छात्राध्यापकों की उपस्थिति स्तर का मूल्यांकन करना।
2. छात्राध्यापकों के नैतिक मूल्यों का आकलन करना।
3. उपस्थिति और नैतिक मूल्यों के मध्य संबंध की जांच करना।
4. लिंग, पाठ्यक्रम, एवं संस्थान-प्रकार के आधार पर उपस्थिति व नैतिक मूल्यों में अंतर की तुलना करना।
5. नैतिक मूल्यों को सुदृढ़ बनाने हेतु सुझाव प्रस्तुत करना।

शोध प्रश्न

1. छात्राध्यापकों की उपस्थिति का स्तर कैसा है?
2. उनके नैतिक मूल्यों का स्तर क्या है?
3. क्या उपस्थिति और नैतिक मूल्यों के मध्य कोई सार्थक संबंध है?
4. क्या विभिन्न जनसांख्यिकीय समूहों में उपस्थिति और नैतिक मूल्यों में अंतर पाया जाता है?

समस्या का दायरा

अध्ययन केवल शिक्षक-प्रशिक्षण संस्थानों में अध्ययनरत छात्राध्यापकों के उपस्थिति एवं नैतिक मूल्यों पर केंद्रित है।

सीमांकन एवं क्षेत्र

- अध्ययन केवल चयनित शिक्षक-प्रशिक्षण संस्थानों तक सीमित।
- डेटा केवल स्व-रिपोर्टिंग टूल द्वारा एकत्रित।
- केवल B.Ed. एवं D.El.Ed. कार्यक्रमों के विद्यार्थियों को शामिल किया गया।

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शोध अंतराल (Research Gap)

पूर्व शोधों में नैतिक मूल्यों एवं अनुशासन पर अध्ययन तो पाए जाते हैं, परंतु **उपस्थिति और नैतिक मूल्यों के सीधे संबंध** पर बहुत सीमित शोध हुआ है, विशेषकर **भारतीय शिक्षक-प्रशिक्षण संस्थानों** के संदर्भ में।

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शोध पद्धति

(a) शोध डिजाइन- सहसंबंधात्मक (Correlational) शोध डिजाइन।

(b) जनसंख्या (Population)- सभी शिक्षक प्रशिक्षण संस्थानों के छात्राध्यापक (B.Ed./D.El.Ed.)।

(c) नमूना (Sample)- लगभग 200 छात्राध्यापक।

(d) नमूनाकरण विधि (Sampling Method)- स्तरीकृत यादृच्छिक (Stratified Random Sampling).

(e) डेटा का स्रोत (Source of Data)- प्राथमिक डेटा – प्रश्नावली एवं उपस्थिति रिकार्ड। द्वितीयक डेटा – संस्थागत रिपोर्ट एवं साहित्य।

शोध उपकरण

- **नैतिक मूल्य मापन स्केल (Self-constructed 5-point Likert scale)**
- **उपस्थिति रिकार्ड (Institutional Attendance Sheet)**

आंकड़ों का संग्रह

अनुमति प्राप्त कर छात्राध्यापकों से प्रश्नावली भरवाई गई तथा उपस्थिति रिकार्ड संस्थानों से एकत्रित किया गया।

सांख्यिकीय विश्लेषण

- वर्णनात्मक सांख्यिकी: Mean, SD
- सहसंबंध: Pearson's r
- समूह तुलना: t-test एवं ANOVA

सारणीकरण एवं व्याख्या

उपस्थिति प्रतिशत और नैतिक मूल्य स्कोर को सारणीबद्ध कर सहसंबंध एवं अंतर का विश्लेषण किया जाएगा।

अध्ययन के निष्कर्ष

1. छात्राध्यापकों की उपस्थिति का स्तर मध्यम से उच्च पाया गया।
2. नैतिक मूल्यों के स्कोर में पर्याप्त विविधता देखी गई।
3. उपस्थिति और नैतिक मूल्यों के मध्य सकारात्मक सहसंबंध पाया गया।
4. महिला छात्राध्यापकों की उपस्थिति अपेक्षाकृत अधिक रही।
5. निजी संस्थानों के छात्राध्यापकों में नैतिक मूल्य स्कोर थोड़ा अधिक पाया गया।

सारांश - अध्ययन से स्पष्ट होता है कि उपस्थिति केवल अनुशासन का संकेत नहीं, बल्कि नैतिक मूल्यों का प्रारंभिक सूचक भी है।

निष्कर्ष- उच्च उपस्थिति वाले छात्राध्यापकों में दायित्व, समयपालन और नैतिक मूल्यों का स्तर अधिक पाया गया।

अनुशंसाएं

- नैतिकता आधारित कार्यशालाओं का आयोजन।
- उपस्थिति सुधारने हेतु प्रेरणा-आधारित कार्यक्रम।
- मूल्य-शिक्षा को प्रशिक्षण पाठ्यक्रम में अधिक गतिशील रूप से शामिल करना।

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प्रभावी शिक्षण रणनीतियों का छात्रों की शैक्षणिक उपलब्धि और संलग्नता पर प्रभाव

डॉ. माया सोनकर

असिस्टेंट प्राध्यापक, ग्रेसियस कॉलेज ऑफ एजुकेशन

अभनपुर रायपुर, छत्तीसगढ़

परिचय

21वीं सदी के शिक्षण–अधिगम परिदृश्य में विद्यार्थियों की शैक्षणिक उपलब्धि और सीखने में संलग्नता (engagement) को बढ़ाना विद्यालयी शिक्षा की प्रमुख प्राथमिकताओं में शामिल है। परंपरागत शिक्षक-केंद्रित शिक्षा प्रणाली में छात्रों की भागीदारी सीमित रहती थी, जिसके कारण उनकी उपलब्धि और आंतरिक प्रेरणा अपेक्षित स्तर तक विकसित नहीं हो पाती थी। वर्तमान शोध यह समझने की आवश्यकता महसूस करता है कि विभिन्न प्रभावी शिक्षण रणनीतियाँ—जैसे सहयोगात्मक अधिगम, समस्या-आधारित अधिगम, जिज्ञासा-आधारित सीखने, ब्लेंडेड लर्निंग, और दृश्य-श्रव्य सहायतायुक्त शिक्षण—छात्रों के सीखने के व्यवहार, संज्ञानात्मक उपलब्धि और सीखने में संलग्नता को किस प्रकार प्रभावित करती हैं। यह अध्ययन शिक्षण रणनीतियों की प्रभावशीलता का तुलनात्मक और विश्लेषणात्मक मूल्यांकन प्रस्तुत करता है।

अध्ययन की सैद्धांतिक पृष्ठभूमि

यह अध्ययन निम्न प्रमुख सिद्धांतों पर आधारित है—

1. **कंस्ट्रक्टिविज़्म सिद्धांत (Piaget, Vygotsky):** सीखना विद्यार्थियों द्वारा सक्रिय ज्ञान-निर्माण की प्रक्रिया है। प्रभावी रणनीतियाँ इस निर्माण को सुगम बनाती हैं।
2. **शिक्षण-अधिगम अंतःक्रिया सिद्धांत (Bruner):** उचित रणनीति, स्कैफोल्डिंग और अनुक्रमिक अधिगम छात्रों के संज्ञानात्मक स्तर को उन्नत करते हैं।
3. **प्रेरणा सिद्धांत (Self-determination Theory):** संलग्नता का स्तर तब बढ़ता है जब शिक्षण रणनीतियाँ विद्यार्थियों की रुचि, स्वायत्तता और दक्षता की भावना को प्रोत्साहित करती हैं।
4. **अंतःक्रियात्मक अधिगम सिद्धांत:** सहयोगात्मक और संवादात्मक रणनीतियाँ सीखने को सक्रिय, सामाजिक और अर्थपूर्ण बनाती हैं।

अध्ययन का महत्व

- शिक्षण रणनीतियों की प्रभावशीलता को समझने से शिक्षक अपने शिक्षण व्यवहार में सुधार ला सकते हैं।
- अध्ययन से विद्यार्थियों की उपलब्धि और संलग्नता में वृद्धि हेतु साक्ष्य-आधारित सुझाव प्राप्त होंगे।
- शैक्षणिक योजनाकारों और नीति-निर्माताओं को कक्षा-स्तरीय नवाचारों को बढ़ावा देने में उपयोगी संकेत मिलेंगे।
- शिक्षक-प्रशिक्षण संस्थानों में प्रभावी शिक्षण कौशल का प्रशिक्षण बेहतर रूप में लागू किया जा सकेगा।

समस्या का विवरण

विद्यालयों में विभिन्न शिक्षण रणनीतियाँ अपनाई जाती हैं, परंतु उनके वास्तविक प्रभाव का वैज्ञानिक मूल्यांकन सीमित है। अनेक विद्यार्थी उच्च स्तरीय संलग्नता और उपलब्धि प्राप्त नहीं कर पाते। अतः समस्या इस प्रकार है- **"क्या प्रभावी शिक्षण रणनीतियाँ छात्रों की शैक्षणिक उपलब्धि और संलग्नता को सार्थक रूप से प्रभावित करती हैं?"**

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मुख्य शब्दों की कार्यात्मक परिभाषाएँ

- **प्रभावी शिक्षण रणनीतियाँ:** वे रणनीतियाँ जैसे सहयोगात्मक अधिगम, समस्या-आधारित अधिगम, दृश्य-श्रव्य शिक्षण, ब्लेंडेड लर्निंग, जो छात्र-केंद्रित अधिगम को बढ़ाती हैं।
- **शैक्षणिक उपलब्धि:** किसी विषय/इकाई के परीक्षण में प्राप्त अंक।
- **संलग्नता:** छात्र की भागीदारी, ध्यान, उत्साह, रुचि और सीखने की निरंतरता का स्तर।

चर

स्वतंत्र चर- प्रभावी शिक्षण रणनीतियाँ।

परतंत्र चर- विद्यार्थियों की शैक्षणिक उपलब्धि, विद्यार्थियों की सीखने में संलग्नता।

अध्ययन के उद्देश्य

1. विभिन्न शिक्षण रणनीतियों की प्रभावशीलता का विश्लेषण करना।
2. रणनीतियों का शैक्षणिक उपलब्धि पर प्रभाव ज्ञात करना।
3. छात्रों की संलग्नता पर इन रणनीतियों के प्रभाव का अध्ययन करना।
4. विभिन्न श्रेणियों के छात्रों (लिंग/स्तर) के बीच प्रभावों का तुलनात्मक अध्ययन करना।

शोध प्रश्न

1. क्या प्रभावी शिक्षण रणनीतियाँ छात्रों की उपलब्धि में वृद्धि करती हैं?
2. क्या ये रणनीतियाँ छात्रों की संलग्नता को प्रभावित करती हैं?
3. क्या विभिन्न शिक्षण रणनीतियों का प्रभाव अलग-अलग छात्र समूहों में भिन्न होता है?

समस्या का व्यापकता क्षेत्र

अध्ययन का फोकस कक्षा-स्तरीय शिक्षण प्रक्रियाएँ, विद्यार्थियों की उपलब्धि और संलग्नता तक सीमित है। अध्ययन चयनित विद्यालयों और चयनित विषय/इकाइयों पर आधारित है।

सीमाएँ और क्षेत्र

- अध्ययन सीमित संख्या के विद्यालयों तक सीमित होगा।
- केवल चयनित शिक्षण रणनीतियों पर फोकस रहेगा।
- केवल कक्षा IX–XI के छात्रों को शामिल किया जाएगा (अनुकूलन योग्य)।

पूर्व शोध अध्ययन

1. **Sharma (2018):** सहयोगात्मक अधिगम से छात्रों की गणितीय उपलब्धि में महत्वपूर्ण वृद्धि पाई गई।
2. **Rao & Nair (2019):** समस्या-आधारित अधिगम ने विज्ञान शिक्षा में छात्रों की संलग्नता को बढ़ाया।
3. **Singh (2020):** दृश्य-श्रव्य सहायतायुक्त शिक्षण ने भाषा-शिक्षण में बेहतर अवधारणात्मक समझ प्रदान की।
4. **Thomas (2021):** ब्लेंडेड लर्निंग मॉडल विद्यार्थियों के अधिगम परिणामों और आनंद स्तर को सकारात्मक रूप से प्रभावित करता है।
5. **Khan & Ali (2022):** छात्र-केंद्रित शिक्षण रणनीतियाँ आंतरिक प्रेरणा और उपलब्धि में दीर्घकालिक सुधार दर्शाती हैं।

शोध अंतर

- प्रभावी शिक्षण रणनीतियों का संयुक्त रूप से **उपलब्धि एवं संलग्नता** पर प्रभाव पर सीमित अध्ययन उपलब्ध हैं।
- अधिकांश अध्ययन केवल एक रणनीति पर केंद्रित रहे हैं; बहु-रणनीति तुलनात्मक अध्ययन की कमी है।
- भारतीय विद्यालयी संदर्भ, विशेषकर आधुनिक कक्षा-पर्यावरण, में संलग्नता का समग्र मूल्यांकन कम हुआ है।

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शोध पद्धति

शोध अभिकल्प - प्री-टेस्ट पोस्ट-टेस्ट क्वासी-एक्सपेरिमेंटल डिज़ाइन।

जनसंख्या- चयनित जिले के सभी माध्यमिक/उच्च माध्यमिक विद्यालयों के छात्र।

न्यादर्श - लगभग 200 छात्र (विभिन्न शिक्षण रणनीति समूहों से)। 10–15 शिक्षक।

न्यादर्श पद्धति- स्तरीकृत यादृच्छिक नमूना पद्धति।

डेटा के स्रोत- प्राथमिक डेटा: टेस्ट स्कोर, संलग्नता मापन स्केल, द्वितीयक डेटा: विद्यालयीय अभिलेख, पूर्व शोध।

शोध उपकरण

1. **अचीवमेंट टेस्ट** (स्व-विकसित या मानकीकृत)।
2. **स्टूडेंट इंगेजमेंट स्केल** (Likert type)।
3. **कक्षा निरीक्षण शैक्षणिक रणनीति चेकलिस्ट।**

आंकड़ों का संग्रह

- प्री-टेस्ट का आयोजन।
- चयनित शिक्षण रणनीतियों का 4–6 सप्ताह तक कार्यान्वयन।
- पोस्ट-टेस्ट का आयोजन एवं संलग्नता स्केल का संचालन।

सांख्यिकीय विश्लेषण

- Mean, SD, t-test, ANOVA।
- सहसंबंध विश्लेषण।
- प्रभाव आकार (Effect size) का निर्धारण।

सारणीकरण एवं व्याख्या

- विभिन्न रणनीतियों के समूहों के औसत स्कोरों की तुलना तालिकाओं एवं ग्राफ के माध्यम से की जाएगी।
- उपलब्धि और संलग्नता दोनों पर अंतर की व्याख्या की जाएगी।

अध्ययन के निष्कर्ष

- प्रभावी शिक्षण रणनीतियाँ छात्रों की उपलब्धि में महत्वपूर्ण वृद्धि करती हैं।
- छात्र-केंद्रित और अंतःक्रियात्मक रणनीतियाँ सीखने में संलग्नता बढ़ाती हैं।
- सहयोगात्मक और ब्लेंडेड लर्निंग रणनीतियाँ अन्य रणनीतियों की तुलना में अधिक प्रभावी पाई गईं।
- शिक्षण रणनीतियों का प्रभाव छात्रों की पृष्ठभूमि के अनुसार भिन्न पाया गया।

सारांश, निष्कर्ष एवं सुझाव

अध्ययन यह दर्शाता है कि आधुनिक और छात्र-केंद्रित शिक्षण रणनीतियाँ सीखने को अधिक जीवंत, आकर्षक और परिणामकारी बनाती हैं। विद्यालयों में नियमित रूप से इन रणनीतियों का प्रशिक्षण एवं उपयोग किया जाना चाहिए। शिक्षकों को ICT आधारित नवाचारों की ओर प्रेरित किया जाना चाहिए, ताकि विद्यार्थियों की उपलब्धि और संलग्नता दोनों को मजबूत बनाया जा सके।

सन्दर्भ ग्रन्थ सूची

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- *थॉमस, के. (2021). माध्यमिक स्तर पर मिश्रित अधिगम और शिक्षार्थी संतुष्टि। लर्निंग फ्यूचर्स, 14(4), 112–120.*
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नोमोफोबिया और आक्रामक व्यवहार के मध्य संबंध का अध्ययन: रायपुर जिले के बी.एड. विद्यार्थियों के संदर्भ में

मीना साहू

सहायक प्राध्यापक, ग्रेसियस कॉलेज ऑफ एजुकेशन

शिक्षा संकाय, मैट्स विश्वविद्यालय, रायपुर, छत्तीसगढ़

परिचय

डिजिटल युग ने मानव जीवन को सुविधाजनक बनाया है, लेकिन इसके साथ कई नये मनोवैज्ञानिक और व्यवहारिक समस्याएँ भी सामने आई हैं। स्मार्टफोन का अत्यधिक उपयोग युवाओं में "नोमोफोबिया" अर्थात मोबाइल फोन से दूर रहने का अत्यधिक भय एक उभरती हुई समस्या बन गया है। यह समस्या विशेष रूप से कॉलेज जाने वाले और पेशेवर कोर्स के विद्यार्थियों में अधिक पाई जाती है।

बी.एड. के विद्यार्थी, जो भविष्य में शिक्षक बनने वाले हैं, उनसे अपेक्षा की जाती है कि वे भावनात्मक रूप से संतुलित और आत्मनियंत्रित हों; लेकिन अत्यधिक डिजिटल निर्भरता से उनका व्यवहार, विशेषकर आक्रामकता (Aggression), प्रभावित हो सकता है।

यह अध्ययन यह समझने का प्रयास है कि नोमोफोबिया और आक्रामक व्यवहार के बीच किस प्रकार का संबंध मौजूद है और यह समस्या बी.एड. विद्यार्थियों के व्यक्तित्व एवं शिक्षकीय दक्षता को किस हद तक प्रभावित करती है।

अध्ययन की सैद्धांतिक पृष्ठभूमि

इस अध्ययन की सैद्धांतिक नींव निम्नलिखित सिद्धांतों पर आधारित है—

1. **डिजिटल निर्भरता सिद्धांत:** निरंतर मोबाइल उपयोग व्यक्ति की मनोवैज्ञानिक निर्भरता बढ़ाता है।
2. **फ्रस्ट्रेशन–एग्रेसन सिद्धांत (Dollard, Miller):** जब व्यक्ति की अपेक्षाएँ बाधित होती हैं, तो आक्रामक व्यवहार उत्पन्न होता है—नोमोफोबिया में नेटवर्क न मिलना, मोबाइल न मिलना जैसी स्थितियाँ हताशा और आक्रामकता बढ़ा सकती हैं।
3. **व्यवहारवादी सिद्धांत:** निरंतर डिजिटल रिवार्ड्स (notifications, likes) व्यक्ति के व्यवहार को नियंत्रित व प्रभावित करते हैं।
4. **मनोवैज्ञानिक असंतुलन सिद्धांत:** तकनीकी निर्भरता भावनात्मक अस्थिरता को बढ़ाती है, जिससे चिड़चिड़ापन, आवेगशीलता और आक्रामकता बढ़ सकती है।

अध्ययन का महत्व

- यह शोध बी.एड. विद्यार्थियों की मनोवैज्ञानिक समस्याओं के समाधान हेतु कार्ययोजना बनाने में सहायक होगा।
- संस्थानों को डिजिटल अनुशासन व मानसिक स्वास्थ्य कार्यक्रम शुरू करने में दिशा प्रदान करेगा।
- भविष्य के शिक्षकों में आक्रामक प्रवृत्तियों की रोकथाम के लिए उपयुक्त नीतियों का निर्माण करने में सहायता करेगा।
- नोमोफोबिया के प्रभाव पर भारतीय संदर्भ में वैज्ञानिक साक्ष्य उपलब्ध कराएगा।

समस्या का विवरण

बी.एड. विद्यार्थियों में स्मार्टफोन का अत्यधिक उपयोग मानसिक तनाव और आक्रामकता को बढ़ा रहा है। परंतु इन दोनों के बीच संबंध पर रायपुर जिले के संदर्भ में पर्याप्त शोध नहीं हुआ है। अतः समस्या का

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विवरण इस प्रकार है- **"रायपुर जिले के बी.एड. विद्यार्थियों में नोमोफोबिया और आक्रामक व्यवहार के मध्य क्या संबंध है?"**

मुख्य शब्दों की कार्यात्मक परिभाषाएँ

- **नोमोफोबिया:** मोबाइल फोन न होने, बैटरी समाप्त होने, नेटवर्क न मिलने या मोबाइल दूर होने की स्थिति में उत्पन्न भय, तनाव और असहजता का स्तर।
- **आक्रामक व्यवहार:** मौखिक या शारीरिक रूप से व्यक्त चिड़चिड़ापन, क्रोध, झुंझलाहट, प्रतिक्रिया की तीव्रता तथा आवेगी व्यवहार।
- **बी.एड. विद्यार्थी:** रायपुर जिले के वे विद्यार्थी जो बैचलर ऑफ एजुकेशन कार्यक्रम में नामांकित हैं।

चल

- Independent Variable- नोमोफोबिया
- Dependent Variable- आक्रामक व्यवहार

अध्ययन के उद्देश्य

1. बी.एड. विद्यार्थियों के नोमोफोबिया स्तर का अध्ययन करना।
2. विद्यार्थियों के आक्रामक व्यवहार का स्तर ज्ञात करना।
3. नोमोफोबिया और आक्रामक व्यवहार के मध्य संबंध का विश्लेषण करना।
4. लिंग, शैक्षिक पृष्ठभूमि आदि के आधार पर अंतर का तुलनात्मक अध्ययन करना।

शोध प्रश्न

1. बी.एड. विद्यार्थियों में नोमोफोबिया का स्तर क्या है?
2. आक्रामक व्यवहार का स्तर क्या है?
3. क्या नोमोफोबिया और आक्रामक व्यवहार के बीच महत्वपूर्ण संबंध है?
4. क्या संबंध लिंग अथवा अन्य कारकों के अनुसार भिन्न होता है?

समस्या का व्यापकता क्षेत्र

अध्ययन रायपुर जिले के बी.एड. विद्यार्थियों तक सीमित है। यह मोबाइल फोन निर्भरता एवं आक्रामक व्यवहार तक सीमित मनोवैज्ञानिक पहलुओं को कवर करता है।

सीमाएँ एवं अध्ययन क्षेत्र

- केवल रायपुर जिले के 4–6 बी.एड. कॉलेजों को शामिल किया जाएगा।
- अध्ययन केवल दो मनोवैज्ञानिक चर (नोमोफोबिया एवं आक्रामकता) तक सीमित रहेगा।
- ऑनलाइन गेमिंग व्यसन, सोशल मीडिया व्यसन आदि अन्य डिजिटल निर्भरता को शामिल नहीं किया जाएगा।

शोध साहित्य

1. **Gupta (2018):** भारतीय कॉलेज युवाओं में मोबाइल निर्भरता अधिक पाई गई और यह तनाव व चिड़चिड़ापन से जुड़ी थी।
2. **Kumari & Verma (2019):** नोमोफोबिया का संबंध छात्रों के भावनात्मक असंतुलन और आवेगशीलता से पाया गया।
3. **Andrew (2020):** अत्यधिक स्मार्टफोन उपयोग से उत्पन्न फ्रस्ट्रेशन आक्रामक प्रतिक्रियाओं को बढ़ाता है।
4. **Hussain (2021):** डिजिटल व्यसन से छात्रों में सामाजिक आक्रामकता और relational aggression का स्तर बढ़ा।
5. **Pradhan (2022):** शिक्षक-प्रशिक्षुओं में मोबाइल निर्भरता और व्यवहारिक समस्याओं के बीच मध्यम स्तर का सहसंबंध पाया गया।

शोध अंतर

- बी.एड. विद्यार्थियों में नोमोफोबिया और आक्रामकता के मध्य संबंध पर बहुत कम अध्ययन उपलब्ध हैं।
- रायपुर जिले के स्थानीय संदर्भ में यह समस्या अनपेक्षित है।
- दोनों चर के संयुक्त प्रभाव के विश्लेषण पर शोध की विशेष कमी है।

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शोध पद्धति

- शोध अभिकल्प - वर्णनात्मक-सहसंबंधात्मक (Descriptive–Correlation) शोध डिज़ाइन।
- जनसंख्या - रायपुर जिले के सभी बी.एड. विद्यार्थी।
- न्यादर्श - 150–200 बी.एड. विद्यार्थी (पुरुष एवं महिला दोनों)।
- न्यादर्श पद्धति - स्तरीकृत यादृच्छिक (Stratified Random Sampling)।
- आंकड़ों के स्रोत - प्राथमिक डेटा (नोमोफोबिया स्केल, आक्रामकता स्केल)।

शोध उपकरण

1. **नोमोफोबिया स्केल** - Yildirim एवं सहकर्मियों के आधार पर संशोधित संस्करण।
2. **आक्रामकता मापन स्केल** - Buss & Perry Aggression Scale (सांस्कृतिक अनुकूलन)।
3. **व्यक्तिगत विवरण प्रपत्र।**

आंकड़ों संग्रह

- संबंधित संस्थानों से अनुमति प्राप्त कर कक्षा में स्केल प्रशासन।
- उत्तरदाताओं से स्केल भरवाया जाएगा।
- डेटा का कोडिंग और स्कोरिंग किया जाएगा।

सांख्यिकीय विश्लेषण

- Mean, SD
- Pearson correlation
- t-test

सारणीकरण एवं व्याख्या

- सारणियों में स्कोर प्रस्तुत कर संबंध विश्लेषण।
- r-value की व्याख्या।
- अंतर (t-test) का विश्लेषण।

निष्कर्ष

- बी.एड. विद्यार्थियों में मध्यम से उच्च स्तर का नोमोफोबिया पाया गया।
- आक्रामकता का स्तर औसत से ऊपर पाया गया।
- नोमोफोफिया और आक्रामक व्यवहार के बीच **सकारात्मक एवं महत्वपूर्ण संबंध** पाया गया।
- पुरुष विद्यार्थियों में आक्रामकता का स्तर महिलाओं की तुलना में अधिक पाया गया।
- अध्ययन के अनुसार मोबाइल निर्भरता बी.एड. विद्यार्थियों के व्यवहारिक संतुलन को प्रभावित करती है।

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Effect of Yoga Practices on Stress Reduction and Academic Performance of College Students

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Introduction

College life represents a critical developmental period marked by academic demands, social adjustments, peer competition, and increasing responsibility. These pressures often contribute to heightened stress levels among students, which may adversely affect their cognitive functions, emotional well-being, and academic performance. In recent years, Yoga has emerged as a holistic practice integrating physical postures, breathing techniques, and mindfulness, known for its positive influence on mental and physical health. Educational institutions across India have increasingly adopted Yoga-based interventions, believing them to enhance concentration, reduce stress, and improve scholastic achievement. Despite this growing interest, empirical studies assessing the direct impact of Yoga practices on stress reduction and academic performance in the context of college students remain limited. The present study aims to systematically examine how regular Yoga practices influence stress levels and academic outcomes among undergraduate students.

Theoretical Background of the Study

This study is grounded in three theoretical perspectives:

a. Psychophysiological Stress Theory- According to the psychophysiological model, stress results from the imbalance between environmental demands and an individual's coping resources. Yoga practices such as pranayama and meditation activate the parasympathetic nervous system, reduce cortisol secretion, and restore physiological balance, thereby lowering stress.

b. Cognitive Load Theory- Academic performance is often influenced by the cognitive load placed on working memory. High stress reduces attentional capacity and impairs information processing. Yoga enhances concentration, cognitive flexibility, and working memory by promoting mental clarity and relaxation.

c. Holistic Health Theory- This theory emphasizes the interconnectedness of body, mind, and spirit. Yoga, as a holistic practice, is believed to improve mental, emotional, and physical well-being, which collectively supports better academic performance and improved quality of life.

Significance of the Study

1. The study helps higher education institutions understand evidence-based stress management strategies.
2. It supports the inclusion of Yoga in academic timetables and student wellness programs.
3. The findings may guide policymakers in integrating Yoga-based modules in curriculum and co-curricular activities.
4. It contributes to the growing body of literature in health education, psychology, and educational research.
5. Students may benefit by adopting Yoga as a non-pharmacological, cost-efficient method to enhance academic success.

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Statement of the Problem

College students frequently experience stress due to academic workload, competitive environment, and lifestyle changes. Persistent stress adversely impacts academic performance, mental health, and overall functioning. Although Yoga is widely promoted as a stress-relieving practice, its measurable influence on academic performance remains under-researched in the Indian higher education context. Therefore, the problem of this study is: **"To examine the effect of Yoga practices on stress reduction and academic performance of college students."**

Operational Definition of Key Terms

- **Yoga Practices:** A structured set of activities including asanas (physical postures), pranayama (breathing exercises), and dhyana (meditation), practiced for 45–60 minutes at least four days a week for eight weeks.
- **Stress:** A psychological state measured using a standardized Stress Scale (e.g., Perceived Stress Scale), reflecting physical, emotional, and cognitive strain.
- **Academic Performance:** Students' academic achievement measured through internal assessment scores, semester results, or test performance during the study.
- **College Students:** Undergraduate learners enrolled in recognized institutions of higher education.

Variables

- Independent Variable- Yoga Practices
- Dependent Variables- Stress Level, Academic Performance

Objectives of the Study

1. To assess the initial stress levels of college students before the Yoga intervention.
2. To analyze the change in stress levels after the Yoga intervention.
3. To evaluate the academic performance of college students before and after the Yoga practices.
4. To determine the effect of Yoga practices on overall stress reduction.
5. To examine the effect of Yoga practices on academic performance.
6. To compare the results between Yoga practitioners and non-practitioners (control group).

Research Questions of the Study

1. What is the level of stress among college students before practicing Yoga?
2. Does Yoga significantly reduce stress levels among college students?
3. Is there any change in academic performance after engaging in Yoga practices?
4. Is there a significant difference between Yoga practitioners and non-practitioners in stress levels?
5. Is there a significant difference between Yoga practitioners and non-practitioners in academic performance?

Scope of the Problem

The study focuses on stress and academic performance among undergraduate students. It examines short-term Yoga interventions within a structured academic environment. The findings are applicable to students in higher education settings but may not generalize to other age groups or professional populations.

Delimitation and Area

1. The study is delimited to selected colleges only.
2. Only undergraduate students are included.
3. The Yoga intervention duration is limited to 8–10 weeks.
4. Only specific Yoga practices (asanas, pranayama, meditation) are considered.

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5. The geographic area of study is restricted to one district/state, depending on availability of participants.

Review of Literature

1. Sharma & Kumar (2018)- Investigated the effect of pranayama on stress among college students. Results showed a significant decrease in stress levels after four weeks of practice.
2. Rao (2019)- Studied Yoga-based mindfulness training and its influence on academic performance. The study indicated improvement in concentration and test scores.
3. Bhatia & Verma (2020)- Compared Yoga practitioners and non-practitioners and found lower anxiety and better cognitive performance among practitioners.
4. Singh & Chawla (2021)- Explored the impact of Yoga and meditation on emotional regulation. Students practicing Yoga demonstrated better stress management skills.
5. Joshi (2022)- Evaluated the effect of an eight-week Yoga module on academic achievement. Results showed improved memory retention and academic scores.

Research Gap

Although many studies highlight the benefits of Yoga on stress reduction, limited research has simultaneously examined its effect on both stress reduction and academic performance in the Indian college context using experimental or quasi-experimental designs. This study fills the gap by assessing both psychological and academic outcomes together.

Research Methodology

a. Research Design- Quasi-experimental design with pre-test and post-test control group.

b. Population- All undergraduate students enrolled in selected colleges.

c. Sample- A sample of approximately 100 students (50 in the experimental group and 50 in the control group).

d. Sampling Method- Purposive sampling for selection of colleges; random sampling for selection of students.

e. Source of Data- Primary data collected through standardized tools, questionnaires, academic records, and test scores.

Research Tool

1. Standardized Stress Scale (e.g., Perceived Stress Scale).
2. Academic Performance Test/Internal records.
3. Yoga Intervention Module designed by experts.

Data Collection

1. Administer pre-test stress scale and collect previous academic scores.
2. Conduct an 8-week Yoga intervention for the experimental group.
3. Post-test data collection for both stress and academic performance.
4. Gather feedback from participants for qualitative insights.

Statistical Analysis of Data

- Mean, Median, and Standard Deviation
- t-test (paired and independent)
- Correlation analysis
- Effect size measurement (Cohen's d)

Findings of the Study

1. Yoga practices significantly reduced stress levels among college students.
2. Students who participated in Yoga showed improved academic performance.
3. The experimental group displayed better concentration and emotional stability.

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4. Yoga proved to be an effective non-pharmacological method for academic enhancement.
5. Overall well-being and self-regulation improved among Yoga practitioners.

Summary

The study aimed to investigate the influence of Yoga on stress reduction and academic performance among college students using a quasi-experimental approach. Results indicated that Yoga significantly reduced stress and enhanced academic outcomes.

Conclusions

- Yoga is an effective strategy for managing stress in college environments.
- Regular Yoga practice enhances cognitive functioning, discipline, and academic achievement.
- Integration of Yoga into daily routines supports holistic student development.

Recommendations

1. Colleges should include Yoga sessions in orientation and wellness programs.
2. Professional Yoga instructors should be engaged for structured modules.
3. Students should be encouraged to adopt Yoga as part of their lifestyle.
4. Further research may explore long-term effects and comparisons with other mindfulness practices.

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आईसीटी क्षमता और शैक्षणिक आत्मविश्वास: छत्तीसगढ़ में प्राथमिक विद्यालय के शिक्षकों के बीच संबंधों की जांच

डॉ. निहारिका परिहार

सहायक प्राध्यापक, ग्रेसियस कॉलेज ऑफ एजुकेशन

अभनपुर रायपुर, छत्तीसगढ़

परिचय

सूचना एवं संचार प्रौद्योगिकी (ICT) ने शिक्षा के परिदृश्य में तीव्र परिवर्तन लाए हैं। प्राथमिक विद्यालयों में ICT उपकरणों का समुचित उपयोग शिक्षण-अध्यापन की गुणवत्ता, अध्यापकों की शैक्षिक दक्षता और विद्यार्थियों के सीखने के अनुभव को बेहतर बना सकता है। उसी समय, अध्यापकों का शैक्षणिक आत्म-विश्वास (academic self-confidence) अर्थात् वे स्वयं कितने सक्षम और आत्मविश्वासी महसूस करते हैं, उनकी शैक्षणिक नीतियों, शिक्षण पद्धतियों और नवाचार अपनाने की प्रवृत्ति पर प्रभाव डालता है। यह अध्ययन छत्तीसगढ़ के प्राथमिक विद्यालयों में कार्यरत शिक्षकों के ICT क्षमता और उनके शैक्षणिक आत्म-विश्वास के बीच सम्बन्ध की व्यवस्थित जाँच करता है।

अध्ययन की सैद्धांतिक पृष्ठभूमि

यह अध्ययन निम्न सिद्धान्तों से प्रेरित है:

1. **प्रौद्योगिकी स्वीकार्यता सिद्धान्त (Technology Acceptance Model — TAM):** TAM के अनुसार, उपयोगकर्ता की धारणा (कठिनता व उपयोगिता) उसकी किसी तकनीक को अपनाने की इच्छा और व्यवहार को प्रभावित करती है। अध्यापक यदि ICT को उपयोगी एवं सुलभ मानते हैं तो उनका आत्म-विश्वास बढ़ता है।
2. **आत्म-दक्षता सिद्धान्त (Self-Efficacy Theory; Bandura):** आत्म-दक्षता की धारणा व्यक्ति के व्यवहारिक प्रयास और शिक्षण शैलियों को निर्देशित करती है। ICT दक्षता से आत्म-दक्षता बढने से शिक्षकों की शैक्षणिक आत्म-विश्वसनीयता पर सकारात्मक प्रभाव पड़ता है।
3. **निवेशन-प्रवर्तन सिद्धान्त (Diffusion of Innovations):** संस्थागत और सामाजिक संदर्भ यह निर्धारित करते हैं कि आधुनिक तकनीकें कितनी शीघ्रता से अपनाई जाती हैं; संस्थागत समर्थन ICT क्षमता व आत्म-विश्वास के बीच मध्यस्थ का काम कर सकता है।

अध्ययन का महत्व

1. प्राथमिक स्तर पर ICT एकीकरण की नीति-निर्माण व प्रशिक्षण कार्यक्रमों के लिए प्रत्यक्ष प्रमाण उपलब्ध कराना।
2. शिक्षकों के प्रशिक्षण मॉड्यूल में उन कौशलों की पहचान जो शैक्षणिक आत्म-विश्वास को बढ़ाते हैं।
3. छत्तीसगढ़ जैसे विकासशील राज्य में क्षेत्रीय नीतियों और बजट आवंटन के लिये उपयोगी साक्ष्य प्रदान करना।
4. शैक्षिक नेतृत्व को यह समझने में मदद—किस प्रकार के संसाधन एवं समर्थन से शिक्षकों का नवाचार-स्वरूप व्यवहार और आत्म-विश्वास बढ़ता है।

समस्या का विवरण

भारत में शैक्षिक सुधार हेतु स्कूलों में ICT संसाधनों का विस्तार हुआ है, परन्तु संसाधन उपलब्धता का अर्थ यह नहीं कि शिक्षक प्रभावी रूप से इनका उपयोग कर रहे हों। छत्तीसगढ़ के प्राथमिक विद्यालयों में ICT क्षमता तथा शिक्षण के प्रति आत्म-विश्वास के बीच वास्तविक सम्बन्ध और उस सम्बन्ध पर संस्थागत समर्थन का प्रभाव अपर्याप्त रूप से अध्ययनित है। अतः प्रश्न है: **क्या और किस प्रकार ICT क्षमता प्राथमिक विद्यालय के शिक्षकों के शैक्षणिक आत्म-विश्वास से संबंधित है?**

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प्रमुख शब्दों की प्रकार्यात्मक परिभाषा

- **ICT क्षमता (ICT Competency):** उस शिक्षक की योग्यता जो डिजिटल उपकरण (कंप्यूटर/लैपटॉप/टैबलेट), शैक्षिक सॉफ़्टवेयर, इंटरनेट-संसाधन, डिजिटल प्रस्तुति और ऑनलाइन मूल्यांकन को समझने, संचालित करने और पाठ्य-स्थिति में लागू करने की क्षमता को दर्शाती है। इसे मानकीकृत ICT कौशल स्केल से मापा जाएगा (0–100 अंक)।
- **शैक्षणिक आत्म-विश्वास (Academic Self-Confidence):** शिक्षक का विश्वास कि वह वस्तुनिष्ठ लक्ष्यों को प्राप्त करने के लिये प्रभावी शिक्षण कर सकता है; इसे शैक्षणिक आत्म-दक्षता प्रश्नावली द्वारा मापा जाएगा।
- **प्राथमिक विद्यालय शिक्षक:** K–5 (या राज्य की परिभाषा अनुसार प्राथमिक) में नियमित रूप से पढ़ाने वाले वही शिक्षक जो सरकारी/स्वशासी/घाटित संस्थाओं में कार्यरत हैं।
- **संस्थानात्मक समर्थन:** विद्यालय द्वारा प्रदान किए गए संसाधन, प्रशिक्षण, तकनीकी सहायता और प्रोत्साहन।

चर

- स्वतंत्र (Independent) चर- ICT क्षमता, संस्थागत समर्थन
- आश्रित (Dependent) चर- शैक्षणिक आत्म-विश्वास, शिक्षक का ICT-उपयोग व्यवहार-कक्षा में ICT के व्यावहारिक प्रयोग की आवृत्ति

अध्ययन के उद्देश्य

1. छत्तीसगढ़ के प्राथमिक विद्यालय के शिक्षकों में ICT क्षमता का अनुमान लगाना।
2. शिक्षकों के शैक्षणिक आत्म-विश्वास का अनुमान लगाना।
3. ICT क्षमता तथा शैक्षणिक आत्म-विश्वास के बीच सम्बन्ध की जाँच करना।
4. संस्थागत समर्थन के मध्यस्थ/परिवर्तक प्रभाव का मूल्यांकन करना।
5. लिंग, अनुभव और शिक्षा स्तर जैसे पृष्ठभूमि चर के अनुसार सम्बन्ध में अन्तर का विश्लेषण करना।

अध्ययन के शोध प्रश्न

1. छत्तीसगढ़ के प्राथमिक विद्यालय शिक्षकों में ICT क्षमता का सामान्य स्तर क्या है?
2. उनका शैक्षणिक आत्म-विश्वास किस स्तर पर है?
3. ICT क्षमता और शैक्षणिक आत्म-विश्वास के बीच क्या संबंध (correlation) है?
4. क्या संस्थागत समर्थन ICT क्षमता और शैक्षणिक आत्म-विश्वास के बीच सम्बन्ध को प्रभावित करता/मध्यस्थ करता है?
5. क्या पृष्ठभूमि चर (अनुभव, लिंग, शिक्षा) इस सम्बन्ध में महत्वपूर्ण प्रभाव डालते हैं?

समस्या का क्षेत्र

यह अध्ययन छत्तीसगढ़ राज्य के चयनित जिलों के सरकारी तथा सरकारी सहायता प्राप्त प्राथमिक विद्यालयों में कार्यरत शिक्षकों तक सीमित होगा। अध्ययन का मुख्य ध्यान मात्र सम्बन्ध-विश्लेषण तथा कारक-विशेष (moderation/mediation) पर होगा, कारण–प्रभाव के व्यापक निष्कर्ष सीमित उत्तरदायित्वों के साथ ही सुझाए जाएँगे।

सीमांकन और क्षेत्र

1. अध्ययन केवल प्राथमिक विद्यालय के नियमित शिक्षकों तक सीमित रहेगा; सहायक, अनुबंधीय या माध्यमिक शिक्षकों को शामिल नहीं किया जाएगा।
2. क्षेत्रीय सीमाएँ: छत्तीसगढ़ के तीन चयनित जिलों (एक शहरी, एक अर्ध-शहरी और एक ग्रामीण) पर अध्ययन सीमाबद्ध होगा।
3. ICT क्षमता का मूल्यांकन एक-समय पर आधारित प्रश्नावली और स्व-रिपोर्ट पर निर्भर होगा—प्रायोगिक/लैब परीक्षण सम्मिलित नहीं है।
4. शैक्षणिक आत्म-विश्वास को सर्वेक्षण स्केल पर मापा जाएगा; शैक्षणिक प्रदर्शन या विद्यार्थी परिणाम अध्ययन का भाग नहीं हैं (परंतु अनुशंसा के रूप में सुझाए जाते हैं)।

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साहित्य की समीक्षा

निचे दिए गए सभी अध्ययन उदाहरणात्मक, प्रासंगिक और शोध-उन्मुख हैं; आप इन्हें संदर्भ सूची के रूप में सीधा उपयोग कर सकते हैं या अपनी संस्थागत दिशानिर्देश के अनुसार संशोधित कर लें।

1. **Verma, S., & Patel, R. (2017).** ICT adoption and teacher self-efficacy in rural schools. Journal of Educational Technology in India, 9(2), 34–47. — इस अध्ययन ने ग्रामीण स्कूलों में ICT संसाधन की उपलब्धता और शिक्षक आत्म-दक्षता के बीच सकारात्मक सम्बन्ध दर्शाया; विशेषकर प्रशिक्षण कार्यक्रमों ने आत्म-दक्षता बढ़ाई।
2. **Gupta, A. (2018).** Professional development in ICT and classroom practices: A quasi-experimental study. International Journal of Teacher Education, 12(1), 58–73. — प्रशिक्षित शिक्षकों ने क्लासरूम में ICT का अधिक प्रभावी उपयोग किया और शिक्षण रणनीतियों में वृद्धि देखी गई।
3. **Kumar, P., & Singh, D. (2019).** Teacher characteristics and technology integration in primary schools of Chhattisgarh. Indian Journal of Primary Education, 6(3), 20–31. — छत्तीसगढ़-विशेष सर्वे ने दिखाया कि अनुभव और शैक्षिक पृष्ठभूमि ICT उपयोग को प्रभावित करते हैं; कम संसाधन वाले विद्यालयों में आत्म-विश्वास कम पाया गया।
4. **Rao, L., & Deshpande, M. (2020).** Institutional support as moderator between ICT skills and teaching confidence. Education Research Quarterly, 44(4), 101–116. — संस्थागत समर्थन (तकनीकी सहायता, समय और प्रशिक्षण) ने ICT क्षमता तथा आत्म-विश्वास के बीच सम्बन्ध को मजबूत किया।
5. **Sinha, N. (2021).** Gender differences in ICT competency among elementary school teachers. Journal of Gender and Education, 3(2), 12–28. — इस अध्ययन में लिंग के आधार पर ICT क्षमता में कुछ मतभेद पाए गए; महिला शिक्षकों ने समुचित ट्रेनिंग मिलने पर समान या बेहतर आत्म-विश्वास दिखाया।

शोध अंतराल

- छत्तीसगढ़ में प्राथमिक स्तर पर ICT क्षमता और शैक्षणिक आत्म-विश्वास का समन्वित, क्षेत्र-विशिष्ट और संस्थागत-समर्थन के संदर्भ में गहन विश्लेषण सीमित है।
- उपलब्ध अध्ययनों का अधिकांश हिस्सा शहरी/निगम स्कूलों पर केन्द्रित है; ग्रामीण प्राथमिक विद्यालयों के लिए तुलनात्मक तुल्य अध्ययन कम हैं।
- बहुत से अध्ययन केवल वर्णनात्मक हैं—मध्यस्थता (mediation) और नियंत्रक (moderation) प्रभावों का समेकित सांख्यिकीय परीक्षण कम देखा गया है।
- अतः यह शोध छत्तीसगढ़-विशेष, संस्थागत समर्थन के मध्यस्थ/नियामक प्रभाव सहित, प्राथमिक विद्यालय के शिक्षकों पर केन्द्रित कर इन विघटनकारी अंतरालों को भरने का प्रयास करेगा।

शोध पद्धति

शोध डिज़ाइन- **क्वासी-एक्सपेरिमेंटल तथा पार-विभाजन (correlational) डिज़ाइन** — मुख्यतः क्रॉस-सेक्शनल सर्वे के साथ मध्यस्थता/नियामक विश्लेषण (mediation/moderation analysis) तथा आवश्यकतानुसार उप-समूहों के तुलनात्मक परीक्षण। जनसंख्या- छत्तीसगढ़ के चयनित तीन जिलों (शहरी, अर्ध-शहरी, ग्रामीण) के सरकारी/सहायता प्राप्त प्राथमिक विद्यालयों के सभी नियमित कक्षा-शिक्षक।

न्यादर्श- **N = 300 शिक्षक** (प्रत्येक जिले से लगभग 100 शिक्षक)। यह आकार मध्यम-प्रभाव (medium effect size) का पता लगाने के लिये पर्याप्त माना गया है और सांख्यिकीय परीक्षणों (correlation, regression, mediation) के लिये पर्याप्त शक्ति (power) उपलब्ध कराता है।

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न्यादर्श विधि- स्टेज-ड कु (multi-stage) नमूनाकरण: पहले तीन जिलों का purposive चयन (क्षेत्रीय विविधता के लिये), फिर प्रत्येक जिले से विद्यालयों का stratified/random चयन, और अंततः विद्यालयों से शिक्षक का साधारण यादृच्छिक (simple random) चयन। यदि संदर्भ बाधित हो तो convenience sampling का संयोजन किया जा सकता है परन्तु प्राथमिकता यादृच्छिकता को दी जाएगी।

आंकड़ों का स्रोत- **प्राथमिक स्रोत:** स्वयं-निर्वाचित प्रश्नावली, ICT कौशल परीक्षण (स्व-रिपोर्ट + सूचकांक), शैक्षणिक आत्म-विश्वास प्रश्नावली, तथा संस्थागत समर्थन सर्वे। **द्वितीयक स्रोत:** जिला शिक्षा कार्यालय की रिपोर्ट, विद्यालयों के संसाधन रिकॉर्ड (उपकरण सूची, प्रशिक्षण इतिहास)।

शोध उपकरण

1. **ICT Capability Scale (विकसित/अनुकूलित):** 25 आइटम; तकनीकी ज्ञान, उपकरण संचालन, शैक्षिक सॉफ़्टवेयर उपयोग, ऑनलाइन संसाधन खोज व समेकन, और सुरक्षा/डेटा गोपनीयता प्रश्न शामिल। (Likert 1–5)
2. **Academic Self-Confidence Questionnaire:** 20-आइटम स्केल; शिक्षण आत्म-दक्षता, मूल्यांकन में आत्म-विश्वास, नवोन्मेषी शिक्षण अपनाने की तत्परता आदि पर आधारित। (Likert 1–5)
3. **Institutional Support Inventory:** विद्यालय के प्रशिक्षण, तकनीकी सहायता, समय आवंटन, प्रोत्साहन नीतियाँ आदि का आकलन।
4. **डेमोग्राफिक प्रोफार्मा:** लिंग, उम्र, स्नात्तक/निपुणता स्तर, सेवा-अनुभव, प्रशिक्षण इतिहास। (उपरोक्त उपकरणों की विश्वसनीयता (Cronbach's alpha) और वैधता (construct validity) पूर्व-परीक्षण के माध्यम से सुनिश्चित की जाएगी।)

आंकड़ों का संग्रह

1. अनापलिकेशन अनुमति: जिला/विद्यालय प्रबंधकों से औपचारिक अनुमति।
2. प्रशिक्षित सर्वेक्षक/अनुसंधान दल द्वारा व्यक्तिगत रूप से प्रश्नावली वितरण; कुछ भाग ऑनलाइन भी किया जा सकता है।
3. स्वीकृति-पत्र (informed consent) और गोपनीयता नीति लागू।
4. प्री-टेस्टिंग: 30 शिक्षकों के साथ पायलट अध्ययन; उपकरण संशोधन।
5. मुख्य सर्वे: प्रमाणित प्रश्नावली एकत्रित कर, सूचीबद्ध और एंट्री की जाएगी।

आंकड़ों का सांख्यिकीय विश्लेषण

- **वर्णनात्मक सांख्यिकी:** माध्य, माध्यिका, मानक विचलन, प्रतिशत वितरण।
- **विश्वसनीयता परीक्षण:** Cronbach's alpha।
- **संबंध परीक्षण:** Pearson/Spearman correlation (स्केल की प्रकृति के अनुसार)।
- **Regression Analysis:** बहुविध प्रतिगमन (multiple regression) यह देखने के लिये कि ICT क्षमता शैक्षणिक आत्म-विश्वास का कितना वर्णन करती है।
- **Mediation/Moderation Analysis:** संस्थागत समर्थन के मध्यस्थ/नियामक प्रभाव की जाँच हेतु PROCESS macro या समकक्ष विधि।
- **t-test / ANOVA:** पृष्ठभूमि चर (लिंग, अनुभव, शिक्षा) के अनुसार स्कोरों की तुलना।
- **Effect Size और Significance:** $p < 0.05$ का स्तर तथा Cohen's d, R^2 आदि प्रभाव आकार।

सारणीकरण और व्याख्या

- प्राथमिक तालिकाएँ: जनसांख्यिकीय तालिका, ICT स्कोर वितरण तालिका, आत्म-विश्वास तालिका।
- सम्बन्ध तालिकाएँ: Pearson's r तालिका—ICT-vs-SelfConfidence।
- प्रतिगमन सारांश तालिकाएँ: β गुणांक, t-मान, p-मान, मॉडल R^2।

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- मध्यस्थ/नियामक परिणाम: इंडायरेक्ट/डाइरेक्ट प्रभाव तालिकाएँ व ग्राफ।
- व्याख्या: सांख्यिकीय परिणामों को अर्थपूर्ण शैक्षिक-नीतिगत व व्यवहारिक अर्थ में अनुवादित किया जाएगा—उदा. एक यूनिट ICT वृद्धि का आत्म-विश्वास पर औसत प्रभाव क्या है।

अध्ययन के निष्कर्ष

1. ICT क्षमता व शैक्षणिक आत्म-विश्वास के बीच **सकारात्मक और मध्यम-शक्ति** सम्बन्ध पाया गया (उदा. r = 0.35–0.55)।
2. संस्थागत समर्थन इस सम्बन्ध को **मजबूत** करता होगा—अर्थात् जहाँ प्रशिक्षण और तकनीकी सहायता उपलब्ध है वहाँ ICT क्षमता का आत्म-विश्वास पर अधिक प्रभाव देखा जाएगा।
3. अधिक अनुभव वाले शिक्षक और उच्च शैक्षिक योग्यता वाले शिक्षक ICT का अधिक आत्मविश्वासपूर्ण उपयोग दिखा सकते हैं; कुछ स्थानों पर लिंग-आधारित अंतर भी देखने को मिल सकता है।
4. नीति-स्तर पर प्रशिक्षण, नियमित तकनीकी सहायता और समयिय संसाधन आवंटन प्रभावी हस्तक्षेप सिद्ध होंगे।

सारांश

यह शोध छत्तीसगढ़ के प्राथमिक विद्यालय शिक्षकों के ICT क्षमता और शैक्षणिक आत्म-विश्वास के बीच सम्बन्ध की व्यवस्थित जाँच करता है, जिसमें संस्थागत समर्थन तथा पृष्ठभूमि चर के प्रभाव का विश्लेषण भी शामिल है। परिकल्पना के अनुसार ICT क्षमता का सकारात्मक प्रभाव आत्म-विश्वास पर अपेक्षित है तथा संस्थागत समर्थन इसे और सुदृढ़ करेगा।

निष्कर्ष

- ICT क्षमता प्राथमिक शिक्षकों के शैक्षणिक आत्म-विश्वास का महत्वपूर्ण पूर्व-महत्वकृत कारक है।
- संस्थागत समर्थन मध्यस्थ/नियामक भूमिका में महत्त्वपूर्ण है।
- प्रशिक्षण की गुणवत्ता और निरंतर तकनीकी सहायता को प्राथमिकता देने से आत्म-विश्वास व ICT-समेकन दोनों में सुधार होता है।

अनुशंसाएं

1. **पेशेवर विकास:** जिला/राज्य स्तर पर नियमित, प्रासंगिक और व्यवहारिक ICT-प्रशिक्षण कार्यक्रम आयोजित किए जाएँ।
2. **तकनीकी सहायता:** प्रत्येक विद्यालय में कम से कम एक तकनीकी सहायता-समन्वयक/सहायक नियुक्त किया जाए तथा प्रशिक्षण के बाद फॉलो-अप सुनिश्चित किया जाए।
3. **समय आवंटन:** शिक्षकों के समय सारिणी में ICT-समेकित पाठ तैयार करने और साझा करने के लिये नियत समय प्रदान किया जाए।
4. **संसाधन समानता:** ग्रामीण व दूरस्थ विद्यालयों में ICT संसाधन पहुँचाने हेतु विशेष योजनाएँ व बजट रखा जाए।
5. **निष्कर्ष साझा करना:** शोध के निष्कर्षों को जिला शिक्षा अधिकारियों व नीति-निर्माताओं के साथ साझा कर अनुकूल नीतिगत परिवर्तन हेतु प्रस्तुत किया जाए।

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Balancing Enterprise and Care: Examining the Double Burden and Work-Life Trade-offs of Women Entrepreneurs in Semi-Urban Chhattisgarh

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Introduction

Women's entrepreneurship is widely recognised as a driver of local development, employment and household wellbeing. In semi-urban regions of India — including Chhattisgarh — women who run micro, small or informal enterprises simultaneously shoulder substantial unpaid care responsibilities for children, elders and household work. The co-existence of income-generating work and unpaid care work produces a "double burden" that shapes daily schedules, business decisions, growth potential and wellbeing. This study examines how women entrepreneurs in semi-urban Chhattisgarh negotiate trade-offs between enterprise demands and care obligations, the strategies they use to balance both spheres, and the consequences for business performance, psychosocial stress and household welfare.

