ARTIFICIAL INTELLIGENCE AS A TOOL TO EDUCATION IN CHANGING THE CLASSROOM ENVIRONMENT

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Abstract: Artificial intelligence (AI), in this era of innovative technology, refers to machine learning or learning through computer systems by applying AI practices, which can simulate many real-life situations by applying multi-disciplinary research, making a system think, act, behave like a human being or at times better than a human being. Artificial intelligence and machine learning concepts are expected to bring alterations in almost all the key economic sectors and services and would revolutionize the existing education system. Inspite of the transformation forced by the boom of AI in Education sector, the teachers in the educational institutions would be irreplaceable. Only the role of teachers would change.. Classroom environment will have a drastic transformation in the years to come. In this new paradigm of education, the roles of learners and their teachers will be redefined. The major changes to be expected in the sector due to the implementation of artificial intelligence would be voice assistants, speech recognition concepts, which shall be used as a teaching aid, facial recognition for the purpose of attendance of the students. Advanced techniques will modernize conventional evaluation methods and keep them error free.

There would also be changes in the supervision process during examination, when artificial intelligence is introduced. Surveillance cameras with AI technology would help to track and monitor the students during the exams. Current scenario of global pandemic COVID-19 has affected education systems to the extent where of closure of Educational Institutions across the globe, reinstated the necessity of a technology based education system. The study focuses on the impact on application of artificial intelligence in changing the classroom environment in the educational institutions.

Index Terms – **Artificial Intelligence, machine learning, voice assistant, speech recognition**

I. INTRODUCTION

The education sector has witnessed a series of digital transformations. Education has been digitized, in order to play a vital role in the progress of the students. The digitization of education has helped the teachers and parents to track the progress of their students.In the 21st century, technology plays a pre-dominant role in education, with the introduction of video lectures, smart classes, web learning, virtual tutoring, online accessible libraries, online educational repositories and e-learning applications.Further, implementation of artificial intelligence is expected to bring a significant change in the classroom environment, as it would be an automated process The introduction of innovative technology in education prepares students for the future, helps the students to remember what they learn, helps students in customized learning. Technology also helps to create a network among the students.

II. DIGITAL TRANSFORMATIONS IN MODERN EDUCATION

Technology has greatly influenced in transforming the modern Indian education to digital education. Digitization of education has led to many changes in the teaching, learning process, administration, admission, attendance and so on.

MEANS OF DIGITAL EDUCATION

- Online admission process
- Video lectures
- Web based learning
- E-learning apps
- Learning Management System
- Social media in education

III. RECENT TRENDS IN DIGITAL EDUCATION

VIRTUAL LEARNING

Virtual learning refers to a learning process performed by way of computers and internet throughout educational institutions. The medium of instruction in virtual learning mostly takes place through online mode. The activities of teaching and learning takes place online where the teacher and learners are far apart both in terms of place and time.

PERSONALIZED LEARNING

Personalized learning refers to an approach to education which leads to customized learning for each student's development of skills and interests. Each student adapts to a learning schedule which is based on what is known and the best way of learning. Data analysis techniques can customise a course to suit the capability of the learner, thereby offering better understanding of concepts to the learner.

EVALUATION METHODS

AI can simplify the conventional evaluation methods. Machine learning concepts can simplify the evaluation of answer scripts which could run for hours to an activity that can be completed in minutes. In addition, AI coupled with analytics can assimilate large chunk of data which as a part of evaluation can generate a pattern which can pin point concepts which are difficult to understand for the learners.

IV. REVIEW OF LITERATURE

Becky B. Sinclair "A STUDY RELATING TO CHANGING CLASS ENVIRONMENT IN URBAN AREAS". This study involved three phases. First, the author developed and validated the Elementary and Middle School Inventory of Classroom Environments (ICE) for assessing upper primary and middle school (Grades 6–8) students' perceived and preferred classroom environment. Second, typical classroom environments in an urban setting were described based on quantitative and qualitative data, including differences between the perceptions of students of different genders. Finally, teachers' participation in action research techniques, involving the use of feedback on perceived and preferred classroom environment, was evaluated in terms of effectiveness in promoting improvement in classroom environments.

Stephen A.D. Popenici "EXPLORING THE IMPACT OF ARTIFICIAL INTELLIGENCE ON TEACHING AND LEARNING IN HIGHER EDUCATION" This paper explores the phenomena of the emergence of the use of artificial intelligence in teaching and learning in higher education. It investigates educational implications of emerging technologies on the way students learn and how institutions teach and evolve. Recent technological advancements and the increasing speed of adopting new technologies in higher education are explored in order to predict the future nature of higher education in a world where artificial intelligence is part of the fabric of our universities. We pinpoint some challenges for institutions of higher education and student learning in the adoption of these technologies for teaching, learning, student support, and administration and explore further directions for research.

