Gauging Awareness of AI Tools amongst Teachers and Students: A study of Private Schools of Delhi-NCR

RESEARCH PROJECT UNDERTAKEN

by

MODERN INSTITUTE FOR EDUCATION

August, 2023

INTRODUCTION

In just a matter of weeks after its introduction to the market, generative artificial intelligence chatbots registered staggering number of subscribers amounting to millions. Since then, the market has been flooded with various General Artificial Intelligence (GAI) tools which perform any task that a human can. From writing tools to image generators, and even creating impressive presentations within minutes based on provided cues, it has seeped into numerous domains, spanning from health, academia, literature, to education.

The emergence of AI tools like ChatGPT has also revolutionized the education sector with its ability to provide personalized and adaptive learning experiences to students. Hence, knowing the inevitable arrival and intervention of these AI tools in school education, the policy makers and teachers have to make amendments in guidelines to accommodate the usage AI tools in teachers and students' academic routine.

MIE is grateful to the principals of five private schools of Delhi-NCR region who helped us to delve into this new uncharted area of education. We conducted action research on the awareness among teachers about the AI tools in education and utilization of ChatGPT by students in doing their assignments. We gathered insights which shed light on the potential benefits and challenges of integrating AI into education and paving the way for more informed discussions and decisions in the future.

Attached herewith is the report of the research findings that was conducted in three parts:

A. Data analysis of the report generated through AI detector tools of the assignments submitted by students

B. Survey results of the teachers' awareness of AI tools in education and its analysis

C. A brief report of the group discussions carried out by teachers in their respective classes and the analysis of the data collected from the survey undertaken

The research findings delineated in the above mentioned report give an indication that AI tools like ChatGPT, have entered into our classrooms in school education and it is time that our teachers should be equipped with various AI tools in the academic landscape which they can use to enhance their own productivity as well as to make their children use these tools thoughtfully and ethically.

A. DATA ANALYSIS OF THE REPORT GENERATED THROUGH AI DETECTOR TOOLS

With the permission of the Heads of the four private schools in Delhi-NCR region, MIE undertook a project with the support of English subject teachers to investigate the usage of AI content ChatGPT among Grade XI students to complete their homework assignment on Creative Writing. English language teachers in these four schools gave a homework assignment of essay writing titled 'Today's youth, an Instagram generation?' Students submitted their essays in softcopy which were checked on the AI detector tools like 'Copyleak-An AI-Based Plagiarism & AI Content Detector tool' and also a random check on ZeroGPT software. We received 128 essays in soft copies from these schools. The plagiarism data of 128 essays is submitted below for your reference.

The analysis report indicates the presence of AI content in more than 58% of essays submitted by students tested on two AI detector tools mentioned above. On average more than 30% of AI content was found in about 34% of the assignments. The report has not taken into account the plagiarism level of content taken from other search engines like Google which might have been used in completing their assignments.

The research findings lead us to the conclusion that AI has entered into our classrooms and hence it is important to sensitize teachers and students to the potential of AI tools in education for their effective integration into the learning process. Hands-on session/s should be conducted where teachers can explore AI tools and see how they can be used in the classroom and how they can create lesson plans and learning materials with the help of AI tools.

NUMBER OF ESSAYS RECEIVED FROM FOUR SCHOOLS

School	Essays Received
School 1	42
School 2	31
School 3	29
School 4	26
Total	**128**

SCHOOL - 1

ANALYSIS_AI USE_REPORT IN ESSAY WRITING

Class Sec	Total	No. using AI	%	Essays having ≥30% AI detection	%
Science	19	12	63.2	9	47.4
Commerce	2	2	100.0	0	0.0
Humanities	5	2	40.0	0	0.0
Total	26	16	61.5	9	34.6