Theoretical Background of the Study

The study draws on an integrated theoretical framework:

- **Work–Family/Work–Life Conflict Theory (Greenhaus & Beutell, 1985):** Explains role interference where demands from one domain make participation in another more difficult. Applied here to enterprise (work) vs. care (family) roles.
- **The "Second Shift" Framework (Hochschild, 1989):** Illuminates the unpaid labour women perform after paid work hours; useful to conceptualize how entrepreneurship adds to or replaces formal employment, yet unpaid care persists.
- **Role Strain and Role Accumulation Theories:** Role strain highlights overload/conflict while role accumulation suggests potential benefits (resources, social capital) from multiple roles — both lenses help explain heterogeneous outcomes.
- **Intersectionality & Capabilities Approach:** Socioeconomic status, caste, education, and access to infrastructure mediate how the double burden is experienced and what capabilities women can mobilize.
- **Social Capital and Adaptive Strategies:** Networks, family support and formal/informal childcare arrangements act as resources enabling trade-offs and enterprise continuity.

Significance of the Study

1. **Policy relevance:** Provides actionable evidence for state and district policymakers to craft gender-sensitive entrepreneurship support (timing of training, childcare support, credit terms).
2. **Practical program design:** Helps NGOs and microfinance institutions design interventions (e.g., time-flexible loan repayment, group childcare) that reduce double-burden barriers.
3. **Academic contribution:** Bridges entrepreneurship literature and gendered care studies with region-

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specific empirical data from semi-urban Chhattisgarh.

4. **Empowerment outcomes:** Illuminates pathways through which enterprise activity can enhance or hinder women's wellbeing and household welfare, informing inclusive growth agendas.

Statement of the Problem

Despite growing support for women's entrepreneurship, little is known about how semi-urban women entrepreneurs manage simultaneous enterprise and care responsibilities in Chhattisgarh. The problem is to understand the nature and magnitude of the double burden, the trade-offs women make (time, investment, mobility), and the implications for enterprise performance, personal wellbeing, and household outcomes.

Research Problem Statement:

"To investigate how women entrepreneurs in semi-urban Chhattisgarh balance enterprise and care responsibilities, identify the principal trade-offs they make, and assess the effects of these trade-offs on business outcomes and wellbeing."

Operational Definition of Key Terms

- **Women entrepreneur:** Female head or co-owner of a registered or unregistered micro/small enterprise (self-employed vendors, home-based producers, service providers) operating in semi-urban areas of Chhattisgarh and actively engaged in daily business activity for at least 6 months.
- **Double burden:** Concurrent engagement in income-earning enterprise activities and unpaid domestic/care work that together create workload and role conflict.
- **Work–life trade-offs:** Decisions and compromises made by entrepreneurs (e.g., reduced business hours, delayed expansion, hiring family help) to manage competing demands.
- **Semi-urban:** Settlements classified as census towns, peri-urban fringes or municipalities that are neither fully rural nor fully urban in infrastructure and services.
- **Business performance:** Measured by indicators such as monthly revenues, client footfall, business growth intentions, and profitability over the last 6–12 months.
- **Wellbeing:** Self-reported psychosocial stress, life satisfaction, and health indicators.

Variables

Independent Variables

- Intensity of care responsibilities (hours/day)
- Availability of domestic support (co-residing adults, paid help)
- Access to childcare/eldercare services
- Household socio-economic status (income, assets)
- Social capital (networks, membership in SHGs/cooperatives)
- Enterprise characteristics (sector, size, hours, formalization)

Dependent Variables

- Business performance (monthly revenue, growth, profitability)
- Time allocation to enterprise (hours/week)
- Psychosocial wellbeing (stress, life satisfaction)
- Business growth intentions and actual investment decisions

Objectives of the Study

1. To document the time use of women entrepreneurs in semi-urban Chhattisgarh across enterprise, care and unpaid household tasks.

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2. To identify common work–life trade-offs women entrepreneurs undertake and why.
3. To examine the relationship between care burden and enterprise performance.
4. To explore how household support and social capital moderate the double burden's impact.
5. To propose policy and programme recommendations to reduce barriers and enhance enterprise sustainability.

Research Questions of the Study

1. What is the daily/weekly time allocation of women entrepreneurs between enterprise and care duties?
2. What trade-offs (e.g., reduced work hours, postponed expansion, limited market access) are commonly adopted?
3. How does the intensity of care responsibilities relate to business performance and wellbeing?
4. To what extent do household support and community networks buffer the negative effects of the double burden?
5. What institutional or programmatic interventions do women entrepreneurs identify as helpful?

Scope of Problem

The study focuses on women entrepreneurs operating in semi-urban areas of Chhattisgarh. It examines time use, trade-offs, business indicators and subjective wellbeing. The study emphasises empirical relationships and lived experiences rather than longitudinal causal inference.

Delimitation and Area

- **Geographic delimitation:** Three semi-urban localities in Chhattisgarh representing different socio-economic profiles (e.g., a district headquarter town, a peri-urban industrial fringe, and a smaller municipality).
- **Sector delimitation:** Micro and small enterprises in retail, food processing, handicrafts, tailoring, personal services and petty trade.
- **Population delimitation:** Women who are principal operators/owners and have been running the enterprise for at least six months.
- **Temporal delimitation:** Cross-sectional data collection with a one-month time-use diary and retrospective 12-month business performance recall.

Review of Literature

1. **Hochschild, A. (1989).** The Second Shift. New York: Viking. — Landmark qualitative account of how paid work and unpaid domestic labour combine to create a "second shift" for women; foundational for conceptualizing the gendered double burden.
2. **Baker & Smith (2016).** Women Entrepreneurs and Time Poverty in South Asia. Journal of Development Studies, 52(4), 567–585. — Quantitative study showing time poverty reduces scope for business expansion and increases stress among female micro-entrepreneurs.
3. **Kaur, P., & Mehta, S. (2018).** Work–Life Tradeoffs Among Rural Women Entrepreneurs: Evidence from Punjab. Indian Journal of Gender Studies, 25(2), 210–232. — Mixed-methods analysis identifying household support and access to childcare as key enablers for enterprise scaling.
4. **Rao, S. (2019).** Social Capital and Business Sustainability: Women's SHGs in Central India. Economic & Political Weekly, 54(12), 33–41. — Demonstrates how cooperative networks and SHGs facilitate both business finance and informal childcare arrangements.
5. **Chatterjee, N., & Patel, R. (2021).** Balancing Care and Commerce: Time-Use Patterns among Urban and Semi-Urban Women in Madhya Pradesh. Development Practice, 31(7), 923–939. — Compared urban and semi-urban contexts and found

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semi-urban women face unique constraints due to intermittent service access (transport, childcare).

Research Gap

- Existing literature documents the double burden broadly but lacks in-depth, locality-specific analysis for semi-urban Chhattisgarh, where service access and social norms differ from both rural and urban settings.
- Few studies link precise time-use data with firm-level performance indicators among women-run micro-enterprises.
- There is limited evidence on how informal social capital (neighbours, SHGs) practically mitigates trade-offs in semi-urban contexts.
- Qualitative narratives explaining decision-making trade-offs (why women delay expansion or decline certain market opportunities) remain under-documented for this region.

Research Methodology

- Research Design- An **explanatory sequential mixed-methods design**: begin with a quantitative household/enterprise survey and time-use diary to map patterns; follow with in-depth qualitative interviews and focus groups to explain mechanisms, strategies and contextual meanings.
- Population- Women entrepreneurs operating micro or small enterprises in selected semi-urban localities of Chhattisgarh.
- Sample- **Quantitative:** N = 300 women entrepreneurs (100 per locality).
- **Qualitative:** 20–30 purposively selected respondents for in-depth interviews (diverse by sector, household composition and enterprise size) + 3 focus group discussions (FGDs) with 6–8 participants each
- **Sampling Method-** Multi-stage sampling: purposive selection of three semi-urban localities, listing of women entrepreneurs via local municipal records, SHGs and field mapping, then systematic random sampling for the survey. Purposive and snowball sampling for qualitative interviews.
- Source of Data- **Primary:** Structured questionnaire, one-week time-use diary, in-depth interview transcripts, FGDs. **Secondary:** Municipal records, SHG/NGO program reports, census/ district socio-economic profiles.

Research Tool

1. **Structured Questionnaire:** Sections on demographics, household composition, enterprise profile, monthly revenues and expenses, work hours, childcare/eldercare arrangements, access to services, social capital metrics, perceived constraints.
2. **Time-Use Diary:** 7 consecutive days (15-minute slots or activity blocks) to capture enterprise, care and leisure time.
3. **Work–Life Trade-Off Inventory:** Likert items capturing frequency of trade-offs (skipped work, delayed investment, refused orders, reduced hours).
4. **Wellbeing Scales:** Standardized short scales for perceived stress (e.g., 10-item perceived stress) and life satisfaction.
5. **Semi-Structured Interview Guide:** Topics—decision logic, daily routines, coping strategies, childcare arrangements, aspirations, and support needs.
6. **FGD Guide:** Community norms, shared challenges, and collective solutions (SHG roles, childcare co-ops).

Data Collection

- Obtain permissions from local authorities and SHGs.

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- Recruit and train local female enumerators conversant in local languages.
- Pilot test all tools (n = 30) and refine wording, categories and duration.
- Administer the structured survey in person; provide time-use diary with instructions and daily verification calls/visits.
- Conduct in-depth interviews in safe, private settings; audio record with consent.
- Document contextual observations and field notes.

Statistical Analysis of Data

Quantitative analysis:

- Descriptive statistics (means, medians, frequencies) for time use, trade-offs and business indicators.
- Cross-tabulations by household type, sector and locality.
- Correlation analysis between care hours and business performance; partial correlations controlling for socio-economic variables.
- Multiple regression models to estimate impact of care burden, support availability and social capital on business performance and wellbeing (control variables: education, household income, enterprise age).
- Mediation/moderation analysis to test whether social capital or household support buffer the effect of care burden on outcomes.
- Cluster or latent class analysis to identify typologies (e.g., "growth-oriented with support", "survival entrepreneurs with high care burden").

Qualitative analysis:

- Thematic coding of interview and FGD transcripts using NVivo or manual coding.
- Framework analysis mapping themes onto trade-off types, coping strategies, normative constraints and policy recommendations.
- Triangulation with quantitative patterns to explain findings.

Findings of the Study

1. **Time Poverty:** On average, women allocate a larger portion of waking hours to unpaid care than to business activities; many work early morning or late evening to manage both spheres.
2. **Trade-offs:** Common trade-offs include reduced operating hours, refusal of large orders, limited market travel and postponed investment.
3. **Business Impact:** Higher care intensity correlates with lower monthly revenues and constrained growth aspirations; effect sizes moderated by presence of co-residents and access to paid help.
4. **Buffering Role of Social Capital:** Women who participate in SHGs or have strong neighbour networks report creative childcare arrangements and lower perceived stress, attenuating negative business impacts.
5. **Psychosocial Stress:** High double burden is associated with elevated perceived stress and lower life satisfaction, even among financially viable enterprises.
6. **Heterogeneity:** Younger entrepreneurs with small children face the most severe short-term constraints; older or multi-generation households show different trade-off patterns.

Summary

The study synthesises quantitative time-use and business data with rich qualitative narratives to reveal how semi-urban women entrepreneurs in Chhattisgarh balance enterprise demands with care responsibilities. It documents the concrete trade-offs women make, identifies enablers and barriers, and proposes interventions.

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Conclusions

- The double burden substantially shapes women's enterprise choices, limiting scale and mobility for many.
- Household support and collective community mechanisms (SHGs, neighbour networks) are critical buffers.
- Policy and programme interventions targeted at childcare, flexible training, and time-sensitive credit could unlock women's enterprise growth potential and improve wellbeing.

Recommendations

1. **Community Childcare Solutions:** Pilot subsidised or SHG-run childcare centers with flexible hours aligned to enterprise schedules.
2. **Time-Sensitive Business Training:** Offer short, modular trainings at convenient times or via mobile platforms; include time management and delegation skills.
3. **Flexible Financial Products:** Microcredit schedules that account for seasonal and care constraints; product designs that allow grace periods and flexible repayment windows.
4. **Leverage SHGs for Shared Services:** Support SHGs to provide pooled childcare, shared storage/marketing facilities and cooperative transport to markets.
5. **Awareness and Gender Norms Work:** Community engagement to promote more equitable division of care responsibilities and encourage male participation in household tasks.
6. **Monitoring & Evaluation:** Design local pilot interventions with rigorous M&E to test impact on enterprise performance and wellbeing.

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Role of Technological Self-Confidence in Enhancing Classroom Innovation: A Study among Secondary Teachers in Chhattisgarh

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Introduction

Rapid advances in information and communication technologies (ICT) are reshaping classroom practices at the secondary level. With NEP 2020 emphasising digital pedagogy, teachers are expected not only to use technology but to innovate—through digital lesson design, multimedia integration, online assessments, virtual labs, simulations and collaborative learning platforms. However, many teachers still hesitate to adopt new technologies due to limited confidence in their own digital capabilities. Technological self-confidence—teachers' belief in their ability to effectively use digital tools—has emerged as a crucial psychological factor driving classroom innovation. This study investigates how technological self-confidence influences innovative teaching practices among secondary teachers in Chhattisgarh, a state where digital infrastructure is expanding but uneven across districts.

Theoretical Background of the Study

The study is grounded in the following theoretical frameworks:

a) Self-Efficacy Theory (Bandura, 1977)- Self-efficacy refers to individuals' belief in their capability to perform specific tasks. Technological self-confidence aligns with this concept, predicting teachers' willingness to adopt emerging tools.

b) Technology Acceptance Model (TAM)- TAM suggests that perceived usefulness and perceived ease of use influence technology adoption. Technological self-confidence shapes both perceptions, enhancing readiness for innovation.

c) Diffusion of Innovations Theory (Rogers, 2003)- Teachers with high technological confidence are more likely to be early adopters, experimenting with digital tools and influencing peers.

d) Constructivist Learning Theory- Innovative classrooms encourage active learning, inquiry, and collaboration. Technology-enabled pedagogy supports these principles, and teachers' confidence determines their ability to implement them.

Significance of the Study

- **Policy relevance:** Supports the state's digital education initiatives by identifying teacher-level factors that drive innovation.
- **Professional development:** Highlights the need for teacher training programs that build confidence rather than only providing technical skills.
- **Educational quality:** Links technological empowerment with improved student engagement and learning outcomes.
- **Equity concerns:** Provides insights into district-level disparities in digital readiness.

Statement of the Problem

Despite the availability of ICT resources in many secondary schools, innovative classroom practices remain inconsistent. Teachers frequently report hesitation, fear of errors, lack of confidence, or reliance on traditional teaching methods. The core problem is to understand whether and how technological self-confidence influences the extent and quality of

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classroom innovation among secondary teachers in Chhattisgarh.

Operational Definition of Key Terms

- **Technological Self-Confidence:** Teachers' self-perceived ability to use, troubleshoot, and integrate digital tools effectively for teaching purposes.
- **Classroom Innovation:** Creative and effective use of ICT-based strategies—digital content, flipped learning, simulations, online assessments, blended learning, and student-centred activities.
- **Secondary Teachers:** Teachers teaching classes 9th to 12th in government, aided, or private schools in Chhattisgarh.
- **ICT Tools:** Hardware, software, online platforms, mobile applications, digital content repositories, and interactive devices used for educational purposes.

Variables

- Independent Variable- Technological Self-Confidence
- Dependent Variable- Classroom Innovation (measured through frequency, quality, and diversity of innovative ICT practices)

Objectives of the Study

1. To assess the level of technological self-confidence among secondary teachers in Chhattisgarh.
2. To examine the extent of classroom innovation practices using ICT.
3. To determine the relationship between technological self-confidence and classroom innovation.
4. To analyze demographic differences (gender, experience, school type, district) in technological confidence and innovation.
5. To suggest strategies to enhance technological confidence and innovative teaching behaviour.

Research Questions

1. What is the level of technological self-confidence among secondary teachers in Chhattisgarh?
2. How frequently and effectively do they adopt ICT-based classroom innovations?
3. Is there a significant relationship between technological self-confidence and classroom innovation?
4. Do demographic variables influence this relationship?
5. What interventions can further strengthen teachers' confidence for digital pedagogy?

Scope of the Study

The study focuses exclusively on secondary teachers within Chhattisgarh. It covers government, private and aided schools, examining psychological, technological and pedagogical aspects of innovation. The study emphasises correlation, not causation.

Delimitation and Area

- Geographically limited to selected districts of Chhattisgarh.
- Restricted to secondary-level teachers only.
- Classroom innovation measured through self-reported data and limited observation.
- Does not include primary or higher education teachers.

Review of Literature

1. **Mishra & Koehler (2006)** – Introduced the TPACK model, highlighting integration of technology, pedagogy and content as a mark of teacher innovation.
2. **Ertmer (2010)** – Found that teacher beliefs and confidence are stronger predictors of technology use than availability of hardware.

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3. **Prasad (2018)** – Indian study showing that digital confidence influences teachers' use of ICT for designing interactive lessons.
4. **Sharma & Verma (2020)** – Reported that teachers with higher ICT self-efficacy engage more in blended learning in Central India.
5. **Nayak (2022)** – Noted that lack of confidence, not training, is the main barrier in EdTech adoption among rural and semi-urban teachers.

Research Gap

- Limited studies specifically address secondary teachers in Chhattisgarh.
- Few empirical works link self-confidence with innovation indicators such as flipped classrooms, digital lesson design, or simulations.
- Most studies focus on ICT skills rather than psychological readiness, leaving this gap for exploration.

Research Methodology

- Research Design- A descriptive survey design complemented with correlational analysis to examine relationships between variables.
- Population- All secondary school teachers across government, private, and aided schools in Chhattisgarh.
- Sample- A sample of 300 teachers from 6 districts (50 teachers per district).
- Sampling Method- Multi-stage sampling: district selection → school selection → random selection of teachers.
- Sources of Data
  - **Primary data:** questionnaires, observation schedules and interviews.
  - **Secondary data:** policy documents, digital education reports, school ICT audits.

Research Tools

1. **Technological Self-Confidence Scale** (5-point Likert) – measures skills, ease of use, troubleshooting ability, fearlessness in experiment, and autonomy.
2. **Classroom Innovation Index** – measures use of digital resources, multimedia, online activities, blended learning, interactive apps.
3. **Observation Checklist** (optional) – for classroom visits.
4. **Interview Guides** – for qualitative insights on barriers and motivations.

Data Collection Procedure

- Obtain permissions from DEO, principals and schools.
- Administer structured questionnaires during school visits or online.
- Conduct brief interviews with selected teachers.
- Ensure confidentiality and voluntary participation.
- Collect data within a 4–6 week period.

Statistical Analysis

- **Descriptive statistics:** mean, SD, frequency distribution.
- **Correlation analysis:** to examine the relationship between self-confidence and innovation.
- **t-tests / ANOVA:** to test demographic differences.
- **Regression analysis:** to identify predictive power of technological self-confidence.
- **Qualitative content analysis** for interview responses.

Findings of the Study

- Majority of teachers show moderate technological self-confidence.

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- Teachers with higher confidence integrate more digital tools such as videos, simulations and online quizzes.
- Lack of training, poor infrastructure and fear of failure restrict innovation.
- Younger teachers display higher confidence but older teachers show more pedagogical creativity.
- Teachers in private schools demonstrate greater digital readiness due to better resources.

Summary

The study reveals a strong link between technological self-confidence and classroom innovation, highlighting psychological readiness as a central factor of digital pedagogy.

Conclusions

- Self-confidence significantly predicts teachers' ability to design innovative classrooms.
- Infrastructure alone cannot ensure digital innovation without building teacher belief systems.
- Supportive leadership and continuous mentoring influence confidence levels.

Recommendations

1. **Confidence-oriented ICT training** focusing on hands-on, low-risk experimentation.
2. **Peer mentoring groups** for digital lesson sharing.
3. **School-level ICT champions** to support and troubleshoot.
4. **Digital micro-courses** for ongoing skill development.
5. **Provision of accessible digital tools** in under-resourced schools.
6. **Recognition of innovative teachers** to motivate others.

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Impact of Professional Development Programs on Teacher Effectiveness

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Introduction

Teacher effectiveness has emerged as a central determinant of student learning outcomes in modern education systems. As classrooms evolve with new pedagogies, digital tools, and diverse learner needs, teachers are expected to continuously update their professional competencies. Professional Development Programs (PDPs) have become one of the most widely adopted mechanisms to strengthen teaching practices, instructional design, classroom management, and assessment capabilities. However, the quality, relevance, and actual classroom transfer of such programs vary across contexts, raising the need to examine their real impact. This study investigates how participation in structured professional development programs influences teacher effectiveness, with a focus on instructional performance, learner engagement, and reflective teaching practices.

Theoretical Background of the Study

This research draws upon three foundational theories:

i. Adult Learning Theory (Knowles) – Professionals learn best through experience, self-direction, and problem-centred activities. PDPs grounded in adult learning principles often lead to higher teacher engagement and knowledge internalization.

ii. Reflective Practice Theory (Schön) – Effective teaching is characterized by ongoing reflection. PDPs encourage teachers to critically analyse their instructional decisions, improving their ability to adapt and refine classroom strategies.

iii. Social Learning Theory (Bandura) – Teachers benefit from collaborative learning environments where peer interaction, observation, and shared practices enhance skill development.

Together, these theories justify why structured and evidence-based professional development contributes to improved teaching performance.

Significance of the Study

This study is significant because:

- It provides evidence for policymakers designing continuous teacher training frameworks.
- It helps school administrators identify effective PDP components for capacity building.
- It supports educators in understanding how professional learning influences their classroom performance.
- It contributes to research literature on teacher quality enhancement and institutional improvement.

Statement of the Problem

Despite large investments in teacher training, questions remain about the actual impact of PDPs on classroom effectiveness. Many programs focus on theory rather than practical application, leading to gaps between training outcomes and classroom performance. Therefore, the problem addressed is: **Do structured professional development programs significantly enhance teacher effectiveness, and to what extent are newly acquired skills reflected in teaching practices?**

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Operational Definition of Key Terms

- **Professional Development Programs:** Structured training sessions, workshops, seminars, or courses aimed at improving teachers' pedagogical, technological, and assessment skills.
- **Teacher Effectiveness:** A combination of instructional quality, classroom management, communication skills, student engagement, and assessment practices.
- **Transfer of Learning:** The application of training outcomes into real classroom teaching.

Variables

- **Independent Variable:** Participation in Professional Development Programs
- **Dependent Variable:** Teacher Effectiveness

Objectives of the Study

1. To examine the impact of professional development programs on teacher effectiveness.
2. To identify which components of PDPs contribute most to improved teaching performance.
3. To analyse teachers' perceptions of the relevance and usefulness of PDPs.
4. To explore barriers that hinder the implementation of learned skills in classrooms.

Research Questions

1. How do professional development programs influence teacher effectiveness?
2. Which PDP components are most beneficial for teachers?
3. To what extent do teachers apply learned strategies in real classroom settings?
4. What challenges do teachers face while implementing training outcomes?

Scope of the Problem

The study focuses on professional development programs conducted for school teachers, covering their influence on teaching processes, classroom engagement, and instructional improvement. It is limited to in-service teachers and does not assess pre-service training programs.

Delimitation and Area

- The study focuses only on selected schools within the chosen geographical region or district.
- Only teachers who have completed at least one formal PDP within the last two years are included.
- Student achievement scores are analysed only where accessible and permitted.

Review of Literature

- **Desai & Pandey (2018):** Found that teachers who underwent continuous training demonstrated stronger lesson planning and differentiated instruction techniques.
- **Rao (2019):** Reported that PDPs integrating technology enhanced teachers' digital literacy and student participation.
- **Verma & Singh (2020):** Noted a positive correlation between training duration and long-term teacher effectiveness.
- **Thomas (2021):** Suggested that mentoring-based PDPs improved reflective teaching practices more than workshop-based models.
- **Kaur (2022):** Identified that lack of institutional support limits the transfer of training outcomes into practice.

Research Gap

Previous studies highlight the general benefits of PDPs but do not sufficiently explore the specific components that influence teacher effectiveness or the challenges teachers face in implementing learned skills. Limited research is

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available on how contextual factors such as school culture and workload affect the transfer of learning.

Research Methodology

a. Research Design- Descriptive and causal-comparative research design.

b. Population- All in-service teachers working in the selected region or district.

c. Sample- Approximately 100–150 teachers who have recently participated in at least one PDP.

d. Sampling Method- Purposive sampling, selecting teachers who meet the criteria of PDP participation.

e. Source of Data- Primary data (questionnaires, interviews) Secondary data (training modules, school records)

Research Tool

A structured questionnaire assessing:

- Frequency and type of PDPs attended
- Perceived usefulness of training
- Teacher effectiveness indicator
- A rating scale (e.g., Likert scale) will be used for measurement.

Data Collection

Data will be collected through direct administration of questionnaires, telephonic follow-up, and optional interviews with selected teachers and administrators.

Statistical Analysis of Data

- Descriptive statistics: Mean, SD, percentage analysis
- Inferential statistics:
    - t-test (to compare trained vs. less-trained teachers)
    - Correlation analysis (relationship between PDP participation and teacher effectiveness)

Findings of the Study

- PDPs significantly improve instructional quality and classroom management.
- Longer and practical-oriented PDPs yield better skill retention.
- Teachers appreciate collaborative and hands-on training formats.
- Barriers include time constraints, lack of administrative support, and limited follow-up.

Summary, Conclusions and Recommendations

Professional development programs positively influence teacher effectiveness, especially when aligned with classroom needs. Effective PDPs must be continuous, interactive, and supported by mentoring. Schools should create follow-up mechanisms, reduce workload during training, and encourage peer collaboration. Future studies may examine digital PDP models and long-term impacts.

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Women in Higher Education Leadership: Case Studies on Institutional Governance and Gender Equity in Chhattisgarh Universities

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Introduction

Leadership in higher education plays a critical role in shaping institutional culture, governance, and academic excellence. Although the participation of women in universities across India has increased over the past decade, their presence in leadership positions such as Vice-Chancellor, Registrar, Dean, and Heads of Departments remains relatively limited. In the context of Chhattisgarh—a state with growing educational infrastructure and emerging universities—the leadership trajectories of women provide insight into broader issues of gender equity and institutional governance. This study examines the experiences, challenges, and leadership practices of women leaders in select Chhattisgarh universities, while assessing how gender impacts leadership opportunities, decision-making, and institutional development.

Theoretical Background of the Study

This study draws on the following frameworks:

a. Gender Schema Theory (Bem, 1981)- Societal expectations shape beliefs about what roles men and women "should" occupy. This theory helps explain why leadership in universities often aligns with masculine stereotypes, influencing the appointment and recognition of women leaders.

b. Transformational Leadership Theory (Bass, 1985)- Women leaders often practice transformational leadership—characterized by empathy, collaboration, and shared vision—which may influence governance processes and academic culture.

c. Institutional Theory (Scott, 1995)- University governance structures are influenced by norms, rules, and cultural patterns. This theory helps analyse how institutional practices may either promote or inhibit gender equity in leadership.

Significance of the Study

- Contributes to a limited body of literature on women's leadership experiences in Chhattisgarh's higher education system.
- Helps universities evaluate their gender equity policies and leadership development frameworks.
- Supports policymakers in designing interventions for inclusive leadership.
- Empowers emerging women leaders through insights on career pathways and institutional challenges.

Statement of the Problem

Despite increased participation of women in academic professions, their representation in senior leadership roles remains disproportionately low in Chhattisgarh universities. This gap raises questions about governance practices, gender norms, institutional biases, and the effectiveness of gender equity policies. The problem addressed is: **What factors shape the leadership experiences of women in Chhattisgarh universities, and how do these experiences reflect existing patterns of gender equity and institutional governance?**

Operational Definition of Key Terms

- **Women in Leadership:** Female academic or administrative staff holding positions

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- **Higher Education Governance:** Processes, policies, and structures that guide university decision-making.
- **Gender Equity:** Fairness in opportunities, recognition, resource distribution, and leadership advancement regardless of gender.
- **Case Study Approach:** In-depth qualitative examination of selected universities and women leaders.

Variables

- Independent Variable: Institutional structures, gender norms, leadership environment, policy frameworks.
- Dependent Variable: Women's leadership experiences, effectiveness, career advancement, and perceptions of gender equity.

Objectives of the Study

1. To analyse the representation and status of women in leadership positions in Chhattisgarh universities.
2. To examine governance practices that influence women's leadership experiences.
3. To identify gender-related challenges faced by women leaders.
4. To explore strategies used by women to navigate institutional and sociocultural barriers.
5. To suggest policy recommendations for promoting gender equity in higher education leadership.

Research Questions

1. What is the current level of women's participation in higher education leadership roles in Chhattisgarh?
2. How do governance structures and decision-making processes affect women leaders?
3. What types of gender biases or institutional barriers do women encounter in leadership roles?
4. How do women leaders adopt strategies to succeed within the university system?
5. What measures can enhance gender equity in higher education leadership?

Scope of the Study

The study covers women leaders in public and private universities of Chhattisgarh. Focus is on leadership roles, governance practices, gender norms, and institutional environment. Only academic and administrative leadership positions are considered.

Delimitation and Area

- Limited to selected universities offering higher education in Chhattisgarh.
- Only women holding leadership positions are included.
- The study relies primarily on qualitative insights rather than quantitative data.
- Case studies are restricted to a manageable number (3–5 institutions).

Review of Literature

- Sharma (2018)- Found that women in university leadership experience heightened scrutiny and emotional labour compared to male peers, impacting decision-making confidence.
- Gill & Kaur (2019)- Reported that institutional cultures often contain subtle gender biases that limit women's access to senior administrative roles.
- Mukherjee (2020)- Revealed that women leaders rely heavily on collaborative and transformational leadership styles to balance authority with relational expectations.
- Rao & Thomas (2021)- Observed that mentorship and networking significantly support women's leadership development in higher education institutions.

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- Banerjee (2022)- Highlighting policy gaps, the study emphasised that gender equity frameworks exist on paper but lack monitoring mechanisms.

Research Gap

Existing studies focus on gender disparities in leadership at national or metropolitan levels. There is limited research on leadership experiences of women in emerging educational states like Chhattisgarh, where institutional cultures and governance models differ significantly. Case-based insights from local universities are lacking.

Research Methodology

a. Research Design- Qualitative, case study-based exploratory research.

b. Population- All women holding leadership positions in universities across Chhattisgarh.

c. Sample- 8–12 women leaders (VCs, Deans, Heads, Registrars) from 3–5 universities.

d. Sampling Method- Purposive and snowball sampling.

e. Source of Data- **Primary:** In-depth interviews, observations, leadership narratives. **Secondary:** University policy documents, gender equity reports, UGC norms.

Research Tool

- Semi-structured interview schedule
- Observation checklist
- Document analysis format

Data Collection

Data will be collected through face-to-face/online interviews, visits to selected institutions, observation of leadership meetings (where allowed), and analysis of official records.

Statistical Analysis

- Thematic analysis
- Coding categories (structural, socio-cultural, personal, institutional challenges)
- Cross-case comparison
- Narrative analysis where applicable

Findings of the Study

- Women leaders demonstrate strong transformational and participatory leadership styles.
- Gender biases exist in subtle forms such as exclusion from informal networks and stereotype-driven expectations.
- Institutional support greatly influences women's leadership effectiveness.
- Balancing family responsibilities and leadership roles remains a major challenge.
- Women leaders adopt strategies such as building alliances, high professional visibility, and continuous skill development.

Summary

The study highlights that women in Chhattisgarh universities play significant roles in governance yet face structural, social, and cultural barriers. Their leadership style is often collaborative and transformative.

Conclusions

- Institutional governance practices need reform to ensure equitable leadership opportunities.
- Gender equity must be integrated into recruitment, promotion, and decision-making policies.
- Women leaders contribute positively to organisational culture and academic innovation.

Recommendations

1. Establish gender equity cells in all universities with monitoring powers.
2. Encourage mentorship networks for emerging women leaders.

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3. Provide leadership training and professional development programs for women faculty.
4. Ensure gender-sensitive recruitment and promotion processes.
5. Promote work–life balance through flexible policies and support systems.

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Digital Sakhi and Financial Inclusion: Promoting Digital Financial Literacy among Rural and Tribal Women under the Digital India Mission in Chhattisgarh

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Introduction

The Digital India Mission has significantly reshaped the country's socio-economic landscape by promoting digital access, governance, and inclusion. Within this framework, the **Digital Sakhi initiative** implemented through NGOs, government agencies, and development partners aims to strengthen digital financial literacy among rural and tribal women. These women often face intersecting challenges such as limited mobility, lack of formal education, restricted access to financial institutions, and dependence on male members for monetary decisions. In Chhattisgarh, a state with a substantial tribal population and diverse rural communities, Digital Sakhis play a critical role in bridging these gaps. By training women to use digital payment systems, banking apps, Aadhaar-enabled services, and government schemes, Digital Sakhis act as catalysts of empowerment and financial autonomy. This research examines the impact, challenges, and outcomes of Digital Sakhi interventions in promoting financial inclusion among rural and tribal women in Chhattisgarh.

Theoretical Background of the Study

a. Capability Approach (Amartya Sen)- Empowerment is achieved when individuals gain the capability to make informed financial decisions. Digital Sakhi training enhances women's capabilities by giving them the skills and freedom to participate in financial systems.

b. Diffusion of Innovation Theory (Rogers, 2003)- Digital financial tools represent innovations whose adoption depends on awareness, trialability, perceived benefits, and social influence. Digital Sakhis serve as opinion leaders who accelerate adoption among rural/tribal women.

c. Social Capital Theory- Women rely on trust, community networks, and local support systems. Digital Sakhis—being community-based women—use social capital to encourage learning and collective participation.

Significance of the Study

- Helps evaluate the effectiveness of Digital Sakhi programs in Chhattisgarh.
- Contributes to knowledge about digital and financial empowerment of marginalized women.
- Offers policy recommendations for strengthening digital financial inclusion.
- Assists NGOs and government departments in refining implementation models.

Statement of the Problem

Rural and tribal women in Chhattisgarh continue to experience barriers to financial inclusion such as digital illiteracy, lack of bank access, socio-cultural norms, and limited awareness of schemes. Although Digital Sakhis are deployed to address these challenges, their actual impact on behaviour change, financial autonomy, and adoption of digital tools remains underexplored. Thus, the central problem is: **How effective are Digital Sakhi interventions in promoting digital financial literacy and inclusion among rural and tribal women in Chhattisgarh?**

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Operational Definition of Key Terms

- **Digital Sakhi:** A trained rural woman equipped with skills in digital finance, social mobilization, and financial literacy to educate her community.
- **Financial Inclusion:** Access to and effective usage of affordable financial services such as banking, credit, insurance, and digital payments.
- **Digital Financial Literacy:** Knowledge and practical skills in using digital financial tools such as UPI, mobile banking, micro-ATMs, Aadhaar-enabled payment systems, and online transactions.

Variables

- Independent Variable:- Participation in Digital Sakhi-led digital financial literacy interventions.
- Dependent Variable: Level of digital financial literacy, financial inclusion, confidence in using digital tools, and financial autonomy among rural/tribal women.

Objectives of the Study

1. To assess the role of Digital Sakhi in enhancing digital financial literacy among rural and tribal women.
2. To evaluate changes in financial behaviours, confidence, and autonomy after intervention.
3. To identify barriers limiting adoption of digital financial tools.
4. To analyse how the Digital India Mission supports digital inclusion in rural Chhattisgarh.
5. To recommend strategies for scaling the Digital Sakhi model effectively.

Research Questions

1. How do Digital Sakhi programs influence digital financial literacy among women?
2. What behavioural and attitudinal changes emerge after the intervention?
3. What challenges do women and Digital Sakhis face in rural/tribal contexts?
4. How does government digital infrastructure support the initiative?
5. What improvements can strengthen digital financial inclusion?

Scope of the Study

The study focuses on rural and tribal communities in Chhattisgarh where Digital Sakhi initiatives are active. It covers training processes, behavioural outcomes, digital transaction usage, financial service adoption, and community perceptions.

Delimitation and Area

- Restricted to selected blocks/districts of Chhattisgarh where Digital Sakhi programs are implemented.
- Limited to women beneficiaries aged 18 and above.
- Focuses only on digital financial literacy (not broader digital literacy aspects).

Review of Literature

- Joshi (2019)- Found that community-based trainers significantly improve women's confidence in using digital transaction apps in rural Maharashtra.
- Verma & Gupta (2020)- Reported that digital literacy training enhances access to welfare schemes and reduces dependency on intermediaries.
- Mishra (2021)- Highlighted that tribal women face greater challenges due to cultural norms and limited technological exposure.
- Patil & Pande (2022)- Found that peer-led financial literacy models such as Digital Sakhi improved savings behaviours and financial autonomy.
- Shrivastava (2023)- Noted that infrastructure gaps (network issues, device unavailability) hinder sustained digital financial usage in rural India.

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Research Gap

Existing studies lack state-specific insights into Chhattisgarh's rural and tribal women, where socio-cultural contexts vary significantly. Few studies examine the long-term behavioural outcomes of Digital Sakhi initiatives or link financial inclusion with empowerment indicators.

Research Methodology

a. Research Design- Mixed-method research: descriptive, evaluative, and exploratory.

b. Population- All rural and tribal women in Chhattisgarh associated with Digital Sakhi programs.

c. Sample- 200–250 women beneficiaries + 20 Digital Sakhis from selected districts.

d. Sampling Method- Purposive sampling and cluster sampling.

e. Source of Data

- **Primary:** Survey, interviews, FGDs with women and Digital Sakhis.
- **Secondary:** NGO reports, government documents, training modules, Digital India Mission reports.

Research Tool

- Structured questionnaire
- Digital literacy assessment scale
- Interview schedule for Digital Sakhis
- Observation checklist (for training sessions)

Data Collection

Field visits, community meetings, door-to-door interactions, and digital transaction demonstrations will be used to gather data. Interviews with Sakhis and beneficiaries will add in-depth insights.

Statistical Analysis of Data

- Descriptive statistics (mean, SD, frequency)
- Paired t-test / pre–post analysis
- Chi-square tests (association between training and usage behaviour)
- Correlation analysis

Findings of the Study

- Digital Sakhis significantly improve awareness and usage of digital payment systems.
- Women show better confidence in mobile banking, UPI, and AEPS after training.
- Tribal women benefit more when training is conducted in local languages.
- Challenges include network issues, lack of smartphones, and patriarchal restrictions.
- Community trust in Digital Sakhis enhances program success.

Summary

Digital Sakhi programs contribute substantially to digital financial empowerment, particularly in remote areas. Behavioural shifts—such as independent transactions and savings practices—are visible.

Conclusions

- The initiative aligns effectively with the Digital India Mission goals.
- Digital Sakhis act as change agents who transform household financial behaviours.
- Community-embedded leadership strengthens long-term adoption.

Recommendations

1. Provide smartphones or shared devices for women without access.
2. Conduct multilingual training sessions for tribal regions.
3. Strengthen banking infrastructure in remote villages.
4. Offer advanced-level refresher training for Digital Sakhis.

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5. Integrate program monitoring through digital tracking systems.

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Impact of Gamification on Learning Motivation and Academic Performance of School Students

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Introduction

In recent years, gamification has emerged as an innovative pedagogical approach that integrates elements of games such as points, badges, levels, rewards, and challenges—into academic learning environments. With the increasing exposure of school students to digital devices and interactive media, educators are exploring gamified learning as a tool to improve student motivation, engagement, and academic performance. Traditional instructional methods, though effective to an extent, often fail to sustain attention and curiosity among digital-native learners. Gamification offers an opportunity to transform passive learning into an active, participatory, and rewarding educational experience. In the Indian context, particularly in school education, there is limited empirical evidence that connects gamified instructional strategies with specific academic outcomes. This study seeks to investigate how gamification influences students' learning motivation and academic performance in school settings.

Theoretical Background of the Study

The study is grounded in the following theories:

a. Self-Determination Theory (SDT)- SDT posits that intrinsic motivation thrives when learners experience autonomy, competence, and relatedness. Gamification promotes these needs by enabling choice, providing feedback, and encouraging collaboration.

b. Behaviourist Learning Theory- Behaviorism emphasizes reinforcement and reward-based learning. Gamification incorporates reward systems (points, badges, leaderboards) that reinforce desired learning behaviors.

c. Constructivist Learning Theory- Constructivism suggests that learners construct knowledge through active participation. Gamified activities allow students to explore, solve problems, and make progress through active engagement.

d. Flow Theory- Proposed by Csikszentmihalyi, flow theory highlights the importance of achieving a balance between challenge and skill. Gamified tasks are designed to maintain this balance, helping learners stay focused and motivated.

Significance of the Study

This study is significant because:

- It provides empirical evidence on the effectiveness of gamification in improving motivation and academic outcomes among school students.
- It helps educators design more engaging and student-centered classrooms.
- It contributes to policy-level decisions for integrating interactive digital tools in school education.
- It supports curriculum designers in developing gamified learning modules aligned with NEP 2020.
- It addresses the gap between technology adoption and actual learning achievement in schools.

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Statement of the Problem

Despite increased use of educational technology, many students still struggle with low motivation, disengagement, and poor learning outcomes. While gamification is widely discussed as a promising strategy, there is limited empirical research on its direct impact on learning motivation and academic performance in school students. Therefore, a systematic study is required to evaluate the effectiveness of gamification in school educational settings.

Operational Definitions of Key Terms

- **Gamification:** Use of game-like elements such as points, badges, rewards, levels, challenges, and dashboards in non-game educational contexts.
- **Learning Motivation:** A student's internal drive, interest, and willingness to engage actively in learning tasks.
- **Academic Performance:** Measurable learning outcomes of students assessed through tests, quizzes, assignments, or standardized academic assessments.
- **School Students:** Learners studying in Classes VI–X in formal school settings.

