



Teacher Perceptions and Attitudes Towards Educational Technology and AI Adoption in Odia Secondary Schools.

*AUTHOR: K SANTOSH KUMAR RAO, ASSISTANT PROFESSOR IN EDUCATION, TEACHER
EDUCATION DEPARTMENT, RAJENDRA UNIVERSITY, BOLANGIR*

ABSTRACT

The convergence of educational technology (EdTech) with the use of artificial intelligence (AI) has possibility to transform classroom experiences by customizing experiences, increasing engagement, and empowering teachers. However, successful implementation requires teacher buy-in. This study investigates the views and opinions of teachers in secondary schools in Odisha, India, about EdTech and AI usage in the classroom. Teachers from various blocks in Odisha's Balangir district took part in a survey. The investigator used random sampling to obtain data from 50 secondary school teachers from ten different schools. The Investigator used the questionnaire to collect data on demographics, instructional technology use experiences, opinions of EdTech advantages and obstacles, attitudes toward AI adoption, and worries about implementation. Descriptive statistics were employed to evaluate quantitative data, and theme analysis would be employed to create qualitative replies. This study seeks to bridge the discrepancy between theoretical opportunities and practical execution by examining instructor perceptions. The findings will teach policymakers, educators, and developers of curriculum about strategies for effectively integrating educational technology and artificial intelligence into classrooms in Odisha, hence improving students' learning experiences.”

KEY WORDS: perceptions; Attitudes, Educational Technology, Artificial Intelligence

INTRODUCTION

Educational scenario in the 21st century is moving towards tech infused classrooms. Evolving AI and educational technologies has become the new face of facilitation in the classroom. Use of technology in the classrooms has proved to be immensely beneficial and promising. Both Edtech and AI hold enormous potential to enrich the

teaching learning experience of the students and teachers as well. Through the correct and efficient use of technology positive outcomes can be withdrawn ensuring active participation and engagement of the students. Technology in education goes hand in hand and can enhance the teaching learning outcomes. Massive positive outcomes can fuel the learning process and educational goals. A successful learning environment is linked with the acceptance and support of the teachers in implementation of technology. Instructors have an important role in shaping learning environment. A teacher's perception and attitude regarding the drastic change in technology can influence the whole teaching-learning process. In the context of India, it is a must to understand the insightfulness of the secondary teachers in Odisha, to ensure the effectiveness and successful implementation of technology. This research is all about digging out and studying perception of Odia secondary school teachers towards Edtech and AI adoption in the classrooms. A rigorous investigation will help to draw a clear picture of the experiences, beliefs and concerns of the teachers which will be helpful to diminish the gaps between the possibilities and implementation of the technology. The discovery will cast light upon the current scenario of technology use in Odia classroom, this will provide a thorough understanding to the policymakers, educators and curriculum developers. The findings can permit them to eradicate the odds and synthesize possible strategies to deal with the needs and concerns of the teachers. Eventually, ensuring the successful implementation of technology and an upgraded learning experience for the students in Odisha.

REVIEW RELATED LITERATURE

Kim and Kim (2022), in Teachers Perceptions of Using an Artificial Intelligence-Based Educational Tool for Scientific Writing, examines various studies on this theme. Key findings highlight teachers' concerns about job displacement due to AI, The necessity for professional growth to efficiently utilize Artificial Intelligence, and the potential benefits of AI for personalized learning and handling administrative tasks.

Rana (2012) conducted a study on Assess Teacher Educators attitude Towards Technology Integration In Classroom. Investigate teacher attitudes towards technology integration in the Indian context. The study reveals that while teachers acknowledge the potential benefits of EdTech, they face challenges like lack of infrastructure, limited technical support, and inadequate training. The research emphasizes the need for context-specific solutions and teacher-centered approaches to promote successful EdTech integration in India.

RATIONALE OF THE STUDY

The integration of educational technology (EdTech) and artificial intelligence (AI) has the ability to change classroom learning by personalizing experiences, fostering engagement, and empowering educators. However, despite their potential benefits, the widespread adoption of these technologies hinges on gaining teacher buy-in. Teachers are the backbone of classrooms, shaping the learning environment and influencing students' educational journeys. Their perceptions and attitudes towards emerging technologies significantly impact the

integration process. If teachers are apprehensive or lack confidence in using EdTech and AI tools, their implementation will likely be unsuccessful. In the context of India, understanding the perspectives of secondary school teachers in Odisha is particularly important. Odisha is striving to improve the quality of education in its secondary schools, and EdTech and AI present promising avenues for achieving this goal. By investigating teachers' current experiences, beliefs, and concerns, this study aims to bridge the gap between the theoretical possibilities of EdTech and AI and their practical implementation in Odia classrooms.