SCHOOL - 2

ANALYSIS_AI USE_REPORT IN ESSAY WRITING

Class Sec	Total	No. using AI	%	Essays having ≥30% AI detection	%
Science	9	7	77.8	5	55.6
Commerce	8	5	62.5	1	12.5
Humanities	14	6	42.9	2	14.3
Total	31	18	58.1	8	25.8

SCHOOL - 3

ANALYSIS_AI USE_REPORT IN ESSAY WRITING

Class Sec	Total	No. using AI	%	Essays having ≥30% AI detection	%
Science	3	1	33.3	1	33.3
Commerce	15	9	60.0	3	20.0
Humanities	11	7	63.6	5	45.5
Total	29	17	58.6	9	31.0

SCHOOL - 4

ANALYSIS_AI USE_REPORT IN ESSAY WRITING

Class Sec	Total	No. using AI	%	Essays having ≥30% AI detection	%
Science	13	13	100.0	4	30.8
Commerce	16	11	68.8	3	18.8
Humanities	13	9	69.2	6	46.2
Total	42	33	78.6	13	31.0

B. Analysis of the survey conducted on teachers' awareness about benefits and possibilities of AI tools in education

To gather teachers' awareness about the benefits and possibilities of AI tools in education, an online questionnaire was shared with language teachers teaching class XI in all four schools. The entire teaching staff of school 1 (51 in numbers) submitted the survey questionnaire. A total of 8 responses from the other three schools were received from teachers teaching English in the sections of class XI that responded to the assignment. Two responses were received from school 2, one response was received from school 3, and five responses were received from school 4.

About 85% of the teachers agree that students maybe using AI as a supplementary tool. And 18% of the teachers are of the opinion that these tools may replace human teachers completely or partially and 39% feel that it may even make textbooks obsolete.

60% of the teachers are concerned as well as excited about this intervention and its future impact on the teaching learning arena. On the other hand, 6% of the staff is neutral to the possible influence of AI tools in the coming times.

However, when the responses of only those teachers, who are teaching English at all four schools were analyzed, it indicated that they are aware of the use and potential of AI in the classroom. However, this awareness alone is not going to help teachers in the long run, bearing in mind the disruption AI is causing in the classroom teaching-learning process. To empower teachers to

confront the challenges arising due to the increasing penetration of AI in the educational landscape, it is apparent that timely intervention is crucial in the form of awareness regarding various AI tools, their uses in the classroom, the ethical, and emotional concerns related to them, and capacity building of teachers to use it to the optimum level, and to have hands-on practices to hone their skills to keep pace with its advancement.

The implications of the study are manifold. First, the teaching community must realize that like all other technological advancements, AI too, is going to disrupt the teaching-learning process. Learning to use this disruption positively by accepting its existence is the need of the hour. The best way is to utilize it as an assistant for professional excellence. In addition, to keep the classroom learning environment positive, teachers need to learn how to have regular dialogues with their students about the pitfalls of using it excessively.

TEACHERS SURVEY FINDINGS

Question	Reply	Count of Teachers	%
1. What is ChatGPT?	It is an AI-powered language model developed by OpenAI meant to follow an instruction of a prompt and provide a detailed response.	53	89.8
2. What does "AI" stand for in the context of Chat GPT?	Artificial Intelligence	55	93.2
3. Which organization developed Chat GPT?	Open AI	50	84.7
4. In what ways can ChatGPT impact the field of education? (Select all that apply)	Enabling personalized tutoring	28	47.5
5. What is the limitation AI tools like ChatGPT in education?	It may perform physical actions and interact with the physical world to contextualise learning	28	47.5
6. How should teacher treat AI tools like ChatGPT into their classroom teaching? (Select all that apply)	Use AI to supplement their teaching learning	19	32.2
	Encourage students to do their self-paced learning, Use AI to supplement their teaching learning	13	22
7. Can AI tools like ChatGPT replace human teachers?	No, AI tools can never replace human teachers	20	33.3
	AI tools can assist teachers in generating ideas and learning materials for differentiated instruction to meet student needs.	16	26.7
8. What should students consider when using AI Chat GPT for academic purposes?	Use it as a supplementary tool but verify information independently	51	85.0
9. Which of the following statements is true about AI tools like Chat GPT in the learning process?	It learns and improves by analyzing new data it encounters	35	58.3
	It requires constant human intervention to function properly	16	26.7