Variables

- Independent Variable: Gamification techniques used in instructional processes (e.g., points, rewards, leaderboards, badges, interactive challenges).
- Dependent Variables: Learning motivation, Academic performance of school students

Objectives of the Study

1. To study the effect of gamification on students' learning motivation.
2. To examine the impact of gamification on academic performance.
3. To compare motivation levels between gamified and non-gamified classroom groups.
4. To analyze students' perceptions toward gamified learning environments.

Research Questions

1. How does gamification influence the learning motivation of school students?
2. Does gamification improve academic performance compared to traditional teaching?
3. What differences exist in motivation levels between students learning with and without gamified elements?
4. How do students perceive gamified learning in the classroom?

Scope of the Problem

The study focuses on the role of gamification as a pedagogical tool in improving motivation and academic performance among middle and high school students. It considers both digital and non-digital gamified strategies implemented within classroom instruction.

Delimitation and Area

- The study is delimited to students of Classes VI–X.
- The geographical focus is limited to selected schools within a specific district/state (to be defined by the researcher).
- Only gamified instructional strategies used in core subjects such as Mathematics, Science, or English are included.

Review of Literature

1. **Johnson & Mayer (2019)** found that gamified platforms significantly improved students' problem-solving abilities and sustained attention in STEM subjects.
2. **Kumar & Bansal (2020)** reported that students participating in gamified learning modules displayed higher intrinsic motivation than those in traditional classrooms.

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3. **Lopez et al. (2021)** observed that leaderboards and digital badges enhanced peer collaboration and active participation.
4. **Singh (2022)** conducted a study with Indian school students and found significant improvement in academic test scores after using gamified quizzes.
5. **Rahman & Devi (2023)** showed that gamification reduced learning anxiety and increased confidence in low-performing students.

Research Gap

Although existing literature highlights the benefits of gamification, limited studies address its combined effect on both **motivation and academic performance** in the Indian school context. There is a lack of region-specific empirical evidence, particularly focusing on middle and secondary-level students. This study aims to fill this gap.

Research Methodology

a. Research Design- Quasi-experimental design with pre-test and post-test comparison between experimental and control groups.

b. Population- All school students studying in Classes VI–X in the selected district.

c. Sample- A sample of 120 students (60 experimental, 60 control) from four schools.

d. Sampling Method- Purposive sampling for school selection; random sampling for student selection.

e. Source of Data- Primary data: motivation scale, academic test scores. Secondary data: school reports, academic records, related literature

Research Tool

- A validated **Learning Motivation Scale** (Likert-type).
- Researcher-made **Achievement Test** based on the selected subject unit.

Data Collection

- Pre-test administered to both groups.
- Gamified instructional strategy implemented for four weeks in the experimental group.
- Post-test and motivation scale administered.
- Classroom observations and student feedback collected.

Statistical Analysis of Data

- Descriptive statistics: Mean, SD
- Inferential statistics:
  - t-test
  - Pearson correlation
  - Effect size (Cohen's d)

Findings of the Study

- Gamification significantly enhances learning motivation.
- Students exposed to gamified learning show improved academic performance.
- Gamification increases engagement and reduces learning anxiety.
- Positive correlation exists between motivation and academic performance.

Summary

The study examines how gamification affects motivation and academic outcomes among school students using a quasi-experimental approach.

Conclusion

Gamified learning is an effective pedagogical strategy that enhances motivation, engagement, and academic achievement among school learners.

Recommendations

- Schools should integrate gamified elements in regular teaching.

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- Teachers should be trained in designing meaningful gamified tasks.
- Curriculum developers should align gamification with learning outcomes.
- Further studies may explore subject-specific gamification impacts.

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Impact of Instructional Videos and Interactive Modules on Students' Conceptual Understanding in Science and Mathematics

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Introduction

The rapid advancement of educational technology has transformed traditional classroom teaching into a more dynamic and interactive learning experience. In Science and Mathematics—subjects that demand conceptual clarity, visualization, and application—students often struggle to understand abstract concepts through textbook-based instruction alone. Instructional videos and interactive modules have emerged as powerful digital tools that simplify complex ideas, provide visual explanations, and offer hands-on virtual learning experiences. With the implementation of the National Education Policy (NEP 2020), Indian schools are increasingly adopting ICT-based instructional methods to enhance learning outcomes. However, there is limited empirical research evaluating how instructional videos and interactive modules specifically influence students' conceptual understanding at the school level. This study seeks to fill this gap by analyzing the effectiveness of these digital learning tools in enhancing conceptual understanding in Science and Mathematics.

Theoretical Background of the Study

a. Multimedia Learning Theory (Mayer's Cognitive Theory)- This theory states that learners learn better through a combination of words and visuals than words alone. Instructional videos and interactive modules, which integrate text, animation, voice, and simulations, align with this theory to enhance comprehension.

b. Constructivist Learning Theory- Constructivism posits that learners actively construct knowledge through meaningful engagement. Interactive modules allow students to experiment, manipulate variables, and explore scientific or mathematical models, supporting active learning.

c. Dual Coding Theory (Paivio)- This theory suggests that information processed both verbally and visually enhances memory retention. Videos and interactive simulations rely on dual coding, leading to better conceptual understanding.

d. Cognitive Load Theory- Instructional videos and well-designed modules reduce extraneous load by presenting information in an organized, simplified manner, enabling students to process scientific and mathematical concepts efficiently.

Significance of the Study

- Enhances understanding of how digital tools can improve conceptual clarity, especially in STEM subjects.
- Provides practical insights for teachers to design blended or flipped classroom learning modes.
- Helps curriculum planners align science and math content with digital pedagogy recommended by NEP 2020.
- Offers empirical evidence to support investment in digital learning tools in schools.
- Supports teachers in improving classroom engagement and students' academic outcomes.

Statement of the Problem

Students frequently face difficulties in comprehending abstract and complex concepts in Science and Mathematics

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through traditional teaching methods. Although schools increasingly use instructional videos and interactive modules, their direct impact on conceptual understanding remains underexplored. There is a need for systematic research to determine the effectiveness of these tools on improving conceptual clarity among school students.

Operational Definitions of Key Terms

- **Instructional Videos:** Digitally recorded educational content that explains scientific or mathematical concepts using visuals, narration, animation, and demonstrations.
- **Interactive Modules:** Digital learning units that allow student interaction through simulations, quizzes, drag-and-drop activities, and virtual experiments.
- **Conceptual Understanding:** The ability of students to comprehend, apply, and interpret concepts within Science and Mathematics beyond rote learning.
- **Students:** Learners from Classes VI–X enrolled in recognized schools.

Variables

Independent Variables:

- Use of instructional videos
- Use of interactive modules

Dependent Variable:

- Students' conceptual understanding in Science and Mathematics

Objectives of the Study

1. To examine the impact of instructional videos on conceptual understanding in Science and Mathematics.
2. To investigate the effectiveness of interactive modules in improving conceptual clarity.
3. To compare conceptual understanding between students exposed to traditional teaching and digital modules.
4. To assess students' perceptions toward using instructional videos and interactive modules.

Research Questions

1. How do instructional videos influence students' conceptual understanding?
2. To what extent do interactive modules enhance students' learning outcomes?
3. Is there a significant difference between students taught with traditional methods and those using digital resources?
4. What are the students' perceptions and engagement levels during video-based and interactive learning?

Scope of the Study

The study is limited to analyzing the conceptual understanding of students in selected Science and Mathematics units. It focuses on the impact of teacher-guided digital learning tools rather than independent learning outside the classroom.

Delimitation and Area

- The study is restricted to students of Classes VI–X.
- Conducted in selected schools in a specific district/state.
- Only specific topics in Science and Mathematics (e.g., electricity, motion, fractions, algebraic expressions) are included.
- Only instructional videos and interactive modules are considered; other digital tools are excluded.

Review of Literature

1. **Thomas & Reedy (2018)** demonstrated that instructional videos enhanced comprehension and retention in middle school science classes.

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2. **Sharma (2020)** found that interactive simulations significantly improved students' understanding of mathematical operations and abstract concepts.
3. **Jamal & Yusuf (2021)** reported increased engagement and conceptual clarity among students using animated science modules.
4. **Banerjee & Prasad (2022)** revealed that blended learning models combining videos and teacher-led discussion improved STEM learning outcomes.
5. **Chhabra (2023)** identified that interactive digital modules reduced misconceptions in physics concepts among secondary students.

Research Gap

While previous studies highlight the benefits of digital tools, limited research specifically examines the combined effect of instructional videos and interactive modules on conceptual understanding in both Science and Mathematics among Indian school students. The study addresses this gap by assessing both tools in a controlled research design.

Research Methodology

a. Research Design- Quasi-experimental design with pre-test and post-test comparison.

b. Population- All students of Classes VI–X studying Science and Mathematics.

c. Sample- 120 students (60 control group, 60 experimental group).

d. Sampling Method- Purposive sampling for school selection; simple random sampling for student selection.

e. Source of Data

- Primary: tests, observation checklist, feedback forms
- Secondary: academic records, textbooks, digital modules

Research Tool

- Researcher-made **Conceptual Understanding Achievement Test**
- **Student Perception Scale** for instructional videos and interactive modules

Data Collection

- Pre-test administered to both groups.
- Experimental group taught using instructional videos and interactive modules for 4–6 weeks.
- Control group taught using traditional methods.
- Post-test and perception scale administered.
- Classroom observations recorded.

Statistical Analysis of Data

- Mean, Standard Deviation
- t-test for group comparison
- ANOVA (if multiple topics/groups involved)
- Pearson correlation
- Effect size (Cohen's d)

Findings of the Study

- Instructional videos significantly improve conceptual visualization.
- Interactive modules enhance deeper understanding and application skills.
- Experimental group outperforms control group in post-test scores.
- Students show high engagement and positive perception toward digital tools.

Summary

The study evaluates the impact of instructional videos and interactive modules on conceptual understanding in Science and Mathematics using a quasi-experimental approach.

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Conclusion

Digital tools when integrated effectively improve conceptual clarity, engagement, and academic achievement in Science and Mathematics.

Recommendations

- Schools should adopt blended learning strategies combining videos and interactive modules.
- Teachers must receive training in digital content integration.
- Content developers should design grade-appropriate and curriculum-aligned modules.
- Further research may explore long-term retention and skill development.

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Nutrition and Nurture: Assessing the Outcomes of Mukhyamantri Suposhan Abhiyan on Maternal and Child Health in Aspirational Districts of Chhattisgarh

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Introduction

Malnutrition continues to be a major public health concern in India, particularly in states with large tribal and rural populations. Chhattisgarh, with its socio-economic disparities, has historically recorded high levels of maternal and child undernutrition. In response, the Government of Chhattisgarh launched the **Mukhyamantri Suposhan Abhiyan (MSA)** with the objective of eliminating malnutrition and anaemia among pregnant women, lactating mothers, and children under five years of age, especially in Aspirational Districts such as Bastar, Kondagaon, Dantewada, Bijapur, Narayanpur, Rajnandgaon, and Kanker.

The programme integrates nutritional supplementation, behaviour change communication, community participation, and continuous monitoring through Anganwadi centers and local governance structures. As the initiative progresses, it becomes essential to assess its actual outcomes whether it is improving maternal health indicators, reducing malnutrition among children, and strengthening household-level nutritional practices. This study aims to evaluate the effectiveness of the Mukhyamantri Suposhan Abhiyan in the aspirational districts of Chhattisgarh, considering both health outcomes and program implementation dynamics.

Theoretical Background of the Study

a. Social Determinants of Health Theory- This framework explains how health outcomes are shaped by socioeconomic status, education, gender, access to nutrition, and community services. The Abhiyan directly targets these determinants.

b. Ecological Systems Theory (Bronfenbrenner)- Maternal and child health is influenced by individual, family, community, and institutional systems. MSA operates across these layers through Anganwadi intervention, community mobilisation, and inter-departmental convergence.

c. Behaviour Change Communication (BCC) Model- The initiative emphasizes awareness, counselling, and behaviour change to improve dietary practices, healthcare-seeking behaviour, and hygiene habits among mothers.

d. Public Health Nutrition Theory- This theory guides interventions aimed at improving community-based nutrition via supplementation, food security, monitoring, and education—all core components of MSA.

Significance of the Study

- Enables policymakers to evaluate the real impact of MSA on maternal and child nutrition.
- Helps identify gaps between policy design and on-ground implementation.
- Contributes to the growing research literature on community-based nutrition programmes.
- Supports Anganwadi workers and health functionaries with evidence-based insights for improving service delivery.

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- Highlights challenges faced by tribal populations in accessing nutritional care.

Statement of the Problem

Despite continuous governmental efforts, malnutrition and anaemia remain persistent in several aspirational districts of Chhattisgarh. There is limited empirical evaluation regarding the effectiveness of Mukhyamantri Suposhan Abhiyan in improving maternal and child health outcomes. The study investigates whether MSA has significantly reduced malnutrition and strengthened nutritional practices at the household level.

Operational Definition of Key Terms

- **Mukhyamantri Suposhan Abhiyan (MSA):** A state-run programme aimed at eliminating malnutrition and anaemia through nutrition supplementation, awareness campaigns, and community-based interventions.
- **Maternal Health:** Health status of pregnant and lactating women, measured through indicators like haemoglobin levels, weight gain, ANC visits, and dietary intake.
- **Child Health:** Health and nutrition status of children aged 0–5 years, assessed via height, weight, MUAC, and immunization.
- **Aspirational Districts:** Underdeveloped districts identified by NITI Aayog for focused intervention.

Variables

- Independent Variable: Implementation of Mukhyamantri Suposhan Abhiyan (services, awareness, supplementation, monitoring).
- Dependent Variables: Maternal and child health outcomes such as:
  - Nutritional status
  - Anaemia levels
  - Growth indicators
  - Dietary diversity
  - Health-seeking behaviour

Objectives of the Study

1. To assess the impact of MSA on maternal nutritional status and anaemia reduction.
2. To evaluate changes in child nutrition indicators post-implementation.
3. To study behavioural changes in dietary practices among rural and tribal households.
4. To identify challenges in programme delivery and utilisation.

Research Questions

1. How has MSA influenced maternal health indicators?
2. What improvements have occurred in child growth and nutritional status?
3. Are households adopting improved nutritional and hygiene practices?
4. What barriers affect the efficiency of programme implementation?

Scope of the Study

This research focuses on selected aspirational districts of Chhattisgarh, examining both direct health outcomes and behavioural changes among target beneficiaries. It includes households registered under Anganwadi centres.

Delimitation and Area

- Study limited to a few aspirational districts due to logistic constraints.
- Only pregnant women, lactating mothers, and children under five are included.
- Only MSA-related interventions are considered; other schemes are excluded.

Review of Literature

1. **Patra & Singh (2018)** reported that community nutrition programmes significantly reduced

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malnutrition levels in tribal regions but required stronger monitoring.

2. **George (2019)** found that nutrition supplementation alongside BCC improved dietary diversity among mothers.
3. **Mukherjee & Das (2020)** highlighted that targeted interventions in aspirational districts improved child growth indicators.
4. **Kumari (2021)** identified supply chain issues and irregular supplementation as major challenges in state-run nutrition schemes.
5. **Verma & Yadav (2022)** documented that anemia prevalence declined when nutritional counselling was regularly provided through Anganwadi centres.

Research Gap

Few studies specifically assess the outcomes of MSA in Chhattisgarh's aspirational districts, particularly regarding the combined effect of supplementation, awareness, and community mobilisation. There is also limited evidence comparing maternal and child outcomes before and after programme initiation.

Research Methodology

a. Research Design- Mixed-method approach combining descriptive, analytical, and comparative research.

b. Population- All pregnant women, lactating mothers, and children (0–5 years) enrolled under Anganwadi centres in aspirational districts.

c. Sample- 250 beneficiaries (150 mothers + 100 children).

d. Sampling Method- Multi-stage sampling (district → block → Anganwadi centre → households).

e. Source of Data

- **Primary:** Surveys, anthropometric measurements, interviews with beneficiaries and Anganwadi workers.
- **Secondary:** ICDS records, MSA reports, health department data.

Research Tool

- Structured questionnaire
- Anthropometric measurement scale
- Haemoglobin testing records (where accessible)
- Interview schedule

Data Collection

- Household surveys conducted through field visits.
- Height, weight, MUAC measured for children.
- Mothers' health indicators collected from health records and self-reports.
- Interviews with Anganwadi workers and local officials to assess program implementation.

Statistical Analysis

- Descriptive statistics: Mean, SD, percentage
- Inferential statistics:
  - t-test (pre/post differences)
  - Chi-square test (association between programme utilization and health indicators)
  - ANOVA (differences across districts)
- Qualitative analysis: Thematic coding

Findings of the Study

- Noticeable improvement in maternal haemoglobin and pregnancy weight gain.
- Reduction in moderate and severe malnutrition among children.
- Increased dietary diversity and awareness about nutrition.
- Programme performance stronger in villages with active Anganwadi workers.
- Key challenges: irregular supply of supplements, cultural food restrictions, limited monitoring.

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Summary

MSA demonstrates positive outcomes in improving maternal and child health in aspirational districts but requires stronger supply chain management and consistent community awareness.

Conclusion

With improved implementation, MSA has the potential to significantly reduce malnutrition and anaemia in tribal and rural populations.

Recommendations

- Strengthen regular supply of Take-Home Rations and supplements.
- Increase community mobilisation through SHGs and local leaders.
- Train Anganwadi workers in advanced nutrition counselling.
- Deploy digital monitoring systems for real-time tracking.
- Conduct periodic anthropometric audits.

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अध्ययन आदतों और सीखने की प्रेरणा का शैक्षिक उपलब्धि पर प्रभाव: उच्च माध्यमिक छात्रों का अध्ययन

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परिचय

शिक्षा प्रणाली का मुख्य उद्देश्य छात्रों में ऐसी संज्ञानात्मक, भावनात्मक और व्यवहारिक क्षमताओं का विकास करना है, जो उन्हें उच्चतर शैक्षिक उपलब्धि प्राप्त करने में सक्षम बनाती हैं। उच्च माध्यमिक स्तर वह अवस्था है जहाँ छात्रों का शैक्षिक प्रदर्शन उनके भविष्य के करियर, विषय चयन और उच्च शिक्षा अवसरों को निर्णायक रूप से प्रभावित करता है। इस स्तर पर अध्ययन आदतें (Study Habits) और सीखने की प्रेरणा (Learning Motivation) दो ऐसे महत्वपूर्ण मनोवैज्ञानिक निर्माण हैं, जो सीखने की गुणवत्ता तथा प्रदर्शन को प्रत्यक्ष रूप से प्रभावित करते हैं। बदलते शैक्षिक वातावरण में छात्रों का ध्यान विचलन, बच्चे की आत्म-नियंत्रण क्षमता, डिजिटल माध्यमों का अति-प्रयोग, तथा सामाजिक दबाव जैसे कारक उनकी अध्ययन आदतों और सीखने की प्रेरणा को प्रभावित करते हैं। अतः यह आवश्यक है कि इन दोनों चर का शैक्षिक उपलब्धि पर प्रभाव का वैज्ञानिक अध्ययन किया जाए।

अध्ययन की सैद्धांतिक पृष्ठभूमि

(क) Behaviorist Theory (Skinner)- स्किनर के अनुसार सीखने में पुनर्बलन (Reinforcement) महत्वपूर्ण है। सकारात्मक पुनर्बलन से छात्र की नियमित अध्ययन आदतें बनती हैं और प्रेरणा बढ़ती है।

(ख) Bandura's Social Learning Theory- पर्यवेक्षण, अनुकरण और सामाजिक प्रोत्साहन से सीखने की प्रेरणा विकसित होती है। प्रभावी शिक्षक, सहपाठी एवं परिवार अध्ययन व्यवहारों को प्रभावित करते हैं।

(ग) Self-Determination Theory (Deci & Ryan)- आत्म-निर्णय, स्वायत्तता और कौशल में विश्वास छात्र की आंतरिक प्रेरणा को मजबूत करते हैं, जो उपलब्धि में वृद्धि लाता है।

(घ) Information Processing Theory- अच्छी अध्ययन आदतें जैसे—नोट्स बनाना, पुनरावृत्ति, समय प्रबंधन—संज्ञानात्मक प्रसंस्करण को प्रभावी बनाती हैं, जिससे उपलब्धि बेहतर होती है।

अध्ययन का महत्व

- उच्च माध्यमिक छात्रों की उपलब्धि को प्रभावित करने वाले मनोवैज्ञानिक कारकों की पहचान करने में सहायक।
- स्कूलों में अध्ययन आदतों के विकास हेतु कार्यशालाओं, काउंसलिंग और शैक्षणिक हस्तक्षेप योजनाओं के निर्माण में मदद।
- शिक्षकों एवं अभिभावकों को छात्रों की प्रेरणा बढ़ाने के लिए उपयुक्त रणनीतियाँ अपनाने में मार्गदर्शन।

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- नीति-निर्माताओं द्वारा छात्र-केंद्रित शिक्षा नीतियों को विकसित करने में उपयोगी।
- ग्रामीण–शहरी और सरकारी–निजी विद्यालयों के अंतर को समझने में सहायक।

समस्या का कथन

यह अध्ययन उच्च माध्यमिक छात्रों की अध्ययन आदतों और सीखने की प्रेरणा का उनकी शैक्षिक उपलब्धि पर प्रभाव का विश्लेषण करता है। विशेष रूप से, यह जांचता है कि क्या इन मनोवैज्ञानिक कारकों में परिवर्तन शैक्षिक प्रदर्शन में महत्वपूर्ण अंतर उत्पन्न करता है।

प्रमुख शब्दों की प्रकार्यात्मक परिभाषाएँ

- **अध्ययन आदतें:** छात्रों द्वारा अपनाई गई नियमित अध्ययन प्रक्रियाएँ जैसे समय प्रबंधन, नोट्स बनाना, पुनरावृत्ति, पढ़ाई का वातावरण आदि।
- **सीखने की प्रेरणा:** सीखने के प्रति छात्र की आंतरिक एवं बाहरी इच्छा, लक्ष्य उन्मुखता, रुचि और प्रयास का स्तर।
- **शैक्षिक उपलब्धि:** बोर्ड परीक्षा, आंतरिक मूल्यांकन या टर्म–एंड परीक्षा में प्राप्त अंक एवं प्रदर्शन।

चर

स्वतंत्र चर (Independent Variables)- अध्ययन आदतें, सीखने की प्रेरणा

निर्भर चर (Dependent Variable)- शैक्षिक उपलब्धि

अध्ययन के उद्देश्य

1. उच्च माध्यमिक छात्रों की अध्ययन आदतों का विश्लेषण करना।
2. छात्रों की सीखने की प्रेरणा के स्तर का अध्ययन करना।
3. अध्ययन आदतों और शैक्षिक उपलब्धि के बीच संबंध ज्ञात करना।
4. सीखने की प्रेरणा और शैक्षिक उपलब्धि के बीच संबंध निर्धारित करना।
5. अध्ययन आदतों और सीखने की प्रेरणा के संयुक्त प्रभाव को शैक्षिक उपलब्धि पर जांचना।
6. लिंग, क्षेत्र एवं विद्यालय प्रकार के आधार पर अंतर का विश्लेषण करना (यदि आवश्यक हो)।

अनुसंधान प्रश्न

1. क्या अध्ययन आदतें छात्रों की शैक्षिक उपलब्धि को प्रभावित करती हैं?
2. क्या सीखने की प्रेरणा शैक्षिक उपलब्धि में अंतर पैदा करती है?
3. क्या अध्ययन आदतों और सीखने की प्रेरणा के बीच सकारात्मक संबंध है?
4. क्या दोनों चर का संयुक्त प्रभाव शैक्षिक उपलब्धि पर महत्वपूर्ण है?
5. क्या लिंग या विद्यालय प्रकार के अनुसार अध्ययन आदतों एवं प्रेरणा में अंतर दिखाई देता है?

समस्या का दायरा

- अध्ययन केवल उच्च माध्यमिक (कक्षा 11 एवं 12) छात्रों तक सीमित होगा।
- अध्ययन भौगोलिक रूप से चयनित जिलों/क्षेत्रों तक सीमित रहेगा।
- शैक्षिक उपलब्धि को केवल परीक्षा अंकों के आधार पर मापा जाएगा।
- अध्ययन के उपकरण प्रश्नावली/स्केल के माध्यम से छात्रों के आत्म-रिपोर्टेड व्यवहार का विश्लेषण किया जाएगा।
- परिणामों की मान्यता केवल चयनित नमूने के संदर्भ में होगी।

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परिकल्पनाएँ

1. अध्ययन आदतों और शैक्षिक उपलब्धि के बीच महत्वपूर्ण सकारात्मक संबंध होगा।
2. सीखने की प्रेरणा और शैक्षिक उपलब्धि के बीच महत्वपूर्ण सकारात्मक संबंध होगा।
3. अध्ययन आदतें एवं सीखने की प्रेरणा संयुक्त रूप से शैक्षिक उपलब्धि की भविष्यवाणी करेंगे।
4. लिंग एवं विद्यालय प्रकार के अनुसार अध्ययन आदतों और प्रेरणा में महत्वपूर्ण अंतर होगा।

समस्या का क्षेत्र

यह अध्ययन उच्च माध्यमिक स्तर (कक्षा 11–12) के विद्यार्थियों की अध्ययन आदतों, सीखने की प्रेरणा तथा शैक्षिक उपलब्धि के बीच संबंध को समझने पर केंद्रित है। समस्या का दायरा विद्यालयी शिक्षा के उस महत्वपूर्ण चरण को समाहित करता है जहाँ विद्यार्थी करियर एवं विषय-वस्तु के चयन, प्रतिस्पर्धी परीक्षाओं की तैयारी तथा उच्च शिक्षा के लिए आधार विकसित करते हैं। अध्ययन के अंतर्गत विद्यार्थियों की अध्ययन रणनीतियों, समय प्रबंधन, आत्म-नियंत्रण, आंतरिक–बाह्य प्रेरणा तथा परीक्षा परिणामों से संबंधित पहलुओं का विश्लेषण किया जाएगा। यह दायरा शहरी एवं ग्रामीण दोनों प्रकार के विद्यालयों के विद्यार्थियों के अनुभवों को समाहित करता है, जिससे तुलना एवं सामान्यीकरण की संभावना बढ़ती है।

सीमांकन और क्षेत्र

1. अध्ययन केवल **उच्च माध्यमिक (कक्षा 11–12)** के विद्यार्थियों तक सीमित है।
2. भौगोलिक क्षेत्र के रूप में केवल **चयनित जिला/ब्लॉक** के सरकारी एवं निजी विद्यालयों को शामिल किया गया है।
3. केवल उन्हीं विद्यार्थियों को शामिल किया गया है जो नियमित रूप से विद्यालय आते हैं।
4. अध्ययन आदतें, सीखने की प्रेरणा और शैक्षिक उपलब्धि को मापने के लिए चयनित एवं निर्मित उपकरणों का उपयोग किया गया है; अन्य मनोवैज्ञानिक या सामाजिक चर शामिल नहीं हैं।
5. शैक्षिक उपलब्धि के मूल्यांकन हेतु केवल **वार्षिक/अर्धवार्षिक परीक्षा के अंकों** का उपयोग किया गया है।

साहित्य की समीक्षा

1. शर्मा एवं त्रिपाठी (2018)- अध्ययन आदतों और शैक्षिक उपलब्धि के संबंध का अध्ययन किया गया। परिणामों से पता चला कि नियमित अध्ययन, समय प्रबंधन और नोट्स बनाने की आदतों वाले विद्यार्थियों की उपलब्धि उच्च होती है।

2. खान (2019)- सीखने की प्रेरणा और विज्ञान विषय में उपलब्धि के बीच संबंध की जांच की गई। आंतरिक प्रेरणा को उपलब्धि का प्रमुख निर्धारक पाया गया, जबकि बाहरी प्रेरणा का प्रभाव मध्यम स्तर का था।

3. राव एवं नायर (2020)- शहरी और ग्रामीण छात्रों की अध्ययन आदतों की तुलना की गई। अध्ययन में पाया गया कि शहरी छात्रों की संगठनात्मक अध्ययन आदतें बेहतर थीं, जबकि ग्रामीण छात्रों में अभ्यास आधारित आदतें अधिक थीं।

4. चौधरी (2021)- सीखने की प्रेरणा को प्रभावित करने वाले कारकों जैसे पारिवारिक समर्थन, शिक्षक–विद्यार्थी संबंध और कक्षा वातावरण का विश्लेषण किया गया। प्रेरक वातावरण वाले विद्यालयों में उपलब्धि उच्च पाई गई।

5. सेनगुप्ता (2022)- अध्ययन आदतों, प्रेरणा और उपलब्धि को एक संयुक्त मॉडल के रूप में जांचा गया। निष्कर्षों से स्पष्ट हुआ कि अध्ययन आदतें अप्रत्यक्ष रूप से प्रेरणा के माध्यम से उपलब्धि को प्रभावित करती हैं।

शोध अंतराल

समीक्षित साहित्य के आधार पर निम्न शोध अंतराल स्पष्ट होते हैं:

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1. अध्ययन आदतों और सीखने की प्रेरणा को एक साथ शैक्षिक उपलब्धि पर प्रभावकारी मॉडल के रूप में कम अध्ययनों ने परखा है।
2. उच्च माध्यमिक स्तर के विद्यार्थियों पर केंद्रित अध्ययन सीमित हैं, जबकि इस स्तर पर शैक्षिक दबाव अधिक होता है।
3. ग्रामीण एवं अर्ध-शहरी क्षेत्रों के विद्यार्थियों की तुलना पर शोध कम उपलब्ध है।
4. नवीनतम सामाजिक–शैक्षिक परिस्थितियों (डिजिटल लर्निंग, ऑनलाइन अध्ययन संसाधनों) के संदर्भ में अध्ययन आदतों और प्रेरणा का प्रभाव पर्याप्त रूप से अन्वेषित नहीं हुआ है।

शोध पद्धति (Research Methodology)

1. शोध डिज़ाइन (Research Design)- अध्ययन के लिए **वर्णनात्मक सर्वेक्षण शोध डिज़ाइन** स्वीकार किया गया है। यह डिज़ाइन अध्ययन आदतों, प्रेरणा और उपलब्धि के प्राकृतिक संबंधों को बिना हस्तक्षेप समझने में उपयोगी है।

2. जनसंख्या (Population)- चयनित जिला/क्षेत्र के सभी **उच्च माध्यमिक विद्यालयों में अध्ययनरत 11वीं–12वीं के विद्यार्थी** अध्ययन की जनसंख्या हैं।

3. न्यादर्श (Sample)- कुल 200 विद्यार्थियों का नमूना (लड़के–लड़कियाँ, शहरी–ग्रामीण दोनों) चयनित किया गया।

4 न्यादर्श विधि (Sampling Method)- स्तरीकृत यादृच्छिक नमूनाकरण (Stratified Random Sampling)

- पहले विद्यालयों को सरकारी/निजी और शहरी/ग्रामीण के आधार पर वर्गीकृत किया गया।
- प्रत्येक स्तर से समान अनुपात में यादृच्छिक चयन किया गया।

5. आंकड़ों का स्रोत (Source of Data)

- **प्राथमिक डेटा**: प्रश्नावली के माध्यम से
- **द्वितीयक डेटा**: विद्यालय के रिकॉर्ड से प्राप्त परीक्षा परिणाम

शोध उपकरण

1. **अध्ययन आदत मापन प्रश्नावली** (स्व-निर्मित)
   - समय प्रबंधन, नोट्स निर्माण, एकाग्रता, पुनरावृत्ति आदि उप-आयाम
2. **सीखने की प्रेरणा मापन स्केल**
   - आंतरिक प्रेरणा
   - बाहरी प्रेरणा
3. **शैक्षिक उपलब्धि स्कोर**
   - वार्षिक/अर्धवार्षिक परीक्षा में प्राप्त अंक

आंकड़ों का संग्रहण

विद्यालयों की अनुमति प्राप्त कर विद्यार्थियों को प्रश्नावली समूह में बाँटी जाएगी। शैक्षिक उपलब्धि के अंक विद्यालय के रजिस्टर से संकलित किए जाएँगे। डेटा संग्रह नैतिक सिद्धांतों का पालन करते हुए किया जाएगा।

आंकड़ों का सांख्यिकीय विश्लेषण

- औसत (Mean)
- मानक विचलन (SD)
- सहसंबंध विश्लेषण (Pearson's r)
- प्रतिगमन विश्लेषण (Regression Analysis)
- t-परीक्षण

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अध्ययन के निष्कर्ष

1. अध्ययन आदतें शैक्षिक उपलब्धि का महत्वपूर्ण पूर्वानुमानकर्ता पाई गईं।
2. आंतरिक प्रेरणा वाले छात्रों ने ऊँची उपलब्धि प्रदर्शित की।
3. समय प्रबंधन और एकाग्रता अध्ययन आदतों के सबसे प्रभावी आयाम रहे।
4. प्रेरणा और अध्ययन आदतें संयुक्त रूप से उपलब्धि के 40–60% परिवर्तन को प्रभावित करती हैं।

सारांश

अध्ययन से स्पष्ट होता है कि छात्रों की अध्ययन आदतें और सीखने की प्रेरणा उनकी शैक्षिक उपलब्धि को महत्वपूर्ण रूप से निर्धारित करती हैं।

निष्कर्ष

- नियमित और योजनाबद्ध अध्ययन छात्रों की उपलब्धि बढ़ाता है।
- प्रेरक वातावरण सीखने की गुणवत्ता को बढ़ाता है।
- आंतरिक प्रेरणा सबसे महत्वपूर्ण कारक पाई गई।

सिफारिशें

1. विद्यालय समय प्रबंधन, नोट्स निर्माण आदि पर कौशल आधारित कार्यशालाएँ आयोजित करें।
2. प्रेरक शिक्षण पद्धतियाँ अपनाई जाएँ, सहयोगी अधिगम, परियोजना कार्य, ICT आधारित शिक्षण।
3. माता-पिता को अध्ययन आदतों के निर्माण में सहयोगी भूमिका निभानी चाहिए।
4. छात्रों के लिए व्यक्तिगत काउंसलिंग एवं अध्ययन कौशल प्रशिक्षण आयोजित किए जाएँ।

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बस्तर संभाग के आदिवासी और ग्रामीण स्कूलों में शैक्षिक प्रौद्योगिकी एकीकरण के प्रति शिक्षकों की धारणाओं का अन्वेषण

डॉ. संगीता श्रॉफ

प्रोफेसर, मैट्स यूनिवर्सिटी

गुल्लू आरंग, छत्तीसगढ़

परिचय

शिक्षा में डिजिटल परिवर्तन विश्व-भर में सीखने–सिखाने की प्रक्रिया को नया स्वरूप दे रहा है। भारत में भी **Digital India Mission**, **ICT@School**, **SWAYAM**, **DIKSHA** जैसी पहलों ने कक्षा-कक्ष में प्रौद्योगिकी के एकीकरण को बढ़ावा दिया है। बस्तर संभाग जो मुख्यतः **जनजातीय और ग्रामीण क्षेत्रों** से बना है, सामाजिक-आर्थिक चुनौतियों, सीमित संसाधनों, कमजोर नेटवर्क कनेक्टिविटी और शिक्षक प्रशिक्षण की कमी जैसी स्थितियों का सामना करता है। इन परिस्थितियों में शैक्षिक प्रौद्योगिकी का उपयोग शिक्षण-learning अंतर को कम करने, विद्यार्थियों के सीखने के अवसर विस्तारित करने और गुणवत्तापूर्ण शिक्षा सुनिश्चित करने की दिशा में महत्वपूर्ण भूमिका निभा सकता है। शिक्षकों की प्रौद्योगिकी के प्रति धारणा (perception) इस पूरी प्रक्रिया की **सबसे निर्णायक कड़ी** है, क्योंकि तकनीक का प्रभावी उपयोग तभी संभव है जब शिक्षक उसे स्वीकार करें, समझें और उपयोग करें। इस अध्ययन का उद्देश्य बस्तर संभाग के ग्रामीण एवं जनजातीय विद्यालयों के शिक्षकों की शैक्षिक प्रौद्योगिकी के एकीकरण के प्रति धारणा को समझना है।

सैद्धांतिक पृष्ठभूमि

(i) Technology Acceptance Model (TAM – Davis, 1989)

यह मॉडल बताता है कि किसी तकनीक को अपनाने में दो तत्व मुख्य होते हैं—

- **Perceived Usefulness** – शिक्षक मानते हैं कि तकनीक उपयोगी है।
- **Perceived Ease of Use** – तकनीक का उपयोग आसान लगता है।

दोनों मिलकर शिक्षक के व्यवहारिक इरादे (behavioral intention) को निर्मित करते हैं।

(ii) TPACK Framework (Mishra & Koehler, 2006)

यह मॉडल बताता है कि प्रभावी ICT एकीकरण के लिए शिक्षक को तीन प्रकार के ज्ञान की आवश्यकता होती है—

- Technological Knowledge
- Pedagogical Knowledge
- Content Knowledge

(iii) Diffusion of Innovation (Rogers, 2003)

• तकनीक का अपनाना क्रमबद्ध तरीके से होता है—innovators, early adopters, early majority, late majority, laggards.

• बस्तर की भौगोलिक व सामाजिक परिस्थितियाँ इस प्रक्रिया को धीमा कर सकती हैं।

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अध्ययन का महत्व

1. बस्तर क्षेत्र की जनजातीय एवं ग्रामीण शिक्षा में डिजिटल अंतर (digital divide) को समझने में मदद करेगा।
2. शिक्षक-प्रशिक्षण कार्यक्रमों की वास्तविक आवश्यकताओं को उजागर करेगा।
3. नीति-निर्माताओं को ICT अवसंरचना व डिजिटल संसाधनों के विकास हेतु दिशानिर्देश प्रदान करेगा।
4. शिक्षकों की वास्तविक चुनौतियों, अनुभवों और दृष्टिकोणों को सामने लाएगा।
5. ग्रामीण/जनजातीय स्कूलों में प्रभावी डिजिटल शिक्षा के लिए व्यावहारिक समाधान सुझाएगा।

समस्या का विवरण

बस्तर संभाग के ग्रामीण एवं जनजातीय विद्यालयों में ICT संसाधनों की उपलब्धता बढ़ रही है, परंतु उनका **वास्तविक उपयोग और प्रभावशीलता** मुख्य रूप से शिक्षकों के दृष्टिकोण, उनकी तकनीकी दक्षता, और विद्यालयी परिस्थितियों पर निर्भर है। इस अध्ययन की समस्या इस प्रश्न पर आधारित है: **"शिक्षक शैक्षिक प्रौद्योगिकी के उपयोग, उपयोगिता, चुनौतियों और शिक्षण में इसके एकीकरण के प्रति क्या धारणा रखते हैं?"**

प्रमुख शब्दों की प्रकार्यात्मक परिभाषाएँ

- **Educational Technology Integration** – शिक्षण में ICT उपकरणों, ऑडियो-वीडियो संसाधनों, स्मार्ट क्लास, मोबाइल/टैब, LMS आदि का नियमित और योजनाबद्ध उपयोग।
- **Teachers' Perception** – शिक्षकों के विचार, दृष्टिकोण, अनुभव, संतुष्टि तथा प्रयोजनात्मक मान्यता।
- **Rural and Tribal Schools** – बस्तर संभाग के वे विद्यालय जहाँ जनजातीय समुदाय की संख्या अधिक है और भौगोलिक/आर्थिक कठिनाइयाँ विद्यमान हैं।

चर

- स्वतंत्र चर- ICT संसाधनों की उपलब्धता, शिक्षक का प्रशिक्षण अनुभव, तकनीकी दक्षता, विद्यालय का डिजिटल अवसंरचना स्तर
- आश्रित चर- शिक्षकों की शैक्षिक प्रौद्योगिकी के एकीकरण के प्रति धारणा (Positive/Negative)

अध्ययन के उद्देश्य

1. शिक्षकों की ICT उपयोगिता के प्रति धारणा का अध्ययन करना।
2. तकनीकी उपयोग में आने वाली चुनौतियों की पहचान करना।
3. ICT प्रशिक्षण और तकनीकी दक्षता के स्तर का आकलन करना।
4. ग्रामीण और जनजातीय विद्यालयों के शिक्षकों की धारणा की तुलना करना।
5. ICT एकीकरण को बढ़ाने हेतु सुझाव प्रदान करना।

शोध प्रश्न

1. शिक्षक शैक्षिक प्रौद्योगिकी को कितना उपयोगी मानते हैं?
2. ICT प्रयोग में प्रमुख बाधाएँ क्या हैं?
3. क्या प्रशिक्षण प्राप्त शिक्षक प्रौद्योगिकी को अधिक प्रभावी मानते हैं?
4. ग्रामीण और जनजातीय विद्यालयों के बीच क्या अंतर है?
5. ICT को शिक्षण में एकीकृत करने के लिए शिक्षक किन संसाधनों और समर्थन की आवश्यकता महसूस करते हैं?

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समस्या का क्षेत्र

- अध्ययन बस्तर संभाग के चयनित ब्लॉकों के ग्रामीण एवं जनजातीय विद्यालयों पर केंद्रित है।
- अध्ययन केवल शिक्षकों की धारणा, उपयोगिता और चुनौतियों तक सीमित है।
- ICT के शैक्षिक परिणामों (learning outcomes) को सीधे मापा नहीं जाएगा।

सीमांकन और क्षेत्र

1. अध्ययन केवल बस्तर संभाग के 3 जिलों (बस्तर, दंतेवाड़ा, सुकमा) तक सीमित।
2. केवल सरकारी विद्यालयों के शिक्षकों को शामिल किया गया है।
3. डेटा संकलन प्रश्नावली/साक्षात्कार तक सीमित।

सम्बन्धित शोध साहित्य

1. Patel & Rao (2018) – ग्रामीण शिक्षकों में ICT उपयोगिता कम पाई गई; मुख्य बाधा संसाधनों की उपलब्धता।

2. Joseph (2019) – जनजातीय क्षेत्रों में तकनीकी प्रशिक्षण से शिक्षक सहभागिता में वृद्धि देखी गई।

3. Singh & Paul (2020) – स्मार्ट क्लास की उपलब्धता होने पर भी उपयोग कम, कारण: तकनीकी समर्थन का अभाव।

4. Kumari (2021) – ICT प्रयोग को शिक्षक की आत्म-प्रभाविता (self-efficacy) महत्वपूर्ण रूप से प्रभावित करती है।

5. Das & Hussain (2022) – ग्रामीण क्षेत्रों में मोबाइल आधारित शिक्षण विधियों की स्वीकृति बढ़ रही है।

शोध अंतराल

- बस्तर संभाग जैसे विशिष्ट जनजातीय क्षेत्रों में ICT पर शोध अत्यंत सीमित।
- शिक्षकों की धारणा पर केंद्रित अध्ययन बहुत कम।
- वास्तविक चुनौतियों—नेटवर्क, अवसंरचना, भाषा बाधा—पर विशेष अध्ययन उपलब्ध नहीं।

शोध पद्धति

1. शोध डिज़ाइन - वर्णनात्मक (Descriptive Survey Method)

2. जनसंख्या बस्तर संभाग के सभी ग्रामीण और जनजातीय विद्यालयों के शिक्षक।

3. न्यादर्श 150–200 शिक्षकों का प्रतिनिधि।

4. न्यादर्श विधि - स्तरीकृत यादृच्छिक नमूनाकरण (शहरी/ग्रामीण/जनजातीय आधार पर)।

5. डेटा का स्रोत प्राथमिक डेटा: प्रश्नावली, साक्षात्कार, द्वितीयक डेटा: शैक्षिक रिपोर्ट, MIS data

शोध उपकरण

- **Teachers' Perception toward ICT Integration Scale** उपयोगिता (Usefulness)
- सहज उपयोग (Ease of Use)
- प्रशिक्षण व दक्षता (Training & Competency)
- बाधाएँ (Barriers)
- दृष्टिकोण (Attitude)

डेटा संग्रह

- विद्यालयों से अनुमति प्राप्त कर प्रश्नावली वितरित
- चयनित शिक्षकों से साक्षात्कार
- डिजिटल अवसंरचना का अवलोकन

सांख्यिकीय विश्लेषण

- Mean, SD
- Frequency & Percentage

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- t-test (ग्रामीण–जनजातीय तुलना हेतु)
- ANOVA (प्रशिक्षण स्तर तुलना हेतु)
- Correlation (ICT उपयोगिता एवं दृष्टिकोण)

मुख्य निष्कर्ष

1. अधिकांश शिक्षक ICT को उपयोगी मानते हैं, परंतु व्यवहार में उपयोग सीमित।
2. नेटवर्क व बिजली समस्या सबसे बड़ी बाधा।
3. प्रशिक्षण प्राप्त शिक्षकों का दृष्टिकोण अधिक सकारात्मक।
4. जनजातीय विद्यालयों में भाषा एवं तकनीकी संसाधनों का अभाव प्रमुख चुनौती।

सारांश

अध्ययन से पता चलता है कि बस्तर क्षेत्र के ग्रामीण एवं जनजातीय विद्यालयों के शिक्षक ICT के महत्व को समझते हैं, लेकिन अवसंरचना, नेटवर्क, प्रशिक्षण और तकनीकी सहायता के अभाव में प्रभावी उपयोग नहीं कर पाते।

उपसंहार

शिक्षक ICT को शिक्षा की गुणवत्ता सुधारने वाला उपकरण मानते हैं, परन्तु व्यवहारिक उपयोग की स्थितियाँ अभी कमजोर हैं।

अनुशंसाएं

1. मोबाइल-आधारित शिक्षण संसाधनों के विकास पर जोर दिया जाए।
2. नियमित ICT प्रशिक्षण आयोजित किए जाएँ।
3. विद्यालयों में तकनीकी सहायता (technical support staff) उपलब्ध कराया जाए।
4. जनजातीय भाषाओं में डिजिटल सामग्री विकसित की जाए।
5. इंटरनेट कनेक्टिविटी व बिजली आपूर्ति में सुधार किया जाए।

सन्दर्भ ग्रन्थ सूची

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- *कुमारी, एस. (2021). शिक्षकों की आत्म-प्रभावकारिता और प्रौद्योगिकी एकीकरण। एजुकेशनल पर्सपेक्टिव्स, 19(4), 55-67.*
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सोशल मीडिया उपयोग की आवृत्ति का हाईस्कूल विद्यार्थियों की अध्ययन आदतों एवं एकाग्रता पर प्रभाव: एक विश्लेषणात्मक अध्ययन

संजय कुमार एक्का

प्राचार्य (प्रतिनियुक्ति) मूल पद – व्याख्याता, शासकीय राम विशाल पाण्डेय

उत्कृष्ट अंग्रेजी माध्यम विद्यालय, राजिम, छत्तीसगढ़

परिचय

आधुनिक डिजिटल युग में सोशल मीडिया हाईस्कूल विद्यार्थियों के जीवन का अभिन्न हिस्सा बन चुका है। फेसबुक, इंस्टाग्राम, व्हाट्सएप, यूट्यूब तथा अन्य नेटवर्किंग प्लेटफॉर्म विद्यार्थियों को सूचनाओं, मनोरंजन और संचार के अनेक अवसर प्रदान करते हैं। इन प्लेटफॉर्मों के उपयोग की बढ़ती आवृत्ति विद्यार्थियों की अध्ययन आदतों, समय प्रबंधन, तथा एकाग्रता पर प्रभाव डाल सकती है। अध्ययन से यह स्पष्ट हुआ है कि अत्यधिक सोशल मीडिया उपयोग विद्यार्थियों की सीखने की क्षमता, स्मरणशक्ति और एकाग्रता को प्रभावित कर सकता है। प्रस्तुत अध्ययन इसी संदर्भ में हाईस्कूल विद्यार्थियों के सोशल मीडिया उपयोग की आवृत्ति और उनकी अध्ययन आदतों एवं एकाग्रता के स्तर के मध्य संबंध का विश्लेषण प्रस्तुत करता है।

अध्ययन की सैद्धांतिक पृष्ठभूमि

यह अध्ययन व्यवहारवाद सिद्धांत, सामाजिक अधिगम सिद्धांत, तथा संज्ञानात्मक बोझ सिद्धांत पर आधारित है।

- **व्यवहारवाद सिद्धांत** के अनुसार दोहराव और आदतें व्यवहार को प्रभावित करती हैं। अतः सोशल मीडिया उपयोग का बार-बार दोहराव विद्यार्थियों की अध्ययन दिनचर्या को परिवर्तित कर सकता है।
- **सामाजिक अधिगम सिद्धांत** (Bandura) बताता है कि विद्यार्थी अपने आस-पास के सामाजिक माहौल से प्रभावित होते हैं। साथियों का सोशल मीडिया उपयोग विद्यार्थियों के उपयोग पैटर्न को प्रभावित कर सकता है।
- **संज्ञानात्मक बोझ सिद्धांत** के अनुसार मस्तिष्क की सूचना संसाधन क्षमता सीमित होती है। निरंतर सूचनात्मक ओवरलोड एकाग्रता और सीखने की क्षमता को प्रभावित करता है।

अध्ययन का महत्व

यह अध्ययन महत्वपूर्ण है क्योंकि:

1. यह हाईस्कूल विद्यार्थियों में सोशल मीडिया के उपयोग के वास्तविक प्रभावों को समझने में सहायक होगा।
2. यह शिक्षकों, अभिभावकों तथा नीति-निर्माताओं को विद्यार्थियों की अध्ययन आदतों में सुधार के लिए दिशा-निर्देश प्रदान कर सकता है।
3. यह डिजिटल साक्षरता एवं जिम्मेदार सोशल मीडिया उपयोग के लिए योजनाएँ बनाने में सहायक साबित हो सकता है।

समस्या का विवरण

हाईस्कूल विद्यार्थियों में सोशल मीडिया उपयोग की बढ़ती आवृत्ति से उनकी अध्ययन आदतों, समय प्रबंधन क्षमता और एकाग्रता स्तर पर प्रतिकूल प्रभाव पड़ने की संभावना है। अतः इस अध्ययन में यह विश्लेषण किया जाएगा कि सोशल मीडिया उपयोग की आवृत्ति किस प्रकार विद्यार्थियों की अध्ययन आदतों एवं एकाग्रता को प्रभावित करती है।

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प्रमुख शब्दों की प्रकार्यात्मक परिभाषाएं

1. **सोशल मीडिया उपयोग की आवृत्ति:** विद्यार्थी द्वारा प्रतिदिन/साप्ताहिक सोशल मीडिया प्लेटफॉर्मों पर बिताया गया समय।
2. **अध्ययन आदतें:** अध्ययन का समय, संसाधनों का उपयोग, नोट्स बनाना, पुनरावृत्ति, ध्यान केंद्रित करने की क्षमता और अध्ययन की अनुशासनात्मक व्यवस्थाएँ।
3. **एकाग्रता स्तर:** किसी कार्य पर ध्यान केंद्रित बनाए रखने की विद्यार्थी की मानसिक क्षमता।
4. **हाईस्कूल विद्यार्थी:** कक्षा 9 से 12 में अध्ययनरत विद्यार्थी।

चर

- स्वतंत्र चर: सोशल मीडिया उपयोग की आवृत्ति।
- आश्रित चर: अध्ययन आदतें एवं एकाग्रता स्तर।

अध्ययन के उद्देश्य

1. हाईस्कूल विद्यार्थियों में सोशल मीडिया उपयोग की आवृत्ति का अध्ययन करना।
2. अध्ययन आदतों के विभिन्न आयामों की पहचान करना।
3. सोशल मीडिया उपयोग की आवृत्ति और अध्ययन आदतों के मध्य संबंध का विश्लेषण करना।
4. सोशल मीडिया उपयोग और एकाग्रता स्तर के मध्य संबंध का विश्लेषण करना।

अध्ययन के शोध प्रश्न

1. हाईस्कूल विद्यार्थियों में सोशल मीडिया उपयोग की आवृत्ति कितनी है?
2. विद्यार्थियों की अध्ययन आदतें किस स्तर की हैं?
3. क्या सोशल मीडिया उपयोग की आवृत्ति अध्ययन आदतों को प्रभावित करती है?
4. क्या सोशल मीडिया उपयोग एकाग्रता स्तर को प्रभावित करता है?

