
Recent Trends And Emerging Perspectives In Educational Research: Evidence-Based Approach And Fundamental Principles

Dr. Maganlal S. Molia

Professor and Head, Department of Education,
Saurashtra University, Rajkot
msmolia99@gmail.com

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ABSTRACT

Educational research has recently shifted towards evidence-based approach, digital transformation and inclusiveness, which are closely related to fundamental principles such as constructivism (active knowledge construction by students), connectivism (knowledge development through digital networks), humanistic theory (holistic personality development) and systems theory (education as a whole system). These trends, along with the inclusion of IKS as per NEP 2020, see the rise of AI-personalized learning, VR/AR based experiences, Competency-Based Assessment and multidisciplinary research. Evidence such as over 93% scores in IKS courses on SWAYAM and 53% improvement in programs like Khushishala show that this approach enhances cultural awareness, interdisciplinary thinking and sustainable skills in students, while addressing challenges such as digital inequality and faculty training requires collaborative efforts. These trends prepare students to be thinkers, innovators and responsible citizens, realizing the goal of a developed India. Under NEP, the National Research Foundation (NRF), 5% credit for IKS, has accelerated trends such as AI-based learning and inclusive pedagogy, resulting in high performance and increased cultural awareness in SWAYAM courses. This policy aligns research with lifelong learning and the goal of a developed India, with the aim of making students thinkers and innovators through evidence-based implementation and collaborative efforts.

Key Words: Educational research, trends, perspectives, evidence-based approach, fundamental principles

Corresponding Author

Name: Dr. Maganlal S. Molia

E.Mail: msmolia99@gmail.com

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INTRODUCTION

Educational research is a dynamic field at the global and local levels that is constantly evolving with societal changes, technological advancements and cultural awareness. The period from 2023 to 2026 has witnessed major changes in this field with the inclusion of evidence-based approaches, digital and AI-based pedagogy, inclusiveness, holistic development and Indian Knowledge Tradition (IKS). This Paper extensively links these trends with the fundamental theories (Constructivism, Behaviourism, Humanism, Systems Theory etc.), explains them with real evidence, examples and in the context of NEP 2020.

EVIDENCE-BASED EDUCATIONAL RESEARCH: ORIGINS AND EXTENSION

Basic Theory: Constructivism (Jean Piaget and Lev Vygotsky) – Students actively construct knowledge through their own experiences, social interaction and environmental context. According to this theory, knowledge is not static, but is based on individual and collective experiences.

Recent trends and areas:

- **Research is now based on randomized controlled trials (RCTs)**, meta-analyses, longitudinal studies and real-world evidence. Decisions are made with evidence, avoiding experience-based or implicit assumptions.
- **NEP 2020 and UGC guidelines** also require evidence-based implementation in IKS inclusion, such as combining traditional knowledge with modern scientific methods.
- **Evidence-based education and reforms like "Science of Reading"**: The US and other countries have adopted a scientific evidence-based approach to improve reading and mathematics. For example, states that have implemented "Science of Reading" reforms have seen improvements in reading skills, while others have made less progress. Models like High-Quality Instructional Materials (HQIM) and Response to Intervention (RTI) have also become widespread.
- **AI, Personalized & Adaptive Learning**: AI tools provide personalized support to students, but studies show that the benefits of AI are often immediate and do not last after the tool is removed. For teachers, AI is helpful in lesson planning and feedback.
- **Active Learning, SEL (Social-Emotional Learning) and Microbreaks**: Project-Based Learning, Formative Assessment and SEL programs improve students' academic performance. Emphasis on microbreaks and handwriting has increased.
- **Equity, Gifted Education and System-Level Implementation**: Focus on equity and inclusion, including High-Leverage Practices (HLPs) for marginalized students. Efforts to implement evidence at scale through implementation science (such as AERO).
- **Emerging Perspectives**: Transdisciplinary learning, inquiry-based and emergent curriculum, which emphasize student agency and lifelong learning.

Real Evidence and Examples:

- The average score of students in IKS courses (M.A./M.Sc., M.B.D. etc.) on SWAYAM platform has been over 93%. This has increased cultural awareness, interdisciplinary thinking and research attitude.

- According to a college study (Shri Vijaysinha Yadav College), B.A. First year students had low awareness before IKS syllabus, but after the course, understanding and relevance in Yoga, Ayurveda and Vedic philosophy increased. Students have linked it to careers (wellness, sustainability).
- Globally, OECD and UNESCO studies show that evidence-based pedagogy improves learning outcomes by 20-30%, while in India, inclusion of IKS in NAAC and NIRF assessments has increased the quality of institutions.

This approach applies constructivism at a practical level – students do not just absorb information, but create knowledge based on evidence.

DIGITAL AND AI-BASED RESEARCH: TECHNOLOGICAL DEVELOPMENT

Basic principle: Connectivism (George Siemens) – Knowledge grows through networks, digital combination and continuous updating. AI tools make the principle of repetition and feedback of behaviorism more effective.