OBJECTIVES OF THE STUDY

1. To explore the experiences of Odia secondary school teachers with educational technology (EdTech) and artificial intelligence (AI) in their classrooms
2. To gauge the attitudes of Odia secondary school teachers towards AI adoption in classrooms
3. To identify the concerns of Odia secondary school teachers regarding the adoption of EdTech and AI in classrooms.
4. To collect suggestions from Odia secondary school teachers for the successful implementation of EdTech and AI in classrooms.
5. To inform policymakers, educators, and curriculum developers about strategies to promote the successful integration of EdTech and AI into Odia classrooms.

METHODOLOGY

The investigator used survey research design to know the perceptions and attitudes of Odia secondary school teachers towards the adoption of EdTech and AI in their classrooms. The target population for this study were Odia secondary school teachers (grades 6-12) from various blocks across Balangir District, Odisha, India. A stratified sampling technique used to recruit participants. sample size of 50 teachers targeted for participation. A self-administered questionnaire developed to gather data from Teachers. The questionnaire designed in English and translated into Odia to ensure accessibility for all participants. The questionnaire consisted of several sections, like: Demographics, EdTech Use, AI Adoption Attitudes, potential impact of EdTech and AI on student engagement and the overall quality of education.

Data Analysis And Interpretation

The Investigator used the Descriptive statistics to analyze data gathered through the questionnaire. The statistical method (frequencies and percentage ratio) was used to analyze the results of this study. And thematic analysis was used for analysis of the collected data.

1- Frequencies and percentages according to age:

AGE GROUP	FREQUENCY	PERCENTAGE
20-30 years old	5	10%
30-40 years old	15	30%
40-50 years old	20	40%
50+ years old	10	20%

The data covers four age groups: 20-30, 30-40, 40-50, and 50+ years old. The majority of respondents fall within the 30-50 age range, comprising 80% of the total respondents.

2- Frequencies and percentages in accordance with gender:

GENDER	FREQUENCY	PERCENTAGE
MALE	25	50%
FEMALE	25	50%

The data is evenly split between male and female respondents, with each gender comprising 50% of the total sample. This indicates a balanced representation of genders within the surveyed population.

3-Frequencies and percentages according to Location

LOCATION	FREQUENCY	PERCENTAGE
RURAL	25	50%
URBAN	25	50%

The data is evenly split between rural and urban areas, with each location type comprising 50% of the total sample. This indicates a balanced representation of both rural and urban populations within the surveyed sample.

4- Frequencies and percentage according to Purposes for Using EdTech Tools

Purpose	Frequency	Percentage
Delivering presentations	20	40%
Creating interactive activities	10	20%
Providing online resources for students	10	20%
Facilitating communication and collaboration	10	20%

The data identifies four main purposes for which secondary school teachers use educational technology: delivering presentations, creating interactive activities, providing online resources for students, and facilitating communication and collaboration. Delivering presentations emerges as the most common purpose, with 40% of teachers using educational technology for this function. Creating interactive activities accounts for 20% of the reported purposes, indicating that a subset of teachers incorporates technology to engage students in hands-on, participatory learning experiences. Providing online resources for students also comprises 20% of the purposes identified, suggesting that teachers utilize technology to supplement traditional classroom materials with digital resources.

5- Frequencies and percentage according to use of Educational Technology

Frequency of EdTech Use	Frequency	Percentage
Never	2	4%
Rarely	6	12%
Sometimes	22	44%
Often	15	30%
Always	5	10%

The above table shows that The majority of teachers (44%) reported using EdTech sometimes, indicating that it is integrated into their instructional practices on a periodic basis. A significant portion (30%) reported using EdTech often, suggesting that it is a regular component of their teaching methodology, although not necessarily employed in every lesson. A smaller proportion of teachers reported using EdTech rarely (12%) or never (4%), indicating lower levels of adoption or reliance on technology in their teaching practices. Conversely, a minority of teachers (10%) reported using EdTech always, suggesting a high level of dependency on technology for instructional delivery across all lessons.