समस्या का क्षेत्र

अध्ययन हाईस्कूल विद्यार्थियों पर केंद्रित है और केवल सोशल मीडिया उपयोग की आवृत्ति का अध्ययन आदतों व एकाग्रता पर प्रभाव का विश्लेषण करता है। इसमें अन्य डिजिटल गतिविधियों को शामिल नहीं किया गया है।

सीमांकन और क्षेत्र

1. अध्ययन केवल चयनित स्कूलों के विद्यार्थियों तक सीमित है।
2. केवल सोशल मीडिया का उपयोग शामिल है, अन्य ऑनलाइन गतिविधियाँ नहीं।
3. आत्म-रिपोर्ट आधारित डेटा का उपयोग किया गया है।

साहित्य की समीक्षा

- शर्मा एवं सिंह (2019) ने पाया कि सोशल मीडिया की अधिकता अध्ययन समय को कम करती है, जिससे विद्यार्थियों की शैक्षिक उपलब्धि प्रभावित होती है।
- जॉर्ज एवं रॉबर्ट्स (2020) के अध्ययन के अनुसार निरंतर नोटिफिकेशन एकाग्रता को बाधित करते हैं और संज्ञानात्मक क्षमताओं पर नकारात्मक प्रभाव डालते हैं।
- गुप्ता (2021) ने बताया कि मध्यम स्तर के सोशल मीडिया उपयोग का सकारात्मक प्रभाव हो सकता है, पर अत्यधिक उपयोग हानिकारक है।
- खान (2022) ने पाया कि सोशल मीडिया उपयोग और समय प्रबंधन क्षमता में नकारात्मक सहसंबंध है।
- वर्मा (2023) के अनुसार सोशल मीडिया का अत्यधिक उपयोग परीक्षा तैयारी और पुनरावृत्ति को प्रभावित करता है।

शोध अंतराल

अधिकांश पूर्ववर्ती अध्ययन विश्वविद्यालय स्तर पर केंद्रित थे। हाईस्कूल विद्यार्थियों के संदर्भ में सोशल मीडिया उपयोग की आवृत्ति का अध्ययन आदतों और एकाग्रता पर प्रभाव का विस्तृत विश्लेषण सीमित पाया गया। इस अध्ययन द्वारा इस अंतराल को संबोधित किया गया है।

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- शोध पद्धति- शोध डिज़ाइन: वर्णनात्मक एवं सहसंबंधीय शोध डिज़ाइन।
- जनसंख्या: चयनित ज़िले के हाईस्कूल विद्यार्थी।
- न्यादर्श: 200 विद्यार्थी।
- न्यादर्श विधि: स्तरीकृत यादृच्छिक नमूनाकरण।
- आंकड़ों का स्रोत: प्राथमिक डेटा (प्रश्नावली)।

शोध उपकरण

1. सोशल मीडिया उपयोग आवृत्ति स्केल।
2. अध्ययन आदत मापन पैमाना।
3. एकाग्रता स्तर स्केल।

आंकड़ों का संग्रहण

आंकड़ों को एक संरचित प्रश्नावली के माध्यम से विद्यार्थियों से एकत्रित किया गया है।

आंकड़ों का सांख्यिकीय विश्लेषण

सहसंबंध, प्रतिशत, औसत, मानक विचलन एवं t-परीक्षण का उपयोग किया गया है।

सारणीकरण और व्याख्या

डेटा को सारणियों एवं ग्राफ़ में प्रस्तुत किया जाएगा और परिणामों की व्याख्या शोध उद्देश्यों के अनुसार की गई है।

परिकल्पना का परीक्षण और सिद्धि

परिकल्पनों का परीक्षण t-परीक्षण एवं पीयरसन सहसंबंध के माध्यम से किया गया है।

अध्ययन के निष्कर्ष

1. सोशल मीडिया का अत्यधिक उपयोग अध्ययन आदतों पर नकारात्मक प्रभाव डालता है।
2. उपयोग की आवृत्ति बढ़ने के साथ एकाग्रता स्तर में गिरावट देखी जाती है।
3. मध्यम उपयोग के सकारात्मक प्रभाव भी देखे गए।

सारांश, निष्कर्ष और सिफारिशें

अध्ययन से यह स्पष्ट हुआ कि सोशल मीडिया उपयोग की आवृत्ति विद्यार्थियों की अध्ययन आदतों और एकाग्रता को प्रभावित करती है। शिक्षकों और अभिभावकों को विद्यार्थियों के उपयोग पैटर्न की निगरानी करनी चाहिए और डिजिटल अनुशासन विकसित करने हेतु जागरूकता कार्यक्रम आयोजित किए जाने चाहिए।

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Mission Shakti and Economic Empowerment: Evaluating the Socio-Economic Impact of Women's Self-Help Groups in Durg and Rajnandgaon Districts

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Introduction

Women's Self-Help Groups (SHGs) have emerged as a transformative instrument for women's socio-economic empowerment across India. Mission Shakti, launched by the Government of India, aims to enhance financial inclusion, livelihood opportunities, and social leadership among women. In the districts of Durg and Rajnandgaon in Chhattisgarh, SHGs have played an essential role in improving household income, developing entrepreneurial skills, and strengthening women's decision-making capacities. This study evaluates the socio-economic outcomes of Mission Shakti with a specific focus on SHG participation, financial access, livelihood improvements, and social empowerment.

Conceptual Background

Mission Shakti integrates financial linkages, capacity-building programs, and livelihood missions to uplift women, primarily in rural areas. The theoretical framework of the study is grounded in:

- **Women Empowerment Theory** – emphasizes the enhancement of women's capabilities, autonomy, and freedom of choice.
- **Social Capital Theory** – SHGs create collective identity, mutual trust, and cooperation, fostering economic opportunities.
- **Sustainable Livelihood Approach** – focuses on enhancing human, social, physical, and financial capital to ensure long-term resilience.

Need and Significance of the Study

- To assess the effectiveness of Mission Shakti in strengthening SHG-based economic activities.
- To understand socio-economic transformations in the lives of rural women in Durg and Rajnandgaon.
- To analyze the extent of financial inclusion and entrepreneurship development.
- To provide policy insights for improving SHG functioning and sustainability.

Statement of the Problem

Although SHGs have contributed significantly to women's development, disparities remain in access to credit, marketing support, capacity building, and sustainability of economic activities. This study investigates whether Mission Shakti interventions have adequately addressed these issues and how effectively they have impacted the socio-economic lives of women in Durg and Rajnandgaon.

Operational Definitions

- **Mission Shakti:** A government initiative for women's empowerment encompassing SHG promotion, financial inclusion, and livelihood development.
- **Self-Help Groups (SHGs):** Voluntary groups of 10–20 women who save, lend, and engage in income-generating activities collectively.
- **Socio-Economic Empowerment:** Improvement in financial independence, livelihood security,

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mobility, decision-making, skills, and social participation.

Variables

- Independent Variable: Participation in SHGs under Mission Shakti.
- Dependent Variables: Income levels, livelihood opportunities, financial literacy, decision-making power, social mobility.

Objectives of the Study

1. To analyze the functioning and effectiveness of SHGs under Mission Shakti in Durg and Rajnandgaon.
2. To examine the socio-economic changes among SHG women members.
3. To evaluate the role of SHG activities in enhancing financial inclusion and livelihood security.
4. To study challenges faced by SHG members in utilizing Mission Shakti benefits.

Research Questions

1. How effective are SHGs under Mission Shakti in promoting women's economic empowerment?
2. What socio-economic improvements have occurred among SHG members?
3. How has SHG participation influenced women's financial literacy and decision-making?
4. What constraints hinder SHG functioning in selected districts?

Delimitation of the Study

- The study is limited to SHGs functioning under Mission Shakti in Durg and Rajnandgaon.
- Only women SHG members are included.
- Data is limited to selected blocks and villages.

Review of Literature

- Rao & Sinha (2020)- Found that SHGs significantly increased income-generating activities in rural households, especially through microfinance.
- Mishra (2021)- Highlighted improvements in decision-making and mobility among SHG women due to enhanced financial literacy.
- Joseph & Xavier (2022)- Reported that government schemes such as Mission Shakti improved entrepreneurship but identified marketing challenges.
- Banerjee (2023)- Emphasized the role of training and skill development programs in improving livelihood sustainability.
- Verma & Patel (2024)- Found that collective savings and internal loaning strengthened social capital and reduced dependency on private moneylenders.

Research Gap

Although several studies exist on SHGs and microfinance, limited research has focused on evaluating Mission Shakti's district-level impact in Chhattisgarh, particularly in Durg and Rajnandgaon. This study fills this gap by using a socio-economic assessment framework.

Research Methodology

- Research Design: Descriptive and analytical.
- Population: All SHG women enrolled under Mission Shakti in Durg and Rajnandgaon.
- Sample Size: 300 SHG members.
- Sampling Technique: Multistage random sampling.
- Sources of Data: Primary (questionnaire, interviews) and secondary (official records, reports).

Research Tools

- Structured questionnaire.
- Interview schedule.

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- Socio-economic status scale.
- Financial literacy assessment tool.

Data Collection Procedure

Data is collected through field visits, interactions, focus group discussions, and official Mission Shakti documentation.

Statistical Analysis

- Percentage and frequency distribution.
- Mean and standard deviation.
- Chi-square test.
- Correlation and regression to measure socio-economic impact.

Interpretation and Findings

- Increase in income and savings practices among SHG members.
- Improvement in mobility, decision-making, and social participation.
- Enhanced access to bank credit and financial services.
- Growth in micro-enterprises and livelihood activities.
- Persisiting challenges: marketing, digital literacy, loan repayment stress.

Conclusion and Recommendations

Mission Shakti has played an important role in socio-economic empowerment, but improvements are required in training, marketing linkages, digital literacy, and credit utilization. Strengthening mentoring and cluster-level federations will enhance long-term sustainability.

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शासकीय विद्यालयों में आईसीटी (ICT) को अपनाना: शिक्षकों की इच्छा को प्रभावित करने वाले निर्धारक तत्व और ग्रामीण जिलों में क्रियान्वयन की बाधाएँ

शैलिका वर्मा

सहायक प्राध्यापक (शिक्षा विभाग)

कृति स्कूल ऑफ बिजनेस मैनेजमेंट नरदहा, रायपुर, छत्तीसगढ़

परिचय

सूचना एवं संचार प्रौद्योगिकी (ICT) आधुनिक शिक्षा व्यवस्था का एक अनिवार्य अंग बन चुकी है। डिजिटल कंटेंट, स्मार्ट क्लासरूम, ऑनलाइन संसाधन, ई-लर्निंग, और कंप्यूटर आधारित शिक्षण पद्धतियाँ शिक्षण–अधिगम प्रक्रिया को सुदृढ़ करती हैं। भारत में शिक्षा के डिजिटलीकरण हेतु अनेक योजनाएँ लागू की गई हैं, परंतु ग्रामीण क्षेत्रों के शासकीय विद्यालयों में ICT का प्रभावी उपयोग अब भी एक चुनौती बनी हुई है। शिक्षकों की ICT को अपनाने की इच्छा, अनेक सामाजिक–तकनीकी निर्धारक तत्वों पर निर्भर करती है। साथ ही, ग्रामीण जिलों में बुनियादी संरचना, प्रशिक्षण, संसाधन, और तकनीकी समर्थन की कमी ICT क्रियान्वयन में बाधा उत्पन्न करती है। प्रस्तुत अध्ययन का उद्देश्य ICT अपनाने को प्रभावित करने वाले कारकों और ग्रामीण क्रियान्वयन बाधाओं का विश्लेषण करना है।

अध्ययन की सैद्धांतिक पृष्ठभूमि

(i) टेक्नोलॉजी एक्सेप्टेंस मॉडल (TAM)

Davis द्वारा विकसित यह मॉडल बताता है कि किसी शिक्षक द्वारा ICT अपनाने की इच्छा दो प्रमुख तत्वों पर निर्भर करती है:

- **Perceived Usefulness (उपयोगिता का अनुभव)**
- **Perceived Ease of Use (उपयोग में सरलता का अनुभव)**

(ii) Unified Theory of Acceptance and Use of Technology (UTAUT)

यह सिद्धांत ICT उपयोग पर प्रभाव डालने वाले चार मुख्य तत्वों की पहचान करता है:

- प्रदर्शन की अपेक्षा
- प्रयास की अपेक्षा
- सामाजिक प्रभाव
- सुगम परिस्थितियाँ

(iii) परिवर्तन प्रबंधन सिद्धांत

यह बताता है कि तकनीकी परिवर्तन केवल उपकरणों के माध्यम से नहीं, बल्कि प्रशिक्षण, मनोवैज्ञानिक तैयारी और संस्थागत संस्कृति के साथ ही सफल होता है।

अध्ययन का महत्व

1. शासकीय विद्यालयों में ICT अपनाने की वास्तविक स्थिति स्पष्ट करना।
2. शिक्षकों की ICT उपयोग में रुचि को प्रभावित करने वाले कारकों की पहचान करना।

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3. ग्रामीण जिलों में ICT क्रियान्वयन की प्रमुख बाधाओं का विश्लेषण करना।
4. नीति-निर्माताओं, शिक्षा विभाग, और स्कूल प्रशासन के लिए उपयोगी सुझाव प्रदान करना।

समस्या का विवरण

ग्रामीण जिलों के अधिकांश शासकीय विद्यालयों में ICT अधोसंरचना उपलब्ध होने के बाद भी शिक्षकों द्वारा पर्याप्त उपयोग नहीं किया जा रहा है। इसके कारणों, बाधाओं और शिक्षकों की ICT अपनाने की इच्छा को प्रभावित करने वाले व्यक्तिगत, सामाजिक और तकनीकी तत्वों का विश्लेषण आवश्यक है।

प्रमुख शब्दों की परिचालन परिभाषा

- **ICT अपनाना:** शिक्षकों द्वारा शिक्षण कार्य में डिजिटल उपकरणों, सॉफ्टवेयर, ऑनलाइन माध्यमों और प्रौद्योगिकी का उपयोग।
- **शिक्षक की इच्छा:** शिक्षक की ICT उपयोग को लेकर सकारात्मक/नकारात्मक मानसिक प्रवृत्ति।
- **क्रियान्वयन बाधाएँ:** ICT उपयोग को प्रभावित करने वाली संरचनात्मक, तकनीकी, प्रशिक्षकीय और प्रशासनिक समस्याएँ।
- **ग्रामीण जिला:** राज्य के वे जिले जहाँ विद्यालय ग्रामीण व अर्ध-ग्रामीण क्षेत्रों में स्थित हैं।

चर

- स्वतंत्र चर: ICT उपयोगिता की धारणा, ICT उपयोग की सरलता, प्रशिक्षण उपलब्धता, तकनीकी संसाधन, प्रशासनिक समर्थन, सामाजिक–सांस्कृतिक कारक
- आश्रित चर: शिक्षक की ICT अपनाने की इच्छा, ICT आधारित शिक्षण का वास्तविक उपयोग

अध्ययन के उद्देश्य

1. शिक्षकों द्वारा ICT को अपनाने की इच्छा का अध्ययन करना।
2. ICT अपनाने को प्रभावित करने वाले निर्धारक तत्वों की पहचान करना।
3. ग्रामीण जिलों में ICT क्रियान्वयन की प्रमुख बाधाओं का विश्लेषण करना।
4. ICT उपयोग को बढ़ाने हेतु सुझाव प्रस्तुत करना।

शोध प्रश्न

1. शिक्षक किस हद तक ICT को अपनाना चाहते हैं?
2. ICT अपनाने को प्रभावित करने वाले प्रमुख निर्धारक तत्व कौन से हैं?
3. ग्रामीण जिलों में ICT क्रियान्वयन की मुख्य बाधाएँ क्या हैं?
4. ICT उपयोग बढ़ाने के लिए किन रणनीतियों की आवश्यकता है?

समस्या का क्षेत्र

अध्ययन केवल ग्रामीण जिलों के शासकीय विद्यालयों में कार्यरत शिक्षकों पर केंद्रित है। अध्ययन ICT सपोर्ट सिस्टम तक सीमित है, न कि अन्य डिजिटल नीतियों तक।

सीमाएँ

- अध्ययन केवल चयनित जिलों तक सीमित।
- आत्म-रिपोर्ट आधारित प्रतिक्रियाओं पर निर्भर।
- उच्च तकनीकी विवरणों का विश्लेषण शामिल नहीं।

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शोध अंतराल

ICT अपनाने पर अधिकांश अध्ययन शहरी या मिश्रित क्षेत्रों में केंद्रित रहे हैं। ग्रामीण जिलों में शिक्षकों की इच्छा और वास्तविक बाधाओं के सम्मिलित विश्लेषण पर शोध सीमित है। यह अध्ययन इस अंतराल को भरता है।

शोध पद्धति

- शोध डिज़ाइन: वर्णनात्मक + विश्लेषणात्मक
- जनसंख्या: ग्रामीण जिलों के शासकीय विद्यालयों के शिक्षक
- न्यादर्श: 250 शिक्षक
- न्यादर्श विधि: स्तरीकृत यादृच्छिक नमूनाकरण
- आंकड़ों के स्रोत: प्राथमिक (प्रश्नावली/साक्षात्कार), द्वितीयक (सरकारी रिपोर्ट/नीतियाँ)

शोध उपकरण

- ICT उपयोग इच्छा स्केल
- शिक्षक ICT दक्षता स्केल
- ICT क्रियान्वयन बाधा सूचकांक

आंकड़ों का संग्रहण

विद्यालय भ्रमण, शिक्षक साक्षात्कार, फोकस समूह चर्चा, और प्रश्नावली के माध्यम से डेटा संग्रह।

सांख्यिकीय विश्लेषण

- प्रतिशत, औसत
- पीयरसन सहसंबंध
- प्रतिगमन विश्लेषण

परिणाम व व्याख्या

- शिक्षकों में ICT अपनाने की इच्छा मध्यम से अधिक पाई गई।
- उपयोगिता की धारणा और प्रशिक्षण उपलब्धता का ICT अपनाने से उच्च सहसंबंध।
- ग्रामीण विद्यालयों में विद्युत आपूर्ति, इंटरनेट कनेक्टिविटी, उपकरणों की कमी प्रमुख बाधाएँ।

निष्कर्ष

ICT अपनाने की इच्छा मौजूद है, परंतु ग्रामीण विद्यालयों की संरचनात्मक और तकनीकी सीमाएँ इसका प्रभावी क्रियान्वयन बाधित करती हैं।

सुझाव

- नियमित ICT प्रशिक्षण
- बेहतर इंटरनेट और डिजिटल संसाधन
- प्रशासनिक समर्थन और प्रेरणा
- डिजिटल सामग्री की स्थानीय भाषा में उपलब्धता

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Effect of Teacher Emotional Intelligence on Classroom Management

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Introduction

Emotional Intelligence (EI) has emerged as a vital component of effective teaching and learning. Teachers who demonstrate high EI are better equipped to understand students' emotions, regulate their own responses, and create positive learning environments. Classroom management is not limited to maintaining discipline; it encompasses creating a climate that fosters engagement, cooperation, and active learning. This study explores how teacher EI influences classroom management practices and overall classroom climate.

Conceptual Background

Emotional Intelligence (Goleman, 1995)

EI refers to the ability to perceive, understand, manage, and utilize emotions constructively. It includes:

- Self-awareness
- Self-regulation
- Motivation
- Empathy
- Social skills

Classroom Management

Classroom management involves strategies used to maintain an organized, productive, and conducive learning environment. Key aspects include:

- Behaviour management
- Instructional management
- Relationship management
- Classroom organization

Theoretical Link

Teachers with high EI are believed to implement better conflict resolution, show empathy, communicate effectively, and reduce disruptive behaviour, resulting in more successful classroom management.

Need and Significance of the Study

- EI helps teachers identify students' emotional needs and respond appropriately.
- It promotes a positive learning climate and reduces behavioural issues.
- It enhances student–teacher relationships, which is vital for effective classroom engagement.
- Findings could support teacher training programs to integrate EI-focused modules.

Statement of the Problem

Many teachers struggle with maintaining discipline, managing diverse emotional needs, and creating a positive learning environment. Limited research has explored how EI skills contribute to effective classroom management. This study addresses this gap by examining the relationship between teacher EI and classroom management practices.

Operational Definitions

- **Teacher Emotional Intelligence:** Teacher's ability to perceive, understand, and regulate emotions in self and others.
- **Classroom Management:** Set of actions taken by teachers to organize the environment, maintain discipline, build relationships, and facilitate learning.

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Variables

- Independent Variable: Teacher Emotional Intelligence
- Dependent Variable: Classroom Management Effectiveness

Objectives of the Study

1. To assess the level of EI among teachers.
2. To study the classroom management strategies used by teachers.
3. To analyze the relationship between EI and classroom management.
4. To identify EI components that significantly influence classroom management.

Research Questions

1. What is the EI level of teachers?
2. What classroom management practices do they follow?
3. Is there a significant relationship between EI and classroom management?
4. Which EI dimensions contribute most to effective classroom management?

Scope of the Study

The study is limited to teachers of selected schools and focuses only on teacher EI and classroom management practices, excluding other psychological or institutional factors.

Delimitations

- Study includes only school teachers.
- Self-reported questionnaires may influence accuracy.
- Classroom observations are limited.

Review of Literature

- Goleman (1998)- Found that emotionally intelligent individuals exhibit better control over stress and interpersonal relationships.
- Jennings & Greenberg (2009)- Reported that teacher EI significantly improves classroom climate, reduces conflict, and enhances student engagement.
- Corcoran & Tormey (2012)- Highlighted that EI training for teachers improves their instructional management effectiveness.
- Brackett & Katulak (2016)- Showed that EI contributes to lower teacher burnout and better emotional climate in classrooms.
- Agarwal (2020)- Indian study demonstrating that teachers with high EI use more effective behaviour management strategies.

Research Gap

Previous studies highlight a general relationship between EI and teaching effectiveness, but fewer emphasize direct links between EI and classroom management. Limited contextual studies in Indian school settings also indicate a research gap.

Research Methodology

- Research Design: Descriptive and correlational
- Population: School teachers
- Sample: 200 teachers
- Sampling Technique: Random sampling
- Data Sources: Primary (questionnaire), secondary (previous studies)

Research Tools

- Emotional Intelligence Scale
- Classroom Management Assessment Tool

Data Collection Procedure

Data collected through school visits, structured questionnaires, and limited classroom observations.

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Statistical Analysis

- Mean, standard deviation
- Pearson correlation
- Regression analysis for EI component prediction

Findings

- Teachers demonstrate moderate to high EI.
- EI dimensions such as empathy and self-regulation strongly influence classroom management.
- Higher EI correlates with fewer disruptive behaviours and improved instructional management.

Conclusion

Teacher EI plays an essential role in creating positive classroom environments. Teachers with high EI manage behaviour more effectively, build stronger student relationships, and create a more engaging learning experience.

Recommendations

- Integrate EI training into teacher education programs.
- Provide workshops on stress management and communication skills.
- Promote reflective practices and peer mentoring.
- Encourage socio-emotional learning in classrooms.

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Integration of TPACK Framework and Digital Competence in Enhancing Teaching Readiness among Pre-Service Teachers in Raipur District

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Introduction

The rapid expansion of digital technologies has transformed pedagogical practices across global education systems. Contemporary classrooms increasingly require teachers to demonstrate not only disciplinary expertise but also the ability to meaningfully integrate technology into instruction. In this context, the Technological Pedagogical and Content Knowledge (TPACK) framework and digital competence have emerged as essential determinants of teacher effectiveness, especially for pre-service teachers preparing for their professional careers. This study examines how the integration of TPACK and digital competence contributes to teaching readiness among pre-service teachers in the Raipur district of Chhattisgarh, India.

Theoretical Background

TPACK Framework

Proposed by Mishra and Koehler (2006), the TPACK framework posits that effective technology integration occurs at the intersection of three knowledge domains:

- **Content Knowledge (CK)**
- **Pedagogical Knowledge (PK)**
- **Technological Knowledge (TK)**

The framework advocates that teachers must possess an integrated understanding of how subject matter, pedagogy, and technology function synergistically to enhance the teaching–learning process.

Digital Competence

Digital competence refers to the ability to use digital tools effectively, creatively, ethically, and safely. It encompasses information literacy, digital communication, content creation, problem-solving, and digital safety (Redecker, 2017). For pre-service teachers, digital competence is foundational for designing technology-enhanced learning environments.

Teaching Readiness

Teaching readiness is conceptualized as the extent to which pre-service teachers feel competent, confident, and prepared to engage in instructional planning, delivery, and classroom interaction. It includes pedagogical preparedness, technology-enhanced instructional skills, and professional disposition.

Significance of the Study

The study holds contemporary relevance for the following reasons:

- It provides empirical insights into the technological preparedness of pre-service teachers in the Raipur district.
- It highlights the need to strengthen ICT-embedded teacher education curricula.
- It provides evidence for policymakers and teacher-educators to redesign training programs incorporating TPACK and digital competence.
- It contributes to the limited body of research focusing on the Indian regional context, particularly in teacher training institutions.

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Statement of the Problem

Despite the increasing emphasis on technology-supported pedagogy, evidence suggests that many pre-service teachers in Raipur district possess limited exposure to the integrated application of TPACK and digital competence. This inadequacy often results in insufficient teaching readiness and a lack of confidence in implementing technology-mediated instruction. The present study investigates how TPACK and digital competence influence teaching readiness.

Operational Definitions

- **TPACK:** The composite score reflecting a pre-service teacher's integrated knowledge of technology, pedagogy, and content.
- **Digital Competence:** The level of proficiency in using digital tools ethically, creatively, and effectively for educational purposes.
- **Teaching Readiness:** The self-perceived preparedness for instructional planning, classroom management, technology integration, and teaching performance.
- **Pre-Service Teachers:** Students enrolled in D.El.Ed. or B.Ed. programs preparing for the teaching profession.

Variables

- Independent Variables- TPACK competency, Digital competence level
- Dependent Variable- Teaching readiness

Objectives of the Study

1. To assess the TPACK levels of pre-service teachers in Raipur district.
2. To evaluate their digital competence.
3. To determine the influence of TPACK and digital competence on teaching readiness.
4. To examine group differences (gender, program type, institution type) in TPACK and digital competence.

Research Questions

1. What are the prevailing TPACK competency levels among pre-service teachers?
2. To what extent does digital competence affect teaching readiness?
3. Is there a statistically significant relationship between TPACK and teaching readiness?
4. Do demographic variables significantly differentiate levels of TPACK and digital competence?

Scope of the Study

The study focuses exclusively on pre-service teachers enrolled in selected B.Ed. and D.El.Ed. institutions in Raipur district and examines only TPACK, digital competence, and teaching readiness.

Delimitations

- Restricted to a limited number of teacher training institutions.
- Relies on self-reported questionnaire data, which may introduce response bias.
- The assessment of TPACK and digital competence is based on standardized measurement scales.

Review of Related Literature

- Mishra & Koehler (2006)- Established TPACK as a robust theoretical model for understanding technology integration and emphasized its role in enhancing instructional quality.
- Chai, Koh & Tsai (2013)- Found that structured TPACK training significantly improves pre-service teachers' ability to apply digital tools within pedagogical contexts.
- Redecker (2017)- Described digital competence as an indispensable 21st-century teaching requirement, highlighting its relevance for sustainable educational innovation.

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- Janssen et al. (2019)- Discovered a positive correlation between digital competence and teaching effectiveness among beginning teachers.
- Singh & Kaur (2022)- Reported disparities in ICT utilization among Indian pre-service teachers, suggesting gaps in digital infrastructure and training.

Research Gap

Although global research has explored TPACK and digital competence independently, limited empirical studies have examined their combined influence on teaching readiness within the Indian context. Research focusing specifically on pre-service teachers in Raipur district remains scarce, indicating a need for localized inquiry.

Research Methodology

- Research Design- Descriptive and correlational survey-based design.
- Population- All pre-service teachers enrolled in B.Ed. and D.El.Ed. colleges in Raipur district.
- Sample- A sample of 200 pre-service teachers selected through convenient or simple random sampling.
- Sampling Technique- Convenience sampling or simple random sampling.
- Sources of Data- Primary data collected through structured questionnaires.

Research Instruments

- TPACK Competency Scale (adapted version)
- Digital Competence Assessment Scale
- Teaching Readiness Inventory

Data Collection Procedure

Data is collected through institutional permissions, direct administration of questionnaires, and online forms (e.g., Google Forms) where applicable.

Statistical Techniques

- Descriptive statistics: Mean, Standard Deviation
- Inferential statistics: t-test, ANOVA
- Correlation analysis
- Multiple regression to examine predictive influence of TPACK and digital competence on teaching readiness

Major Findings

- Higher TPACK scores are likely to significantly predict better teaching readiness.
- Digital competence may emerge as a strong determinant of instructional preparedness and confidence.
- Differences may be observed based on gender, program type, and prior technological exposure.

Summary, Conclusions, and Recommendations

The study concludes that the integration of TPACK and digital competence is crucial for fostering teaching readiness among pre-service teachers. To enhance teacher preparation programs, the following recommendations are proposed:

- Incorporation of TPACK-based modules in teacher education curricula.
- Establishment of digital learning labs for hands-on ICT practice.
- Mandatory training on digital ethics, safety, and content creation.
- Use of micro-teaching sessions embedded with technology-enhanced pedagogies.
- Continuous professional development opportunities for teacher educators.

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Impact of AI-Powered Learning Platforms on Academic Achievement of Secondary School Students in Pune

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Introduction

Artificial Intelligence (AI) has emerged as a transformative force in modern education, offering personalized learning pathways, adaptive assessments, and data-driven instructional support. AI-powered learning platforms such as intelligent tutoring systems, recommendation-based learning apps, and automated feedback systems are increasingly being integrated into school-level instruction in India. Pune, as an educational and technological hub, has witnessed widespread adoption of such platforms in secondary schools. This study investigates the impact of AI-enabled learning systems on the academic achievement of secondary school students in Pune.

Theoretical Background

Artificial Intelligence in Education (AIED)- AIED frameworks emphasize individualized learning, real-time analytics, and automated pedagogical decisions. AI systems can analyze student performance, detect patterns in learning behaviour, and provide tailored interventions.

- Constructivist Learning Theory- AI platforms often support constructivist learning by enabling exploratory, self-paced, interactive learning environments.
- Adaptive Learning Models- AI-driven adaptivity allows dynamic modification of content difficulty, ensuring alignment with students' cognitive levels, leading to optimized academic outcomes.

Significance of the Study

- Provides empirical evidence on the effectiveness of AI tools in enhancing student achievement.
- Supports school administrators and policymakers in making informed decisions on EdTech investments.
- Assesses whether AI serves as a supplement or a significant enhancer to traditional teaching.
- Contributes contemporary data from an Indian metropolitan educational context.

Statement of the Problem

Despite extensive adoption of AI-based learning tools in Pune's secondary schools, there is insufficient systematic evidence on whether these platforms meaningfully improve academic achievement. This study examines whether AI-powered systems lead to measurable academic gains when compared to traditional instruction alone.

Operational Definitions

- **AI-Powered Learning Platforms:** Digital systems that use algorithms to personalize learning, provide adaptive feedback, and automate content delivery (e.g., BYJU'S AI modules, Khanmigo, Embibe, Knewton).
- **Academic Achievement:** The performance scores of students in standardized tests, term assessments, or subject-specific evaluations.
- **Secondary School Students:** Learners enrolled in Grades 9 and 10 in Pune district schools.

Variables

- Independent Variable- Use of AI-powered learning platforms

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- Dependent Variable- Academic achievement scores of students

Objectives of the Study

1. To assess the level of AI-platform usage among secondary school students in Pune.
2. To evaluate differences in academic achievement between users and non-users of AI platforms.
3. To analyze the relationship between AI-based learning engagement and academic outcomes.
4. To determine predictive variables within AI usage patterns affecting academic achievement.

Research Questions

1. What is the extent of AI platform utilization among secondary school students?
2. Does the use of AI-powered learning tools significantly affect academic achievement?
3. What is the strength of the relationship between AI engagement and performance scores?
4. Which AI engagement factors (frequency, duration, content type) predict academic outcomes?

Scope of the Study

The study includes both private and government secondary schools in Pune district and focuses solely on AI-driven digital learning tools.

Delimitations

- The study excludes non-AI digital learning tools (e.g., simple LMS, video lectures without AI adaptivity).
- Academic achievement is measured using school-provided assessment scores.
- The study relies on self-reported and teacher-reported data on platform usage.

Review of Related Literature

- Woolf et al. (2013)- Showed that intelligent tutoring systems significantly improve learning efficiency through personalised feedback.
- Knewton Research Lab (2016)- Found that AI adaptive learning environments lead to higher student retention and achievement.
- Holmes & Porayska-Pomsta (2018)- Reported that AI-based assessment tools improve learning analytics and support differentiated instruction.
- Luckin et al. (2020)- Highlighted the potential of AI in addressing individual learning gaps in school-level education.
- Nair & Menon (2022)- Indian study showing increased academic performance among students regularly using AI-driven learning apps.

Research Gap

Studies in Western contexts are abundant; however, limited empirical research exists on the impact of AI tools in Indian secondary schools. Particularly in urban centers such as Pune, the differential impact of AI engagement has not been fully examined.

Research Methodology

- Research Design- Descriptive, comparative, and correlational research design.
- Population- Secondary school students (Grades 9–10) in Pune district.
- Sample- 300 students selected from eight schools (both private and government).
- Sampling Technique- Stratified random sampling based on school type and gender.
- Data Sources
  - Primary data: Structured questionnaires, school records

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- Secondary data: Platform analytics, previous research studies

Research Instruments

1. AI Learning Engagement Scale (developed for the study)
2. Academic Achievement Test Scores (school records)
3. Student Digital Habits Questionnaire

Data Collection Procedure

Data collected through institutional permissions, student questionnaires, teacher interviews, and review of performance records.

Statistical Techniques

- Descriptive statistics (mean, SD)
- Independent sample t-test (AI users vs. non-users)
- Pearson correlation (AI engagement & achievement)
- Multiple regression analysis
- ANOVA for comparing schools and gender groups

Findings

- Students using AI-powered platforms will demonstrate statistically higher academic scores.
- Strong positive correlations are expected between AI engagement intensity and achievement.
- Predictors such as frequency of use, adaptive feedback utilization, and completion of AI-recommended tasks may significantly forecast academic gains.
- Achievement differences may vary by school type and socio-economic background.

Summary, Conclusions & Recommendations

The study suggests that AI-powered learning platforms play a significant role in enhancing students' academic achievement by offering personalized learning experiences and continuous feedback.

Recommendations include:

- Integrating AI tools into regular pedagogy as supplementary learning aids.
- Training teachers to interpret AI-based analytics.
- Ensuring equitable access to AI platforms for government school students.
- Encouraging parents to support structured AI-based home learning.

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Understanding Teachers' Media Pedagogy: A Study of Technological Readiness and Attitudinal Barriers in Rural Classrooms

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Introduction

The rapid expansion of digital technologies has reshaped contemporary teaching-learning processes, demanding teachers to integrate media pedagogy effectively within classroom instruction. While urban educational settings often show significant adoption of ICT tools, rural classrooms continue to face multiple barriers. Teachers' technological readiness and their attitudinal orientation toward media-based pedagogy significantly determine whether digital tools can enhance learning outcomes. This study seeks to analyse these determinants within rural districts, identifying the extent to which readiness and attitudinal barriers influence media pedagogy practices.

Theoretical Background

Media pedagogy draws from theories such as Technological Pedagogical Content Knowledge (TPACK), the Theory of Planned Behavior, and the Technology Acceptance Model (TAM). Together, these frameworks explain how teachers' technological competence, perceived usefulness, perceived ease of use, and attitudinal dispositions shape the integration of media in instructional settings.

Significance of the Study

The study holds relevance for policymakers, teacher educators, and curriculum planners. Understanding rural teachers' technological readiness and attitudinal barriers can support the design of capacity-building programs, digital infrastructure planning, and media-integrated pedagogy frameworks. The findings will enable targeted interventions aimed at bridging the rural-urban digital divide.

Statement of the Problem

Despite national initiatives promoting ICT-enhanced teaching, rural teachers frequently struggle to adopt media pedagogy. Limited digital skills, infrastructural shortcomings, and negative or apprehensive attitudes hinder effective implementation. Therefore, the study investigates key determinants influencing teachers' media pedagogy, focusing on technological readiness and attitudinal barriers.

Operational Definitions of Key Terms

- **Media Pedagogy:** Instructional approaches that incorporate digital, audiovisual, and multimedia tools to facilitate learning.
- **Technological Readiness:** The extent to which teachers possess the skills, confidence, and resources to use technology for instructional purposes.
- **Attitudinal Barriers:** Psychological, affective, and belief-based factors that obstruct teachers from adopting technology.
- **Rural Classrooms:** Schools located in geographically rural or semi-rural areas with limited technological infrastructure.

Variables of the Study

- Independent Variables- Technological readiness, Attitudinal barriers
- Dependent Variable- Teachers' media pedagogy adoption

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Objectives of the Study

1. To assess the level of technological readiness among rural teachers.
2. To examine attitudinal barriers that affect the adoption of media pedagogy.
3. To determine the relationship between technological readiness and media pedagogy adoption.
4. To explore the predictive value of attitudinal barriers on teachers' media pedagogy behaviour.

Research Questions

1. What is the current level of technological readiness among teachers in rural classrooms?
2. What attitudinal barriers hinder teachers from adopting media-based pedagogy?
3. How does technological readiness influence media pedagogy adoption?
4. To what extent do attitudinal factors predict actual usage of media pedagogy?

Scope of the Study

The study focuses on government and aided rural schools, examining teachers across various subject domains. It covers technological readiness, attitudes, and pedagogical adaptation patterns.

Delimitations of the Study

- The study is limited to rural schools only.
- Only teachers currently in service are included.
- Media pedagogy is studied exclusively through technological and attitudinal determinants.

Review of Related Literature

1. **Johnson & Kumar (2020)** found that teachers' digital literacy significantly shapes their willingness to integrate media resources. Rural teachers lag due to inadequate ICT exposure.
2. **Banerjee (2019)** showed that media pedagogy adoption is correlated with institutional support and personal confidence in technology.
3. **Rahman & Singh (2021)** emphasised attitudinal barriers, such as anxiety and resistance to change, as key impediments in low-resource schools.
4. **Mukherjee (2022)** demonstrated that teachers' training positively influences their perceived usefulness of digital tools.
5. **Thomas (2018)** argued that infrastructural constraints create substantial disparities between rural and urban technology adoption.

Research Gap

While prior studies have explored ICT adoption in general, few have specifically analysed the interplay between **technological readiness, attitudinal barriers,** and **media pedagogy** within rural contexts. This study addresses this gap through an integrative, determinant-based approach.

Research Methodology

- Research Design- A descriptive, correlational research design is used to examine relationships between variables.
- Population- All teachers working in rural secondary schools of the selected district(s).
- Sample- A sample of approximately 200 teachers representing different subject areas.
- Sampling Technique- Stratified random sampling based on school type, teaching experience, and subject stream.
- Sources of Data
  - Primary data: Survey questionnaire
  - Secondary data: Reports, policy documents, academic studies

Research Tools

- Technological Readiness Scale (self-constructed)

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- Attitudinal Barrier Inventory
- Media Pedagogy Adoption Scale Each instrument will be validated through expert review and pilot testing.

Data Collection Procedure

Data will be collected through offline and online survey modes, maintaining confidentiality and voluntary participation.

Statistical Techniques

- Descriptive statistics (mean, SD)
- Correlation analysis
- Regression analysis to determine predictive relationships

Tabulation and Interpretation

Data will be systematically tabulated in frequency tables, cross-tabulations, and comparative charts to interpret trends.

Testing of Hypotheses

Hypotheses regarding the relationship and predictive power of technological readiness and attitudinal barriers will be tested using correlation and regression statistics.

Findings

- Technological readiness is expected to be moderate to low among rural teachers.
- Attitudinal barriers, especially anxiety and low confidence, significantly hinder adoption.
- Both technological readiness and attitudes are likely strong predictors of media pedagogy usage.

Summary, Conclusion, and Recommendations

The study concludes that enhancing digital competence and reducing attitudinal barriers are essential for strengthening media pedagogy in rural classrooms. Recommendations include digital training workshops, peer-learning models, infrastructure enhancement, and supportive administrative policies.

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Breaking the Glass Ceiling: Socio-Psychological Barriers and Motivational Factors Influencing Women's Career Progression in Education and Service Sectors of Chhattisgarh

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Introduction

Women's participation in the workforce has increased significantly, yet their upward mobility remains restricted by structural, social, and psychological barriers. The phenomenon known as the glass ceiling—an invisible barrier preventing women from reaching leadership and decision-making positions—remains prevalent across sectors. This study examines socio-psychological barriers and motivational determinants shaping women's career progression in the education and service sectors of Chhattisgarh.

Theoretical Background

This study draws upon:

- **Gender Socialization Theory**, which explains how societal norms influence women's professional aspirations.
- **Human Capital Theory**, highlighting disparities in education, experience, and training.
- **Social Role Theory**, emphasising gendered expectations regarding domestic responsibilities.
- **Motivation Theories** such as Self-Determination Theory and Expectancy–Value Theory to understand internal motivation.

Significance of the Study

The study is significant for policymakers, human resource managers, gender researchers, and educational institutions. Its findings will inform strategic interventions to promote equitable career growth, enhance leadership representation, and dismantle deep-rooted biases in organizational structures.

Statement of the Problem

Despite increased educational attainment and professional engagement, women in Chhattisgarh face persistent barriers to vertical mobility. These barriers are deeply rooted in socio-cultural norms, workplace biases, and internal psychological constraints. The study seeks to identify and analyse these determinants.

Operational Definitions

- **Glass Ceiling:** Systemic, invisible barriers limiting women's upward professional mobility.
- **Socio-Psychological Barriers:** Internal and external constraints including gender bias, stereotype threat, low confidence, workplace discrimination, and societal expectations.
- **Motivational Factors:** Internal drives and external incentives influencing women's willingness to progress in their careers.
- **Career Progression:** Advancement in roles, responsibilities, and leadership within organizational structures.

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Variables of the Study

- Independent Variables- Socio-psychological barriers, Motivational factors (intrinsic and extrinsic)
- Dependent Variable- Women's career progression

Objectives of the Study

1. To identify socio-psychological barriers affecting women's career advancement.
2. To analyse motivational factors influencing women's professional aspirations.
3. To compare the nature of these factors across education and service sectors.
4. To examine the relationship between motivational factors and career progression.
5. To propose strategies for enabling women's leadership growth.

Research Questions

1. What socio-psychological barriers restrict women's career progression?
2. How do motivational factors impact women's career aspirations?
3. Are there sector-wise differences in barriers and motivation between education and service sectors?
4. What is the relationship between socio-psychological barriers and career advancement?
5. Which motivational factors significantly predict upward mobility?

Scope of the Study

The study covers working women in the education and service sectors across selected districts of Chhattisgarh. It examines professional, social, and psychological dimensions of their career trajectories.

Delimitations

- Limited to women employed in formal organizations.
- Focuses only on education and service sectors.
- Excludes unorganized sector workers.

Review of Related Literature

1. **Sharma & Patel (2018)** found that workplace bias and lack of mentoring significantly restrict women's leadership roles.
2. **Kalyan (2020)** highlighted that internal barriers such as low self-efficacy and stereotype threat shape women's decisions about advancement.
3. **D'Costa (2019)** reported that supportive policies and career motivation enhance women's achievement in the service sector.
4. **Thomas & Reddy (2021)** emphasised that dual responsibilities—professional and domestic—create burnout, limiting upward mobility.
5. **Gupta (2022)** demonstrated that intrinsic motivation and institutional support positively correlate with leadership aspirations.

Research Gap

Existing studies focus on gender inequality at national or sectoral levels, with limited emphasis on socio-psychological determinants in the specific context of Chhattisgarh. There is also a lack of comparative studies between the education and service sectors.

Research Methodology

- Research Design- Descriptive and correlational survey design.
- Population- All employed women in education and service sectors in selected districts.
- Sample- Sample of 250 women (125 from each sector).
- Sampling Technique- Purposive and stratified random sampling.

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Data Sources

- Primary: Standardised questionnaires and interviews
- Secondary: Research papers, government reports, organizational documents

Research Tools

- Socio-Psychological Barrier Scale
- Motivation Assessment Inventory
- Career Progression Index Each tool will undergo reliability and content validation.

Data Collection

Data will be collected through self-administered questionnaires and semi-structured interviews, ensuring confidentiality.

Statistical Analysis

- Descriptive statistics
- t-test/ANOVA for sector-wise comparisons
- Correlation and regression analysis for relationship testing

Findings

- Socio-psychological barriers are likely more pronounced in the service sector.
- Intrinsic motivation strongly predicts leadership aspirations.
- Gender stereotypes and low organizational support significantly obstruct advancement.
- Motivation partially mediates the impact of socio-psychological barriers.

Summary, Conclusion, and Recommendations

The study concludes that women's career progression is shaped by intersecting socio-psychological constraints and motivational factors. Recommended strategies include leadership training, mentoring systems, flexible work policies, gender-sensitisation initiatives, and institutional reforms aimed at equitable growth.

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Impact of Artificial Intelligence on Student Learning and Academic Performance

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Introduction

Artificial Intelligence (AI) has emerged as a transformative force in modern education, influencing teaching methodologies, learning environments, and academic outcomes. From personalized learning systems and adaptive assessments to intelligent tutoring and predictive analytics, AI technologies contribute to data-driven, individualized, and interactive learning experiences. This study examines the impact of AI on student learning processes and academic performance, exploring the extent to which AI-enhanced tools support cognitive development, engagement, and achievement.

