European Economic Letters
ISSN 2323-5233
Vol 15, Issue 3 (2025)
http://eelet.org.uk

Understanding Generational Cohorts in AI Adaptability and Integration in Teaching and Learning

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Abstract

Artificial intelligence has become an essential element in the personal and professional lives of the people. Individuals use AI assistants managing their schedules and drafting mail. For Businesses are leveraging this technology for curated feeds and optimizing supply chains. Beyond these AI fosters significant growth for both individuals and businesses.

Emergence AI lead to an impactful shifts in the field of education. Educators are one among the potential users of AI in education sector. This Integration of AI in educational institutions transformed teaching and learning practices. Implementation of AI in classrooms has become most common activity among teachers. Apart from various challenges in learning AI technologies, educational institutions are trying to implement AI in regular classroom teaching. AI tools are the best source of powerful teaching in increasing classroom engagement. Educators are mostly adaptive to these technologies. In this study with a small empirical study, I tried to analyse educators' perception and adaptiveness of AI in classroom teaching across different generations. The result of the study shows that training to the teachers for implementation of these new pedagogies is very crucial. However, investigation also shows difference in perception of AI technologies across different generations.

Keywords: Artificial Intelligence, Integration, Educators, Generations.

1. Introduction:

Artificial Intelligence is emerging as transformative source in changing the landscape in education. Integration of AI technologies reshaped the teaching-learning process. It enhanced the student engagement and lead to better teaching-learning outcomes. AI powered adaptive techniques offers the potential student-centric learning environment. AI in education lead to personalized learning. I meet the unique requirement of teacher and student.

AI encompasses a wide range of technologies in teaching and learning. It revolutionized traditional Teaching-Learning practices. Virtual reality combined with AI presents as a great opportunity to create realistic simulations. Integration of AI at all stages of education in driving force for better learning outcomes. Faculty can customize the institutions for different students or group of students. It also provide additional guidance on the source of these resources. The technology that AI provides is approachable with guiding inputs with real time experiences.

2. Literature Review:

1. Integrating Artificial Intelligence in Class Room Teaching: opportunities and Challenges, Aime Anita Jacqueline (2024): The paper discussed the integration of Artificial Intelligence into classroom teaching, which represented a significant shift in the educational landscape. This paper explored the potential AI to enhance personalized learning, support adaptive assessments along with the possible risks associated. The author focused on the current available applications and their potential impacts. It also provided the insights into how AI can be integrated for effective teaching and even addressed the barriers and limitations that may arise.
2. Exploring the Impact of AI Integration in Education: A Mixed Method, Kavita Roy, Khritish Swargiarylb(2024); The authors tried to investigate the ingtegration of AI This paper focused on impact of artificial intelligence in education

focusing on student engagement, perception and its positive influence. Findings reveals that AI technologies positively influenced on student engagement and academic achievement.

3. Integrating AI Literacy into teacher Education: A critical Perspective (2025): This study is a systematic review of literature of the previous contributions in the area of integration of AI in education. The study covered the literature between 2015-2024. The findings reveals that there is significant imbalance in research. The findings shows the majority of the studies examined only application of AI in teaching. And proportion of the articles covers role of AI is professional development of teachers.

4. AI Driven Education in Schools, Eshitha Zaman (2025). The author covered advancement of technologies for quality learning. It has explored AI in school education and provided a comprehensive overview In the current status and development of trends of AI in school. The study also covered the steps taken in India regarding integration of AI in school system

3. Objectives:

1. To examine how Gen X and Millennials adopts, accepts and implements Artificial Intelligence in classroom teaching.

4. Research Methodology:

Research can be referred as search of knowledge. It is the systematic search for pertinent information on a specific topic. It is art of investigation. It is an academic activity, the research method formulating hypothesis, collecting data and analysing the facts and generalizing the facts. It also includes the various activities to be conducted for achieving the set goal. These activities are summarized in research design. The research design of this paper is mentioned below:

4.1 Area of Research:

The study is confined to AI integration among teacher in Hyderabad city.

4.2 Nature of Data:

The study is based on the primary data collected from a structured questionnaire. And the

sample size is 31 respondents.

5. Data Analysis:

The study is based on the primary data collected from 31 teachers in Hyderabad. The following table shows the summary of the responses from participants

TABLE:1

		Frequency	Percentage
GENDER	MALE	12	38.71
	FEMALE	19	61.29
GENERATIONS	MILLENNIALS	14	45.16
	GEN X	17	54.84
FREQUENCY OF USAGE	DAILY	4	12.90
	WEEKLY	7	22.58
	OCCASSIONALLY	14	45.16
	NEVER	6	19.35
TRAINING	STRONGLY DISGREE	9	29.03
	DISAGREE	7	22.58
	NEUTRAL	9	29.03