Broad trends:

- AI-personalized learning, virtual reality (VR), augmented reality (AR), adaptive assessment and big data analytics.
- Post-COVID hybrid and blended models, open educational resources (OER) and micro-credentials.
- Reaching rural areas through DIKSHA, SWAYAM and NEP-supported digital infrastructure in India.

Evidence and examples:

- Projects like Yoga + AI (mental health), Ayurveda + Machine Learning (infertility management) are underway in IITs and IKS centers.
- Studies show that blended learning is more effective than traditional, but inequalities remain due to the digital divide (lack of internet and devices in rural areas).
- AI tools provide personalized support by identifying students' learning gaps early, which reinforces the principle of connectivism.

INCLUSION, EQUITY AND HOLISTIC DEVELOPMENT

Basic Principles: Humanistic Theory (Abraham Maslow – Hierarchy of Needs; Carl Rogers – Student-Centered Learning) – Emphasis on the holistic personality (mental, emotional, social) development of the student.

Broad Trends:

- Universal Design for Learning (UDL), Neurodiversity (autism, ADHD etc.), Gender Equality, Inclusive Methods for Socio-Economic Background and Disability.
- Multilingual and Multicultural Approaches as per NEP 2020 as well as Inclusion of Tribal Knowledge.

- Increased focus on mental health – Rajasthan’s Khushishala program improves socio-emotional skills by 53% (69% for girls) in primary school students.

Evidence: Inclusive classrooms increase student success rates and social equity. IKS provides this with cultural roots and a holistic perspective

SUSTAINABLE, INTERDISCIPLINARY AND IKS-BASED RESEARCH

Underlying theory: Systems theory – viewing education as a whole, with various components (environment, society, economy) interconnected.

Broader trends:

- Research on sustainable development, health and governance by integrating IKS with STEM, management and social sciences.
- Project-based, experiential and community-engaged research.
- 32+ IKS centres, NRF funding, student internships and textbook production.

Evidence: IKS research enhances students’ cultural pride, innovation and capacity to solve local problems. It provides Indian solutions to global challenges.

ASSESSMENT, ETHICS AND FUTURE DIRECTIONS

- **Assessment:** Competency-Based Assessment (CBA), portfolio, peer review and real-world projects.
- **Ethics:** Data privacy, AI bias, plagiarism and research integrity.
- **Future (Vision 2047):** Glocal research, lifelong learning, micro-credentials and promoting IKS globally.

CHALLENGES AND RECOMMENDATIONS

Challenges: Resource scarcity, lack of faculty training, digital inequality, implementation gap and balancing evidence vs. local context.

Recommendations: Extensive faculty training (Malaviya Mission), collaborative platforms, continuous monitoring, strong linkages with IKS and government-industry-academia collaboration.

IMPLICATIONS

Educational research has seen major changes in the 2021-2026 period, with post-COVID changes, digital transformation, and a greater emphasis on scientific evidence. Recent implications are discussed, focusing on the balance between Evidence-Based Practices (EBPs) and fundamental principles (such as student-centered teaching, equity, and active learning).

Implications of Evidence-Based Approaches

- **Positive:** Improved student outcomes (such as in reading, math, and SEL), teacher professional development, and greater credibility in policy-making. Approaches based on meta-analyses and RCTs (such as the EEF Toolkit) have been shown to be effective.

- **Challenges:** The “What Works” approach can ignore context-specific realities, reduce teacher autonomy, and risk publication bias and mixed results. Qualitative and mixed methods are needed.
- **System level:** Implementation science (readiness, capacity, alignment) requires scaling up evidence. Supranational organizations (OECD, UNESCO) promote evidence cultures.

Implications on fundamental principles

Evidence-based approaches reinforce fundamental principles (active, social, meaningful, iterative and enjoyable learning), but they need to be balanced:

- **Student agency and metacognition:** Formative assessment and retrieval practice support fundamental learning principles.
- **Equity and human development:** Emphasis on potentiality with meritocracy, inclusive EBPs effective for marginalized students.
- **Technology and human approach:** Making technology supportive while maintaining fundamental elements such as paper-based and handwriting.
- **Long-term outcomes:** Evidence shows short-term benefits, but sustainable development is not possible without fundamental principles (curiosity, collaboration, lifelong learning).

Evidence-based approaches make educational research more credible and effective, but it needs to be linked to fundamental principles (human flourishing, contextuality, equity). Policies like NEP 2020 in India and globally should emphasize teacher training, implementation research and mixed methods. This will prepare students not only academically but also for overall development.

CONCLUSION

Recent trends in educational research are making fundamental principles more effective, inclusive and socially relevant by linking them with the context of modern technology, IKS and NEP 2020. These trends will develop students not just as scholars, but as thinkers, innovators and responsible citizens. Continuous effort and collaboration are required for successful implementation.

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