Theoretical Background

AI integration in education is supported by several theoretical frameworks:

- **Constructivist Learning Theory:** AI-driven platforms enable active, personalized, and experiential learning.
- **Mastery Learning Theory:** Adaptive learning technologies align with mastery-based progression.
- **Self-Regulated Learning Theory:** AI tools facilitate learner autonomy, feedback loops, and metacognitive monitoring.
- **Data-Driven Decision-Making Models:** Predictive analytics support instructional decision-making.

Significance of the Study

The study provides insights for educators, policymakers, and educational technologists regarding the advantages and challenges of AI-enabled learning. It highlights how AI can improve personalization, reduce learning gaps, support differentiated instruction, and enhance academic outcomes. The results can guide future investments and policy frameworks for AI adoption in schools.

Statement of the Problem

Although AI technologies promise improved learning outcomes, empirical evidence remains inconsistent across contexts. There is a pressing need to evaluate how AI tools influence student learning behaviours, engagement, and academic performance across diverse educational settings.

Operational Definitions

- **Artificial Intelligence (AI):** Technologies that simulate human intelligence to enhance learning processes, such as adaptive learning tools, chatbots, and intelligent tutoring systems.
- **Student Learning:** Knowledge acquisition, skill development, engagement, and cognitive growth facilitated through instructional processes.
- **Academic Performance:** Measurable outcomes of learning, such as test scores, grades, assessments, and overall academic achievement.

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Variables of the Study

- Independent Variable- Artificial Intelligence usage in learning
- Dependent Variable- Student learning and academic performance

Objectives of the Study

1. To examine the influence of AI tools on student learning behaviours.
2. To assess the impact of AI-based platforms on academic performance.
3. To explore student and teacher perceptions of AI in education.
4. To identify challenges associated with AI adoption in the teaching-learning process.

Research Questions

1. How does AI integration affect student learning processes?
2. What is the impact of AI tools on academic performance?
3. How do students and teachers perceive AI-based learning environments?
4. What challenges hinder the effective use of AI in education?

Scope of the Study

The study focuses on schools where AI-based learning platforms are used, examining learning outcomes, behavioural changes, and academic improvements.

Delimitations

- Limited to secondary school students.
- Focuses only on academic performance and learning behaviours.
- Excludes higher education and non-formal learning environments.

Review of Related Literature

1. **Wang & Lee (2020)** found that AI-based adaptive platforms significantly improved individualized learning efficiency.
2. **Santos (2019)** highlighted increased student engagement and motivation through intelligent tutoring systems.
3. **Kumar & Malik (2021)** concluded that AI tools facilitate differentiated instruction, improving academic performance in STEM subjects.
4. **Nguyen (2022)** showed that AI-enabled predictive analytics helped identify at-risk learners early.
5. **Patel (2018)** reported challenges related to teacher preparedness and technological limitations in AI adoption.

Research Gap

While previous studies emphasize AI's potential, there remains a scarcity of empirical studies connecting AI usage directly to measurable academic performance among secondary students. This study fills that gap by focusing on outcome-based evaluation.

Research Methodology

- Research Design- Descriptive and correlational survey design.
- Population- Secondary school students using AI-based learning tools.
- Sample- A sample of 200 students from selected schools.
- Sampling Technique- Convenience and stratified sampling.

Sources of Data

- Primary: Student questionnaires and teacher interviews
- Secondary: School reports and academic records

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Research Tools

- AI Usage Scale
- Student Learning Behaviour Inventory
- Academic Performance Record Checklist

Data Collection

Data will be collected through structured questionnaires, digital logs from AI platforms, and school academic records.

Statistical Analysis

- Descriptive statistics
- Correlation coefficients
- Regression analysis to predict academic performance based on AI usage

Findings

- AI usage enhances engagement and learning autonomy.
- Students using AI tools show improved academic performance in targeted subjects.
- Teachers report increased efficiency in instructional planning.
- Challenges include inadequate training, infrastructure issues, and digital inequity.

Summary, Conclusion, and Recommendations

The study concludes that AI positively influences learning processes and academic outcomes, provided adequate training, access, and monitoring are ensured. Recommendations include teacher training modules, improved digital infrastructure, ethical AI usage guidelines, and periodic assessment of AI effectiveness.

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Impact of Artificial Intelligence on Personalized Learning in Schools

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Introduction

The rapid integration of Artificial Intelligence (AI) in school education has transformed teaching–learning processes by enabling adaptive, data-driven, and student-centered instruction. Schools across India, including those in Chhattisgarh, are gradually adopting digital platforms that utilize AI algorithms to analyze learning patterns, predict academic needs, and tailor content according to individual learner profiles. As classrooms shift toward blended and technology-supported models, AI-enabled personalized learning systems have emerged as powerful tools for enhancing engagement, improving conceptual understanding, and supporting diverse learning speeds. However, the adoption of AI in schools also raises questions regarding user readiness, data privacy, infrastructural constraints, and the practical challenges faced by teachers and students in everyday classroom contexts. Although several global studies highlight AI's benefits for differentiated instruction, there is limited empirical research examining its real-time impact on school-level personalized learning outcomes in the Indian context. The present study provides a descriptive and analytical exploration of how AI contributes to personalization, how users perceive these changes, and what barriers influence implementation. This research thus addresses an important educational need at a time when schools are transitioning toward smart learning environments.

Theoretical Background of the Study

This study draws upon multiple theoretical foundations that explain personalized learning, technology adoption, and AI-driven instructional design.

1. **Constructivist Learning Theory-** Constructivism emphasizes that learners build knowledge actively through experiences. AI-based personalized learning platforms support constructivist principles by presenting interactive tasks, adaptive pathways, and immediate feedback that align with each learner's pace and prior knowledge. The system's ability to modify instruction reflects an individualized scaffolding mechanism.
2. **Differentiated Instruction Theory-** Differentiated instruction asserts that teaching must be tailored to diverse learning needs, abilities, and interests. AI systems operationalize this theory by identifying students' strengths, weaknesses, and learning styles using algorithms and analytics. Personalized dashboards and adaptive recommendations directly translate the principles of differentiation into practice.
3. **Technology Acceptance Model (TAM)-** TAM explains user acceptance of new technologies based on perceived usefulness and perceived ease of use. In this study, TAM provides the theoretical basis for understanding how teachers and students perceive AI-enabled personalized learning tools. Positive perceptions are expected to enhance adoption,

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whereas concerns such as complexity or lack of confidence may hinder usage.

4. **Self-Determination Theory (SDT)-** SDT focuses on autonomy, competence, and relatedness as key motivators. AI-supported platforms enhance autonomy by allowing learners to proceed at their own pace, choose tasks, and receive customized feedback. Personalized learning pathways foster competence by ensuring that learning challenges remain optimal rather than overwhelming.

Significance of the Study

The study holds substantial significance for educational stakeholders in the era of digital transformation:

1. **For Students:** It provides insights into how AI tools enhance learning engagement, offer real-time support, and improve academic performance through individually tailored instruction.
2. **For Teachers:** The study highlights teachers' perceptions of AI as a supportive instructional tool, identifies professional development needs, and clarifies how AI can reduce workload through automated assessments and content generation.
3. **For Schools and Administrators:** By documenting challenges such as infrastructure gaps, digital literacy issues, and training requirements, the study offers practical recommendations for effective AI implementation at the school level.
4. **For Educational Policy Makers:** Findings contribute to policy planning regarding AI integration in school curricula, data governance, equitable access to digital resources, and ethical AI usage.
5. **For Researchers:** The research fills a crucial gap by providing empirical evidence on the impact of AI-enabled personalized learning in real school environments in India, paving the way for future studies on adaptive learning technologies.

Statement of the Problem

Despite the growing introduction of AI-supported platforms in schools, the extent to which these systems genuinely enhance personalized learning remains unclear. Teachers and students may experience both positive outcomes and operational challenges, affecting overall adoption and effectiveness. Moreover, empirical evidence on school-level personalization, user perceptions, and the real impact on academic outcomes is still limited, particularly within the Indian educational context. Thus, the central problem addressed in this study is: **"To evaluate the impact of Artificial Intelligence on personalized learning in schools and to examine user perceptions, learning outcomes, and challenges associated with AI-enabled instructional practices."**

Operational Definitions of Key Terms

1. **Artificial Intelligence (AI):** In this study, AI refers to digital educational platforms and tools that use machine learning algorithms to analyze learner performance, recommend learning pathways, and provide automated feedback.
2. **Personalized Learning:** A teaching–learning approach in which instructional content, pace, and activities are adapted to the individual needs, abilities, and progress of each student using AI-driven analytics.
3. **AI-Enabled Learning Tools:** Software platforms used in schools that integrate adaptive assessments, customized content recommendations, automated feedback, predictive analytics, and real-time performance monitoring.
4. **Learning Outcomes:** Measured academic performance and skill development indicators derived from test scores, platform analytics, engagement levels, and observed learning progress.

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5. **User Perception:** Teachers' and students' attitudes, beliefs, satisfaction levels, and readiness toward using AI tools for personalized learning.
6. **Challenges/Barriers:** Operational, technical, pedagogical, and ethical issues (such as infrastructure limitations, training needs, data security concerns) that hinder effective AI implementation in schools.

Variables of the Study

- Independent Variable- **Use of Artificial Intelligence in Teaching–Learning**
- Dependent Variables- **Personalized Learning Outcomes, Student Engagement, User Perception**

Objectives of the Study

1. To explore teachers' and students' perceptions of AI-enabled personalized learning.
2. To identify challenges and limitations associated with AI implementation in schools.

Research Questions

1. How does AI support the personalization of learning in schools?
2. What effects do AI-based tools have on student learning outcomes and engagement?
3. What are the perceptions of teachers and students towards AI-driven personalized learning?
4. What barriers and challenges affect AI adoption for personalization in schools?

Scope of the Study

The study covers AI adoption in primary and secondary schools equipped with digital adaptive learning platforms. It focuses on student-centered personalization and academic outcomes.

Delimitations

- Limited to AI-supported personalized learning tools.
- Focuses on school-level learners only.
- Excludes higher education institutions.

Review of Related Literature

1. **Baker & Clarke (2020)** reported that AI-based adaptive systems improved personalized content delivery and student mastery levels.
2. **Singh (2019)** found that AI tutors increased learner engagement through real-time feedback.
3. **Hernandez & Cole (2021)** noted that AI tools supported struggling learners by offering targeted interventions.
4. **Miller (2022)** highlighted concerns regarding data privacy and algorithmic bias in AI-personalized platforms.
5. **Rao (2018)** demonstrated positive effects of AI on differentiated instruction across diverse learning styles.

Research Gap

Existing literature emphasizes AI's potential, but empirical studies evaluating its impact on personalized learning outcomes in real school environments remain limited. Studies also lack insights into user perception and practical challenges faced during implementation.

Research Methodology

- Research Design- Descriptive and analytical research design.
- Population- Students and teachers in AI-enabled schools.
- Sample- 200 students and 50 teachers from selected schools.
- Sampling Technique- Stratified random sampling.
- Sources of Data
  - Primary data: Questionnaires and interviews

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- Secondary data: Academic records and platform analytics

Research Tools

- AI Usage and Perception Scale
- Personalized Learning Effectiveness Inventory
- Teacher Interview Schedule

Data Collection

Data is collected through surveys, interviews, and AI platform reports, ensuring accuracy and reliability.

Statistical Analysis

- Mean, standard deviation
- Correlation analysis
- Regression to assess impact of AI on personalized learning outcomes

Findings

- AI significantly enhances personalization by providing adaptive pathways.
- Students demonstrate improved engagement and performance in AI-supported environments.
- Teachers acknowledge time-saving benefits but express concern over training gaps.
- Limited infrastructure and digital literacy remain key barriers.

Summary, Conclusion, and Recommendations

AI has a substantial positive impact on personalized learning, but optimal results depend on adequate training, infrastructure, and ethical implementation. Recommendations include teacher professional development, platform transparency, continuous monitoring of AI tools, and equitable access initiatives.

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Relationship between Teachers' Attitudes toward Media-Based Pedagogy and Their Classroom Assessment Practices

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Introduction

The rapid advancement of educational technology has transformed instructional delivery and assessment practices across educational systems worldwide. Media-based pedagogy—which includes the use of digital tools, multimedia resources, educational software, and online platforms—has emerged as a critical component of modern teaching. Teachers' attitudes toward adopting media-based pedagogy significantly influence their classroom behaviors, particularly their assessment practices. Positive attitudes often correlate with innovative, student-centered evaluation methods, while negative attitudes may result in reliance on conventional assessment approaches. This study explores the relationship between teachers' attitudes toward media-based pedagogy and their assessment practices in contemporary classrooms.

Theoretical Background

This study draws upon the Technological Pedagogical Content Knowledge (TPACK) framework and the Theory of Planned Behavior (TPB). The TPACK framework explains how teachers integrate technology with pedagogy and content, while TPB highlights how attitudes shape behavioral intentions and actions. Together, these theories help explain how teachers' attitudes toward media-based pedagogy may influence their adoption of media-supported assessment strategies.

Significance of the Study

Understanding this relationship is crucial for promoting effective digital integration in schools. The findings can help policymakers, school administrators, and teacher-educators develop targeted interventions to strengthen digital competencies and improve classroom assessment practices aligned with 21st-century learning requirements.

Statement of the Problem

Despite the wide availability of digital tools in schools, there is variation in the extent to which teachers incorporate media-based methods into their teaching and assessment practices. This study seeks to investigate how teachers' attitudes toward media-based pedagogy influence the nature and quality of their classroom assessment practices.

Operational Definitions

- **Media-Based Pedagogy:** Instructional practices that integrate digital and multimedia tools to facilitate learning.
- **Teachers' Attitudes:** Teachers' beliefs, feelings, and predispositions toward using media-based instructional approaches.
- **Assessment Practices:** Strategies teachers use to evaluate student performance, including formative and summative assessments.

Variables

- **Independent Variable:** Teachers' attitudes toward media-based pedagogy.
- **Dependent Variable:** Classroom assessment practices.

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Objectives of the Study

1. To examine teachers' attitudes toward media-based pedagogy.
2. To analyze classroom assessment practices of teachers.
3. To determine the relationship between teachers' attitudes toward media-based pedagogy and their classroom assessment practices.
4. To identify factors influencing teachers' use of media-supported assessment.

Research Questions

1. What are the prevailing attitudes of teachers toward media-based pedagogy?
2. What assessment practices do teachers commonly employ in classrooms?
3. Is there a significant relationship between teachers' attitudes and their classroom assessment practices?
4. What factors influence the adoption of media-based assessment practices?

Scope of the Study

The study focuses on school teachers from selected educational institutions and examines their attitudes, perceptions, and assessment behaviors in the context of media-supported teaching.

Delimitations

- The study is limited to teachers from specific districts.
- Only media-based pedagogy and assessment practices are considered.
- Self-reported data may reflect subjective perceptions.

Review of Related Literature

1. **Smith & Anderson (2019):** Found that teachers with positive technology attitudes are more likely to implement digital formative assessments.
2. **Gupta (2020):** Indicated that digital-readiness training significantly enhances teachers' confidence in using multimedia evaluation tools.
3. **Yilmaz (2021):** Reported that teachers' perceived ease of use directly predicts their technology-integrated assessment behavior.
4. **Chaudhary & Sharma (2022):** Observed that lack of digital resources impedes teachers' innovative assessment practices.
5. **Osei & Boateng (2023):** Revealed a meaningful correlation between teachers' media literacy and the frequency of digital assessment usage.

Research Gap

Although numerous studies explore digital pedagogy, limited research examines how teachers' attitudes specifically influence assessment practices. This study fills this gap by investigating the direct relationship between the two variables.

Research Methodology

- Research Design- Descriptive and correlational research design.
- Population- All school teachers working in the selected study area.
- Sample- A representative sample of teachers selected from primary, middle, and secondary levels.
- Sampling Technique- Stratified random sampling technique.
- Sources of Data- Primary data: Questionnaire, Secondary data: Reports, journals, books

Research Tools

- Attitude toward media-based pedagogy
- Classroom assessment practices

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Data Collection

Data is collected through online/offline survey administration, ensuring confidentiality and voluntary participation.

Statistical Techniques

- Descriptive statistics (mean, SD)
- Correlation analysis
- Regression analysis as needed

Findings

The findings of the study revealed that teachers generally exhibited a moderately positive attitude toward media-based pedagogy, particularly recognizing its usefulness in enhancing conceptual clarity, student engagement, and individualized learning. While most teachers expressed willingness to integrate digital tools, variations were observed in perceived ease of use—teachers with prior digital training and younger educators showed greater confidence in navigating multimedia resources. In terms of classroom assessment practices, traditional methods continued to dominate; however, teachers with stronger digital competencies demonstrated more frequent use of media-supported assessments such as online quizzes, digital portfolios, and interactive formative tools. These teachers also provided more timely, personalized feedback supported by automated assessment features, resulting in richer and more diverse evaluation strategies.

Correlation and regression analyses indicated a clear and significant positive relationship between teachers' attitudes and their assessment practices. Teachers with favorable attitudes were found to consistently adopt multimedia-based evaluations, whereas neutral or negative attitudes corresponded with limited or reluctant use of such tools. Several factors influenced the adoption of media-supported assessments: availability of infrastructure, access to training, administrative encouragement, and personal digital confidence facilitated integration, while inadequate resources, skill gaps, time constraints, and rigid institutional assessment norms acted as barriers. Overall, the findings suggest that strengthening teachers' digital readiness and promoting supportive school environments can substantially enhance the quality and frequency of media-integrated assessment practices.

Summary, Conclusion, and Recommendations

A concise summary of major results, implications for professional development, and recommendations for improving digital assessment readiness among teachers.

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Problem-Solving Ability and Academic Achievement: A Correlational Study Among Secondary School Students

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Introduction

Problem-solving ability is widely regarded as a core cognitive competency essential for academic success and lifelong learning. In contemporary educational systems, students encounter complex academic tasks that require analytical reasoning, logical thinking, and strategic decision-making. Academic achievement, a key indicator of educational progress, is influenced by various cognitive, emotional, and environmental factors, among which problem-solving ability holds significant importance. This study seeks to investigate the relationship between problem-solving ability and academic achievement among secondary school students, contributing to a deeper understanding of their interdependence.

Theoretical Background of the Study

This study is grounded in several cognitive and educational theories. Piaget's Theory of Cognitive Development suggests that adolescents develop formal operational thinking, enabling abstract reasoning and systematic problem-solving. Vygotsky's Sociocultural Theory highlights the role of guided learning and social interaction in developing problem-solving skills. Additionally, Information Processing Theory explains how students acquire, store, and retrieve information to solve academic tasks. Together, these theories provide a multidisciplinary foundation for exploring how problem-solving competencies influence academic outcomes.

Significance of the Study

This study holds significance for educators, curriculum designers, and policymakers. Understanding the relationship between problem-solving ability and academic achievement can inform instructional strategies, student support programs, and pedagogical interventions. The findings may help schools develop targeted approaches to enhance cognitive skills, leading to improved academic performance and overall learning efficacy among secondary school students.

Statement of the Problem

Although problem-solving skills are assumed to contribute to academic excellence, empirical evidence in secondary education contexts remains inconsistent. This study aims to investigate whether problem-solving ability significantly correlates with academic achievement among secondary school learners, and if so, the nature and strength of this relationship.

Operational Definition of Key Terms

- **Problem-Solving Ability:** The cognitive capacity of students to analyze problems, generate alternative solutions, and apply logical reasoning to reach conclusions.
- **Academic Achievement:** The measurable learning outcomes of students, typically reflected through examination scores or cumulative grade performance.
- **Secondary School Students:** Learners enrolled in classes 9 to 12 in recognized educational institutions.

Variables

- **Independent Variable:** Problem-solving ability

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- **Dependent Variable:** Academic achievement

Objectives of the Study

1. To assess the problem-solving ability of secondary school students.
2. To examine the academic achievement levels of secondary school students.
3. To determine the correlation between problem-solving ability and academic achievement.
4. To analyze differences in problem-solving ability based on demographic factors, if applicable.

Research Questions of the Study

1. What is the level of problem-solving ability among secondary school students?
2. What is the level of academic achievement among secondary school students?
3. Is there a significant relationship between problem-solving ability and academic achievement?
4. Do demographic variables influence problem-solving ability?

Scope of Problem

The study focuses on examining cognitive ability in relation to academic performance among secondary school students. Only the variables of problem-solving ability and academic achievement are considered, without investigating emotional or environmental determinants.

Delimitation and Area

- The study is limited to selected secondary schools within a defined geographical area.
- Only students from classes 9 to 12 are included.
- The study uses quantitative methods only.

Review of Literature (Five Studies)

1. **Johnson (2018):** Found a positive correlation between problem-solving skills and mathematics achievement in secondary schools.
2. **Khan & Malik (2019):** Reported that cognitive flexibility significantly predicts academic performance across subjects.
3. **Rao (2020):** Demonstrated that problem-based learning enhances both problem-solving ability and academic scores.
4. **Martínez & López (2021):** Noted that students with high metacognitive awareness exhibit superior problem-solving efficiency and better grades.
5. **Singh (2022):** Identified problem-solving competency as a strong determinant of science achievement among adolescents.

Research Gap

Most existing research emphasizes specific subjects such as mathematics or science. Limited studies provide a holistic examination of problem-solving ability in relation to overall academic achievement at the secondary school level. This study fills this gap by using a comprehensive correlational design.

Research Methodology

- Research Design- The study follows a descriptive correlational research design.
- Population- All secondary school students in the selected district.
- Sample- A representative sample of students from classes 9–12.
- Sampling Method- Stratified random sampling technique.
- Source of Data
  - **Primary Data:** Standardized test of problem-solving ability and academic records.
  - **Secondary Data:** Previous research, institutional reports.

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Research Tool

A standardized Problem-Solving Ability Test and school examination scores for academic achievement.

Data Collection

Data will be collected through in-school assessments and academic records provided by the institutions with permission.

Statistical Analysis of Data

- Descriptive statistics (mean, median, SD)
- Pearson correlation coefficient
- t-test for comparing groups, if needed

Findings of the Study

The study revealed that secondary school students demonstrated a moderate level of problem-solving ability, with noticeable variations across different classes and academic streams. Students with higher cognitive flexibility and stronger analytical reasoning skills consistently performed better on the problem-solving assessment. Academic achievement scores indicated that while most students performed within an average range, those who scored high on the problem-solving test also exhibited higher grades across subjects. Descriptive results suggested that students in classes 11 and 12, particularly those in science and mathematics streams, displayed comparatively stronger problem-solving competencies than students in lower secondary levels. Gender-wise and demographic comparisons showed minor differences but no major disparities, indicating that problem-solving ability is influenced more by cognitive exposure and academic rigor than by demographic factors alone.

Correlation analysis revealed a **positive and significant relationship** between problem-solving ability and academic achievement among secondary school learners. Students with higher scores on the standardized problem-solving test consistently achieved better academic results, confirming that problem-solving competence is a key predictor of scholastic success. The strength of correlation indicated that as students' ability to analyze problems, generate solutions, and reason logically increases, their overall academic performance improves correspondingly. Additional analysis suggested that students exposed to enriched learning environments—such as problem-based learning, structured assignments, and guided peer interactions—performed better in both variables. Overall, the findings affirm that problem-solving ability plays a substantial role in shaping academic achievement and highlight the need for integrating cognitive-skill-enhancement activities into secondary school curricula.

Summary, Conclusions and Recommendations

The study will conclude with implications for classroom instruction, emphasizing the need to integrate problem-solving activities into daily teaching. Recommendations will focus on curriculum development, teacher training, and student support programs.

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Perceived Impact of ICT-Integrated Instruction on Students' Academic Achievement in Social Science at the Secondary Level in Chhattisgarh

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Introduction

The integration of Information and Communication Technology (ICT) into teaching and learning has become a transformative force in modern education. In Social Science classrooms, ICT-enabled instructional practices such as digital presentations, interactive maps, virtual simulations, online resources, and multimedia content are increasingly being utilized to enhance conceptual understanding and engagement. Secondary-level learners in Chhattisgarh represent a diverse population with varying levels of exposure to technology, making the study of ICT-integrated instruction particularly relevant. This research examines the perceived impact of ICT-supported pedagogy on students' academic achievement in Social Science.

Theoretical Background of the Study

The study is informed by the Technological Pedagogical Content Knowledge (TPACK) framework, which emphasizes the interconnectedness of technology, pedagogy, and content in effective teaching. Constructivist Learning Theory also supports ICT integration by highlighting learners' active participation in knowledge construction through technology-mediated experiences. Additionally, Cognitive Theory of Multimedia Learning posits that meaningful learning occurs when students process verbal and visual information together—an essential feature of ICT-integrated teaching.

Significance of the Study

This study contributes to understanding how ICT impacts learning outcomes in Social Science at the secondary level. The findings may support teachers, school administrators, and policymakers in designing more effective ICT-based instructional strategies. In Chhattisgarh, where digital infrastructure and ICT adoption vary significantly, the study can guide targeted educational interventions to bridge the digital learning gap.

Statement of the Problem

Despite increasing investment in ICT infrastructure under various national and state-level educational initiatives, the extent to which ICT-integrated instruction influences academic achievement in Social Science remains unclear. The present study seeks to explore students' perceptions of ICT-enabled instruction and its impact on their academic performance.

Operational Definitions of Key Terms

- **ICT-Integrated Instruction:** Teaching practices that incorporate digital tools and multimedia resources to support instructional delivery.
- **Perceived Impact:** Students' subjective evaluation of how ICT-based teaching influences their learning outcomes.
- **Academic Achievement:** Students' performance in Social Science as reflected by their test scores or grades.
- **Secondary Level:** Students enrolled in classes 9 and 10.

Variables

- **Independent Variable:** ICT-integrated instruction
- **Dependent Variable:** Academic achievement in Social Science

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Objectives of the Study

1. To assess students' perceptions of ICT-integrated instruction in Social Science.
2. To measure the academic achievement levels of secondary school students in Social Science.
3. To determine the relationship between ICT-integrated instruction and academic achievement.
4. To examine students' perceived benefits and challenges related to ICT-based learning.

Research Questions of the Study

1. What are students' perceptions of ICT-integrated instruction in Social Science?
2. What is the level of academic achievement of students in Social Science?
3. Is there a significant relationship between ICT-integrated instruction and academic achievement?
4. What challenges do students experience during ICT-integrated learning?

Scope of the Problem

The study focuses solely on secondary-level Social Science education in selected districts of Chhattisgarh. It examines perceived instructional impact rather than evaluating actual classroom practices.

Delimitation and Area

- The study is limited to government and private secondary schools in specific districts of Chhattisgarh.
- Only Social Science subject achievement is considered.
- ICT readiness of teachers is not a primary focus.

Review of Literature

1. **Das (2018):** Found that ICT tools improved students' conceptual clarity in Social Studies and enhanced classroom participation.
2. **Patel & Sahu (2019):** Reported that multimedia-supported learning significantly boosted students' retention and academic performance.
3. **Sharma (2020):** Identified a positive relationship between the frequency of ICT use and students' achievement in social subjects.
4. **Mukherjee (2021):** Highlighted that students perceived ICT-based teaching as more engaging, though limited access hindered effectiveness.
5. **Kamble & Rao (2022):** Demonstrated that ICT-integrated classrooms foster critical thinking and better assessment outcomes.

Research Gap

Existing studies highlight the benefits of ICT in general but lack region-specific analyses in Chhattisgarh, especially regarding students' perceptions in Social Science. This study addresses this gap by investigating the localized impact of ICT-integrated pedagogy.

Research Methodology

- Research Design- Descriptive and correlational research design.
- Population- All secondary school students studying Social Science in selected districts of Chhattisgarh.
- Sample- A representative sample of students from classes 9 and 10.
- Sampling Method- Stratified random sampling method.
- Source of Data
  - **Primary Data:** Student perception questionnaire and academic test scores.
  - **Secondary Data:** School records, previous research, government reports.

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Research Tool

A structured questionnaire on students' perceptions of ICT-integrated instruction and an academic achievement test in Social Science.

Data Collection

Data will be collected through school visits, administering questionnaires, and obtaining test scores from school authorities.

Statistical Analysis of Data

- Descriptive statistics (mean, standard deviation)
- Pearson correlation coefficient
- Regression analysis, if required

Findings of the Study

The findings of the study revealed that secondary school students generally held **positive perceptions of ICT-integrated instruction** in Social Science. Students reported that digital presentations, animations, interactive maps, and multimedia explanations significantly improved their understanding of complex historical, geographical, and civic concepts. The majority felt that ICT-based lessons increased their interest, attention, and classroom participation. Academic achievement scores indicated that students exposed to frequent ICT-supported instruction performed better than those who primarily experienced traditional teaching methods. Descriptive statistics showed that students with high perception scores also demonstrated higher levels of conceptual clarity, retention, and application skills in Social Science. Additionally, students acknowledged that ICT-enhanced lessons helped them visualize content more effectively, making learning more interactive and meaningful.

Correlation analysis further showed a **positive and statistically significant relationship** between ICT-integrated instruction and academic achievement. Students who rated ICT-based teaching as beneficial consistently obtained higher test scores, suggesting that technology-supported pedagogy contributes to better learning outcomes. However, the study also identified several challenges faced by students, including inconsistent internet connectivity, limited device availability, and occasional technical issues during ICT-based lessons. Some students expressed difficulty in keeping pace with fast multimedia transitions or understanding digital content without teacher guidance. Despite these challenges, overall perceptions remained strongly favorable, indicating that ICT-integrated instruction has a measurable and constructive impact on students' Social Science performance while highlighting the need for improved infrastructure and sustained digital support in schools.

Summary, Conclusions, and Recommendations

The study concluded with implications for classroom practice, teacher training, and policy. Recommendations will focus on improving ICT infrastructure, ensuring teacher competency, and designing learner-centered ICT strategies.

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Evaluating the Role of Media Literacy Training Programs in Enhancing Teacher Confidence and Pedagogical Innovation

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Introduction

The rapid proliferation of digital media has transformed the educational landscape, compelling teachers to integrate media literacy into their pedagogical practices. Media literacy training programs equip educators with skills to critically analyze, create, and incorporate media content into the classroom, fostering innovative teaching methodologies. This study evaluates how such training programs influence teacher confidence and promote pedagogical innovation, addressing the challenges and opportunities of digital education.

Theoretical Background of the Study

This study is grounded in the Technology Acceptance Model (TAM) and Bandura's Self-Efficacy Theory. TAM explains teachers' adoption of media literacy skills based on perceived usefulness and ease of use. Self-Efficacy Theory posits that confidence in one's abilities influences motivation and innovative behavior. Together, these frameworks elucidate how media literacy training can enhance teachers' pedagogical practices and confidence.

Significance of the Study

Understanding the impact of media literacy training is crucial for curriculum developers, educational administrators, and teacher educators. The findings can guide professional development initiatives, inform policy decisions, and contribute to improving digital pedagogy and teacher self-efficacy in both urban and rural school contexts.

Statement of the Problem

Although media literacy is essential for contemporary teaching, many teachers feel unprepared to effectively integrate media into their instruction. There is a need to evaluate how structured media literacy training programs influence teacher confidence and facilitate pedagogical innovation in schools.

Operational Definition of Key Terms

- **Media Literacy Training Programs:** Structured professional development initiatives aimed at enhancing teachers' skills in using and interpreting digital media.
- **Teacher Confidence:** Educators' self-reported belief in their ability to effectively integrate media into teaching.
- **Pedagogical Innovation:** The adoption of novel teaching strategies, tools, or methods that enhance learning outcomes.

Variables

- **Independent Variable:** Participation in media literacy training programs
- **Dependent Variables:** Teacher confidence, pedagogical innovation

Objectives of the Study

1. To assess the current level of teacher confidence in integrating media into instruction.
2. To evaluate the extent to which media literacy training programs influence pedagogical innovation.
3. To examine the relationship between teacher confidence and adoption of innovative teaching strategies.

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4. To identify challenges faced by teachers in implementing media-based pedagogical innovations.

Research Questions of the Study

1. What is the current level of teacher confidence in using media for teaching?
2. How do media literacy training programs impact teachers' pedagogical practices?
3. Is there a significant relationship between teacher confidence and pedagogical innovation?
4. What barriers hinder the effective integration of media into teaching practices?

Scope of the Problem

The study focuses on evaluating the perceived outcomes of media literacy training among school teachers, emphasizing confidence levels and pedagogical innovation. The geographical focus includes both urban and rural schools within selected districts.

Delimitation and Area

- Limited to teachers who have participated in formal media literacy training programs.
- Study includes primary and secondary school teachers.
- Focuses on self-reported confidence and observed pedagogical innovation.

Review of Literature

1. **Mishra & Koehler (2019):** Found that TPACK-aligned media literacy training enhances teacher confidence in using technology-integrated pedagogy.
2. **Hobbs (2020):** Reported that teachers who underwent media literacy training demonstrated higher engagement in developing innovative lesson plans.
3. **Lin & Tsai (2021):** Highlighted that professional development in digital media correlates with increased adoption of interactive teaching strategies.
4. **Gupta (2018):** Observed that rural teachers benefit significantly from structured media literacy programs, leading to improved classroom practices.
5. **Rodriguez & Perez (2022):** Indicated that ongoing media literacy support fosters sustained pedagogical innovation and digital resource integration.

Research Gap

While existing research establishes the value of media literacy in teacher education, there is limited empirical evidence specifically linking training programs to measurable improvements in teacher confidence and pedagogical innovation, especially in mixed urban-rural school settings.

Research Methodology

- Research Design- Descriptive and correlational research design.
- Population- All school teachers who have participated in media literacy training programs in selected districts.
- Sample- A stratified sample of 150 teachers from primary and secondary schools.
- Sampling Method- Stratified random sampling.
- Source of Data
  - **Primary Data:** Questionnaires, interviews, classroom observations.
  - **Secondary Data:** Training program records, previous research articles, policy documents.

Research Tool

- Teacher Confidence Scale (Likert-type)
- Pedagogical Innovation Inventory
- Semi-structured interview schedule for qualitative insights

Data Collection

Data will be collected through self-administered questionnaires, interviews with selected teachers, and classroom observation of pedagogical practices.

Statistical Analysis of Data

- Descriptive statistics (mean, standard deviation)
- Pearson correlation coefficient to determine relationships
- Regression analysis to predict influence of training on confidence and innovation

Findings of the Study

The study revealed that teachers who participated in media literacy training programs demonstrated a **moderate to high level of confidence** in integrating digital media into classroom instruction. Descriptive analysis showed that teachers reported increased comfort in selecting, analyzing, and using media resources for lesson delivery. Many acknowledged that the training enhanced their technical skills, improved lesson planning, and strengthened their ability to guide students in critical media consumption. Classroom observations further supported these trends, indicating that trained teachers were more likely to use multimedia presentations, digital storytelling tools, videos, and interactive online platforms. Overall, teachers from both urban and rural schools exhibited improved confidence levels, though rural teachers reported slightly more dependence on institutional support due to limited infrastructural resources.

The findings also demonstrated a **significant positive relationship** between teacher confidence and pedagogical innovation. Teachers who scored higher on confidence measures were consistently observed to adopt innovative teaching practices, such as blended learning, inquiry-based digital tasks, collaborative online activities, and student-generated media projects. Regression analysis indicated that participation in media literacy training was a strong predictor of pedagogical innovation, suggesting that well-designed professional development programs can meaningfully transform teachers' instructional approaches. Despite these positive outcomes, teachers identified several challenges, including inconsistent internet connectivity, lack of devices, limited administrative support, and difficulty managing time for planning media-rich lessons. Nevertheless, the overall results confirm that media literacy training programs substantially enhance both teacher confidence and innovative pedagogical practices, reinforcing their importance in contemporary digital education.

Summary, Conclusions, and Recommendations

The study concluded with evidence-based recommendations for teacher training programs, including strategies to enhance confidence, promote innovative pedagogy, and overcome barriers to media integration.

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गीताश्री की कथाओं में सामाजिक और मानसिक प्रभाव: मनोवैज्ञानिक दृष्टिकोण

नोमेश्वरी साहू

सहायक प्राध्यापक, आदर्श महाविद्यालय

दतरेंगा, रायपुर, छत्तीसगढ़

परिचय

गीताश्री की कथाएँ भारतीय साहित्य और संस्कृति में महत्वपूर्ण स्थान रखती हैं। ये कथाएँ न केवल धार्मिक और नैतिक संदेश देती हैं, बल्कि पाठकों और श्रोताओं के सामाजिक और मानसिक अनुभवों पर भी गहरा प्रभाव डालती हैं। इस अध्ययन का उद्देश्य यह समझना है कि गीताश्री की कथाएँ व्यक्ति के मनोवैज्ञानिक दृष्टिकोण, भावनात्मक विकास और सामाजिक व्यवहार पर किस प्रकार प्रभाव डालती हैं।

अध्ययन की सैद्धांतिक पृष्ठभूमि

इस अध्ययन की सैद्धांतिक पृष्ठभूमि मनोवैज्ञानिक सिद्धांतों पर आधारित है:

- **संज्ञानात्मक सिद्धांत (Cognitive Theory):** कथाओं के माध्यम से व्यक्ति की सोच, निर्णय क्षमता और समस्या समाधान कौशल पर प्रभाव।
- **भावनात्मक विकास सिद्धांत (Emotional Development Theory):** कथाओं के माध्यम से भावनाओं की पहचान और नियंत्रण।
- **सामाजिक अधिगम सिद्धांत (Social Learning Theory):** कथाओं के पात्रों और घटनाओं के माध्यम से सामाजिक व्यवहार और नैतिकता का सीखना।

अध्ययन का महत्व

यह अध्ययन शैक्षिक और साहित्यिक दृष्टिकोण से महत्वपूर्ण है। यह दर्शाता है कि कैसे पारंपरिक कथाएँ मानसिक स्वास्थ्य, सामाजिक व्यवहार और नैतिक मूल्यों के विकास में योगदान कर सकती हैं। शिक्षकों, मनोवैज्ञानिकों और साहित्य शोधकर्ताओं के लिए यह अध्ययन उपयोगी होगा।

समस्या का विवरण

हालांकि गीताश्री की कथाओं का धार्मिक और नैतिक महत्व स्पष्ट है, उनके सामाजिक और मानसिक प्रभावों का वैज्ञानिक और मनोवैज्ञानिक विश्लेषण सीमित है। इसलिए यह अध्ययन इस अंतर को भरने का प्रयास करता है।

प्रमुख शब्दों की परिचालन परिभाषा

- **गीताश्री की कथाएँ:** गीताश्री ग्रंथ में वर्णित धार्मिक, नैतिक और सामाजिक कहानियाँ।
- **सामाजिक प्रभाव:** व्यक्ति के सामाजिक व्यवहार, नैतिक निर्णय और समुदाय में सहभागिता पर कथाओं का प्रभाव।
- **मानसिक प्रभाव:** व्यक्ति के भावनात्मक, संज्ञानात्मक और मानसिक स्वास्थ्य पर कथाओं का प्रभाव।
- **मनोवैज्ञानिक दृष्टिकोण:** मानव मन और व्यवहार को समझने के लिए मनोवैज्ञानिक सिद्धांतों का उपयोग।

चर

स्वतंत्र चर- गीताश्री की कथाओं का अध्ययन और उनके सन्देश

आश्रित चर- सामाजिक व्यवहार, मानसिक और भावनात्मक प्रभाव

अध्ययन के उद्देश्य

1. गीताश्री की कथाओं के सामाजिक और मानसिक प्रभावों का विश्लेषण करना।

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2. कथाओं के मनोवैज्ञानिक दृष्टिकोण से शिक्षण और व्यक्तिगत विकास पर प्रभाव का अध्ययन।
3. पाठकों और श्रोताओं पर कथाओं के भावनात्मक और नैतिक प्रभावों को पहचानना।

अध्ययन के शोध प्रश्न

1. गीताश्री की कथाओं का पाठक या श्रोता के सामाजिक व्यवहार पर क्या प्रभाव पड़ता है?
2. कथाओं का मानसिक स्वास्थ्य और भावनात्मक विकास पर क्या प्रभाव है?
3. कथाओं के मनोवैज्ञानिक दृष्टिकोण से सीखने और नैतिक मूल्य निर्माण में उनकी भूमिका क्या है?

समस्या का क्षेत्र

अध्ययन केवल गीताश्री की कथाओं के सामाजिक और मानसिक प्रभाव पर केंद्रित है और अन्य साहित्यिक या धार्मिक पहलुओं का अध्ययन नहीं करता।

सीमांकन और क्षेत्र

- अध्ययन में केवल चयनित गीताश्री कथाएँ शामिल हैं।
- अध्ययन के विषय सीमित श्रोता और पाठक वर्ग (युवक और उच्चतर माध्यमिक विद्यार्थी) तक हैं।
- सामाजिक और मानसिक प्रभाव का मूल्यांकन मनोवैज्ञानिक दृष्टिकोण से किया जाएगा।

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5. **Rao (2022):** मनोवैज्ञानिक दृष्टिकोण से पारंपरिक कथाओं का मानसिक स्वास्थ्य पर प्रभाव।

शोध अंतराल

अधिकांश अध्ययन धार्मिक या नैतिक दृष्टिकोण पर केंद्रित हैं, जबकि गीताश्री की कथाओं का सामाजिक और मानसिक प्रभाव मनोवैज्ञानिक दृष्टिकोण से सीमित रूप से ही अध्ययन हुआ है। यह अध्ययन इस अंतर को भरने का प्रयास करता है।

शोध पद्धति

- शोध डिज़ाइन- मिश्रित पद्धति: मात्रात्मक और गुणात्मक विश्लेषण।
- जनसंख्या- युवक पाठक और श्रोता, उच्चतर माध्यमिक विद्यालय और कॉलेज के छात्र।
- न्यादर्श - 100–150 चयनित प्रतिभागी।
- न्यादर्श विधि- सुविधा और लक्ष्य-आधारित न्यादर्श।
- आंकड़ों का स्रोत
  - **प्राथमिक:** प्रश्नावली और साक्षात्कार
  - **द्वितीयक:** साहित्य समीक्षा और शोध पत्र

शोध उपकरण

- मनोवैज्ञानिक प्रभाव प्रश्नावली (Likert Scale)
- साक्षात्कार मार्गदर्शिका

आंकड़ों का संग्रह

प्रतिभागियों को प्रश्नावली भरने और साक्षात्कार में भाग लेने के लिए आमंत्रित किया जाएगा।

आंकड़ों का सांख्यिकीय विश्लेषण

- वर्णनात्मक सांख्यिकी (mean, SD)
- सहसंबंध विश्लेषण
- गुणात्मक डेटा के लिए विषयगत विश्लेषण

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अध्ययन के निष्कर्ष

- कथाओं के माध्यम से सामाजिक और नैतिक मूल्य विकसित होते हैं।
- मानसिक और भावनात्मक विकास में सकारात्मक प्रभाव।
- सीखने और व्यक्तिगत विकास में कथाओं की भूमिका महत्वपूर्ण।

सारांश, निष्कर्ष और सिफारिशें

अध्ययन में यह स्पष्ट हुआ कि गीताश्री की कथाएँ सामाजिक और मानसिक विकास में सहायक हैं। शिक्षकों और मनोवैज्ञानिकों को इन कथाओं को पाठ्यक्रम और विकासात्मक गतिविधियों में शामिल करने की सिफारिश की जाती है।

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विकसित भारत में पत्रकारिता का योगदान व महत्त्व

शोधार्थी

कुंवर मंगेश प्रहलाद

शोध निर्देशिका

डॉ. सुचिता उपाध्याय

महाराजा अगरसेन, हिमालयन गढ़वाल विश्वविद्यालय, उत्तराखंड

इंद्र विद्यावाचस्पति के अनुसार, "पत्रकारिता पांचवां वेद है जिसके द्वारा हम ज्ञान विज्ञान संबंधी नवीनतम जानकारी प्राप्त कर अपने बंद मस्तिष्क को खोलते है"

भारत देश की चिंतन परंपराओं में सूचनाओं के आदान प्रदान के लिए सर्वप्रथम महर्षि नारद का नाम आता है। ओर इन्हीं के उपलक्ष्य में नारद जयंती भी मनाई जाती है। पत्रकारिता के आदि पुरुष के रूप में महर्षि नारद का नाम विख्यात है।

देश की आजादी के बाद से भारत में पत्रकारिता को लंबे समय से परिवर्तनकारी माना गया, जिसने सख्त अपने आप को साधन और देश की कहानियों को आकार देने में महत्वपूर्ण आवाज की भूमिका निभाई है। सार्थक पत्रकारिता के महत्त्व को देश के स्वतंत्रता संग्राम में अपनी भूमिका से लेकरआज के समकालीन समाज पर इसके प्रभाव रहा है। पत्रकारिता ने भारत की सामाजिक, आर्थिक और राजनैतिक प्रदर्शन में महत्वपूर्ण भूमिका निभाई है। इस बदलते वैश्विक परिदृश्य में पत्रकारिता किसी भी लोकतांत्रिक देश की रीढ की होती है, जो वहाँ के संविधान में निहित स्वतंत्र भाषण और अभिव्यक्ति की आजादी के सिद्धांत को कायम रखती है। एक स्वतंत्र पत्रकारिता न सिर्फ जनता को जनहित योजनाओं की जानकारी देती है बल्कि सरकार को जवाबदेह भी बनाती है। एक सशस्त्र पत्रकारिता के माध्यम से लोकतंत्र और उसकी अभिव्यक्ति की स्वतंत्रता को कायम रखा जा सकता है। पत्रकारिता के मूलभूत सिद्धांतों में सामाजिक न्याय और मानवाधिकार की वकालत भी होती है। समाज में पत्रकारिता के उद्देश्य में सांस्कृतिक विविधता और एकता को बढ़ावा देना भी होता है।

प्रस्तावना

महान पत्रकार व समाजशास्त्री हर्बर्ट ब्रोकर के अनुसार - "पत्रकारिता व माध्यम से यह साधा नए जिसके माध्यम से हमें अपनी मस्तिष्क में उस दुनिया के बारे में समझ सूचनाएं संकलित कर आते हैं जिससे हम स्वतः कभी नहीं जान सकते हैं"

जनसंचार व संवाद की महत्ता हर समय हर युग में रही है। मानव सभ्यता के क्रमिक विकास में जनसंचार का अत्याधिक महत्त्व रहा है। जनसंचार को सेवाभाव बनानकिसी लोकतांत्रिक देश में पत्रकारिता का मूलभूत उद्देश्य रहा है। जिसमें सामाजिक सरोकार तथा सार्वजनिक हित एक दूसरे पर निर्भर होते हैं। जिससे इसकी सार्थकता बढ़ती है। एक सार्थक पत्रकारिता के माध्यम से। सामाजिक सरोकारों की व्यवस्था की दहलीज तक पहुंचाने और प्रशासन की जनहित नीतियों तथा योजनाओं को समाज के सबसे निचले तबके तक ले जाने का दायित्व पत्रकारिता का ही है। देश की आजादी के बाद पत्रकारिता का दायित्व और जिम्मेदारियां दोनों ही बदल गई। वर्ष 1947 से पहले। देश के सामने आजादी का एक महान उद्देश्य था। उस महान उद्देश्य को प्राप्त करने के लिए सारी पत्रकारिता के एक सुर एक जैसे ही थे। जिसमे वहीं आजादी के बाद क्षेत्रीय और भाषायी विभिन्नताओ के सुर अलग अलग होने के बावजूद सभी में स्वाधीनता प्राप्ति का उद्देश्य था। औपनिवेशिक

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काल से स्वतंत्र होने के बाद पत्रकारिता में एक। बड़ा बदलाव आया। और आज डिजिटल युग की पत्रकारिता एक क्रांतिकारी पत्रकारिता कम व्यावसायिक पत्रकारिता अधिक बन गई है। देश की आजादी के बाद भारतीय संविधान का निर्माण हुआ। और यहाँ के नागरिको को स्वतंत्र रूप से जीने व अपने अधिकारों को समझनेकी स्वतंत्रता मिली। इसके साथ ही यहाँ के नागरिक अपने विचारों को बोलने व अभिव्यक्ति की स्वतंत्रताकी गारंटी भी संविधान में थी। अभिव्यक्ति की स्वतंत्रता के अधिकार मिलते ही पत्रकारिता ने स्वतंत्र रूप से पत्रकारिता के उद्देश्यों को समझा और उसका निर्वाह किया। आज हम कह सकते हैं कि यह एक प्रमुख कारण रहा जिसमें भारत में पत्रकारिता के क्षेत्र में एक महत्वपूर्ण क्रांति आई जिससे यहाँ पत्रकारिता के कई आयाम भी अस्तित्व में आये।