	AGREE	1	3.23
	STRONGLY AGREE	5	16.13
CONFIDENCE	STRONGLY DISGREE	8	25.81
	DISAGREE	2	6.45
	NEUTRAL	6	19.35
	AGREE	9	29.03
	STRONGLY AGREE	6	19.35
DIFFICULTY TO CHOOSE THE RIGHT TOOL	STRONGLY DISGREE	5	16.13
	DISAGREE	2	6.45
	NEUTRAL	9	29.03
	AGREE	9	29.03
	STRONGLY AGREE	6	19.35
INCREASES CLASS ROOM ENGAGEMENT	STRONGLY DISGREE	5	16.13
	DISAGREE	2	6.45
	NEUTRAL	6	19.35
	AGREE	7	22.58
	STRONGLY AGREE	11	35.48
BETTER TEACHNING LEARNING OUTCOME	STRONGLY DISGREE	4	12.90
	DISAGREE	2	6.45
	NEUTRAL	2	6.45
	AGREE	9	29.03
	STRONGLY AGREE	14	45.16

Interpretations:

- ✓ Most of the respondents are female
- ✓ Gen X are comparatively more in the study
- ✓ Most of the respondents use AI in teaching Occasionally
- ✓ Majority of the respondents are of the opinion that training is required to use AI in Teaching
- ✓ Respondents predominantly agree that use of AI in classroom teaching increases student's engagement
- ✓ The greater portion of the respondents even agree that use of AI in classroom teaching leads to better teaching and learning outcome.

The collected data is used further for a detailed analysis using ANOVA

Ho. There is no significant relation between the two generations Gen X and Millennials with respect to frequency of AI usage, time taken to learn the AI tool and their belief that using AI increases Classroom engagement.

Table:2

ANOVA					
	Sum of Squares	df	Mean Square	F	Sig.

5. How often do you use AI tools in Teaching	Between Groups	3.173	1	3.173	3.964	.056
	Within Groups	23.214	29	.800		
	Total	26.387	30			
8. How long did it take you to start using AI tools after first hearing about them	Between Groups	.251	1	.251	.193	.664
	Within Groups	37.685	29	1.299		
	Total	37.935	30			
9. It's difficult to choose right AI Tool for Teaching	Between Groups	.488	1	.488	.273	.606
	Within Groups	51.899	29	1.790		
	Total	52.387	30			
10. AI Increases students Engagement in Class Room	Between Groups	.366	1	.366	.168	.685
	Within Groups	63.311	29	2.183		
	Total	63.677	30			

Interpretation:

✓ To examine the data further One Way ANOVA test is applied

✓ Two Generation Gex and Millennials is the grouping variables with respect to respect to frequency of AI usage, time taken to learn the AI tool and their belief that using AI increases Classroom engagement.

✓ Frequency of AI Usage in teaching - p value is .056, shows that there is a marginal difference between both the Generations,

✓ Time taken to Start using AI tools implementation in classroom teaching-p is .664 indicates no statistical significance between the involved two generations in time taken to use AI tools in classroom teaching.

✓ Difficulty in choosing AI tool in teaching- p value is .606 shows that both Gen X and Millennials are facing similar difficulties in choosing suitable AI tool.

✓ AI increases student's engagements in classroom – p value is .685 shows the similar perceptions across the two generations involved in the study.

✓

6. Discussion:

This paper is an attempt to analyse the generational differences in learning, understanding and using AI tools among teachers. The results of the study reflect the perception of the respondents across generation with respect to AI tools. The findings of the study indicate there is no substantial difference in perception of various factors associated with learning, implementing and using AI tools across the Generations Gen X and Millennials. For the frequency of AI usage in classroom teaching both the generation shows the similar level of usage. Further the test shows statistically non-significant result with respect other involved factors.

7. Conclusion:

This study conducted with a small sample reveals no substantial generational difference in learning and implementation AI. Therefore, the educational institutions intended to implement AI tools in classroom teaching need uniform approach for both Gen X and Millennials. Both generations require adequate training and structured guidance in implementing AI tools in their classroom teaching for the better teaching learning outcome.

References:

1. https://www.researchgate.net/publication/383555591_Integrating_Artificial_Intelligence_in_Classroom_Teaching_Opportunities_and_Challenges
2. SSRN: https://ssrn.com/abstract=4857648 or http://dx.doi.org/10.2139/ssrn.4857648
3. springer.com/article/10.1007/s43681-021-00096-7

4. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4857648
5. Afzal A, Khan S, Daud S, Ahmad Z, Butt A. Addressing the digital divide: access and use of technology in education. J Soc Sci Rev. 2023;3(2):883–95. https://doi.org/10.54183/jssr.v3i2.326. .
6. Tiwari B. Leveraging artificial intelligence, virtual reality, and augmented reality in higher education. editor. The future of education in the digital age. Vijayawada: Ratna Prasad Multidisciplinary Research & Educational Society; 2024. pp. 1–23. International Multidisciplinary Research Foundation.