National Research Journal of Banking and Finance Management
Volume No: 12, Issue No: 2, Year: 2025 (July-December)
PP: 18-20
ISSN: 2349-6762
Peer Reviewed & Refereed Journal (IF: 7.56)
Journal Website www.nrjbfm.in

# ROLE OF TECHNOLOGY IN EDUCATION: FOCUSING ON SKILLS DEVELOPMENT

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## ABSTRACT

The integration of technology in education has enhanced both cognitive and practical learning outcomes by shifting the focus from rote memorization to active skill development. This study examines how learning platforms, digital tools, and emerging technologies foster critical thinking, collaboration, digital literacy, and problem-solving abilities—key competencies for the 21st century. Using global case studies, the paper highlights the benefits, challenges, and policy implications of technology-enabled education.

**Keywords:** Technology in education, Skills development, Digital literacy, Online learning, 21st-century skills

## INTRODUCTION

Traditional chalkboard teaching has been replaced by technology-enhanced classrooms where students engage with artificial intelligence, multimedia, and interactive tools. Technology plays a pivotal role in equipping students with the skills required for the global workforce, moving beyond merely increasing access to information. This paper explores how technology promotes skill development and evaluates its effectiveness in diverse educational contexts.

## LITERATURE REVIEW

Scholars argue that technology improves student engagement and facilitates personalized learning pathways. According to the OECD (2021), digital technologies enhance problem-solving skills and encourage self-directed learning. Mishra and Koehler (2006) emphasize the TPACK framework, which highlights the intersection of technology, pedagogy, and content knowledge in shaping educational outcomes.

Key skills linked to technology-driven education include:

**Digital literacy:** Evaluating and creating digital content

**Critical thinking:** Solving real-world problems through simulations

**Collaboration:** Engaging in online learning communities

**Adaptability:** Navigating AI-driven and evolving digital platforms

## METHODOLOGY

This study employed a secondary data review approach by analysing journal articles, UNESCO and OECD reports, and case studies on technology integration in higher education. Findings from international contexts are summarized in tables.

## FINDINGS AND DISCUSSION

### Contribution of Technology to Skills Development

| Skill Area | Role of Technology | Example Tools/Methods |
|---|---|---|
| Digital | Enhances the ability to evaluate, create, and | Microsoft Teams, Google |

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| Skill Area | Role of Technology | Example Tools/Methods |
|---|---|---|
| Literacy | share digital content | Classroom |
| Critical Thinking | Promotes problem-solving through simulations and interactive content | Virtual Labs, Kahoot! |
| Collaboration | Facilitates teamwork across distances via digital platforms | Zoom, Miro Boards |
| Creativity | Encourages innovation through design and multimedia tools | Canva, Adobe Creative Cloud |
| Adaptability | Prepares learners for dynamic digital environments | AI-based tutoring, VR learning |

**Case Studies**

| Case Study Location | Technology Used | Skills Developed |
|---|---|---|
| India – DIKSHA Platform | Mobile app for teachers and students | Digital literacy, self-learning |
| Finland – Smart Classrooms | AR/VR in science labs | Critical thinking, problem-solving |
| USA – Google Workspace in Schools | Cloud-based collaboration | Teamwork, communication |
| Kenya – Solar-powered E-learning | Offline digital libraries | Access and adaptability in low-resource areas |

## CHALLENGES

Despite its advantages, technology integration faces several barriers:

Digital divide – Unequal access to devices and reliable internet.

Teacher readiness – Insufficient training in using digital tools effectively.

Over-reliance on technology – Potential reduction in human interaction and creativity.

## POLICY IMPLICATIONS

To maximize the benefits of technology in education, governments and institutions should:

Invest in robust digital infrastructure.

Provide professional training for educators in digital pedagogy.

Bridge the digital divide to ensure inclusivity.

Reform curricula to emphasize skill-based learning.

## CONCLUSION

Technology has transformed education by prioritizing skill development over rote memorization. When strategically integrated, it can equip learners with digital literacy, problem-solving skills, and adaptability essential for the 21st century. However, sustainable progress requires a balanced approach that combines strong pedagogy with effective use of technology.

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