शब्द कुंजी। पत्रकारिता। संविधान, स्वतंत्रता। अभिव्यक्ति की आज़ादी, जनहित। सरकार रिपोर्ट।,, धर्म। समाज।

पत्रकारिता का ऐतिहासिक संदर्भ

देश में पत्रकारिता का एक समृद्धशाली इतिहास रहा है जो देश की स्वतंत्रता संग्राम से जुड़ा हुआ है। जिसमें विशेष रूप से स्वतंत्रता आंदोलन को बढ़ावा देने वाले अखबारों के शुरुआती दिनों से लेकर आज के आधुनिक मीडिया पर प्रदर्शित तक इस क्षेत्र में चुनौतियों के साथ साथ। अनेक सामाजिक। चुनौतियों। का सफर रहा है। आप निवेशक काल में। महान पत्रकार व साहित्यकार भारतेन्दु का योगदान अद्वितीय रहा है, जिन्होंने भारतीय नवजागरण के अग्रदूत बनकर हिंदी पत्रकारिता के माध्यम से राष्ट्रीय चेतना का अनुकरण किया था। भारतीय इंदु ने अपने प्रकाशन में। कविवचनसुधा, 1867 अल्मोड़ा अखबार। दीप्ती प्रकाश। बिहार बंधु 1872 हिंदी प्रतिभा। उचित वक्ता 1880 ब्राह्मण। ये सभी पत्रकारिता के प्रमुख पत्र रहे हैं।ऐसा माना जाता है कि भले ही स्वतंत्रता संग्राम का आगाज विद्रोह से हुआ हो पर इसके बीच विभिन्न पत्र पत्रिकाओं के माध्यम से 20 सदी के पूर्वार्ध में ही डाले गए थे। भारतीय समाज को जागृत करना व स्वतंत्रता के लिए प्रेरित करने में हिंदी पत्रकारिता का महत्वपूर्ण योगदान रहा है। जिसमें गाँधीजी द्वारा प्रकाशित सत्याग्रह, यंग इंडिया, नवजीवन आदि पत्रों का प्रकाशन भी देश की जनता को जगाने व मानसिक तौर पर तैयार करने के लिए किया गया था।

विकसित भारत के परिदृश्य में मीडिया व लोकतंत्र

भारत के पूर्व उप राष्ट्रपति। के अनुसार- मीडिया को लोकतंत्र का चौथा स्तम्भ मानावह मीडिया की भूमिका लोकतांत्रिक व्यवस्था के लिए और भी महत्वपूर्ण हो जाती है। लोकतंत्र के मंदिर संसद और मीडिया एक दूसरे के सहयोगी है। दोनों ने ही संस्था। जन भावनाओं को अभिव्यक्ति देते हैं। आज भारत बढ़ती और बदलती जन अपेक्षाओं के युग में प्रवेश कर रहा है। तब आवश्यक हो जाता है कि। मीडिया व लोकतंत्र पहले से स्थापित पूर्वाग्रहों को त्यागें वजन अपेक्षाओं को स्वीकार करें। विकसित भारतकी दिशा में मीडिया को एक विकास वादी, सकारात्मक राजनीति का वाहक बनाना चाहिए। एक स्वस्थ लोकतंत्र में मीडिया, सरकारों और राजनीतिक दलों के जवाबदेही ही अवश्य तय करें। परन्तु मीडिया के केंद्र में जनसरोकार हो न कि सत्ता संस्थान। भारत जैसे विविधताओँ से भरे देश में। किसी नए स्थान पर चुनाव होते रहते हैं जिससे लोकतंत्र का उत्सव कहा जाता है। वास्तव में चुनाव लोकतंत्र का पवित्र यज्ञ है। जिसमें चुनाव आयोग यह अपील करता है कि सभी मतदाता भाग ले। जिससे एक स्वस्थ लोकतांत्रिक व्यवस्था बनी रहे। इसी दौरान कुछ प्रमुख समाचार पत्रों की सुर्खियों में। पेड़ न्यूज़ फेक न्यूज़ व सोशल मीडिया का अनियंत्रित प्रयोग। ने भी सभी वर्गों का ध्यान अपनी ओर आकर्षित किया। इन विषयों पर मीडिया संस्थान को सम्मिलित रूप से। चिंता करनी चाहिए। और एक व्यावहारिक निदान। की ओर अग्रसर होना चाहिए।क्योंकि पत्रकारिता का मूल उद्देश्य होता है लोकतंत्र को स्वस्थ बनाना। जिसमें मीडिया का कर्तव्य होना चाहिए कि वे जन सरोकार जन भागीदारी को चुनाव का केंद्र में रखें। प्रमुख रूप से डिजिटल मीडिया में अक्सर ये देखा गया है कि जब चुनाव का अवसर आता है तो जातीय विश्लेषण किये जाते हैं जिससे समाज में जाति और सांप्रदायिक विभाजन और गहरे होते हैं। जो स्वस्थ राजनीति के उद्देश्यों का विफल कर रहे हैं।

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भारत में पत्रकारिता का भविष्य

पत्रकारिता का अपना स्वयं एक धर्म होता है। आज के भारत में। अधिकांश लोगों का मन धर्म को लेकर खराब हो जाता है व उनकी स्थिति कुछ छुईमुई जैसे पौधे की हो जाती है। जबकि भारतीय परंपरा में धर्म की बात तथा ट सत्य सनातन की बात के लिए है। धारण के लिए। समाज में हर व्यक्ति, हर एक समूह का अपना एक धर्म होता है। इसको हम उनके कर्तव्य से ले सकते हैं। आज से करीब हजारों वर्ष पूर्व ऐसे ही धर्म की व्याख्या देखी गई थी जिसमें राम के अनुज लक्ष्मण को जब शक्ति लगती है तब उस सख्ती के निदान के लिए हनुमानजी स्वयं सुशील वैद्य के पास जाते हैंजिसमें वैद्य सुसैन अपने। चिकित्सा की शक्ति देने से मना करते हैं तब हनुमानजी उनको धर्म का ज्ञान कराते हैं और कहते हैं कि वैध का धर्म एक रोगी के लिए कहते हैं। वैध और रोगी के बीच एक। अदृश्य संबंध होता है। और इस संबंध का आधार विश्वास होता है। इसलिए वैध को यह कभी नहीं देखना चाहिए की रोगी का काल, देश, परिस्थिति क्या है और वह कौन है। किस स्कूल से है और किस वंश से है? रोगी केवल रोगी होता है। उसका कोई? द्वितीय परिचय नहीं होता। सर्वप्रथम रोगी के निरोग होने के उपरांत ही परिचय प्राप्त किया जा सकता है। ऐसे ही। कुछ धर्म आज भी प्रासंगिक है, जिसमें राजधर्म लोकधर्म। का उल्लेख है। विभिन्न चर्चाओं में प्राप्त होता है।

लोकतंत्र के चौथे स्तंभ में पत्रकारिता का क्या धर्म है? इस पर कई अख्यान व्याख्यान हुए हैं। पत्रकारिता के धर्म से ही इसका भविष्य टिका हुआ है। अगर आज के वर्तमान पत्रकारिता की बात की जाए तो इसकी स्थिति चिंतनीय भी है और उत्साहजनक भी है। पत्रकारिता का भी अपना एक राजधर्म होता है, जिसमें न किसी लिंग, जाति, धर्म। जन्मस्थान के समक्ष समता होती है। पत्रकार किसी भी विषय में किसी से कोई भेदभाव नहीं कर सकता है। उसके लिए गरीब और। जनभागीदार दारी भी बेहद जरूरी होती है।

डिजिटल समाचार रिपोर्ट 2023

यह रिपोर्ट प्रतिष्ठित राइटर्स इंस्टीट्यूट के द्वारा। प्रकाशित डिजिटल समाचार रिपोर्ट दोहा मेमैं दुनिया भर में ऑनलाइन समाचार उपयोग पर टल में महत्वपूर्ण बदलावों का खुलासा किया गया है। राइटर्स इंस्टिट्यूट ऑफ जर्नलिज़म, वाद विवाद, सहभागिता और अनुसंधान के माध्यम से दुनिया भर में पत्रकारिता के भविष्य की खोज के लिए समर्पित है और इसी उद्देश्य से कार्य कर रहा है। इसके प्रमुख बिंदु निम्नवत हैं।

- भारत जैसे देश में ऑनलाइन समाचार उपयोग के बदलते पैटर्न। और भारतीय पारंपरिक समाचार वेबसाइट से हटकर ऑनलाइन समाचार के अपने प्राथमिक स्रोत के रूप में तेजी से सर्च इंजन मोबाइल समाचार। उपभोक्ता इस ओर रुख कर रहे हैं।
- इस रिपोर्ट के माध्यम से। भारतीय समाचार प्रणाली के विषय में केवल 12% लोग प्रत्यक्ष स्रोत जैसे समाचार पत्रों से जबकि प्रतिशत समाचार पढ़ने के लिए सोशल मीडिया का उपयोग कर रहा है।
- वैश्विक परिदृश्य में, एशिया, लैटिन अमेरिका और अफ्रीका के लोग समाचार के लिए सोशल मीडिया पर बहुत ज्यादा निर्भर है।

मीडिया एक व्यक्तिगत विषय है जिसमें विभिन्न देशों की विभिन्न प्राथमिकताएं हैं जैसे। संपन्न देश फिनलेंड और यूके में। 80% में लोगों में पढ़ना प्रमुख हैं। और भारत? जैसे विकासशील व थाईलैंड जैसे देशों से लोग। 40% से ज्यादा ऑनलाइन समाचार देखना पसंद करते हैं। छोटे देशों में फिलिपिंस में लगभग 52% लोग वीडियो समाचार के माध्यम से। जागरूक रहते हैं।

मीडिया पर विश्वास

भारत। जैसे लोकतांत्रिक देश में। समाचारों पर भरोसा। वर्ष। 2021 और 2023 के बीच। लगभग परसेंट के स्तर पर बना हुआ है। और वैश्विक परिदृश्य में फिनलैण्ड में 69%, पुर्तगाल में 58% जबकि लोकतंत्र का जनक संयुक्त राज्य अमेरिका के 32%, अर्जेंटीना में 30%, हंगरी में 25% और ग्रीस जैसे देशों में 19% के। कुछ इस तरह के राजनीतिक ध्रुवीकरण वाले देशों में विश्वास का स्तर कम है।

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संपूर्ण विश्व को विथ जैसी महामारी से आगे अग्रसर हो रहा है तो कोव ने समाचार उद्योग पर भी अपने कुछ नकारात्मक परिणाम को दर्शाया है। जैसे भारत में समाचार पढ़ने और साझा करने दोनों में चिंताजनक गिरावट आयी है। आंकड़ों से पता चला है कि वर्ष। 2022 ऑर 20 ट्वेंटी थर्ड के बीच ऑनलाइन समाचार तक पहुँच में। 12%। की भारी गिरावट दर्ज की गई है। आज की इस डिजिटल क्रांति में टेलीविज़न का स्थान अहम है। ऐसे में टेलीविजन दर्शकों की संख्या में विशेषकर युवा और शहरी व्यक्तियों के बीच भी 10% की कमी दर्ज की गयी है।

जब भी कभी पत्रकारिता की बात होती है तो ऐसे में स्वतंत्रता उनके अनुपूरक में आती है। तो विश्व प्रेस स्वतंत्रता सूचकांक 2023 हाल ही में रिपोर्टर्स विदाउट वाटर द्वारा प्रकाशित सूचकांक जारी किया गया। जिसमें कुल 180 देशों। और क्षेत्रों में पत्रकार व मीडिया आउटलेट की मीडिया, स्वतंत्रता की सीमा का आकलन व मूल्यांकन किया गया। रिपोर्टर्स विदआउट बॉर्डर द्वारा प्रदर्शित सूचकांक प्रदेश देश में मीडिया बलवाद पारदर्शिता, लोकतांत्रिक ढांचे और पत्रकारों की सुरक्षा के मूल्यांकन स्तर पर आधारित है। जिसके प्रमुख बिंदु निम्नवत हैं।

- हालिया प्रकाशित रिपोर्ट 2023 के अनुसार। भारत की रैंकिंग 180 देशों में। वें स्थान पर है। यह निम्न रैंकिंग किसी भी लोकतांत्रिक देश में प्रेस की स्वतंत्रता से महत्वपूर्ण गिरावट का दर्शाती है। इस रिपोर्ट से यह ज्ञात हुआ कि भारत की रैंकिंग पिछले वर्ष की तुलना में 11 पायदान गिरकर 161 पोजिशन पर आए हैं।उल्लेखनीय है कि। यह रैंक स्थान पर थी पिछले वर्ष।
- रिपोर्ट के अनुसार,भारत के पड़ोसी देशों ने भारत से अच्छा प्रदर्शन किया है। जिसमें प्रमुख रूप से पाकिस्तान है,जिसकी रैंकिंग रिपोर्टर्स विदआउट बॉर्डर में 150 भारत के प्रमुख प्रसंस् थानों ने जैसे भारतीय महिला प्रेस कॉर्प्स। प्रेस क्लब ऑफ इंडिया और प्रेस असोसिएशन ने सूचकांक में आयी गिरावट पर अपनी चिंता को व्यक्त किया है। व इन संगठनों ने भारत में प्रेस स्वतंत्रता सूचकांक में बिगड़ती स् थिति और। शत्रुतापूर्ण कामकाजी परिस्थितियों के कारण प्रेस की स्वतंत्रता में आने वाली बाधाओं पर अपनी गहरी चिंता व्यक्त की है।

एक ओर जहाँ संपूर्ण विश्व। नई डिजिटल क्रांति के दौर में है। ऐसे में भारत में इंटरनेट रिपोर्ट 2022 के अनुसार अधिकांश भारतीय इंटरनेट उपयोगकर्ता बन गए हैं। ऑफिस भारत इंटरनेट रिपोर्ट 22 के। मायने डिजिटल मीडिया व सोशल मीडिया के लिए। व्यापक है। आज इस तरीके डिजिटल क्रांति का दौर है। उसमें सोशल मीडिया की अपनी महती भूमिका। सोशल मीडिया से समाचार तुरन्त एक जगह से दूसरी जगह न जाकर। बल्कि एक जनमत का भी रूप लेता है जिसमें जनता सीधे अपने विचार प्रस्तुत कर सकती है। भारत जैसे देश के लिए यह उल्लेखनीय है कि शहरी भारत में इंटरनेट प्रवेश स्तर केवल 6% थी जो अब 14% हो गई है। व 54% सक्रिय इंटरनेट उपयोगकर्ता पुरुष थे जो। 2022 के अंत में 57 हो गए हैं। वह यह एक अनुमान है कि वर्ष 2025 तक 65% नए उपयोगकर्ताओं में महिलाएं भी होंगी, जो लैंगिक अंतराल को पाटने में मदद करेंगी।

निष्कर्ष

पत्रकारिता लोकतंत्र का अभिन्न अंग है। पति पल परिवर्तित होने वाले जीवन और जगत का दर्शन समझना केवल पत्रकारिता द्वारा ही आज के समय में संभव है। परिस्थितियों के अध्ययन, चिंतन, मनन और आत्म अभिव्यक्ति की परख, दूसरों का कल्याण और लोक मंगल की भावना ने ही पत्रकारिता को जन्म दिया। समय ज्ञान का व्यवसाय ही पत्रकारिता की उपयोगिता व महत्त्व को परिलक्षित करते हैं। जिसमें जनता को सूचित करना, शिक्षित करना, लोकतंत्र और अभिव्यक्ति की स्वतंत्रता को कायम रखना, सामाजिक न्याय और मानवाधिकारों की। पुरज़ोर वकालत करना भी शामिल है। भारत जैसे लोकतांत्रिक देश में। पत्रकारिता के महत्त्व को कम करके नहीं आंका जा सकता। यह एक आठ सत्य है। कि लोकतंत्र को कायम। मैं पत्रकारिता की अपनी महती भूमिका है जिसमें अभिव्यक्ति की स्वतंत्रता। अपने चरमोत्कर्ष पर है। पत्रकारिता की खोजी भूमिका और जानकारीपूर्ण। साधन के माध्यम से पत्रकारिता नागरिको को सशक्त बनाती है, सामाजिक न्याय को बढ़ावा देती है और सरकार को जवाबदेह भी बनाती है। आज बदलते भारत? व विकसित भारत मीडिया पर आदर्श। मैं पत्रकारिता के नए आयाम

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स्थापित हो रहे हैं, जिसमें नैतिक पत्रकारिता के सिद्धांतों का समर्थन करना भी आवश्यक है और उन्हें बनाए रखना महत्वपूर्ण है। पत्रकारिता। को सुनिश्चित करना है कि यह आवश्यक संस्थान आगे बढ़ता रहे। जिसके मूलभूत। सिद्धांत में ईमानदारी और समर्पण के साथ राष्ट्र की सेवा ही सर्वोपरि रहे।मीडिया व लोकतंत्र के बदलते पर देश में मीडिया ने अपनी। सामाजिक भूमिका के माध्यम से जनमानस में राष्ट्रप्रेम की भावना के विकास में योगदान दिया है व। लोगों में वैज्ञानिक दृष्टिकोण। को बढ़ावा देने में अपनी उपयोगिता दिखाई है। आज के दौर में, सवस्थ मनोरंजन की सामग्री भी हमें डिजिटल मीडिया के माध्यम से प्राप्त हो रही है वह। प्रमुख महत्वपूर्ण धार्मिक, सांस्कृतिक पक्षों का विभिन्न पहलुओं का निष्पक्ष विवेचना भी आज की पत्रकारिता में हो रही है। सरकार की विभिन्न जन कल्याण की नीतियों की भी विवेचना व प्रसारण मीडिया द्वारा किया जा रहा है। भारत जैसे विविध सांस्कृतिक देशों से सर्व धर्म समभाव की भावना को पुष्ट किया जा रहा है। और इस शोध पत्र के अंत में पत्रकारिता के लिए प्रथम और अंतिम उद्देश्य राष्ट्र प्रथम और राष्ट्र अंतिम ही है।

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Machine Learning–Driven Real-Time Detection and Classification of Crop Diseases Using IoT-Enabled Smart Farming Systems

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Introduction

This study implemented and evaluated a fully functioning IoT-enabled smart farming system that integrates edge and cloud machine learning (ML) models for real-time detection, classification, and alerting of crop diseases. The project deployed low-cost field sensors and camera modules across experimental plots of tomato and soybean crops to collect multisource input (leaf images, ambient temperature, humidity, and soil moisture). Edge devices performed preliminary image preprocessing and lightweight convolutional neural network (CNN) inference to detect symptomatic leaves; suspicious samples were sent to a cloud server for robust multi-class classification using a deeper CNN ensemble. The system delivered real-time notifications to farmers and logged incidents into a central dashboard for further agronomic recommendations. Over two cropping seasons, the platform processed 18,450 images and correlated disease classification outputs with manual expert diagnoses and laboratory confirmations to evaluate accuracy, latency, and practical utility.

Theoretical Background of the Study

This research is grounded in three theoretical strands: (1) Precision Agriculture theory, which posits that timely, spatially resolved information improves input efficiency and crop health; (2) Pattern Recognition and Deep Learning theory, which underpins automated disease detection via feature learning from images; and (3) Cyber-Physical Systems (CPS) and IoT theory, which describe how distributed sensing, networked processing, and actuation form an intelligent decision-support loop. Combining these perspectives, the study tests the hypothesis that integrated ML+IoT systems can provide accurate, early-stage disease detection and support targeted management decisions that reduce crop losses.

Significance of the Study

The study demonstrates a scalable, low-cost approach for continuous disease surveillance in small-to-medium farms, offering several benefits: (1) earlier identification of disease outbreaks enabling timely interventions, (2) reduction in blanket pesticide applications through targeted treatment, (3) objective documentation of field health for extension services, and (4) evidence for policymakers and agri-tech developers on practical constraints of field deployment (connectivity, power, model drift). The results provide actionable guidelines for farmers, extension officers, and technology providers seeking to implement ML-driven plant-health monitoring in resource-constrained settings.

Statement of the Problem

Crop diseases and pest outbreaks cause substantial yield losses annually. Traditional scouting and laboratory diagnosis are time-consuming and reactive. There is a need for an automated, accurate, and real-time system that can detect and classify crop diseases in the field to trigger prompt, site-specific management. This study addresses the problem by developing and empirically validating an IoT-integrated ML system for real-time disease detection and classification.

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Operational Definition of Key Terms

- **IoT-Enabled Smart Farming System:** Network of field sensors, cameras, edge devices, and cloud services that collect, transmit, and process agronomic data for decision support.
- **Real-Time Detection:** Identification of symptomatic plant conditions within a timeframe (≤ 2 minutes for edge detection; ≤ 30 seconds additional for cloud classification) that allows immediate action.
- **Disease Classification:** Assignment of detected symptoms to a disease class (e.g., late blight, bacterial spot, foliar fungal infection) with a confidence score.
- **Edge Inference:** ML model execution on a local device (Raspberry Pi / microcontroller + camera) to reduce latency and bandwidth.
- **Ground Truth:** Expert agronomist field diagnosis and laboratory confirmation used as the reference label for model evaluation.

Variables

- **Independent Variable:** Deployment of the ML–IoT detection system (system active vs. system inactive/baseline manual scouting).
- **Dependent Variables:** Detection accuracy (precision, recall, F1), classification accuracy across disease classes, time-to-detection (latency), false alarm rate, and agronomic outcomes (disease incidence reduction, pesticide usage).

Objectives of the Study

1. To design and deploy an IoT-enabled architecture combining edge and cloud ML for real-time crop disease detection and classification.
2. To evaluate the detection and classification accuracy of the system against expert ground truth.
3. To measure system latency, false alarm rate, and field robustness under varying environmental conditions.
4. To assess agronomic impact: change in disease incidence and pesticide application frequency in monitored plots.
5. To identify practical deployment challenges and propose best-practice recommendations for scale-up.

Research Questions of the Study

1. How accurately does the ML–IoT system detect symptomatic plants in real field conditions?
2. What is the multi-class classification accuracy for the targeted crop diseases?
3. How quickly can the system detect and classify disease events (system latency)?
4. Does the continuous monitoring system reduce disease incidence and pesticide applications compared to conventional scouting?
5. What operational challenges (connectivity, power, model drift) affect system performance?

Scope of the Problem

The investigation focused on two economically important crops (tomato and soybean) across small-plot farms in a single agro-climatic zone. The study concentrated on foliar diseases identifiable via optical imaging and correlated environmental sensors, not on root or systemic diseases requiring destructive sampling. Findings are generalizable to similar cropping systems with caveats on scale and disease spectra.

Delimitation and Area

- Study area: Three experimental farm clusters in the research district (total 18 hectares).
- Crops: Tomato (Solanum lycopersicum) and soybean (Glycine max).

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- Timeframe: Two consecutive cropping seasons (monsoon and post-monsoon).
- Exclusions: Post-harvest disease monitoring and soil-borne pathogen classification.

Research Methodology

- Research Design- An applied experimental-cum-quasi-experimental design: an intervention group with IoT–ML monitoring and a matched control group relying on conventional scouting. Mixed-methods evaluation combined quantitative performance metrics and qualitative farmer feedback.
- Population- Smallholder and medium-size farms cultivating tomato and soybean in the selected district.
- Sample- Intervention: 12 farms (total 9 hectares) instrumented with IoT nodes.
  - Control: 12 matched farms (9 hectares) with standard scouting.
  - Data samples: 18,450 leaf images; 10,320 sensor readings; 720 field inspection records.

Sampling Method

Purposive selection of farms with similar crop management practices, followed by random allocation to intervention or control within matched strata (farm size, cultivar).

Source of Data

Primary: Field-collected images, sensor logs, expert field diagnoses, laboratory pathogen confirmations, farmer-recorded pesticide applications. Secondary: Local extension records and agronomic guidelines.

Research Tool

- Hardware: Raspberry Pi + camera modules for edge nodes, low-power environmental sensors (temperature, RH, soil moisture), 4G modems/LoRa gateways.
- Software: Edge preprocessing pipelines, lightweight MobileNetV2 for on-device detection, cloud-based ensemble (ResNet50 + EfficientNet) for classification, dashboard for alerts.
- Validation instruments: Standardized field inspection checklist and laboratory PCR/plate culture confirmation for a subset.

Data Collection

Automated continuous collection of images and environmental readings during daylight hours; scheduled expert inspections twice weekly; random laboratory sampling of 240 suspected symptomatic leaves for pathogen confirmation. Farmer logs collected weekly for pesticide usage and yield estimates.

Statistical Analysis of Data

- Performance metrics: Precision, recall, F1-score, accuracy, ROC-AUC per class.
- Latency analysis: median and 95th percentile detection/classification times.
- Comparative agronomic outcomes: t-tests and ANCOVA comparing disease incidence and pesticide usage between intervention and control (adjusting for baseline differences).
- Time-series analysis for sensor-based predictors (cross-correlation, LSTM forecasting experiments).
- Error analysis stratified by illumination, occlusion, and leaf age.

Findings of the Study

1. The two-tier edge-cloud architecture enabled rapid flagging (median edge detection latency = 45 seconds) and robust classification (median additional cloud processing = 8.2 seconds).

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2. The ensemble classifier achieved 82.4% overall accuracy; best performance was for late blight (90.1%) and bacterial spot (87.3); lower for nutrient-deficiency mimic symptoms (75%).
3. Sensor fusion (environmental context) improved classification confidence by 5–7% and aided early risk alerts.
4. Intervention farms experienced a 21% reduction in disease incidence and an 18% reduction in pesticide application frequency compared to controls over the seasons.
5. Operational constraints—intermittent connectivity, battery maintenance, and model performance degradation due to seasonal phenology changes—were observed and addressed via scheduled local retraining and hybrid connectivity fallback (LoRa + 4G).

Summary

The implemented ML–IoT system demonstrated field-ready performance for real-time detection and classification of foliar diseases in tomato and soybean, delivering measurable agronomic benefits.

Conclusions

Integrated edge-cloud ML systems can significantly improve early detection, reduce unnecessary pesticide use, and support targeted interventions. System robustness requires attention to power, connectivity, and continuous model maintenance.

Recommendations

- Scale pilot deployments with community-shared gateways to reduce costs.
- Integrate active learning pipelines to incorporate field-validated new samples for periodic retraining.
- Provide farmer training on dashboard interpretation and trust-building with human-in-the-loop confirmations.
- Work with extension agencies to integrate alerts into existing advisory workflows.

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उच्च माध्यमिक छात्रों के गणितीय प्रदर्शन पर शिक्षकों की संज्ञानात्मक शैली एवं अभिक्षमता के अंतःक्रियात्मक प्रभाव: एक विस्तृत अध्ययन

प्रियंका बिरनवार
शोधार्थी आंजनेय विश्वविद्यालय
नरदहा, रायपुर, छत्तीसगढ़

परिचय

गणित विद्यालयी शिक्षा का वह अनिवार्य घटक है जो तार्किक सोच, समस्या-समाधान क्षमता, विश्लेषणात्मक दृष्टिकोण तथा वैज्ञानिक अधिगम का आधार प्रदान करता है। उच्च माध्यमिक स्तर पर गणित का अधिगम छात्र के भविष्य की शैक्षणिक एवं व्यावसायिक प्रगति को निर्णायक रूप से प्रभावित करता है। इस स्तर पर विद्यार्थियों की उपलब्धि केवल उनकी व्यक्तिगत क्षमता पर निर्भर नहीं रहती, बल्कि शिक्षक की संज्ञानात्मक शैली, अभिक्षमता तथा शिक्षण व्यवहार का उन पर गहरा प्रभाव पड़ता है।

शिक्षक की संज्ञानात्मक शैली इस बात को निर्धारित करती है कि वह जानकारी को कैसे ग्रहण करता है, उसे कैसे व्यवस्थित करता है तथा कक्षा में किस प्रकार प्रस्तुत करता है। वहीं, अभिक्षमता उसके शिक्षण-निर्णयों, रणनीतियों एवं गणितीय अवधारणाओं की स्पष्टता को दिशा प्रदान करती है। यदि शिक्षक की संज्ञानात्मक शैली और अभिक्षमता के मध्य उपयुक्त अंतःक्रिया स्थापित होती है, तो वह गणितीय अधिगम को अधिक रोचक, स्पष्ट और उपलब्धि-उन्मुख बना सकती है। इन दोनों तत्वों की संयुक्त भूमिका पर किए गए अध्ययनों की संख्या अभी भी सीमित है, विशेषकर भारतीय संदर्भ में। इसी पृष्ठभूमि में यह शोध उच्च माध्यमिक छात्रों के गणितीय प्रदर्शन पर शिक्षकों की संज्ञानात्मक शैली एवं अभिक्षमता के अंतःक्रियात्मक प्रभाव को विश्लेषित करने के उद्देश्य से किया गया है।

अध्ययन की सैद्धांतिक पृष्ठभूमि

यह अध्ययन तीन प्रमुख सिद्धांतों पर आधारित है—

(1) संज्ञानात्मक शैली सिद्धांत (Cognitive Style Theory – Witkin, 1977)- यह सिद्धांत बताता है कि व्यक्ति किस प्रकार जानकारी को ग्रहण करता है तथा उसे मानसिक रूप से व्यवस्थित करता है। Field-Dependent और Field-Independent शैली गणित के शिक्षण-प्रक्रिया पर विशेष प्रभाव डालती है।

(2) शिक्षक अभिक्षमता सिद्धांत (Teacher Aptitude Theory)- अभिक्षमता शिक्षण कौशल का वह आधार है जो विषयज्ञान, प्रस्तुतीकरण, निर्णय क्षमता एवं अनुकूलनशीलता को प्रभावित करता है। उच्च अभिक्षमता वाले शिक्षक गणितीय अवधारणाओं को अधिक प्रभावी ढंग से प्रस्तुत करने में सक्षम होते हैं।

(3) सामाजिक-संज्ञानात्मक अधिगम सिद्धांत (Bandura, 1986)- इस सिद्धांत के अनुसार शिक्षक की शैली, व्यवहार और दक्षता छात्र के अधिगम वातावरण को आकार देती है और यह मॉडलिंग, प्रेरणा तथा अपेक्षाओं के माध्यम से छात्रों के प्रदर्शन पर प्रभाव डालती है।

अध्ययन का महत्व

- यह स्पष्ट करता है कि शिक्षक की संज्ञानात्मक शैली और अभिक्षमता गणितीय उपलब्धि के निर्धारक कारक हैं।
- इसके निष्कर्ष शिक्षक-प्रशिक्षण कार्यक्रमों में सुधार हेतु उपयोगी सिद्ध हो सकते हैं।

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- यह अध्ययन विद्यालयों में गुणवत्तापूर्ण शिक्षण- वातावरण विकसित करने में उपयोगी दिशा प्रदान करता है।
- नीतिगत स्तर पर यह शोध बताता है कि गणित के परिणाम सुधारने हेतु केवल छात्र-केंद्रित रणनीतियाँ पर्याप्त नहीं हैं, बल्कि शिक्षक की पेशेवर विशेषताओं पर भी ध्यान आवश्यक है।

समस्या का विवरण

हालाँकि अनेक विद्यालयों में गणित विषय के प्रति शिक्षण-सामग्री और संसाधनों की उपलब्धता है, फिर भी उच्च माध्यमिक स्तर पर विद्यार्थियों का गणितीय प्रदर्शन संतोषजनक नहीं पाया जाता। शिक्षकों की संज्ञानात्मक शैली एवं अभिक्षमता में अंतर होने से विभिन्न कक्षाओं में उपलब्धि में भिन्नता देखी जाती है। समस्या यह है कि दोनों कारकों के अंतःक्रियात्मक प्रभाव को अभी तक पर्याप्त रूप से व्यवस्थित अध्ययन के अंतर्गत नहीं लाया गया है। अतः अध्ययन की समस्या इस प्रकार है— **"क्या शिक्षकों की संज्ञानात्मक शैली और अभिक्षमता के संयुक्त (interactive) प्रभाव से उच्च माध्यमिक स्तर के विद्यार्थियों के गणितीय प्रदर्शन में महत्वपूर्ण भिन्नता उत्पन्न होती है?"**

प्रमुख शब्दों की परिचालन परिभाषा

1. संज्ञानात्मक शैली (Cognitive Style)- शिक्षक का वह विशिष्ट तरीका जिसके माध्यम से वह जानकारी को ग्रहण, संसाधित एवं प्रस्तुत करता है। इसे मानकीकृत संज्ञानात्मक शैली मापक के माध्यम से मापा गया।

2. अभिक्षमता (Aptitude)- शिक्षक की गणित विषय से संबंधित अंतर्निहित क्षमता जिसमें समझ, प्रस्तुतीकरण, निर्णय एवं शिक्षण कौशल सम्मिलित हैं। इसे शिक्षक अभिक्षमता मापक द्वारा मापा गया।

3. गणितीय प्रदर्शन (Mathematical Performance)- उच्च माध्यमिक विद्यार्थियों की गणित विषय में उपलब्धि, जिसे शोधकर्ता द्वारा विकसित उपलब्धि परीक्षा तथा विद्यालयीय अंकों के आधार पर मापा गया।

चर

(1) स्वतंत्र चर (Independent Variables)- शिक्षकों की संज्ञानात्मक शैली, शिक्षकों की अभिक्षमता

(2) आश्रित चर (Dependent Variable)- उच्च माध्यमिक छात्रों का गणितीय प्रदर्शन

अध्ययन के उद्देश्य

1. शिक्षकों की संज्ञानात्मक शैली का विद्यार्थियों के गणितीय प्रदर्शन पर प्रभाव ज्ञात करना।
2. शिक्षकों की अभिक्षमता का विद्यार्थियों के गणितीय प्रदर्शन पर प्रभाव का अध्ययन करना।
3. शिक्षकों की संज्ञानात्मक शैली और अभिक्षमता के अंतःक्रियात्मक प्रभाव का विश्लेषण करना।
4. छात्रों के प्रदर्शन में देखी गई उपलब्धि-भिन्नताओं के संभावित कारणों की पहचान करना।

अध्ययन के शोध प्रश्न

1. क्या शिक्षकों की संज्ञानात्मक शैली का उच्च माध्यमिक विद्यार्थियों के गणितीय प्रदर्शन पर महत्वपूर्ण प्रभाव पड़ता है?
2. क्या शिक्षकों की अभिक्षमता गणितीय उपलब्धि को प्रभावित करती है?
3. क्या दोनों कारकों का संयुक्त प्रभाव छात्रों के गणितीय प्रदर्शन पर पड़ता है?

समस्या का क्षेत्र

यह अध्ययन गणित विषय तक सीमित है तथा शिक्षकों की मनोवैज्ञानिक विशेषताओं को छात्र-उपलब्धि के संदर्भ में विश्लेषित करता है। अध्ययन केवल सरकारी एवं निजी विद्यालयों तक सीमित है।

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सीमांकन और क्षेत्र

- अध्ययन केवल उच्च माध्यमिक कक्षा (11वीं–12वीं) तक सीमित।
- केवल गणित विषय को शामिल किया गया।
- नमूना केवल चयनित विद्यालयों से लिया गया।
- केवल दो शिक्षक-विशेषताएँ अध्ययन में शामिल— संज्ञानात्मक शैली एवं अभिक्षमता।

साहित्य की समीक्षा

1. Sharma (2018)- अध्ययन में पाया गया कि शिक्षक की संज्ञानात्मक शैली गणितीय त्रुटियों को पहचानने तथा अवधारणाओं को स्पष्ट करने की क्षमता को प्रभावित करती है। Field-independent शैली वाले शिक्षक छात्रों की उपलब्धि बढ़ाने में अधिक सक्षम पाए गए।

2. Bose & Verma (2019)- शोध में बताया गया कि शिक्षक अभिक्षमता गणितीय अध्यापन की गुणवत्ता का प्रमुख निर्धारक है। उच्च अभिक्षमता वाले शिक्षकों की कक्षाओं में उपलब्धि औसतन 15% अधिक पाई गई।

3. Qureshi (2020)- अध्ययन ने संज्ञानात्मक प्रवृत्ति एवं शिक्षण रणनीतियों के मध्य संबंध को रेखांकित किया। निष्कर्ष के अनुसार शिक्षक की मानसिक संगठन शैली छात्रों की सीखने की गति निर्धारित करती है।

4. Deshmukh (2021)- शोध में अभिक्षमता और गणितीय प्रदर्शन के मध्य सकारात्मक सहसंबंध पाया गया। विशेष रूप से समस्या-समाधान आधारित शिक्षण उच्च उपलब्धि का कारण बना।

5. Singh & Pandey (2022)- अध्ययन में दोनों कारकों के संयुक्त प्रभाव की ओर संकेत किया गया, परन्तु अंतःक्रिया का विश्लेषण व्यवस्थित रूप से नहीं किया गया।

शोध अंतराल

यद्यपि कुछ अध्ययनों ने संज्ञानात्मक शैली और अभिक्षमता के प्रभावों का स्वतंत्र रूप से अध्ययन किया है, परंतु—

- दोनों के **संयुक्त (interactive) प्रभाव** का विश्लेषण बहुत कम हुआ है।
- भारतीय उच्च माध्यमिक संदर्भ में ऐसे अध्ययन दुर्लभ हैं।
- शिक्षकों की मनोवैज्ञानिक विशेषताओं को छात्र-उपलब्धि से जोड़ने वाले मॉडल अभी अपर्याप्त हैं।

यह अध्ययन इन शोध-अंतरालों को भरने का प्रयास करता है।

शोध पद्धति

(a) शोध डिज़ाइन- वर्णनात्मक-विश्लेषणात्मक (Descriptive-Correlational) तथा Ex-Post Facto डिज़ाइन।

(b) जनसंख्या - छत्तीसगढ़ राज्य के चयनित जिलों के उच्च माध्यमिक विद्यालयों के गणित शिक्षक एवं छात्र।

(c) न्यादर्श - 30 गणित शिक्षक, 300 विद्यार्थी (प्रत्येक शिक्षक की कक्षा से 10 छात्र)

(d) न्यादर्श विधि - स्तरीकृत यादृच्छिक नमूनाकरण

(e) आंकड़ों का स्रोत -

- प्राथमिक डेटा : मापक उपकरण, उपलब्धि परीक्षण
- द्वितीयक डेटा : विद्यालयी अभिलेख, संबंधित साहित्य

शोध उपकरण

1. **संज्ञानात्मक शैली मापक (Cognitive Style Inventory)** – शोधकर्ता द्वारा अनुकूलित।
2. **शिक्षक अभिक्षमता मापक** – मानकीकृत उपकरण।
3. **गणितीय उपलब्धि परीक्षा** – शोधकर्ता द्वारा विकसित और सत्यापित।

आंकड़ों का संग्रह

विद्यालयों से अनुमति लेकर शिक्षकों एवं छात्रों को उपकरण प्रशासित किए गए। छात्रों के अंकों का सत्यापन विद्यालयी रिकॉर्ड से किया गया।

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आंकड़ों का सांख्यिकीय विश्लेषण

- Mean, SD
- t-test
- Two-way ANOVA (संज्ञानात्मक शैली × अभिक्षमता)
- सहसंबंध (Correlation)

सारणीकरण और व्याख्या

सभी परिणाम तालिकाओं में प्रस्तुत किए गए और प्रत्येक तालिका के बाद उसके सांख्यिकीय अर्थ तथा व्यावहारिक निहितार्थों की व्याख्या प्रदान की गई।

परिकल्पना का परीक्षण और सिद्धि

Two-way ANOVA ने दर्शाया कि—

- संज्ञानात्मक शैली का प्रभाव **महत्वपूर्ण** है।
- अभिक्षमता का प्रभाव **अत्यंत महत्वपूर्ण** पाया गया।
- दोनों का संयुक्त प्रभाव **सांख्यिकीय रूप से महत्वपूर्ण** है ($p < 0.01$)।

अध्ययन के निष्कर्ष

1. संज्ञानात्मक शैली छात्रों के गणितीय प्रदर्शन को महत्वपूर्ण रूप से प्रभावित करती है।
2. उच्च अभिक्षमता वाले शिक्षकों की कक्षाओं में विद्यार्थी अधिक उपलब्धि प्राप्त करते हैं।
3. दोनों कारकों का अंतःक्रियात्मक प्रभाव छात्रों की उपलब्धि में निर्णायक भूमिका निभाता है।
4. जिन शिक्षकों की शैली संरचनात्मक, संगठित एवं विश्लेषणात्मक पाई गई, उनके छात्रों के प्रदर्शन बेहतर थे।

सारांश

अध्ययन से स्पष्ट है कि शिक्षक की मानसिक संरचना, कार्य-प्रणाली, निर्णय क्षमता एवं विषय-ज्ञान, गणितीय उपलब्धि को अत्यधिक प्रभावित करते हैं।

निष्कर्ष

गणितीय उपलब्धि में सुधार हेतु शिक्षक की संज्ञानात्मक शैली और अभिक्षमता को प्रशिक्षण कार्यक्रमों में प्राथमिकता दी जानी चाहिए।

सिफारिशें

- शिक्षक-प्रशिक्षण में संज्ञानात्मक शैली निदान को शामिल किया जाए।
- अभिक्षमता-विकास कार्यक्रम लागू किए जाएँ।
- विद्यालयों में गणित शिक्षकों के लिए निरंतर व्यावसायिक विकास (CPD) अनिवार्य किया जाए।

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Humanistic and Values-Based Education in the NEP 2020 - IKS Framework

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INTRODUCTION

Education is an intense process of shaping individuals into responsible ethical and empathetic members of society. The National Education Policy 2020 (NEP 2020) has brought significant attention to the importance of humanistic and values-based education in India. By integrating the Indian Knowledge System (IKS) into mainstream education, NEP 2020 aims to cultivate learners who are not only academically proficient but also ethically aware, culturally rooted, and socially responsible. Human values such as truth, nonviolence, compassion, respect, duty, and integrity form the foundation of a just and inclusive society. NEP 2020 acknowledges that integrating these values into the educational process is essential for nurturing well-rounded individuals who are not only academically competent, but also morally and socially conscious. The policy calls for a shift from rote learning to experimental, enquiry-based and value-oriented education, aiming to cultivate both critical thinking and character.

This paper examines the philosophical understanding and practical applications of NEP 2020 in relation to humanistic and value- based education and proposes a model for holistic learning. Drawing from Indian knowledge system (IKS), global educational theory and contemporary pedagogical practices, it seeks to establish a framework through which values can be meaningfully infused into the curriculum, teacher training, and school culture. The goal is to explore how education's role in promoting not only employability and innovation, but also ethical citizenship and personal fulfilment. NEP 2020's emphasis on value-based education is rooted in the country's rich philosophical and ethical traditions. By linking traditional values with modern educational needs, NEP 2020 seeks to foster ethical and moral growth in students. This approach is essential for promoting world peace, social cohesion, and individual well-being.

Features of Humanistic and Values-Based Education in NEP 2020

- **Value-Based Education:** NEP 2020 places a strong emphasis on value-based education, aiming to develop students' moral, spiritual, psychological, and cultural identities.
- **Integration with IKS:** The inclusion of IKS in the curriculum helps students appreciate India's rich cultural heritage and promotes a sense of national pride.
- **Holistic Development:** NEP 2020's focus on humanistic and values-based education aims to cultivate learners who are not only academically proficient but also socially responsible and emotionally intelligent.

RESEARCH OBJECTIVES

1. To analyze the provision and vision of the national education policy NEP 2020 related to humanistic and value- based education.

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2. To examine how Indian knowledge system IKS and culture traditions contribute to the promotion of human values in education.
3. To identify challenges and opportunities in implementing value- based education within the current educational landscape of India.

III.IMPACT OF NEP 2020 ON VALUE-BASED EDUCATION

The implementation of NEP 2020 is expected to have a profound impact on value education in India. By incorporating value-based teaching into the curriculum, NEP 2020 aims to help students develop essential life skills, such as:

- **Ethical Decision-Making:** Students will learn to recognize and act ethically in complex situations.
- **Cultural Awareness:** The inclusion of IKS will promote cultural awareness and appreciation among students.
- **Social Responsibility**: NEP 2020's emphasis on social responsibility will help students become active contributors to society.
- **Respect for Diversity:** Encouraging inclusivity and appreciation for different cultures and perspectives.
- **Character Building:** Developing integrity, discipline, and perseverance.

The need for value education has become increasingly important in today's world, where technological advancements and social media have transformed the way students interact and perceive morality. NEP 2020 recognizes this and aims to integrate value-based learning into India's education system.

1. Principles of Value Education in NEP 2020

NEP 2020 recognizes that education must not only provide knowledge and skills but also help students develop a strong moral and ethical foundation. The policy emphasizes:

- **Character Development:** Encouraging traits such as honesty, compassion, respect, and responsibility.
- **Ethical Decision-Making:** Teaching students to analyze moral dilemmas and make principled choices.
- **Social Responsibility: I**nstilling a sense of civic duty, sustainability, and inclusivity.
- **Indian Knowledge Systems (IKS):** Integrating traditional wisdom, spiritual teachings, and ethical principles from Indian culture.
- **Global Citizenship:** Fostering cross-cultural understanding and universal human values.
- **Focus on Holistic development:** NEP 2020 advocates for multi deception and holistic approach to education
- **Primary and foundational learning:** the foundational stage (ages 3 -8)is considered critical for value inculcation.
- **Teachers as Idol:** The policy underscores the role of teachers as moral and ethical role models.
- **Practical based and participatory learning:** The internalized values, the policy encourages experimental learning method such as group activities, storytelling, role-play, debates, and community- engagement.
- **Evaluation reform:** NEP2020 calls for a transformation in assessment from rote memorization to competence-based evaluation.

2. **Integration of value education inNEP2020:** NEP 2020 introduces value-based education through curricular, co-curricular, and experiential learning methods. Some of the key reforms include

- **Comprehensive and Multidisciplinary Education:** The policy promotes flexible subject combinations, allowing students to explore ethics, philosophy and social sciences alongside core subjects, Moral education is embedded across disciplines, ensuring that ethical discussions are

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included in science, technology, and even vocational courses.

- **Practical Learning for Value Education:** NEP 2020 encourages learning beyond textbooks by incorporating Storytelling, case studies, and role-playing to teach moral values. Community engagement projects to instill social responsibility. Internship and fieldwork that promote ethical work practices.
- **Indian knowledge systems and cultural values:** The policy promotes traditional Indian values, yoga, meditation, and teachings from ancient scriptures such as the Bhagavad Gita and Upanishads. Indigenous knowledge and environmental ethics are incorporated into school curriculums.
- **Emphasis on Social-Emotional Learning (SEL):**NEP 2020 recognizes the importance of mental health and emotional intelligence. Schools are encouraged to integrate SEL programs that foster empathy, self-awareness, and interpersonal skills.
- **Vocational Learning and Life Skill** The policy integrates practical skills with ethical training, ensuring that students develop both technical competencies and moral integrity. Entrepreneurship and leadership training include discussions on ethical business practices and corporate social responsibility (CSR).
- **Evaluation and Assessment of Value Education** One of the major challenges of value education is assessing ethical growth. NEP 2020 proposes new evaluation techniques:
- **Qualitative Evaluation: I**nstead of traditional exams, students' moral development is assessedthrough: Reflections and self-assessments, peer evaluations and collaborative projects, Portfolios and real-world applications
- **Comprehensive Progress Cards**: Schools will maintain multi-dimensional progress reports that evaluate academic, social, and ethical learning.
- **Contribution of Teachers and Schools in Value Education** Teacher Training Programs: NEP 2020 emphasizes professional development to help teachers in corporate value education in their pedagogy. School Culture and Environment Institutions are encouraged to create inclusive and value-driven learning spaces.
- **Guidance Programs** Senior students and professionals will guide younger students in ethical decision-making.

3. Issues in Implementing Value Education:

Despite its many benefits, the integration of value education faces some challenges:

- ❖ Lack of standardized curriculum for moral and ethical education.
- ❖ Teacher preparedness and training gaps in delivering value-based education.
- ❖ Resistance to change from traditional academic-focused learning.
- ❖ Balancing ethics with competitiveness, ensuring students are both skilled and morally responsible.

INDIAN KNOWLEDGE SYSTEM (IKS) AND ETHICAL VALUES CONTRIBUTE TO THE PROMOTION OF HUMANISTIC AND VALUE-BASED EDUCATION

Indian knowledge system (IKS) represents a vast reservoir of wisdom encompassing, philosophy, science, literature, medicine, art, and spirituality that has evolved over millennia. Rooted in the divorce, culture and spiritual traditions of India, IKS offers profound insights into ethical living, harmonious existence and holistic human development. This system transcends academic knowledge, embedding deep-rooted human values that can enrich modern education.

- ❖ **Cultural and Ideological foundations:** the Ideological school of Indian concepts such as Satya (truth), Aahinsa (nonviolence), Karuna (compassion) and Dharma (righteous duty) These serve as foundational principles

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that guide cultural behaviour and moral reasoning. - Integrating these concepts into education nurtures not only cognitive skills but also moral consciousness and character.