10. What are your feelings about AI?	I'm equally concerned and excited	36	60.0
	I am neither excited nor concerned	8	13.3

C. REPORT OF THE GROUP DISCUSSIONS WITH STUDENTS

This report presents insights gathered through discussions with students about the utilization of AI tools, and ChatGPT, in school education. The aim of these discussions was to understand students' perceptions, experiences, and concerns regarding the integration of AI into their learning environment.

At the outset, students agreed that they use AI tools for their work but maintained that they mainly use it for research related work, making presentations as well as to complete those tasks which they consider too tedious. Following are reasons which were highlighted for the same.

Personalized Learning and Understanding Complex Concepts:

One key aspect highlighted by students was the ability of AI tools, such as ChatGPT, Quillbot, Brainly, etc. to provide personalized learning experiences. They noted that these tools offer tailored explanations and examples that suit their individual learning pace and style. Students appreciated how AI aids in understanding complex concepts by breaking them down into comprehensible parts, which can enhance their overall academic performance. It becomes the ready reckoner to understand complex concepts. Many of them mentioned that they don't blindly follow and trust the content generated but also counter check.

Instant Access to Information:

The convenience of instant access to a vast amount of information was another prominent theme in the discussions. Students acknowledged that AI tools allow them to quickly retrieve relevant information, which can be particularly helpful for research projects, assignments, and exam preparation. The ability to find information on-demand saves time and reduces the need for exhaustive searches through textbooks and online resources.

Empowerment and Skill Development:

Interestingly, students pointed out that using AI tools empowered them to take charge of their learning journey. They expressed that these tools encourage self-directed learning and independent thinking. Moreover, AI tools like ChatGPT can simulate discussions and debates, which help students improve their communication and critical thinking skills. Such interactions also contribute to the development of problem-solving abilities. However, they also showed their skepticism by pointing out that the power of the human brain will never be fully understood due to the introduction of such platforms, making future brains unfamiliar with it and reducing their capability.

Concerns About Overreliance and Misinformation:

While recognizing the benefits, students also raised concerns about overreliance on AI tools. They emphasized the importance of maintaining a balance between using AI for assistance and developing their own cognitive skills. Additionally, the potential for misinformation sourced from AI-generated

content was a worry, indicating the need for critical evaluation of information retrieved from such tools.

Ethical and Social Considerations:

Discussions with students revealed a growing awareness of ethical considerations related to AI tools. Students agreed with the fact that work done through AI tools does not reflect the true intellectual worth of the student. They emphasized that prevalence of relying on Chatbots will cause a major academic deficit and the quality of professional like doctors, lawyers,

academicians and all other professionals will be in question. They also highlighted concerns about data privacy and the ethical use of AI-generated content.

Jobs

Some students expressed apprehension about AI tools potentially replacing human educators because they felt that several key portfolios will now be handled by AI thus causing loss of jobs and increasing unemployment.

However, new job opportunities will open up in the field of AI. Students also were made to realize the irreplaceable role of teachers in fostering holistic development.

In conclusion, the integration of AI tools, including ChatGPT into school education has garnered mixed but generally positive responses from teachers and students alike. Personalized as well as self-paced learning, supplementing their own teaching learning, instant information access, and generating ideas and learning materials for differentiated instruction were highlighted as significant benefits. Both the stakeholders also expressed reservations about overreliance, misinformation, hinderance to creativity and imagination as well as the ethical considerations. Teachers are anxious and equally concerned about the future and extent of interference of AI in their own teaching and learning by students. Hence, it is essential to equip our students and teachers with the knowledge and the skills of using AI to their advantage.