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Original Research Article

ACTIVITY BASED LEARNING (ABL) AND USE OF ED-TECH MODELS IN TEACHING INDIAN KNOWLEDEGE SYSTEM

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Abstract:

The integration of Activity-Based Learning (ABL) and Ed-Tech in education has transformed pedagogical approaches across disciplines. This study explores the role of ABL and Ed-Tech models in enhancing student engagement with the Indian Knowledge System (IKS). A survey conducted among first-year undergraduate students examines their familiarity, interest, and perception of IKS, as well as their views on the effectiveness of ABL and technology-driven methods. The findings indicate a strong preference for interactive learning approaches, highlighting the potential of ABL and Ed-Tech in making IKS education more accessible and engaging. The study also discusses challenges such as curriculum standardization and teacher preparedness while suggesting policy interventions and digital advancements for better integration.

Keywords: *Activity-Based Learning, Ed-Tech, Indian Knowledge System, Student Engagement, Pedagogy, Digital Education*

Introduction:

Indian Knowledge Systems (IKS) encompass a vast repository of indigenous sciences, philosophies, and cultural traditions. Despite its historical significance, IKS has often been marginalized in modern education due to curriculum constraints and pedagogical challenges. The National Education Policy (NEP) 2020 emphasizes the need to reintegrate IKS into mainstream education through innovative methods, including Activity-Based Learning (ABL) and Ed-Tech solutions. This research investigates how ABL and digital tools enhance student engagement with IKS, fostering a holistic learning experience.

Objectives:

1. To assess students' interest in learning through Activity-Based Learning (ABL).
2. To evaluate the level of interest, knowledge, and perception of students towards the Indian Knowledge System (IKS).

Literature Review:

1. Integrating Indian Knowledge Systems in Modern Pedagogy:

Sharma and Gupta (2023) discuss the role of ABL in fostering hands-on engagement with IKS, emphasizing

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gamification and VR-based learning. They argue that digital tools help bridge cultural knowledge gaps and enhance critical thinking. However, challenges such as curriculum standardization and teacher training persist.

2. **Activity-Based Learning for 21st-Century Skills**
   Mehta and Patel (2023) highlight ABL's role in fostering critical skills like creativity and collaboration. They stress the importance of project-based learning and digital tools, aligning with NEP 2020's emphasis on holistic education. However, barriers such as rigid curricula and inadequate digital infrastructure hinder effective implementation.
3. **Ed-Tech and Traditional Indian Teaching Methods**
   Verma (2023) explores AI-driven adaptive learning, VR, and digital storytelling in teaching subjects like Ayurveda and Vedic mathematics. While Ed-Tech improves accessibility, concerns about over-reliance on technology necessitate a blended approach integrating teacher-led instruction.
4. **The Impact of NEP 2020 on IKS**
   Desai and Rao (2022) analyze NEP 2020's provisions for integrating IKS into modern education. Government initiatives focus on digitization, interdisciplinary research, and policy support, but challenges include academic resistance and lack of standardized curricula.

Methodology:

A structured questionnaire was distributed to first-year undergraduate students to gather insights on their familiarity with ABL and IKS. The survey included multiple-choice and open-ended questions, assessing student engagement, interest levels, and the perceived effectiveness of Ed-Tech tools.

Analysis of Survey Data:

1. Sample Overview

- Total Responses: 93
- All respondents were first-year undergraduate students.

2. Awareness and Interest in IKS

- 99% of students were introduced to IKS in their curriculum.
- 46% were familiar or very familiar with IKS, while 28% were neutral.
- 57% expressed interest in learning IKS, while 38% remained neutral.
- 70% considered IKS relevant in today's world.

3. Awareness and Effectiveness of ABL

- 62% had heard of ABL before.
- 53% engaged in hands-on activities occasionally, while 16% did so frequently.
- 77% found ABL effective or very effective in enhancing subject understanding.

4. Role of Technology in Learning

- 90% believed technology enhances ABL.
- Preferred learning modes included a combination of group discussions, case studies, and technology-

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driven methods.

- 72% felt Ed-Tech could be used well or very well to teach IKS.
- Popular Ed-Tech tools included online courses, educational apps, and virtual reality tours.

Discussion:

The findings indicate that students recognize the relevance of IKS in contemporary education but require engaging pedagogical methods to deepen their understanding. ABL methods, such as role-playing and project-based learning, provide an interactive approach that enhances student engagement. The incorporation of Ed-Tech tools, including VR and gamified platforms, further enriches the learning experience. However, challenges such as teacher reluctance, lack of digital infrastructure, and the need for structured training remain significant barriers. To maximize the potential of IKS integration, future research should explore scalable models of ABL and Ed-Tech implementation, particularly in diverse educational contexts. Policymakers and curriculum developers must prioritize the development of resources and teacher training programs that support IKS education. Additionally, collaborations between educational institutions, indigenous communities, and technology developers can foster the creation of culturally sensitive digital content that accurately represents and preserves indigenous knowledge.

Challenges and Recommendations:

1. Challenges

1. **Curriculum Rigidity**: Resistance to adopting flexible learning methodologies.
2. **Teacher Training**: Limited exposure to ABL and Ed-Tech among educators.
3. **Digital Divide**: Inconsistent access to technology in different educational institutions.

2. Recommendations

1. **Policy Support**: Government policies should encourage ABL integration in mainstream education.
2. **Teacher Training Programs**: Focused training on digital tools and activity-based pedagogies.
3. **Infrastructure Development**: Investment in digital platforms and accessibility enhancements for students.
4. **Blended Learning Models**: Combining traditional teaching with ABL and Ed-Tech for holistic education.

Conclusion:

This study highlights the potential of Activity-Based Learning and Ed-Tech models in enhancing the teaching and learning of Indian Knowledge Systems. The survey results reveal a strong student preference for interactive and technology-driven learning approaches, reinforcing the need for curriculum reform and investment in digital infrastructure. Overcoming implementation challenges through structured teacher training and policy interventions will ensure the successful integration of IKS in modern education.

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Original Research Article

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