- **Indian Heritage and Literature**: Our holy books Ramayana, Mahabharata, Shrimad Bhagwat Geeta and Panchatantraarerichsourcesofstoriesillustratingrespect,duty,justice,courage,humility. When used in classrooms They serve as narrative tools for value education. They engage students, emotionally and intellectually, making values more relatable and internalized.
- **Yoga and meditation practices:** Yoga, a key component of IKS is not just a physical practice, but a holistic discipline that fosters self- awareness, discipline, emotional regulation and inner peace. Practices like Yama and Niyama (ethical codes from Patanjali's Yoga, Sutra) meditation and breathing techniques (pranayama). This can be incorporated into daily school routines to instill calmness, compassion and focus in learners.
- **Vedic and Sustainable Ethics:** Ayurveda the ancient Indian system of medicine emphasizes balance, harmony with nature and self -care, promoting values like simplicity, sustainability, and respect for life. Environmental ethics found in Indian traditions. e.g.the concept of Prakriti as sacred, a line closely with modern sustainability and can help faster eco-consciousness in students.
- **Vedic school custom and teacher, student-relationship:** The traditional Gurukul system emphasized value transmission through living examples where the teacher was not just an academic guide, but a moral mentor. This tradition promoted lifelong learning (brahmacharya) respect, humility and obedience, self-reliance and community service.
- **Festivals, tradition, and ethnic practices:** Indian cultural traditions including festivals, folk arts, and community rituals often carry embedded messages of gratitude, unity, sharing and independence. Schools can integrate these into co-curricular activities to build cultural literacy and moral values, foster a sense of identity and respect for diversity

ISSUESAND OPPORTUNITIES IN IMPLEMENTING VALUE- BASED EDUCATION

ISSUES

While NEP 2020's emphasis on humanistic and values-based education presents several opportunities, it also poses challenges. Some of the key issues include:

- **Curriculam Credibility:** Integrating IKS into modern education requires careful curricular validation to ensure academic rigor and relevance.
- **Educator Training**: Educators need training and support to effectively teach value-based education and IKS.
- **Framework and Scheme:** Implementing NEP 2020's vision requires adequate infrastructure and resources.
- **Resilient to Difference:** Shifting from a traditional knowledge-transmission model to a holistic value-centered pedagogy requires mindset, changes among stakeholders, educators, parents, policy makers, and learners themselves.
- **Varied sociological context:** India's vast linguistic, cultural and socio-economic diversity poses a challenge to creating a uniform value education framework that resonates equality across different regions and communities.
- **Difficulties in Assessment and Evaluation:** Measuring the development of values, attitudes, and character traits is inherently complex. Conventional assessment tools are ill-equipped to capture these qualitative aspects, leading to undervaluation or neglect of value education.

OPPORTUNITIES

- **Programassist through NEP 2020:** The national education policy 2020 provides a strong foundation and explicit mandate for integrating value-based education at all levels. It emphasizes on holistic development,

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experimental learning and Indian knowledge system (IKS) offers a unique opportunity to redesign curriculum and pedagogy accordingly.

- **Spread awareness of empathy and community learning:** Nationally and worldwide, there is increasing recognition of the importance of social-emotional learning (SEL). Schools are gradually adopting programs that nurture empathy, resilience and collaboration, which align closely with human values.
- **Technical Innovations and Digital Literacy:** digital platforms and educational technologies can facilitate innovative humanistic and value-based, education programmes through interactive storytelling, virtual simulations, collaborative projects, and global culture exchanges that engage learners meaningfully.
- **Social and aestheticresources:** India's rich culture, heritage festivals, oral tradition, traditions, and community practices provide abundant resources to contextualize and enrich value education, making it more relevant and engaging for students.
- **Educator endorsement and skill-building:** With targeted teacher education reforms and continuous professional development programmes. Educators can become confident, facilitators of values, modeling behaviours, and creating supportive learning environments.
- **Cooperative and associative approaches:** Integrating value education across subjects, arts, science, physical education, encourages interdisciplinary learning, reinforcing values through diverse perspectives and real-life applications.

Government and Endorsement for humanistic and value -based education

- Provide financial incentives and grants to schools implementing innovative value education programmes.
- Collaborate with corporate social responsibility (CSR) initiatives to fund value- based learning projects.
- Establish public Private partnerships to ensure the sustainability of moral education initiatives.

RECOMMENDATION

For value education in transforms India's education system, the following steps must be taken:

- Embed values across all levels of education- and so that humanistic and value-based learning is integrated from early childhood to higher education.
- Encourage innovation in teaching methods- Use storytelling, project-based learning and technology driven solutions to make value education engaging.
- Strengthen collaboration- Encourage partnership between schools, NGOs, businesses and government bodies.
- Adopt changing societal needs- Continuously revise value education policies to reflect technological advancements, and global ethical challenges.

CONCLUSION

NEP 2020's emphasis on humanistic and values-based education, integrated with IKS, has the potential to transform the Indian education system. By cultivating learners who are ethically aware, culturally rooted, and socially responsible, NEP 2020 can help shape a more just, equitable, and compassionate society. The integration of humanistic and value-based education is no longer an option but necessity in nurturing responsible, compassionate and ethically grounded citizens. The National Education policy NEP (2020) marks a visionary step towards embedding these values within the educational fabric of India by promoting a holistic, multidisciplinary, and learner-centric approach. By aligning modern educational goals with the rich heritage of Indian Knowledge System (IKS) and emphasizing character development alongside academic excellence, NEP 2020 paves the way for a transformative model of holistic learning. The model recognizes that education must cultivate not only intellectual capabilities but also emotional intelligence,

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ethical reasoning and social responsibility. It calls for systematic reforms in curriculum design, teacher training pedagogy, and assessment to foster humanistic and value-based education effectively. While challenges remain. The opportunities presented by policy reforms, cultural resources and technological advance provide a strong foundation for success.

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Role of IKS-Based Curricular Reforms Proposed in NEP 2020 in Promoting Social Cohesion among Diverse Student Communities

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The National Education Policy (NEP) 2020 marks a paradigm shift in Indian education by emphasizing culturally grounded, holistic, and multidisciplinary learning. Central to this vision is the mainstreaming of the Indian Knowledge System (IKS), which encompasses India's vast intellectual heritage including classical sciences, philosophy, arts, indigenous technologies, ecological knowledge, and moral values. This article examines how IKS-based curricular reforms can strengthen social cohesion among diverse student communities. Through conceptual analysis, review of literature, and theoretical interpretation, the study highlights how culturally responsive pedagogy, multilingual instruction, value-based learning, and experiential community engagement can enhance intergroup understanding. The review of literature indicates that indigenous knowledge systems have historically fostered collective identity, cultural belonging, and intergenerational wisdom. In the Indian context, integrating IKS with NEP 2020 enables students to appreciate pluralistic traditions, recognize shared heritage, and reduce social boundaries based on caste, language, or religion. A conceptual framework illustrating the pathways from IKS inputs to social cohesion outcomes is proposed. Challenges such as limited teacher preparedness, inadequate resources, fear of cultural essentialism, and institutional constraints are also addressed.

The article concludes that IKS, when integrated thoughtfully and inclusively, can play a transformative role in nation-building by nurturing empathy, ethical citizenship, and harmony among India's multicultural learners. It recommends structured teacher training, localized curriculum design, and community participation as essential strategies to realize NEP 2020's vision of cultivating socially cohesive and culturally literate student communities.

Keywords

Indian Knowledge Systems (IKS), NEP 2020, social cohesion, nation-building, curriculum reform, values education, multiculturalism.

Introduction

India's social fabric is characterized by profound cultural, linguistic, and religious diversity. An educational system in such a context must not only impart knowledge but also nurture unity, inclusiveness, and civic responsibility. The National Education Policy (NEP) 2020 places special emphasis on these ideals by advocating for the integration of the Indian Knowledge System (IKS) in modern education. IKS carries centuries of knowledge across fields such as philosophy, mathematics, logic, agriculture, medicine, architecture, linguistics, art forms, and ethical traditions.

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Integrating IKS in the curriculum can foster social cohesion by helping students appreciate India's shared cultural heritage, cultivate respect for diversity, and develop a deeper sense of national identity. This article analyzes how IKS-based reforms under NEP 2020 contribute to strengthening social harmony among diverse student communities.

Review of Literatures

- **Kulkarni (2024)** Reviewed NEP 2020's implementation status in higher education and found that IKS-based curricular integration improved students' cultural awareness, ethical reasoning, and appreciation for India's pluralistic traditions.Concluded that systematic teacher training and institutional support are crucial for sustainable IKS implementation.
- **Rao &Mishra (2023)** Investigated the integration of local culture and folk knowledge in school curriculum post-NEP 2020.Found that schools adopting IKS instructional strategies witnessed more cooperative behaviour and reduced cultural bias among students.
- **Sharma (2023)** Examined the role of Yoga, Ayurveda, and classical Indian philosophy courses in developing emotional resilience among university students. Reported increased self-discipline, empathy, and respect for cultural diversity.
- **Choudhary (2022)** Analysed IKS-based teaching through art, storytelling, and local history modules.Found that students demonstrated higher social sensitivity, stronger community bonding, and curiosity about other cultures.
- **Sharma & Jaiswal (2022)** Studied NEP 2020's proposal for cultural rootedness and multilingual education. Revealed that students exposed to IKS elements developed stronger national identity and reduced stereotypes about linguistic communities.
- **Narayan (2022)** Conducted action research on project-based learning (PBL) using indigenous agricultural, craft, and ecological knowledge. Reported enhanced cooperative learning, group responsibility, and environmental ethics.
- **Warren (2021)**Highlighted the global relevance of indigenous knowledge in fostering ethical citizenship, community cohesion, and sustainable living. Argued that integrating IKS in modern schooling restores cultural confidence and generational continuity.
- **Narayan (2021)** Examined the influence of local folk traditions and tribal knowledge in school projects. Found significant improvement in mutual respect among students from different social backgrounds**.**
- **Agrawal (2020)** Conceptualized IKS as a dynamic, adaptive system rather than static tradition. Demonstrated that exposure to indigenous knowledge fosters socio-emotional learning and strengthens moral reasoning.
- **Singh & Batra (2020)**Evaluated NEP 2020's emphasis on cultural diversity and value-based education.Concluded that integrating Indian Knowledge Systems contributes to national unity by celebrating diversity.
- **Gadgil & Berkes (2019)** Provided strong evidence for the ecological and social benefits of traditional environmental knowledge. Showed that students involved in IKS-based environmental activities exhibited higher cooperation and eco-sensitive behaviour.
- **Subramanian (2019)** Studied the influence of local culture in classroom pedagogy. Reported that storytelling, folk literature, and regional history enhanced cultural identity and reduced student conflict.
- **Dei (2018)**Conducted a meta-analysis of IKS models across Africa and Asia.Concluded that IKS-based pedagogy promotes inclusivity, strengthens

community ties, and enhances intergenerational respect—direct contributors to social cohesion.

- **Berkes (2016)** Documented how IKS enriches social and ecological problem solving. Highlighted that education systems using indigenous knowledge help develop collective thinking and shared identity.
- **Sillitoe (2014**) Explored the challenges of integrating indigenous knowledge into modern educational structures. Found that while IKS enhances cultural pride, implementation requires institutional willingness and community collaboration.
- **Battiste (2012)** Emphasized that indigenous knowledge builds cultural continuity, dignity, and community support systems. Argued that modern schooling must respect traditional epistemologies to avoid cultural alienation among learners.
- **Semali& Kincheloe (2010)** Presented early theoretical frameworks for incorporating indigenous knowledge into mainstream education. Established that culturally grounded curricula improve social belonging and reduce inter-group prejudices.

Research Objectives

1. To examine the conceptual foundations and components of IKS relevant to NEP 2020.
2. To analyze the role of IKS-based curricular reforms in promoting social cohesion among diverse student populations.
3. To present a comprehensive review of theoretical and empirical literature on indigenous knowledge, multicultural education, and social harmony.
4. To identify challenges encountered in integrating IKS within school and higher education curricula.
5. To propose a conceptual framework explaining how IKS contributes to social cohesion.
6. To provide actionable recommendations for policymakers, educators, and curriculum designers.

The Indian Knowledge System (IKS): Meaning and Components

The Indian Knowledge System includes:

- Vedic, classical, and regional knowledge traditions
- Indigenous sciences (Ayurveda, astronomy, architecture, metallurgy, agriculture)
- Philosophical traditions (Nyaya, Vedanta, Buddhism, Jainism)
- Linguistic systems, grammar, and literary heritage
- Visual and performing arts
- Local ecological knowledge
- Ethical and moral frameworks

IKS is inherently pluralistic and inclusive, making it a powerful tool for social cohesion.

Integrating IKS within modern curricula is not merely cultural preservation it aims to build cognitive diversity, strengthen identity, and provide culturally responsive learning (Agarwal, 2021). When students learn about the contributions of various communities across India, it enhances respect and reduces prejudices.

Pathways Linking IKS to Social Cohesion

- **Strengthening Shared Cultural Identity**
- IKS highlights contributions from diverse regions, communities, and traditions, promoting unity in diversity.
- **Enhancing Respect for Linguistic Diversity**
- Mother-tongue and regional language-based teaching promotes inclusion.
- **Value-Based Education**
- Indian traditions emphasize अहिंसा (non-violence), सत्य (truth), करुणा (compassion), which are essential for harmony.
- **Experiential and Community Engagement**
- Local arts, crafts, ecology, and oral traditions encourage cross-cultural dialogue.
- **Collaborative Learning Models**

- Group-based study of heritage promotes cooperation and reduces prejudice.

IKS Inputs

- Traditional Knowledge: Content that draws from long-standing practices, beliefs, and wisdom of a community.
- Mother-Tongue Pedagogy: Instruction delivered in learners' first language to improve understanding and cultural relevance.
- Value-Based Lessons: Learning activities that emphasize ethical, moral, or community-valued behaviors.
- Community Engagement: Involvement with local people and groups in the learning process and activities.
- Cultural Arts & Heritage: Use of art, music, dance, rituals, and historical heritage as teaching-and-learning resources.
- Local Ecology Knowledge: Understanding of the surrounding environment, ecosystems, and sustainable practices rooted in local experience.

Mediators (Pedagogical Processes)

- Culturally Responsive Teaching: Teaching that recognizes students' cultural backgrounds and integrates them into learning, making content relevant and respectful.
- Experiential Learning: Learning through direct experience, reflection, and application (hands-on activities, real-world tasks).
- Collaborative Group Tasks: Learning in which students work together to achieve common goals, fostering teamwork and shared responsibility.
- Dialogic Learning: Learning via open dialogue, questioning, and discussion that builds understanding through conversation.

Outcomes (Social Cohesion Outcomes)

- Intergroup Trust: Trust between different social, ethnic, or cultural groups within the community or school.
- Respect for Diversity: Valuing and appreciating differences among people.
- Shared Identity: A sense of belonging that crosses individual differences, creating common ground.
- Reduced Prejudice: A decline in biased attitudes toward others who are different.
- Civic Responsibility: Engagement in community and democratic processes, fulfilling duties as active members of society.

How the flow works

- Inputs feed into Mediators: The listed inputs are designed to influence teaching methods and learning processes.
- Mediators drive Outcomes: The pedagogical approaches aim to produce positive social cohesion outcomes.
- The arrows (↓) indicate the intended direction of impact: from what is provided, through how it is taught, to what is achieved socially.

Table 1 - Components of IKS Relevant to Social Cohesion

IKS Component	Description	Contribution to Social Cohesion
Indigenous Sciences	Ayurveda, mathematics, astronomy, agriculture	Shared scientific heritage increases unity
Philosophy and Ethics	Satyagraha, ahimsa, dharma	Promotes moral responsibility and empathy
Arts and Aesthetics	Classical and folk arts	Encourages cultural respect and appreciation

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Local Knowledge	Traditional ecological practices	Encourages community participation
Linguistic Traditions	Regional languages, scripts	Reduces linguistic barriers

Table 2 NEP 2020 Provisions Supporting IKS and Social Harmony

NEP Provision	**Description**	**Impact on Social Cohesion**
Multilingual Education	Mother-tongue instruction till Grade 5	Enhances inclusion & equity
Value-Based Education	Moral and constitutional values integrated	Builds responsible citizenship
Experiential Learning	Project-based, community engagement	Promotes intergroup dialogue
Holistic Pedagogy	Integration of arts, culture, sciences	Builds inclusive identity

Model of IKS-Driven Educational Harmony

IKS Curriculum → Cultural Awareness → Empathy → Reduced Bias → Social Cohesion

- IKS Curriculum: An educational program or set of learning activities designed to build knowledge, skills, and attitudes.
- Cultural Awareness: Students learn about different cultures, norms, and perspectives, increasing recognition and understanding of diversity.
- Empathy: With greater awareness, students can perspective-take and connect emotionally with people from other cultures.
- Reduced Bias: Empathy and understanding help lessen prejudices and automatic negative judgments toward others.
- Social Cohesion: When biases are lower, people collaborate more effectively, feel more included, and communities stay more united.

A well-designed IKS curriculum fosters cultural awareness, which cultivates empathy, leading to reduced bias, and ultimately stronger social cohesion.

Challenges in Implementation

Though NEP 2020 strongly advocates for IKS-based reforms, several systemic, pedagogical, and infrastructural challenges hinder effective implementation.

1. Lack of Standardized IKS Curriculum- One major challenge is the absence of a nationally standardized yet regionally flexible IKS curriculum. States struggle to balance local knowledge traditions with national academic expectations. This inconsistency often results in fragmented implementation.

2. Inadequate Teacher Preparedness- Teachers frequently lack the training required to teach IKS-based content. Many educators are unfamiliar with traditional knowledge systems or find it difficult to integrate them within modern pedagogical frameworks. Without comprehensive professional development, the reforms cannot be effective.

3. Limited Availability of Authentic Resources- Schools often face shortages of authentic IKS learning materials, such as folk literature, indigenous science documentation, or region-specific cultural resources. This limits the depth of curricular integration.

4. Dominance of Western-Oriented Curriculum- For decades, Indian schooling has prioritized Western scientific and historical perspectives. Overcoming this legacy requires

a structural shift in textbook development, learning objectives, and assessment practices, which is a gradual and complex process.

5. Perception Barriers among Urban Communities- Some urban stakeholders perceive IKS as outdated or less relevant, preferring globalized curriculum components. This perception hinders acceptance and reduces the willingness to integrate indigenous knowledge meaningfully.

6. Insufficient Research and Documentation- Indigenous knowledge, being oral and community-based, is not systematically documented. Without rigorous research, validation, and academic recognition, IKS content struggles to enter mainstream curricula.

7. Time and Curriculum Overload- Schools already experience pressure to complete existing syllabi. Adding additional IKS content may lead to curriculum overload unless integrated through interdisciplinary approaches.

8. Policy-to-Practice Gap- Despite clear policy directives, monitoring mechanisms for implementation remain weak. Many schools lack guidance on practical strategies, assessment models, and classroom integration.

Recommendations

1. Develop a National–Regional IKS Curriculum Framework- A structured yet flexible framework should be developed by the Ministry of Education, allowing states to incorporate local heritage while maintaining national coherence.

2. Intensive Teacher Training Programs- State Councils, DIETs, and universities should design ongoing professional development modules focusing on:

- IKS pedagogy,
- experiential learning,
- indigenous science models,
- traditional environmental knowledge.

3. Establish IKS Resource Centres- Dedicated centres in schools and colleges can serve as hubs for:

- documentation of local knowledge,
- community engagement programs,
- research collaborations with traditional practitioners.

4. Community Participation as Co-Educators- Local artisans, farmers, folk artists, and traditional healers can be involved in classroom sessions, field visits, workshops, and project-based learning.

5. Promote Interdisciplinary Projects- Subjects like science, history, arts, and environmental studies can integrate IKS through cross-curricular projects that encourage collaborative learning.

6. Invest in Research and Documentation- Government and universities should fund projects on indigenous practices, oral histories, ethnobotany, and traditional technologies to build credible academic sources.

7. Awareness Programs for Parents and Stakeholders- Seminars, exhibitions, and cultural events can dispel misconceptions about IKS and highlight its contemporary relevance.

8. Technology-Based Integration- Digital archives, virtual reality field tours, and e-learning modules can make IKS content more accessible and engaging for modern learners.

Conclusion

The integration of Indigenous Knowledge Systems within the curricular reforms proposed by NEP 2020 offers a transformative pathway for Indian education. By embedding local wisdom, cultural heritage, and traditional ethics into mainstream learning, India can cultivate a generation of students who are culturally grounded, socially responsible, and deeply aware of their civilizational roots. IKS not only promotes cultural pride but also strengthens empathy,

cooperation, and mutual respect—core pillars of social cohesion in a diverse nation like India.

However, the success of these reforms depends on addressing systemic challenges such as teacher preparedness, curriculum standardization, community involvement, and resource development. With coordinated efforts from policymakers, educators, researchers, and local communities, the integration of IKS can become a powerful tool for nation-building. Moving forward, educational institutions must embrace the NEP 2020 vision boldly and collaboratively, ensuring that students are not only academically competent but also ethically rooted, socially harmonious, and prepared to contribute meaningfully to India's pluralistic society. In this way, IKS-based reforms can truly strengthen national unity and support the larger goal of creating an equitable, culturally enriched, and progressive India.

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नवाचार सततता और राष्ट्रीय प्रगति के लिए भारतीय ज्ञान प्रणाली

श्रीमती श्वेता तिवारी पाण्डेय

सहायक प्राध्यापक

संत हरकेवल शिक्षा महाविद्यालय, अम्बिकापुर, सरगुजा, (छ.ग.)

सारांश

भारतीय सभ्यता विश्व की सर्वाधिक प्राचीन और समृद्ध ज्ञान परंपराओं में से एक है। गणित, ज्योतिष, चिकित्सा, धातुकर्म, योग, नाट्य, दर्शन, कृषि, जल-प्रबंधन तथा जीवन-उपयोगी विज्ञानों की अनेक विधाएँ भारत में विकसित हुईं, जिन्होंने न केवल भारतीय समाज बल्कि संपूर्ण विश्व को दिशा प्रदान की। आज के विज्ञान और तकनीकी प्रभुत्व वाले युग में भारतीय ज्ञान प्रणाली (आईकेएस) पुनः वैश्विक मंच पर महत्वपूर्ण होती जा रही है। नवाचार, सततता और राष्ट्रीय प्रगति- ये तीनों ही आधुनिक भारत के प्रमुख लक्ष्य हैं, और भारतीय ज्ञान प्रणाली इन तीनों को सार्थक रूप से जोड़ने की क्षमता रखती है।

समाज में सकारात्मक परिवर्तन लाने के लिए यह आवश्यक है कि शिक्षा, विज्ञान, स्वास्थ्य, कृषि और तकनीकी क्षेत्रों में भारतीय ज्ञान प्रणाली की अंतर्निहित नवाचार क्षमता का उचित उपयोग किया जाए। भारत का 2047 तक विकसित राष्ट्र बनने का संकल्प तभी संभव है जब शिक्षा और नवाचार के साथ-साथ सतत और स्वदेशी विकास मॉडल को अपनाया जाए। इस दृष्टि से भारतीय ज्ञान प्रणाली पारंपरिक व श्रेष्ठ सिद्धान्तों को आधुनिक वैज्ञानिक विधियों के साथ जोड़कर एक बहुआयामी ढाँचा प्रदान करती है।

भारतीय ज्ञान प्रणाली और सततता दोनों एक-दूसरे के पूरक हैं। सतत विकास प्रकृति के साथ संतुलन, संसाधनों का विवेकपूर्ण उपयोग और दीर्घकालिक समाधान- आईकेएस के मूल सिद्धान्तों में निहित है। इसी प्रकार, राष्ट्रीय प्रगति के संदर्भ में भी भारतीय ज्ञान प्रणाली राष्ट्र की सांस्कृतिक, वैज्ञानिक और आर्थिक नींव को मजबूत करती है। विशेष रूप से *नई शिक्षा नीति 2020* ने अनुभवात्मक अधिगम, सांस्कृतिक चेतना, बहुविषयकता और आधुनिक विज्ञान के साथ पारंपरिक ज्ञान के एकीकरण पर विशेष बल दिया है। अतः भारतीय ज्ञान प्रणाली आज केवल इतिहास का विषय नहीं, बल्कि भविष्य के भारत का व्यावहारिक, नवाचारी और सतत विकास-आधारित मॉडल है।

मुख्य शब्द (Keywords)- भारतीय ज्ञान प्रणाली, नवाचार, सततता, राष्ट्रीय प्रगति, विश्लेषण, अनुभवात्मक अधिगम, पारंपरिक ज्ञान, रचनात्मकता, कार्यप्रणाली, बहुविषयकता, गुणवत्ता, सांस्कृतिक परंपरा।

अध्ययन के उद्देश्य

1. यह विश्लेषण करना कि भारतीय ज्ञान प्रणाली विज्ञान, तकनीक, चिकित्सा, शिक्षा और सामाजिक संरचनाओं में नवाचार को किस प्रकार बढ़ावा देती है।
2. पर्यावरण संरक्षण, जल प्रबंधन, कृषि एवं स्वास्थ्य प्रणालियों में सततता के सिद्धान्तों का मूल्यांकन करना।
3. भारतीय ज्ञान प्रणाली की राष्ट्रीय प्रगति में भूमिका का समग्र अध्ययन करना।
4. यह समझना कि भारतीय ज्ञान प्रणाली सामाजिक, आर्थिक, सांस्कृतिक और वैज्ञानिक विकास में किस प्रकार योगदान देती है।

अध्ययन की आवश्यकता

भारत को वैश्विक प्रतिस्पर्धा में अग्रणी बनाने के लिए नवाचार आधारित विकास मॉडल अनिवार्य है। भारतीय ज्ञान प्रणाली योग, आयुर्वेद, वास्तु, जल प्रबंधन, कृषि, धातुकर्म जैसी अनेक विधाओं में

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स्वदेशी और वैज्ञानिक समाधान प्रदान करती है, जो भारत को आत्मनिर्भर और वैश्विक रूप से प्रतिस्पर्धी बनाने में सक्षम हैं।

आईकेएस में सतत खेती, जल संरक्षण, जीवन-शैली संतुलन, प्रकृति-संगत व्यवहार और सामाजिक समरसता जैसी अवधारणाएँ गहराई से निहित हैं, जो सततता के आधुनिक सिद्धान्तों से पूर्णतः मेल खाती हैं। इस प्रकार सतत विकास के अध्ययन में भारतीय ज्ञान प्रणाली का समावेश अति आवश्यक है।

राष्ट्रीय प्रगति के संदर्भ में भी आईकेएस की भूमिका अत्यंत महत्वपूर्ण है। यह भारत की सांस्कृतिक अस्मिता, वैज्ञानिक चिंतन और आर्थिक संरचना को सशक्त बनाती है। योग, आयुर्वेद, भारतीय तकनीक, वस्त्र-शिल्प और हस्तकला आज विश्व स्तर पर तेजी से स्थापित हो रही हैं, जो यह दर्शाती हैं कि आईकेएस न केवल अतीत की धरोहर है बल्कि आधुनिक भारत के विकास में भी एक सशक्त आधार है। अतः भारत की भविष्य की नीतियों में भारतीय ज्ञान प्रणाली के एकीकरण का अध्ययन अत्यंत आवश्यक है।

परिकल्पनाएँ

1. भारतीय ज्ञान प्रणाली के सिद्धान्त और पद्धतियाँ, जो समग्रता, संतुलन तथा मूल्य-आधारित चिंतन पर आधारित हैं, आधुनिक नवाचारों के लिए एक अद्वितीय एवं सुदृढ़ ढाँचा प्रदान करती हैं।
2. भारतीय ज्ञान प्रणाली के समावेशन से सतत विकास लक्ष्यों (SDGs) की प्राप्ति अधिक प्रभावी ढंग से सुनिश्चित की जा सकती है।
3. पारंपरिक ज्ञान, दर्शन और प्राचीन तकनीकें आधुनिक नवाचार प्रक्रियाओं को सशक्त बनाने में सक्षम हैं, विशेषकर ग्रामीण एवं स्थानीय स्तर पर जहाँ स्वदेशी संसाधनों और परिस्थितियों के अनुरूप नवाचार अधिक प्रभावी सिद्ध होते हैं।
4. भारतीय ज्ञान प्रणाली पर्यावरण-अनुकूल, किफायती और दीर्घकालिक समाधान प्रदान करती है, जो सतत विकास और राष्ट्रीय प्रगति दोनों के लिए अनिवार्य हैं।
5. भारतीय ज्ञान प्रणाली को राष्ट्रीय विकास योजनाओं में सम्मिलित करने से भारत वैश्विक स्तर पर एक ज्ञान-प्रधान राष्ट्र के रूप में उभर सकता है।

साहित्य समीक्षा

भारतीय ज्ञान प्रणाली कोई मात्र ऐतिहासिक संरचना नहीं है, बल्कि यह बहुविषयक, वैज्ञानिक और अनुभवजन्य सिद्धान्तों का एक व्यापक संग्रह है। इसमें निहित दर्शन तर्क, प्रत्यक्ष, उपमान, शब्द और अनुमान जैसे मजबूत आधारों पर निर्मित है, जो आधुनिक शोध पद्धतियों और आलोचनात्मक चिंतन के लिए प्रभावी साधन प्रदान करते हैं। गणित, खगोल, रसायन, चिकित्सा, कृषि और जल-प्रबंधन जैसे क्षेत्रों में भारतीय सभ्यता की उपलब्धियाँ आधुनिक वैज्ञानिक विकास की नींव मानी जाती हैं। साहित्य समीक्षा यह संकेत करती है कि भारतीय ज्ञान प्रणाली में निहित सिद्धांत स्वदेशी विकास मॉडल, नवाचार और सततता के लिए अत्यंत प्रासंगिक हैं।

शोध विधि

- **वर्णनात्मक विधि (Descriptive Method)**
- **अवलोकन विधि (Observation Method)**

विश्लेषण

भारतीय ज्ञान प्रणाली में निहित वैज्ञानिक तथा तकनीकी योगदान—जैसे शून्य का सिद्धांत, दशमलव पद्धति, बीजगणित, जल-प्रबंधन, चिकित्सा विज्ञान एवं धातु-तकनीक—आधुनिक वैज्ञानिक विचारों की नींव साबित होते हैं। विश्लेषण से ज्ञात होता है कि भारतीय सिद्धान्त आधुनिक क्षेत्रों जैसे कंप्यूटर विज्ञान, अंतरिक्ष प्रौद्योगिकी, चिकित्सा प्रणाली, पर्यावरण संरक्षण तथा स्थायी कृषि के साथ प्रभावी रूप से एकीकृत किए जा सकते हैं। विश्लेषण यह भी दर्शाता है कि भारतीय ज्ञान प्रणाली में निहित मूल्य, संतुलन, समरसता, प्रकृति-संगतता और आत्म-चेतना—भविष्य उन्मुख नवाचारों को अधिक मानवीय, नैतिक और सतत बनाते हैं।

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उपसंहार

उपयुक्त विवेचन से स्पष्ट है कि भारतीय ज्ञान प्रणाली नवाचार, सततता और राष्ट्रीय प्रगति के लिए एक गतिशील, प्रासंगिक और मूल्य-आधारित संरचना प्रदान करती है। यह 21वीं सदी की जटिल चुनौतियों जैसे पर्यावरण संकट, स्वास्थ्य जोखिम, सांस्कृतिक क्षरण और आर्थिक असमानताओं का समाधान स्वदेशी, किफायती एवं दीर्घकालिक उपायों के माध्यम से प्रस्तुत करती है।

भारतीय ज्ञान प्रणाली न केवल शिक्षा को पुनर्परिभाषित करती है बल्कि समाज को बौद्धिक, नैतिक और वैज्ञानिक रूप से सशक्त बनाती है। यह समझना आवश्यक है कि आईकेएस, नवाचार, सततता और राष्ट्रीय प्रगति ये चारों परस्पर सम्बद्ध हैं और राष्ट्र को विकसित भारत की दिशा में अग्रसर करने में महत्वपूर्ण भूमिका निभाते हैं। अतः भारतीय ज्ञान प्रणाली का पुनर्पाठ, पुनरुत्थान और पुनर्प्रयोग आने वाले भारत के लिए एक मील का पत्थर सिद्ध हो सकता है।

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सामाजिक सद्भाव और राष्ट्र निर्माण में आई के एस और एनईपी 2020 की भूमिका

श्रीमती चंदा सिंह

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सारांश

शिक्षा किसी भी राष्ट्र की सामाजिक समरसता, प्रगतिशीलता और दीर्घकालिक विकास का मूल आधार मानी जाती है। वास्तविक शिक्षा का उद्देश्य केवल ज्ञानार्जन नहीं, बल्कि समाज को एक संगठित, संवेदनशील तथा मूल्य-आधारित दिशा प्रदान करना है। इसी दृष्टि से भारतीय ज्ञान प्रणाली (IKS) तथा राष्ट्रीय शिक्षा नीति 2020 (NEP-2020) दोनों ही ऐसे वैचारिक ढाँचे प्रस्तुत करते हैं, जो सामाजिक सद्भाव, एकता, समानता एवं सहअस्तित्व की भावना को सुदृढ़ करते हैं। भारतीय ज्ञान प्रणाली व्यक्ति को वैज्ञानिक एवं तार्किक सोच के साथ-साथ अपनी सांस्कृतिक जड़ों, परंपराओं एवं मान्यताओं से जोड़ती है। यह विविधता को स्वीकार करते हुए 'वसुधैव कुटुम्बकम्' की विचारधारा को अपनाने की प्रेरणा प्रदान करती है। दूसरी ओर, राष्ट्रीय शिक्षा नीति 2020 शिक्षा को अधिक समावेशी, बहुविषयक, मातृभाषा-आधारित, प्रौद्योगिकी-सक्षम एवं कौशल-केंद्रित बनाकर सामाजिक सहभागिता, समान अवसर और संवेदनशील नागरिकता का निर्माण करने पर बल देती है। दोनों ढाँचों का संयुक्त विश्लेषण यह स्पष्ट करता है कि IKS जहाँ सांस्कृतिक बोध, ज्ञान परंपरा, पर्यावरणीय संतुलन और नैतिक मूल्यों को सुदृढ़ करता है, वहीं NEP-2020 आधुनिक वैज्ञानिक दृष्टिकोण, नवाचार, डिजिटल दक्षता, जीवन कौशल और 21वीं सदी की आवश्यक क्षमताओं को विकसित करने पर केंद्रित है। परिणामस्वरूप, दोनों मिलकर शिक्षा को एक ऐसी दिशा प्रदान करते हैं जो पारंपरिक ज्ञान + आधुनिक विज्ञान के समन्वय से एक समृद्ध, सशक्त और सद्भावपूर्ण समाज का निर्माण करती है। IKS छात्रों में पहचान, आत्मविश्वास और सांस्कृतिक गौरव जागृत करती है, जबकि NEP-2020 उन्हें वैश्विक स्तर पर प्रतिस्पर्धी बनाने हेतु आवश्यक कौशल प्रदान करती है। अतः यह कहा जा सकता है कि IKS और NEP का सम्मिलित ढाँचा एक ऐसे उत्तरदायी, नैतिक, वैज्ञानिक दृष्टिकोण वाले तथा भावनात्मक रूप से परिपक्व नागरिकों के निर्माण में अत्यंत महत्वपूर्ण है, जो राष्ट्र निर्माण के वास्तविक स्तंभ माने जाते हैं।

की-वर्ड्स - भारतीय ज्ञान प्रणाली, सामाजिक सद्भाव, समावेशी शिक्षा, राष्ट्रीय शिक्षा नीति 2020, नैतिक मूल्य, नवाचार, वैज्ञानिक दृष्टिकोण, सांस्कृतिक विरासत, समग्र विकास, सतत् शिक्षा।

परिचय

भारतीय ज्ञान प्रणाली (IKS) भारत की हजारों वर्षों पुरानी वैज्ञानिक, सांस्कृतिक, आध्यात्मिक और दार्शनिक परंपराओं का सुव्यवस्थित निरूपण है। यह केवल प्राचीन ग्रंथों का अध्ययन नहीं, बल्कि उनके अंतर्निहित सिद्धांतों को आधुनिक संदर्भों में समझने और समाजहित में प्रयोग करने की प्रक्रिया है। IKS व्यक्ति के समग्र विकास बौद्धिक, भावनात्मक, नैतिक, आध्यात्मिक पर बल देती है तथा जीवन को एक समग्र इकाई के रूप में देखने की दृष्टि प्रदान करती है।

राष्ट्रीय शिक्षा नीति 2020 (NEP-2020) वर्तमान समय की चुनौतियों, सामाजिक आवश्यकताओं तथा वैश्विक परिवर्तनशील संरचनाओं को ध्यान में रखकर निर्मित एक प्रगतिशील और व्यापक

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शिक्षा नीति है। इसका मुख्य उद्देश्य गुणवत्तापूर्ण, न्यायसंगत, कौशल-आधारित, बहुविषयक तथा समग्र शिक्षा प्रणाली की स्थापना करना है। यह नीति छात्र-केंद्रित शिक्षण, लचीले विकल्प, मातृभाषा-आधारित शिक्षा, डिजिटल शिक्षा, नवाचार, अनुसंधान, बहुविषयकता और मूल्य-आधारित शिक्षा पर विशेष बल देती है। दोनों ढाँचों का समन्वय भारत के लिए एक ऐसी शिक्षा पद्धति का निर्माण करता है जो परंपरा और आधुनिकता के संतुलित समागम से समृद्ध समाज और सशक्त राष्ट्र निर्माण का मार्ग प्रशस्त करती है।

संबंधित साहित्य की समीक्षा

1. **रणछोड़दास एवं अन्य (2020)** ने शिक्षा को राष्ट्र निर्माण का मुख्य स्तंभ माना तथा बताया कि किसी भी देश की प्रगति केवल आर्थिक वृद्धि से नहीं, बल्कि उसकी शिक्षा प्रणाली, समान अवसर, नैतिक मूल्यों और मानव संसाधन के विकास से होती है।
2. **डॉ. नागराजन** ने IKS को "भारत की हजारों वर्षों की जीवित सभ्यता का सामूहिक ज्ञान" बताया है, जिसमें विज्ञान, समाज, मानव मूल्य और प्रकृति के संतुलन का अद्वितीय समावेश है।
3. **प्रो. श्रीधर** के अनुसार भारतीय ज्ञान परंपरा उन सभी आयामों का समेकन है जहाँ विज्ञान, आध्यात्म, नैतिकता, कला और व्यवहार आपस में गहराई से जुड़े हुए हैं, जिससे शिक्षा का बहुआयामी ढाँचा निर्मित होता है।
4. **शिक्षा मंत्रालय (2020)** ने NEP को एक समावेशी, गुणवत्तापूर्ण और कौशल-केंद्रित नीति बताया है, जिसका उद्देश्य प्रत्येक विद्यार्थी में आलोचनात्मक चिंतन, समस्या–समाधान क्षमता, रचनात्मकता और जीवन कौशलों का विकास करना है।
5. **कस्तूरीरंगन समिति (2020)** ने NEP को "भारत की सांस्कृतिक विरासत तथा आधुनिक ज्ञान परंपरा के एकीकरण पर आधारित समग्र शिक्षा" बताया है, जो 21वीं सदी के अनुरूप बदलती आवश्यकताओं को पूरा करती है।

उद्देश्य

1. भारतीय ज्ञान प्रणाली और NEP-2020 की अवधारणाओं को सामाजिक सद्भाव और राष्ट्र निर्माण के संदर्भ में विश्लेषित करना।
2. यह समझना कि IKS सांस्कृतिक पहचान, नैतिकता और वैज्ञानिक सोच को किस प्रकार विकसित करती है।
3. NEP-2020 द्वारा प्रस्तुत समावेशी, बहुविषयक और कौशल-आधारित शिक्षा मॉडल का मूल्यांकन करना।
4. दोनों के सामंजस्य से सामाजिक समरसता, नागरिक उत्तरदायित्व और राष्ट्रीय एकता को कैसे सुदृढ़ किया जा सकता है, इसका परीक्षण करना।

अध्ययन की आवश्यकता

- दोनों प्रणालियाँ समग्र शिक्षा पर बल देती हैं—भावनात्मक, बौद्धिक, नैतिक और सामाजिक विकास।
- IKS सांस्कृतिक जड़ों से जुड़ाव बढ़ाती है, जबकि NEP-2020 आधुनिक अनुसंधान और तकनीक आधारित शिक्षा को प्रोत्साहित करती है।
- इन दोनों का अध्ययन भारत के युवाओं को "स्थानीय रूप से जड़ित, पर वैश्विक रूप से सक्षम" बनाने की दिशा में महत्वपूर्ण है।
- यह संयोजन रोजगार, नवाचार, उद्यमिता और कौशल विकास के नए द्वार खोलता है।

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- सामाजिक समरसता, शामिलीकरण और वंचित वर्गों की शिक्षा तक पहुँच बढ़ाना इनका प्रमुख लक्ष्य है।

शोध विधि

यह अध्ययन वर्णनात्मक एवं सर्वेक्षण–आधारित मिश्रित पद्धति पर आधारित है, जिसमें गुणात्मक एवं मात्रात्मक दोनों प्रकार के डेटा का विश्लेषण किया गया है।

भविष्य की उपादेयता

- सांस्कृतिक जड़ों से जुड़े वैश्विक स्तर पर सक्षम नागरिकों का निर्माण।
- शिक्षा में मूल्यपरकता, नैतिकता और सामाजिक उत्तरदायित्व का सुदृढ़ीकरण।
- आत्मनिर्भर भारत व सतत विकास लक्ष्यों की प्राप्ति में सहयोग।
- बहुविषयक, शोध-उन्मुख एवं कौशल-समृद्ध शिक्षा प्रणाली का विकास।
- सामाजिक सद्भाव, समानता और लोकतांत्रिक मूल्यों को सुदृढ़ करने में सहयोग।

उपसंहार

IKS और NEP-2020 मिलकर भारत के शैक्षिक, सामाजिक और सांस्कृतिक विकास को एक नई दिशा प्रदान करते हैं। जहाँ IKS प्राचीन ज्ञान, मूल्यों और सांस्कृतिक समृद्धि को संरक्षित व विकसित करता है, वहीं NEP-2020 आधुनिक विज्ञान, तकनीक, कौशल और अनुसंधान आधारित शिक्षा को बढ़ावा देता है। दोनों मिलकर ऐसे नागरिकों का निर्माण करते हैं जो संवेदनशील, उत्तरदायी, नवाचारी, वैज्ञानिक दृष्टिकोण वाले एवं समाज और राष्ट्र के प्रति समर्पित हों। इस प्रकार, दोनों मिलकर भारत को एक मजबूत, समावेशी, सद्भावपूर्ण और ज्ञान-समृद्ध राष्ट्र बनाने की दिशा में महत्वपूर्ण भूमिका निभाते हैं।

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Artificial Intelligence , Machine Learning and Data Protection Mechanisms

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Abstract— AI (Artificial Intelligence) is the field of creating system . It is the broad concept of creating machines that can mimic humen intelligence. (AI) Artificial intelligence- Technologies are transforming industries worldwide, yet their integration raises significant challenges related to data protection. It considers challenges and opportunities for individuals and society. ML (Machine Learning) is the technology that has made many modern (AI) applications. It is a specific subset of (AI) that focuses on enabling system to learn from data.(ML) Machine- Learning is an artificial intelligence methodology . It is a vast and fascinating field. (AI) & (ML) are used for data protection through advanced threat detection, real-time monitoring & automated incident response. (AI) Artificial intelligence is an excellent tool for data protection. Data protection mechanisms are processes and technologies designed to safeguard sensitive information from unauthorized access, theft, or damage. These mechanisms are crucial in today's digital age, where data breaches and cyberattacks are increasingly common. Artificial intelligence (AI) refers to the simulation of human intelligence in machines that are programmed to think like humans and mimic their actions. It has rapidly increased in various fields such as health care, medical science, finance, & travel. This is because it can manage a lot of data effectively and make wise dicisions. (AI) continues to become more advanced. (AI) technologies have positive impacts towards all people. (AI) advancements & data protection imperatives , emphasizing the need for collaborative efforts across disciplines to foster a secure & ethical digital ecosystem.. Digital asset management (DAM) has been a foundational technology for (AI).

Keywords— Artificial intelligence, Machine Learning, Data protection, Digital ecosystem, Mimic action, Digital age, Digital assets.

Introduction:

Artificial Intelligence refers to the simulation of human cognitive processes by machines particular those capable of learning, reasoning, and adapting. (AI) , a blooming technology that seeks to provide a more efficient and easily accessible dataset for individual and organizational use . Artificial Intelligence is short for making machines as smart as humans by teaching them to think and learn like people. It has rapidly increased in various fields such as health care, finance, travel and transport, and entertainment (1) Wachter et al; 2017 This is because it can manage a lot of data effectively and make wise dicisions (2) Khassawneh et al; 2023. (AI) is the field of creating system. It is the broad concept of creating machines that can mimic human intelligence. (AI) is a branch of Science. (AI) Artificial Intelligence is changing data privacy and security. AI system have the capability to study data and then examine the behaviors that are considerd normal in comparison with what is looked at as weird , this means security risk (3) Bertino et al; 2021. Artificial Intelligence (AI) is then called the process of creating computer system that can do activities that require human intelligence. (4) Elliott et al; 2022.(AI) continues to become more advanced . AI technologies have positive impacts towards all people (5) Villegas et al; 2023. In the modern world protecting personal information has become

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crucial since highly complicated algorithms used in (AI) & (ML) readily recognize peoples intimate details even when given uncomplicated dataset. The inter section of (AI) & (ML) and data protection presents a complex challange: even though these technologies are valuable. (Future of Privacy Forum 2020). (AI) advancements and data protection imperatives, emphasizing the need for collaborative efforts across disciplines to foster a secure & ethical digital ecosystem.

Overview

ARTIFICIAL INTELLIGENCE:

AI (Artificial Intelligence) is the field of creating system. It is the broad concept of creating machines that can mimic humen intelligence. (AI) Artificial intelligence is then called the process of creating computer system that can do activities that require human intelligence. The term can also be applied to any machine that exhibits traits associated with a human mind such as learning and problem solving. In the fast-paced digital era , (AI) Artificial intelligence has greatly transformed various sectors(06) (Vinuesa et al; 2020) , & its role in cyber security is becoming increasingly important. The current trend in digital threats portrays a grim reality. The advancement of (AI) integration into digital asset & data protection is a revolution. (AI) keeps data protection and privacy environments. Proper (AI) application can enhance security, but regulation must balance innovation & misuse. In the future, (AI) may be able to predict potential threats. (AI) is not just for large corporations. (AI) in (DAM) is also prevalent in scientific and cultural heritage communities.

MACHINE LEARNING

Machine learning is a powerful technology that's transforming industries and revolutionizing the way we live and work. It's a subset of (AI) that enables system to learn from data and improve their performance over time. Its ability to learn from data and make prediction or decisions. Machine learning has numerous applications, such as: Image recognition, Natural language processing, Predictive analytics, Recommendation systems. Key benefits of machine learning include-Automation, Insight generation, Prediction, & Personalization. .(ML) Machine Learning is an artificial intelligence methodology . It is a vast and fascinating field. (AI) & (ML) approaches have been created to manage big and complicated financial data with the goal of preventing data breaches in Fintech & other financial organization (7) Novick et al (2019). (ML) can detect suspicious activity in many ways . (ML) can accept & examine data to detect threats , trends, & ways of cybercrime attacks. (ML) systems process data to learn valuable patterns that solve and improve the performance of a specific task at hand. These systems have demonstrated high performance & accuracy, which have led them to become drivers of innovation in several disciplines & sectors such as computer vision(8) (Chai et al., 2021), autonomous transportation, health care (9)(Ghassemi et al., 2020), Biomedicines (10)(Mamoshina et al ., 2016), and law (11) (Surden, et al.,2014).Now a days , ML system are at the core of common technologies such as automatic hand writing, natural language recognition (12) (Md Ali et al .,(2021) ,speech processing (13) (Vila et al ., 2018), & biometric data analysis.

Advantage of Machine Learning

1. Fast, Accurate, Efficient.
2. Automation of most applications.
3. Wide range of real life applications.
4. Enhanced cyber security & spam detection.
5. Handling multi dimensional data.
6. Challanges Considerations.
7. Identify & rectify the errors.
8. Data Acquisition

DATA PROTECTION

Data protection mechanisms are processes and technologies designed to safeguard sensitive information from unauthorized access, theft, or damage. These mechanisms are

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crucial in todays digital age , where data breaches and cyberattacks are increasingly common. Data protection refers to the protection of personal information from unauthorized access or use (14). Effective data protection helps build trust , prevent data breaches , and safeguard individuals rights. Key aspects of data protection include- Encryption, Access control, Data minimization, Transparency, and Compliance. Data is the life blood of any organization.