V. OBJECTIVES OF THE STUDY

- To analyse the awareness level of the trend of artificial intelligence in education among the teachers and student community

- To identify the areas where AI is used as a tool in the education sector.

VI. RESEARCH METHODOLOGY

The study was conducted by way of collecting primary data through questionnaires distributed among the students of the higher learning institutions. The research is restricted to Chennai city. The sample size tested for the research is 50. Secondary data was also collected through information published online. Data analysis was done through IBM SPSS STATISTICS by way of Descriptive Statistics and percentage analysis

TABLE 1- PERCENTAGE ANALYSIS SHOWING AWARENESS AND RECOGNITION LEVEL OF RESPONDENTS

S.NO	PARTICULARS	CATEGORY	FREQUENCY	PERCENT	VALID PERCENT	CUMULATIVE PERCENT
1.	AWARENESS	Yes	38	76.0	76.0	76.0
		No	12	24.0	24.0	100.0
		TOTAL	50	100.0	100.0	
2.	FAMILIARITY	FAMILIAR	33	66.0	66.0	66.0
		NOT FAMILIAR	17	34.0	34.0	100.0
		TOTAL	50	100.0	100.0	
3.	POSITIVE OUTCOME	YES	45	88.0	88.0	88.0
		NO	5	12.0	12.0	100.0
		TOTAL	50	100.0	100.0	
4.	DESTROYS NATURAL THINKING	YES	21	42.0	42.0	42.0
		NEUTRAL	7	14.0	14.0	14.0
		NO	22	44.0	44.0	100.0
		TOTAL	50	100.0	100.0	
5.	THREAT TO HUMAN INTELLECT	YES	4	8.0	8.0	8.0
		NO	22	44.0	44.0	44.0
		POSSIBILITIES	24	48.0	48.0	100.0
		TOTAL	50	100.0	100.0	

INTERPRETATION

The above table reveals that the awareness level of the respondents is high. Out of the 50 respondents 76% are only aware of the concept of artificial intelligence. The table also shows that 66% of the respondents are familiar about artificial intelligence in the institutions of higher learning. Majority of the respondents agree that implementation of artificial intelligence is a positive outcome and would not destroy natural thinking. Majority of the respondents also agree that artificial intelligence is not a threat to the human intellect.

AREAS WHERE ARTIFICIAL INTELLIGENCE CAN BE SUBSTITUTED

Friedman Rank Test showing the indicators of areas of substitutes of artificial intelligence are given below in table 2

TABLE 2-DESCRIPTIVE STATISTICAL ANALYSIS-DIFFERENT AREAS OF SUBSTITUTE OF AI

AREAS OF SUBSTITUTE OF AI	MEAN RANK
Assessment of the students' abilities	3.77
Mentoring students	3.38
Updating the progress of the students	3.70
Creating a personalized learning experience	3.65
Classroom management	3.48
Professional learning and teaching	3.56

INTERPRETATION

Friedman Rank Test reveals that Assessment of the students has the highest mean rank of 3.77 as, the assessment of students is the most important criterion in any educational institution. Therefore, student assessment is a key area, where AI can be adopted in educational institutions followed by other areas such as updating the progress of the students, creating a personalized learning experience, professional learning and teaching, classroom management and mentoring students.

VII. FINDINGS OF THE STUDY

- There is higher level of awareness and familiarity of the concept of artificial intelligence among the respondents.

- Student assessment is a key area, where AI can be adopted in educational institutions followed by other areas such as updating the progress of the students, creating a personalized learning experience, professional learning and teaching, classroom management and mentoring students.

VIII. CONCLUSION

The future of higher education is intrinsically linked with developments on new technologies and computing capacities of the new intelligent machines. In this field, advances in artificial intelligence open to new possibilities and challenges for teaching and learning in higher education, with the potential to fundamentally change governance and the internal architecture of institutions of higher education.

The rise of AI makes it impossible to ignore a serious debate about its future role of teaching and learning in higher education and what type of choices universities will make in regard to this issue. The fast pace of technology innovation implies that teaching in higher education requires a reconsideration of teachers' role and pedagogies. The current use of technological solutions such as 'learning management systems' or IT solutions to detect plagiarism already raise the question of who sets the agenda for teaching and learning. These issues deserve a special attention as universities should include this set of risks while framing policies for a sustainable future. In effect, it is suggested that universities to rethink their function and pedagogical models and their future relation with AI solutions and their owners. Furthermore, institutions of higher education see ahead the vast register of possibilities and challenges opened by the opportunity to embrace AI in teaching and learning.

IX. REFERENCES

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