6- Frequencies and percentage according to challenges of using Educational technology

CHALLENGE	FREQUENCY	PERCENTAGE
Lack of access to devices or technology	20	40%
Difficulty using the technology	15	30%
Lack of training or professional development	5	10%
Time constraints	10	20%

The above table shows that Lack of access to devices or technology emerges as the most prevalent challenge, with 40% of teachers reporting this issue. Difficulty using the technology is reported by 30% of teachers, highlighting challenges related to technological proficiency or usability. A smaller proportion of teachers (10%) identified lack of training or professional development as a challenge. Time constraints were reported as a challenge by 20% of teachers. This indicates that competing demands on teachers' time, such as curriculum requirements, administrative tasks, and classroom management, may limit their capacity to explore and implement educational technology effectively.

7-Frequencies and percentage according to Familiarity with AI in Education

FAMILIARITY	FREQUENCY	PERCENTAGE
Not familiar at all	10	20%
Somewhat familiar	20	40%
Neutral	10	20%
Familiar	5	10%
Very familiar	5	10%

The above table Indicates that .The greater part of teachers (40%) reported being somewhat familiar with AI in education, indicating a moderate level of knowledge or exposure to AI-related concepts and applications. A significant proportion (20%) expressed neutral feelings towards AI, suggesting a lack of strong opinions or experiences with AI technology in the educational setting. A smaller percentage of teachers reported being familiar (10%) or very familiar (10%) with AI in education, indicating a higher degree of knowledge and comfort

with AI-related concepts and practices. Conversely, 20% of teachers indicated that they were not familiar with AI at all, suggesting a lack of awareness of AI technology and its potential uses .

8- Frequencies and percentage according to Belief in the Benefits of AI for Teaching and Learning

BELIEF LEVEL	FREQUENCY	PERCENTAGE
Not beneficial at all	2	4%
Somewhat beneficial	10	20%
Neutral	15	30%
Beneficial	18	36%
Very beneficial	5	10%

A significant portion of teachers (36%) expressed the belief that AI is beneficial for teaching and learning, indicating a positive perception of the potential advantages and opportunities offered by AI technology in education. A smaller percentage of teachers (10%) expressed a very beneficial belief, suggesting a stronger conviction in the transformative impact of AI on teaching and learning outcomes. Neutral beliefs towards the benefits of AI were expressed by 30% of teachers, indicating a lack of strong opinions or uncertainties regarding the effectiveness or value of AI technology in education. Some teachers (20%) indicated that AI is somewhat beneficial, suggesting a moderate level of optimism about the potential benefits of AI technology, albeit with some reservations or doubts. A minority of teachers (4%) expressed the belief that AI is not beneficial at all, indicating skepticism or concerns about the relevance or effectiveness of AI in the educational context.

CONCLUSION AND FINDINGS

Revolution in the teaching process can be brought upon by evolving technologies. Educational technology and Artificial intelligence hold enormous potential to bring about changes in cosmic proportions in the learning environment in Odisha. The consent and approval of the teachers really has a big part to play when it comes to successful implementation and working of the educational technologies. This study brings out the Odia secondary school teacher's insights and frame of mind in the context of Edtech and AI. This study also brought forward a conclusion related to the experiences and perceptions of the teachers. It was witnessed that few teachers felt confident regarding their abilities than before with frequent use of Edtech. Meanwhile others experienced difficulties and found the technology challenging to access due to lack of training. This issue emphasizes on the need of the hour. Call upon the authorities to provide proper infrastructure, technical support and professional development opportunities to create awareness for efficient use of the technology and keep the challenges at bay. Alarming situation were seen after the adoption of technologies. The growing awareness regarding Edtech and AI brought forth concerns about job displacements, student privacy and the potential for widening digital

divide. This accentuates the importance and positive impact of Edtech and AI development and ensuring individual access for the students. Regardless of the prevailing concerns, it is spotted that majority of teachers approve the potentiality and promising benefits of Edtech and AI for numerous administrative task and individualized learning in the classroom. This research provides valuable insights for policymakers, educators and curriculum developers in Odisha. The findings can help to formulate possible strategies and successful implementation by stressing on the perception and their concerns. Bringing awareness and adequate training will be the most effective measure to ensure effectiveness of the technology.

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