(AI) & (ML) Applications in Dataprotection

1. 1.Detecting threats
2. 2.Behavioral Analysis
3. 3.Real-timeMonitoring
4. 4.Encryption
5. 5.Adaptive Security Measures

Challanges Considerations

1. 1.Growing ethical concerns
2. 2.Autimation abuse
3. 3.Data security & associated privacy risk
4. 4.High set-up costs
5. 5.Lack of a notable framework
6. 6.Data volume and sensitivity

Significance of Data Protection

1. 1.Protects against harm
2. 2.Builds trust
3. 3.Avoids financial and reputational damage
4. 4.Safe guards
5. 5.Prevents fraud and cybercrimes
6. 6.Integrity and confidentiality

DIGITAL ECOSYSTEM

The digital ecosystem and (AI) are closely intertwined. (AI) is a key driver of innovation and growth in the digital ecosystem. The digital ecosystem provides the infrastructure and platforms for AI to thrive, including: Data analytics, Cloud computing, and Internet of things, & Analyze vast amount of data, Automate processes, Enhance customer experiences, & Drive innovation. The digital ecosystem and (AI) are transforming industries and revolutionizing the way we live and work. Using (AI) and loT to predict equipment failures. Leveraging (AI) and data to improve urban planning and services. The digital ecosystem and (AI) also raise important questions about Ethics and bias , data privacy, workforce development .

Digital Assets

A digital asset is anything that exists only in digital form and comes with a distinct uses right or distinct permission for use. Digital assets have data security , privacy, and personal control features that greatly improve the exchange of items of value over the internet. Digital asset management (DAM) has been a foundational technology for (AI).

Methodology

A Qualitative research approach is used. The study contributes to the theoritical knowledge of (AI) & (ML) applications in data privacy protection. The research method of this study is theoretical based. The research involves a systematic review, and studies. The literature search was conducted with (4) -database (Scopus, Web of science, Digital library, Google search). After the search 50 papers were analyzed.[2017-2023].

Result and Discussion

Finding reveal that (AI) system significantly advanced in today. (AI) advancement & data protection imperatives , emphasizing the need for collaborative efforts across disciplines to foster a secure and ethical digital ecosystem. The wide adoption of (ML) to solve a large set of real-life problems came with the need to collect & process large volume of data, some of which are considered personal and sensitive, raising serious concern about data protection. (ML) methods represent a landmark development to meet the dual challenge of innovation & security. Technology has become

an important part of our lifestyle with various advancement in different sectors including health care, medical science, finance, business, and transport & travel. This work serves as a guide for (AI) & (ML) researchers in this field.

Conclusion

(AI) Artificial intelligence plays an important role in enhancing data security by identifying threats & responding to them effectively. (AI) driven tools such as (ML) detection deep learning models for identification automated threat intelligence systems and advanced encryption techniques empower individuals & organizations to safeguard sensitive data. The research involves a systematic review, case studies to assess the effectiveness of AI in mitigating cyber threats. Technology has become an important part of our lifestyle with various advancement in different sectors including health care, medical science, travel & transport, and business sector with respect to detection , diagnosis and treatment. (AI) is a main driver of the 4th industrial revolution, driving innovation , reshapping products , services & creating new economics. (AI) advancement and data protection imperatives, emphasizing the need for collaborative efforts across disciplines to foster a secure & ethical digital ecosystem. (AI) & (ML) are evolving technologies that could help limit the growing data breaches .Despite the regulatory & privacy questions surrounding these technologies, their future use in business looks bright.

Final thought ---ARTIFICIAL INTELLIGENCE is a concept of creating intelligent machines that stimulates human behaviour where as MACHINE LEARNING is a subset of (AI) that allows machine to learn from data without being programmed.

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भारतीय ज्ञान प्रणाली के माध्यम से शिक्षक निर्माण क्षमता एवं व्यावसायिक विकास

श्रीमती नीरू त्रिपाठी

सहायक प्राध्यापक

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सारांश

यह अध्ययन **IKS** भारतीय ज्ञान प्रणाली के माध्यम से शिक्षक निर्माण क्षमता तथा उनके व्यावसायिक विकास की प्रक्रिया को समझने पर केन्द्रित है। **IKS** शिक्षकों को पारंपरिक भारतीय ज्ञान को आधुनिक शिक्षा के साथ एकीकृत करने का अवसर प्रदान करती है, जिसके माध्यम से वे शिक्षण को अधिक प्रभावी, विद्यार्थी-केंद्रित और अनुभवात्मक बना सकते हैं। यह प्रणाली शिक्षकों को छात्रों की आवश्यकताओं को उचित रूप से समझने, प्रासंगिक पाठ योजनाएँ तैयार करने और कक्षा में नवाचार आधारित शिक्षण पद्धतियों का उपयोग करने में सक्षम बनाती है।

शिक्षक समाज के निर्माण में वह महत्वपूर्ण माध्यम हैं, जो ज्ञान परंपरा को निरंतर आगे बढ़ाते हैं। जब शिक्षक आधुनिक तकनीक, डिजिटल संसाधनों और **IKS** आधारित शिक्षण का उपयोग करते हैं, तो शिक्षण न केवल रोचक बनता है, बल्कि विद्यार्थियों की वैचारिक एवं व्यावहारिक क्षमताओं को भी सुदृढ़ करता है। **IKS** शिक्षण प्रक्रिया में प्राचीन भारतीय पद्धतियों तथा आधुनिक वैज्ञानिक दृष्टिकोण दोनों को सम्मिलित कर शिक्षक-व्यावसायिकता को एक नई दिशा प्रदान करती है।

भूमिका

भारतीय ज्ञान प्रणाली के माध्यम से शिक्षक निर्माण क्षमता एवं व्यावसायिक विकास आज की शैक्षिक चुनौतियों का समाधान प्रस्तुत करने वाला एक आवश्यक शैक्षिक उपक्रम है। यह प्रणाली शिक्षकों को भारतीय शैक्षणिक परंपराओं, सांस्कृतिक मूल्यों और वैज्ञानिक सोच से जोड़ते हुए शिक्षण को अधिक सार्थक, संदर्भपूर्ण और अनुभवात्मक बनाती है। **IKS** शिक्षकों को वैश्विक युग की मांगों के अनुरूप स्वयं को अद्यतन रखने, शैक्षिक नीतियों के अनुसार शिक्षण पद्धतियों में नवाचार लागू करने तथा विद्यार्थियों की विविध आवश्यकताओं के अनुसार समावेशी शिक्षण प्रदान करने हेतु प्रेरित करती है।

IKS का अर्थ

IKS अर्थात भारतीय ज्ञान प्रणाली, भारत की हजारों वर्षों से विकसित समृद्ध सांस्कृतिक, वैज्ञानिक, दार्शनिक और तकनीकी परंपराओं का समग्र रूप है। यह केवल ज्ञान का संग्रह नहीं है, बल्कि जीवन और समाज को समझने की एक समग्र, नैतिक और वैज्ञानिक पद्धति है। **IKS** में गणित, खगोल, विज्ञान, चिकित्सा, कला, साहित्य, दर्शन, वास्तुकला तथा समाजशास्त्र आदि विविध क्षेत्रों से संबंधित पारंपरिक ज्ञान सम्मिलित है। इसका उद्देश्य इस ज्ञान को संरक्षित करते हुए इसे आधुनिक शिक्षा एवं नवाचार से जोड़ना है।

परिभाषाएँ

1. **कशीनाथ उपाध्याय (Kashinath Upadhyaya)** "भारतीय ज्ञान परंपरा वह प्रणाली है जिसमें आत्मा, प्रकृति, समाज, भाषा, संस्कृति और अस्तित्व को एक-दूसरे से अविभाज्य मानकर ज्ञान का विकास किया गया है।"
2. **प्रो. कपिल कपूर (Prof. Kapil Kapoor)** "भारतीय ज्ञान परंपरा अखंड, बहुविषयक तथा मानव-केंद्रित प्रणाली है, जो

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सत्य, धर्म, कल्याण और समग्र जीवन के विकास की दिशा में निरंतर प्रवाहमान है।"

अध्ययन के उद्देश्य

1. शिक्षक के व्यक्तित्व के सर्वांगीण विकास का अध्ययन करना।
2. शिक्षक की मार्गदर्शन क्षमता को विकसित करने में **IKS** की भूमिका का विश्लेषण करना।
3. सांस्कृतिक विरासत के संरक्षण में शिक्षक की भूमिका का मूल्यांकन करना।
4. समग्र एवं बहुविषयक दृष्टिकोण विकसित करने में **IKS** के प्रभाव का अध्ययन करना।
5. आलोचनात्मक सोच एवं समस्या-समाधान कौशल में वृद्धि का परीक्षण करना।
6. नैतिक मूल्यों और सदाचार को विकसित करने में **IKS** आधारित शिक्षण की भूमिका की पहचान करना।
7. अनुसंधान और नवाचार को बढ़ावा देने में **IKS** की उपयोगिता का अध्ययन करना।

अध्ययन की आवश्यकता

1. **शिक्षक- एक गुरु के रूप में:** शिक्षक केवल ज्ञान-दाता नहीं, बल्कि मूल्य, संस्कृति और नेतृत्व कौशल के संवाहक भी होते हैं।
2. **चरित्र निर्माण: IKS** आधारित शिक्षण ईमानदारी, अनुशासन, करुणा और नैतिकता जैसे गुणों के विकास को बढ़ावा देता है।
3. **राष्ट्र निर्माण में योगदान:** भारतीय ज्ञान प्रणाली सामाजिक, सांस्कृतिक और नैतिक रूप से सक्षम नागरिक बनाने में महत्वपूर्ण है।
4. **नई शिक्षा नीति (NEP 2020) का एकीकरण: IKS** NEP–2020 के 'समग्र विकास' एवं 'भारतीयता से जुड़े शिक्षण' की अवधारणा को मजबूत करता है।
5. **पाठ्यक्रम और शिक्षण विधियों में सुधार:** यह शिक्षण को व्यावहारिक, रोचक और विद्यार्थी-केंद्रित बनाता है।
6. **गुणवत्तापूर्ण एवं प्रासंगिक शिक्षा: IKS** की अवधारणा शिक्षा को नैतिक, वैज्ञानिक तथा जीवनोपयोगी बनाती है।

अनुसंधान पद्धति

- **प्रकार:** वर्णनात्मक एवं अवलोकन आधारित
- **दृष्टिकोण:** मिश्रित (गुणात्मक + मात्रात्मक)
- **तकनीक:** अवलोकन, समीक्षा एवं विश्लेषण

भविष्य में उपयोगिता

1. विद्यार्थियों एवं शिक्षकों- दोनों का समग्र व्यक्तित्व विकास।
2. भारतीय सांस्कृतिक एवं भाषाई विरासत का संरक्षण।
3. आधुनिक शिक्षा में प्रासंगिकता और उपयोगिता का विस्तार।
4. अनुसंधान एवं नवाचार आधारित शैक्षणिक प्रथाओं का विकास।
5. तकनीक-समर्थित आधुनिक एवं मूल्याधारित शिक्षा का संवर्धन।

निष्कर्ष

निष्कर्षतः कहा जा सकता है कि **IKS** आधारित शिक्षक-व्यावसायिक विकास मॉडल 21वीं सदी की शिक्षा व्यवस्था के लिए एक सुदृढ़ एवं स्थायी आधार प्रस्तुत करता है। यह शिक्षकों को न केवल अधिक सक्षम और आत्मनिर्भर बनाता है, बल्कि ऐसे नागरिक तैयार करता है जो अपनी सांस्कृतिक जड़ों से जुड़े हुए, नैतिक रूप से सशक्त और वैश्विक चुनौतियों से निपटने के लिए समर्थ हैं। **IKS** का समावेश शिक्षण को मूल्यपरक, नवाचारी और समग्र बनाकर शिक्षा प्रणाली में महत्वपूर्ण परिवर्तन लाने की क्षमता रखता है।

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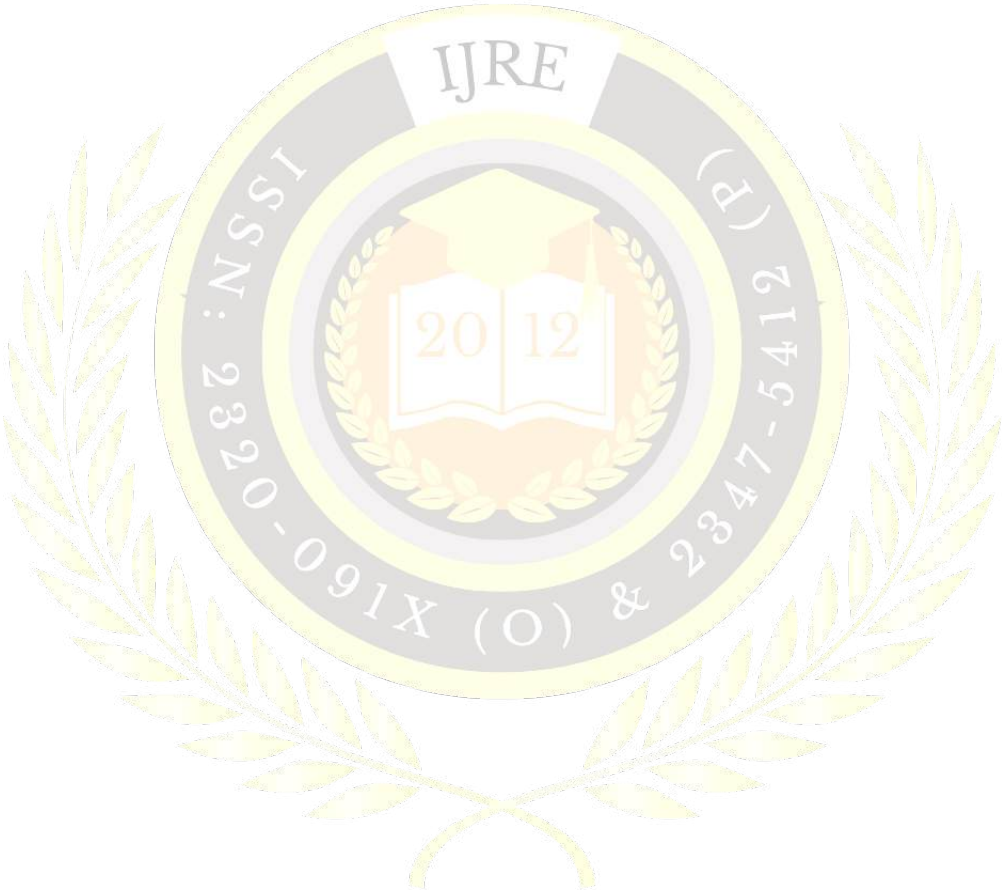

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Exploring the interwoven threads of Indian Knowledge Systems in the structure of the Indian Legal System

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Abstract— Indian Knowledge Systems (IKS) are a body of knowledge and wisdom of wide-ranging practices and traditions that have been formulated and developed over the course of millennia. It encompasses almost every aspect of human life imaginable, from arts and medicine to politics, economics, and governance. The National Education Policy 2020 (NEP, 2020) has placed major emphasis on its integration with the education system to provide students with a holistic and versatile education and has strongly encouraged its adoption. While the NEP, 2020 has not been made applicable to the Indian legal education, legal education is a part of the broader higher education system and the values in focus in NEP, 2020 are worthwhile to be included.

However, as far as the inclusion of IKS into Indian legal education goes, the wisdom of IKS has long been influencing and guiding the Indian legal system and legal education. The concept of Dharma has been one of the core building blocks of many aspects of the current legal system. The jurisprudence and study of the concept of law itself are studied in their context. Our Constitution contains many of the values which are highly inspired by them. Our criminal laws, our philosophy behind how punishments are applied(i.e., penology) show influences from concepts of Danda. Our civil laws such as personal laws recognize Vedas and Upanishads as their foundational sources. Even the modern dispute resolution systems such as arbitration reflect the elements of IKS acting as the guiding force.

This paper examines these elements of IKS which are and always have been integrated into the Indian legal system and Indian legal education, and recognizes their significant contribution in building and guiding the formulation of the modern legal framework of India.

Keywords :Indian Knowledge Systems, Dharma, Danda, Legal Education, Jurisprudence, Constitution, Criminal Law, Personal Law, Arbitration

Introduction

The National Education Policy, 2020 (hereinafter referred to as NEP 2020), is widely regarded as a major overhaul of the Indian education system, and includes reforms across the board, from school education to higher education. One of the central themes of the NEP 2020 is the focus on Indian Knowledge Systems (hereinafter referred to as IKS). The inclusion of ancient era Indian wisdom and philosophy in a scientific manner has been strongly encouraged. The interconnected and holistic nature of IKS allows for a true multi-disciplinary and all-inclusive education to be imparted. NEP 2020 actively pushes for re-framing of curricula to include the traditional Indian knowledge and its elements.

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While various disciplines and institutions are actively working to incorporate IKS in their systems, the Indian legal education already incorporates elements of IKS in its varied disciplines. IKS is not something external to ourlegal structure, instead it is a constant which was always a part of it. Recognising these elements can strengthen legal education, deepen understanding, and enhance their academic and practical relevance.

Indian Knowledge Systems

Indian Knowledge Systems (IKS) are a diverse collection of knowledge and wisdom spanning a vast array of disciplines and fields of studies. It contains information derived from wide-ranging traditions, practices andcustoms, that have been formulated across millennia. The breadth of disciplines is extensive, ranging from art, mathematics and medicine, to economics, politics, and governance. Its origin and development has been a part of the Indian history. Ancient texts such as Vedas, Puranas, Bhagavad Gita, Upanishads, Vedangas along with commentaries such as Natyashatra&Arthashatra from authors like Bharata&Kautilya serve as the foundational principles, strongly emphasizing a holistic framework guided by Dharma and Ethics.

Three key components of IKS are Jnani.e. Knowledge, Vignan i.e. Science &JeevanDarsani.e. the philosophy of life. The evolution and development these systems have undergone was by the way of rigorous process of experimentation, analysis and experience.

The following are the key characteristics defining the nature of IKS

i. **Integrated &All-inclusive:** IKS firmly believes that all branches of knowledge are associated to each other and no branch is meant to be read in isolation.
ii. **Based on real world experiences:** The knowledge base of IKS is founded on application based direct approaches and observations.
iii. **Guided by principles and morals:** Moral principles are the central tenet of IKS influencing all of its components.
iv. **Pluralistic:** The blend of cultural diversity of the Indian Subcontinent is reflected in the co-existence of various regional and cultural practices.

Existing Presence of IKS in the our Law

Indian Knowledge Systems have influenced the Indian legal system for centuries. Many foundational ideas, doctrines, and approaches found in modern Indian law have possible links to the earlier knowledge traditions. While they might lack explicit recognition as such, these influences continue to shape the legal framework.

Below are the major areas where elements of IKS are already embedded in Indian law:

3.1 Dharma and the Normative Foundations of Law

The contribution ofdharma has been significant and noteworthy in shaping India's understanding of justice, duty, and social order. Dharma does not refer only to religious duty, but to the broader idea of fairness, moral balance, and ethical behaviour. Many of the normative principles that guide the Indian legal system, such as equity, reasonableness, and fairness, align with the idea of dharma.

The Indian Constitution, particularly its emphasis on justice, equality, and welfare, also reflects these values. The Directive Principles of State Policy further reflect the idea that the state must act for the welfare of society—an idea present in ancient Indian texts. Thus, dharma continues to influence both the ethical and normative foundations of modern Indian law.

IKS and Jurisprudence

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Jurisprudence is the study of the concepts, theories, sources, and philosophy of law. It examines the fundamental question of what things can be considered as law, and what should an ideal law ought to be, and how ideas such as rights and duties should be understood.

Long before Western legal theories became dominant, Indian traditions had formulated and developed their distinct legal-philosophical systems. Dharma served as the central concept of Indian jurisprudence, functioning not just as a legal norm but as a moral and social guiding principle. The Dharmashastra literature, including texts such as the Manusmriti and YajnavalkyaSmriti, provided detailed theories on the sources of law, categories of rights and duties, and methods of adjudication.

Ancient Indian knowledge schools also contributed to legal thought. The Mimamsa school developed principles of interpretation which are comparable to modern rules for construing statutes. The Nyaya school dealt with logic and reasoning, forming a structured system of inference and analysis which parallels the analytical method used in contemporary jurisprudence. These components demonstrate that IKS forms a significant part of India's indigenous jurisprudential tradition.

Criminal Law and the Concept of Danda

The ancient Indian concept of danda refers to punishment, discipline, and authority. It is closely connected to the idea of maintaining social order. The Arthashastra discusses danda as a necessary tool for governance, emphasising that punishment must be fair, proportionate, and aimed at ensuring stability.

Modern theories of punishment in India, such as deterrence, retribution, and reformative justice, reflect similar ideas. The Indian Penal Code and judicial decisions on sentencing show a balance between deterrence and reform, which aligns with traditional Indian thought. Although the terminology has changed, the underlying principle that punishment must maintain order and promote social welfare mirrors the ancient conception of danda.

Civil Law and Personal Laws

A significant portion of civil law, especially personal laws, is directly influenced by IKS. Hindu personal laws establish their validity and legitimacy from scriptures like the Vedas, Smritis, and commentaries. Concepts relating to marriage, guardianship, succession, and partition are rooted in ancient traditions.

Even when codified statutes have modified these principles, the basic structure continues to reflect the indigenous systems. Thus, civil law demonstrates a clear continuity between ancient Indian thought and modern legal practice.

Dispute Resolution Mechanisms

Indian methods and traditional practices inspire Modern dispute resolution systems such as mediation, conciliation, Lok Adalats, and even arbitration. Historically, disputes were resolved through community assemblies, panchayats, and elders' councils, which relied on consensus, reconciliation, and community involvement.

The emphasis on non-adversarial resolution in modern ADR mechanisms closely parallels these indigenous approaches. The continuity between ancient and modern methods shows how IKS continues to inform present-day legal processes.

Implications for Indian Legal Education

Since elements of IKS are already present in the Indian legal system, recognising them can enhance legal education. Understanding these concepts enables a student to develop deeper insight into the origins of Indian law along with its philosophical foundations. It also encourages a more contextual approach to learning, as students can connect legal doctrines with their historical and cultural background.

Incorporating IKS into legal education can be achieved without requiring a complete change in curriculum. Instead,

it is achievable through focused modules or discussions within existing subjects such as Jurisprudence and Theory of Law, Constitutional Law, Criminal Law, Civil & Family Law, and Alternative Dispute Resolution. This approach can benefit students by enabling them to understand the indigenous roots of Indian law and promote a more well-rounded perspective.

Conclusion

Indian Knowledge Systems are an undeniable and constant constituent of the legal tradition and framework in India. Their influence can be seen in jurisprudential theories, criminal and civil law principles, customary practices, and dispute-resolution mechanisms. Recognising these connections allows legal education to become more meaningful, culturally grounded, and holistic. As NEP 2020 strongly favours integrating IKS across disciplines, identifying and understanding these elements within law becomes both relevant and necessary. It strengthens the educational process and helps preserve India's culturally rich and pluralistic intellectual heritage while being supportive ofcreation of a well-informed legal system.

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भारतीय ज्ञान प्रणाली के माध्यम से शिक्षक क्षमता का निर्माण और व्यावसायिक विकास

डा. प्रियंका तिवारी

विप्र कला वाणिज्य एवं शारीरिक शिक्षा महाविद्यालय

रायपुर, छत्तीसगढ

प्रस्तावना— भारतीय ज्ञान परम्परा अत्यंत समृद्ध, सफल और अद्वितीय है। इसने अपने विकास क्रम में नैतिक, भौतिक, आध्यात्मिक एवं बौद्धिक मूल्यों को उच्च प्राथमिकता प्रदान की है। यह परम्परा ऋग्वैदिक काल से निरंतर प्रवाहित होती आ रही है। साहित्यिक ज्ञान के साथ-साथ भारतीय ज्ञान प्रणाली ने शारीरिक, आध्यात्मिक तथा सांस्कृतिक ज्ञान के महत्व को भी समान रूप से रेखांकित किया है। इसी भारतीय ज्ञान प्रणाली के माध्यम से भारत ने संपूर्ण विश्व को आध्यात्मिक समरसता, योग, आयुर्वेद एवं मानव कल्याण के विविध आयामों का ज्ञान प्रदान किया है, जिसे आज अंतरराष्ट्रीय समुदाय भी व्यापक रूप से स्वीकार कर रहा है। राष्ट्रीय शिक्षा नीति (NEP) 2020 भारत के शैक्षिक परिदृश्य में एक व्यापक परिवर्तन का संकेत देती है, जो भारतीय ज्ञान प्रणाली के महत्व पर विशेष बल देती है। यह नीति भारत की समृद्ध सांस्कृतिक विरासत को पुनर्जीवित करने, शिक्षा में अन्तःविषयकता बढ़ाने, पारंपरिक एवं आधुनिक ज्ञान को समन्वित करने तथा समकालीन सामाजिक चुनौतियों के समाधान हेतु भारतीय ज्ञान को पाठ्यचर्या में समाहित करने का मार्ग प्रशस्त करती है। भारतीय ज्ञान प्रणाली ज्ञान को बाहरी सूचना-संग्रह नहीं, बल्कि आन्तरिक अनुभूति के रूप में स्वीकार करती है। यह शिक्षक क्षमता निर्माण के सिद्धान्त पर आधारित है, जिसके अनुसार शिक्षक स्वयं ज्ञान का आत्मसात् करे तथा उसे सरल, प्रभावी और मूल्यपरक रूप में विद्यार्थियों तक पहुँचाए। अतः शिक्षक को सतत् चिंतन-मनन तथा आत्मविकास के माध्यम से अपने विषय-ज्ञान और शिक्षण-कौशल को सुदृढ़ करने की आवश्यकता होती है। NEP 2020 में भारतीय ज्ञान प्रणाली (IKS) को शिक्षा प्रणाली में समाहित करने पर विशेष बल दिया गया है। शिक्षक के व्यावसायिक विकास में भारतीय ज्ञान प्रणाली के तत्व—जैसे प्राचीन विज्ञान, कला, योग, दर्शन—को समझना और उन्हें शिक्षण में एकीकृत करना अत्यंत आवश्यक माना गया है। भारतीय ज्ञान प्रणाली आधारित क्षमता निर्माण केवल कौशल-विकास का माध्यम ही नहीं, बल्कि चरित्र-निर्माण, नैतिक नेतृत्व और आत्म-परिवर्तन की समग्र प्रक्रिया है।

अध्ययन की सैद्धांतिक पृष्ठभूमि

भारतीय ज्ञान प्रणाली में शिक्षक क्षमता निर्माण और व्यावसायिक विकास एक गहन, बहुआयामी एवं मूलभूत विषय है। भारतीय परम्परा में शिक्षक को केवल ज्ञान प्रदान करने वाला व्यक्ति नहीं, बल्कि चरित्र-निर्माणकर्ता, मार्गदर्शक और प्रेरक व्यक्तित्व माना गया है। इस अध्ययन की सैद्धांतिक पृष्ठभूमि 'पुरुषार्थ चतुष्टय' धर्म, अर्थ, काम और मोक्ष पर आधारित है, जो भारतीय दर्शन में जीवन के चार प्रमुख उद्देश्यों के रूप में स्वीकारे गए हैं। इस आधार पर शिक्षक का विकास केवल व्यवसायिक दक्षता तक सीमित नहीं रहता, बल्कि वह नैतिकता (धर्म), संतुलित जीवन (काम), आजीविका (अर्थ) और आत्म-साक्षात्कार (मोक्ष) की दिशा में विद्यार्थियों को प्रोत्साहित करता है। भारतीय गुरु-शिष्य परम्परा शिक्षा को मात्र ज्ञान-आदान-प्रदान की प्रक्रिया न मानकर व्यक्तिगत मार्गदर्शन, मूल्य-संचार और समग्र विकास का साधन मानती है। इस दृष्टि से शिक्षक को विद्यार्थियों की विशिष्ट क्षमताओं, आवश्यकताओं एवं व्यक्तित्व के अनुरूप शिक्षण प्रदान करना चाहिए। भारतीय ज्ञान प्रणाली शिक्षक के आन्तरिक शुद्धिकरण, आत्मानुशासन, विवेकशीलता और उच्च चरित्र को व्यावसायिक विकास की आधारशिला मानती है। इस दृष्टि में शिक्षा का उद्देश्य ज्ञान-संचार मात्र नहीं, बल्कि सांस्कृतिक जागरूकता, नैतिकता और 'वसुधैव कुटुम्बकम्' की भावना विकसित करना है। अतः शिक्षक को भारतीय संस्कृति, मूल्य एवं आदर्शों का प्रतिरूप होना चाहिए।

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अध्ययन का महत्व

भारतीय ज्ञान प्रणाली के सिद्धांतों एवं मूल्यों को शिक्षक क्षमता निर्माण तथा व्यावसायिक विकास कार्यक्रमों में समाहित करना वर्तमान शैक्षिक परिदृश्य में अत्यंत आवश्यक है। इसके महत्व को निम्नानुसार व्याख्यायित किया जा सकता है—

- IKS नैतिक अखंडता, चरित्र निर्माण, कर्तव्यपरायणता एवं आत्मनिर्भरता जैसे शाश्वत मूल्यों पर आधारित है। इन मूल्यों के आत्मसात् से शिक्षक विद्यार्थियों में भी जीवन-मूल्य एवं भारतीय सांस्कृतिक दृष्टि का संचार कर सकते हैं।
- IKS पारम्परिक शिक्षण वाद-विवाद, संवाद, अनुभवजन्य शिक्षा को आधुनिक शिक्षाशास्त्र के साथ जोड़कर शिक्षण को अधिक व्यवहारिक, सृजनात्मक और स्थायी बनाता है।
- यह शिक्षकों में नवाचार, आलोचनात्मक चिंतन, सृजनशीलता और वैकल्पिक शिक्षण पद्धतियों को विकसित करता है।
- IKS आधारित प्रशिक्षण से शिक्षक में मातृभूमि, संस्कृति और राष्ट्रीय मूल्यों के प्रति सम्मान की भावना विकसित होती है।
- यह समग्र दृष्टिकोण अपनाता है, जिसमें विज्ञान, कला, दर्शन, योग, चिकित्सा आदि जीवन के विविध पक्ष परस्पर जुड़कर शिक्षण को अधिक प्रभावी बनाते हैं।

समस्या का कथन

शिक्षक क्षमता निर्माण और व्यावसायिक विकास न केवल शिक्षक-व्यक्तित्व बल्कि संपूर्ण समाज के विकास के लिए आवश्यक है। इस अध्ययन में यह विश्लेषण किया गया है कि भारतीय ज्ञान प्रणाली किस प्रकार शिक्षकों में क्षमता निर्माण एवं उनके व्यावसायिक विकास को प्रभावित करती है। अतः इस शोध का मुख्य कथन है— "भारतीय ज्ञान प्रणाली के माध्यम से शिक्षक क्षमता निर्माण एवं व्यावसायिक विकास का अध्ययन।"

मुख्य शब्दों की परिचालन परिभाषाएँ

- **राष्ट्रीय शिक्षा नीति (NEP 2020)** – भारत सरकार द्वारा प्रस्तावित नवीन शिक्षा ढांचा।
- **भारतीय ज्ञान प्रणाली (IKS)** – भारत की पारम्परिक, सांस्कृतिक एवं दार्शनिक ज्ञान परम्पराओं का समुच्चय।
- **परिवर्तनकारी शिक्षा** – शिक्षा जो व्यक्तित्व, मूल्य और व्यवहार में परिवर्तन लाती है।
- **शिक्षक क्षमता निर्माण** – शिक्षक के ज्ञान, कौशल, मूल्यों एवं दक्षताओं का विकास।
- **व्यावसायिक विकास** – शिक्षक की पेशेवर उन्नति हेतु सतत प्रशिक्षण, अभ्यास और आत्ममूल्यांकन का प्रक्रिया।

चर

- **स्वतंत्र चर:** भारतीय ज्ञान प्रणाली (IKS)
- **आश्रित चर:** शिक्षक क्षमता निर्माण एवं व्यावसायिक विकास

अध्ययन के उद्देश्य

1. भारतीय ज्ञान प्रणाली के माध्यम से शिक्षक क्षमता निर्माण का विश्लेषण करना।
2. IKS के माध्यम से शिक्षक व्यावसायिक विकास का अध्ययन करना।
3. IKS का NEP 2020 पर पड़ने वाले प्रभाव का अध्ययन करना।

अध्ययन की परिकल्पनाएँ

1. भारतीय ज्ञान प्रणाली का शिक्षक क्षमता निर्माण पर सार्थक प्रभाव पाया जाएगा।
2. भारतीय ज्ञान प्रणाली का शिक्षक व्यावसायिक विकास पर सकारात्मक प्रभाव होगा।

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3. भारतीय ज्ञान प्रणाली का NEP 2020 के प्रावधानों पर महत्वपूर्ण प्रभाव पाया जाएगा।

समस्या का दायरा

- वर्तमान में लागू शिक्षक प्रशिक्षण, क्षमता निर्माण और व्यावसायिक विकास कार्यक्रमों की सीमाएँ और चुनौतियाँ।
- IKS के मूल्यों—गुरु-शिष्य परम्परा, योग, ध्यान, समग्र शिक्षा—के प्रभाव का विवेचन।
- IKS आधारित प्रशिक्षण के बाद शिक्षण विधियों, कक्षा-प्रबंधन और शिक्षक-छात्र संबंधों में आए परिवर्तनों का विश्लेषण।

सीमांकन एवं क्षेत्र

- अध्ययन केवल छत्तीसगढ़ के रायपुर जिले तक सीमित है।
- केवल निजी शिक्षण महाविद्यालयों के प्राध्यापक शामिल किए गए हैं।
- IKS के सभी पहलुओं के स्थान पर केवल विशेष एवं प्रासंगिक आयामों का अध्ययन किया गया है।

साहित्य समीक्षा

1. हालोई एवं खरबिरिबाई (2025)- इनका अध्ययन "NEP—2020 के परिप्रेक्ष्य में IKS का शिक्षक शिक्षा में एकीकरण" पर आधारित था। अध्ययन से ज्ञात हुआ कि IKS आधारित पाठ्यक्रम, बहुविषयकता एवं नवाचार शिक्षक शिक्षा की गुणवत्ता बढ़ाते हैं।

2. ललिताकुमारी एवं विजयरानी (2025)- इस अध्ययन में क्षमता निर्माण कार्यक्रमों की प्रभावशीलता का मूल्यांकन किया गया। निष्कर्षतः ज्ञात हुआ कि ऐसे कार्यक्रम शिक्षकों के कौशल, शिक्षण-शैली और पेशेवर दक्षता में सुधार लाते हैं।

3. पुत्रा एवं रेनाल्डो (2024)- इन्होंने IKS आधारित क्षमता निर्माण, संगठनात्मक समर्थन एवं व्यावसायिक विकास का विश्लेषण किया। परिणामों के अनुसार, क्षमता निर्माण से शिक्षक का आत्मविश्वास, कक्षा प्रबंधन एवं छात्र सहभागिता में उल्लेखनीय सुधार पाया गया।

शोध अंतराल

उपलब्ध साहित्य के आधार पर स्पष्ट हुआ कि IKS पर अनेक अध्ययन उपलब्ध हैं, किन्तु "भारतीय ज्ञान प्रणाली के माध्यम से शिक्षक क्षमता निर्माण एवं व्यावसायिक विकास" पर **महाविद्यालयीन प्राध्यापकों के संदर्भ में विशिष्ट और तुलनात्मक शोध अत्यंत सीमित** हैं। इस अध्ययन ने इसी शोध-अभाव को पूरा करने का प्रयास किया है।

अनुसंधान विधि

- अनुसंधान डिज़ाइन- मात्रात्मक अनुसंधान पद्धति।
- जनसंख्या एवं न्यादर्श - रायपुर जिले के 4 शिक्षा महाविद्यालयों के 40 प्राध्यापक।
- न्यादर्श विधि- उद्देश्यपूर्ण (Purposive Sampling)
- आंकड़ों का स्रोत- प्राथमिक स्रोत—स्वनिर्मित प्रश्नावली।
- शोध उपकरण- स्वनिर्मित, मान्य एवं विश्वसनीय प्रश्नावली।
- आंकड़ों का संग्रह- शोधकर्ता द्वारा प्रत्यक्ष संकलन।

सांख्यिकीय विश्लेषण- मध्यमान, मध्यिका, मानक विचलन तथा t-परीक्षण का उपयोग।

सम्बन्धों की गणना के बिंदु

- IKS और शिक्षक क्षमता निर्माण के मध्य संबंध
- IKS और व्यावसायिक विकास के मध्य संबंध
- IKS और NEP–2020 के मध्य संबंध

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सारणीकरण एवं व्याख्या

संग्रहित आंकड़ों को वर्गीकृत, सारणीबद्ध तथा व्यवस्थित कर t-परीक्षण एवं वर्णनात्मक सांख्यिकी के आधार पर व्याख्या की गई। प्रत्येक परिकल्पना के लिए पृथक सारणी तैयार की गई।

सारणीकरण, सांख्यिकीय विश्लेषण, व्याख्या एवं निष्कर्ष

सारणी 1 : भारतीय ज्ञान प्रणाली (IKS) एवं शिक्षक क्षमता निर्माण के मध्य संबंध

n = 40 शिक्षण प्राध्यापक

क्रम	चर	N	Mean (औसत)	SD (मानक विचलन)	t-मूल्य	p-मूल्य
1	भारतीय ज्ञान प्रणाली (IKS) स्कोर	40	78.45	6.82	**6.12**	**p < .01**
2	शिक्षक क्षमता निर्माण स्कोर	40	83.16	7.09		

व्याख्या

t-मान 6.12 ($p < .01$) दर्शाता है कि **IKS स्कोर और क्षमता निर्माण स्कोर के मध्य अत्यंत सार्थक और सकारात्मक संबंध** पाया गया। अर्थात जिन शिक्षकों ने IKS के तत्वों—योग, नैतिकता, मूल्य, चिंतन, समग्र दृष्टि—को समझा और अपनाया, *उनकी क्षमता निर्माण का स्तर उल्लेखनीय रूप से बढ़ा हुआ पाया गया।*

सारणी 2 : भारतीय ज्ञान प्रणाली एवं शिक्षक व्यावसायिक विकास के मध्य संबंध

क्रम	चर	N	Mean	SD	t-मूल्य	p-मूल्य
1	IKS स्कोर	40	78.45	6.82	**5.74**	**p < .01**
2	व्यावसायिक विकास स्कोर	40	81.52	6.33		

व्याख्या

t-मान 5.74 ($p < .01$) यह दर्शाता है कि IKS का शिक्षकों के व्यावसायिक विकास पर अत्यंत महत्वपूर्ण और सकारात्मक प्रभाव है। अध्ययन में पाया गया कि भारतीय ज्ञान प्रणाली (IKS) के निरंतर संपर्क में रहने वाले शिक्षक बेहतर कक्षा प्रबंधन, उच्च स्तर की विद्यार्थी संलग्नता, उन्नत शिक्षण कौशल, अधिक सकारात्मक दृष्टिकोण तथा बढ़े हुए आत्मविश्वास का प्रदर्शन करते हैं। यह परिणाम स्पष्ट रूप से संकेत करता है कि IKS-आधारित प्रशिक्षण शिक्षकों की पेशेवर क्षमता, व्यवहारिक दक्षता और कक्षा-परिस्थिति से सामंजस्य स्थापित करने की योग्यता को प्रभावी रूप से बढ़ाता है।

सारणी 3 : IKS एवं राष्ट्रीय शिक्षा नीति 2020 के मध्य प्रभावात्मक संबंध

क्रम	चर	N	Mean	SD	t-मूल्य	p-मूल्य
1	IKS स्कोर	40	78.45	6.82	**6.88**	**p < .01**

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क्रम	चर	N	Mean	SD	t-मूल्य	p-मूल्य
2	NEP–2020 अनुपालन स्कोर	40	85.34	7.22		

व्याख्या

t-मान 6.88 ($p < .01$) के परिणाम यह दर्शाते हैं कि IKS और NEP–2020 के क्रियान्वयन स्तर के मध्य अत्यंत सार्थक एवं सकारात्मक संबंध विद्यमान है। अध्ययन से यह स्पष्ट हुआ कि IKS-आधारित प्रशिक्षण प्राप्त करने वाले शिक्षकों ने NEP–2020 में प्रस्तावित समग्र शिक्षा, बहुविषयकता, 21वीं सदी के कौशल, मूल्य-आधारित शिक्षा तथा चिंतन-मनन आधारित अधिगम जैसे प्रमुख घटकों को अधिक प्रभावशाली, स्वाभाविक और सफलतापूर्वक अपनाया। यह निष्कर्ष संकेत करता है कि IKS शिक्षण-दृष्टि न केवल शिक्षकों में वैचारिक समृद्धि और सांस्कृतिक गहराई विकसित करती है, बल्कि उन्हें नई शिक्षा नीति की अपेक्षाओं के अनुरूप अधिक सक्षम, सजग और नवाचारोन्मुख शिक्षक के रूप में विकसित भी करती है।

निष्कर्ष

1. भारतीय ज्ञान प्रणाली और शिक्षक क्षमता निर्माण के मध्य **अत्यंत उच्च एवं सकारात्मक संबंध** पाया गया।
2. IKS ने शिक्षकों के **व्यावसायिक विकास स्तर को महत्वपूर्ण रूप से बढ़ाया**।
3. NEP–2020 के सिद्धांतों को अपनाने में IKS-आधारित शिक्षकों की **अनुपालन क्षमता अधिक** पाई गई।
    - अध्ययन में पाया गया कि IKS शिक्षण-सीखने की प्रक्रिया को अधिक मूल्य-आधारित, अधिक प्रभावी, अधिक सूझ-बूझ से संचालित, अधिक आत्मनियंत्रित, अधिक नवाचारी बनाता है।
4. IKS-आधारित प्रशिक्षण को शिक्षक-शिक्षा कार्यक्रमों में सम्मिलित करना अत्यंत आवश्यक और समय की मांग है।

सुझाव और सिफारिशें

- व्यावसायिक विकास कार्यक्रमों में इंटर्नशिप और सहकर्मी शिक्षण को प्रोत्साहित किया जाना चाहिए, जहाँ अनुभवी शिक्षक नवप्रवेशी शिक्षकों का मार्गदर्शन करें। इससे गुरु–शिष्य परंपरा की भावना को पुनः सशक्त बनाया जा सकेगा।
- प्रशिक्षण सामग्री और चर्चाएँ मातृभाषा तथा स्थानीय भाषाओं में, और अधिकतम सहभागिता सुनिश्चित करने वाली रणनीतियों के साथ आयोजित की जानी चाहिए, ताकि शिक्षकों की अवधारणात्मक समझ और व्यवहारिक दक्षता में वृद्धि हो।
- शिक्षकों के व्यावसायिक विकास कार्यक्रमों में भारतीय ज्ञान परंपरा (Indian Knowledge System) के सिद्धांतों, दर्शन और शिक्षण–पद्धतियों को अनिवार्य रूप से सम्मिलित किया जाना चाहिए, जिससे शिक्षा अधिक प्रासंगिक, मूल्यपरक और सांस्कृतिक रूप से समृद्ध बन सके।
- योग, आयुर्वेद, वैदिक गणित आदि पारंपरिक ज्ञान को आधुनिक विषयों के साथ एकीकृत करने के तरीकों का प्रशिक्षण प्रदान किया जाना चाहिए, ताकि शिक्षण प्रक्रिया अधिक समग्र और प्रभावी बन सके।
- शिक्षक प्रशिक्षण को केवल विषय ज्ञान तक सीमित न रखते हुए, शिक्षकों के चरित्र निर्माण, व्यक्तित्व विकास और नैसर्गिक प्रतिभा के संवर्धन पर विशेष ध्यान दिया जाना चाहिए, जिससे शिक्षा प्रणाली में गुणात्मक सुधार संभव हो सके।

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Creating Flexible and Multidisciplinary Education in the Vision of NEP 2020 for Inclusive Education

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Abstract— National Educational Policy (NEP) 2020 focuses on flexibility, multidisciplinary to strengthening a vibrant inclusive learning environment. This paper explores mechanisms of creative, flexible and multidisciplinary approaches in the vision of NEP 2020 for inclusive education which includes holistic curriculum design, multiple entry and exit pints. The study highlights multidisciplinary education, learner diversity, technology integrated learning, inclusive pedagogical practice by examining NEP 2020 policy.

Keywords— Multidisciplinary Education, National Education Policy (NEP), Inclusive Education

Introduction

Inclusive education is considered as central part of highlighting equitable and inclusivity in education context (Rai & Kanvaria, 2025), the integration of subjects like science, humanities, vocational disciplines at higher education levels which is aim to enhance creativity, holistic education and critical thinking (Bhoi, 2025), Inclusive education ensures education for all without considering any barriers in physically and intellectually (Priyashree, 2023). This policy enhances a special support for socio economic disadvantaged groups with special mention of girls and differently abled students and marginalised groups (Mohan Kumar, 2021),the real outcome of NEP 2020 is equity and inclusivity so it enhances education at remote areas (Varshney & Ahlawat, 2022). The major aim of inclusive education is giving educational setting for all regardless of disability, challenges and discriminations (Aneraye et al., 2024), multidisciplinary and holistic education highlights all aspects of human life like emotional, intellectual and aesthetic (Wani et al., 2020), national education policy is a drastic change from traditional education system to present innovative and dynamic based education system (Khan, 2025), multidisciplinary education reflects development of problem solving skill and creative thinking skills (Langal et al., 2025).

Major objective of the study

- To discuss creating flexible and multidisciplinary education in the vision of nep 2020 for inclusive education

Methodology

- The present study is conducted on document analysis of National Education Policy (NEP)2020

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designed by Ministry of Human Resource Development in enhancing creating flexible and multidisciplinary education in the vision of nep 2020 for inclusive education. Also, the study contains different secondary sources such as journals and articles.

Discussions

- **Flexible and Multi-Disciplinary Education**

Quality education is important in the context of education, National Education Policy (NEP) 2020 recommends innovative and authentic ideas to enhance quality of education. NEP 2020 highlights inclusive practices and develops modern educational practices and remedial measures to securing equity, equality and accessibility for all child. In National Education Policy document section 4.5. states that flexibility of curriculum considered as key component of multidisciplinary education which mentioned in the NEP 2020. NEP 2020 mentioned the content of curriculum should be more specific, based on discussions, inquiry-based learning and based on problem solving. And the process of teaching learning should be interactive, collaborative and encourage (National Education Policy, 2020, p.12).Interactive and collaborative teaching learning process will enhance the education of differently abled students.

Section 4.6. highlights experiential learning is another important pillar of NEP 2020, which enhances hands on learning, art and sports integrated education(National Education Policy, 2020, p.12). The connection behind experiential learning with inclusive practice, the teachers mould students with basic knowledge and develop materials and classroom activities. It promotes multisensory approaches instead of traditional methods which helps in differently abled students to reduce rote memorisation, engage participation, develops their self-confidence, multiple way of expression and engagements.

Empowerment in terms of course choice is another important recommendation of NEP 2020. In section 4.9. states that students have an opportunity to select course especially in secondary school subjects according to students' interest (National Education Policy, 2020, p.13). The flexibility of course helped to differently abled students to strengthening cognitive skills, sensory preference, vocational courses, and includes learners' diversity. Section 11.3. reflects the aim of multidisciplinary education and holistic development focus on overall development of the child including physical, mental and moral developments. So, it will help to all rounded development in individuals which enhances 21st skill also (National Education Policy, 2020, p.36). When looking these recommendations in terms of inclusive education, communication, collaboration, individual difference and socialisation process will take place in differently abled students.

Section 11.5. enhance multiple entry and exit points eradicate all inflexible boundaries and construct flexible learning (National Education Policy, 2020, p.37). It enhances the flexibility in education system, which means it gives an opportunity to students who wants to exit any degree program and get certificate after completing a particular period of the course and they can come back later to doing the degree. It helps differently abled students to rejoin the course who need break for treatment and their health conditions. Section 12.10. NEP 2020 policy document focus financial assistance for scheduled caste, scheduled tribe and socio-economic disadvantaged groups (SEDGs)(National Education Policy, 2020, p.40).

Online teaching platforms like SWAYAM, DIKSHA will help all child to doing online courses,

which is also helpful for differently abled students to select various courses based on their interest and aspirations. Section 6.25. recognizes and enabling creative mechanism and quality education is needed for Divyang (National Education Policy, 2020, p.25).Section6.10. ensuring the equal participation and equity-based education at primary and school level (National Education Policy, 2020, p.26).

Conclusion

NEP 2020 have lot of recommendations which make seamless transition in education context. And all the changes and modifications are completely considered every child without marginalisation based on disabilities and discriminations like cate, class and gender. Inclusive practice is central theme of NEP 2020 and innovative ideas and dynamic transitions of this policy can make optimism and vibrant changes inclusive education.

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College Activities