

AI with AMI: A Key to Holistic Education

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Abstract

Education in the twenty-first century has transformed the teaching and learning experiences drastically. The advanced teaching and learning techniques with the use of AI has blurred the distinctions between the teacher and student as it used to be. Teachers are not only regarded as a person who explains the lessons from book but a person who teaches values, morals and mould them as humane citizens of the world. However, in the modern context, AI becomes the book, guide and philosopher for the students and thus there is a dire need for AI to be embedded with moral values. This research article titled "AI with AMI: A Key to Holistic education" will delve into how AI can be integrated with AMI that means Artificial Intelligence with Artificial Moral Intelligence to provide a holistic education that can make students empathetic rather than becoming mechanical or static. Artificial Moral Intelligence is the process of instilling moral values in the Artificial Intelligence machines. The research would analyse the existing AI apps used in Higher Education scenario and also its impact on the students. The paper would specifically probe into the apps or AI assistance that is available for learning resources and testing. A qualitative and quantitative analysis would be undertaken to establish the importance of incorporating AMI in AI for educational purpose.

Keywords: *Artificial Intelligence, Artificial Moral Intelligence, Testing, Learning, Digital Learning*

Introduction

Education in the twenty-first century has transformed the teaching and learning experiences drastically. The advanced teaching and learning techniques with the use of AI has blurred the distinctions between the teacher and student as it used to be. Teachers are not only regarded as a person who explains the lessons from book but a person who teaches values, morals and mould them as humane citizens of the world. The advancements in science and technology have replaced books with e-books, written tests with quizzes and games and live classrooms with digital classrooms. The teachers have become content creators, AI handlers and monitors. Smylie, Mark A. et.al in their article delineate the role of teachers from the 16th century onwards. They express that from the 16th century until the 18th century; schools focused on religious and moral development in the children. The mid- 18th century started to install scientific knowledge in the children. It also focused on politics and economics. The nineteenth century took a turn towards vocational and secular education. They also express that in the end of the 19th century and the 20th the teachers were expected to develop in the students “meaningful, civic, economic and intellectual life” (Smylie et al:2008). They also explain that teachers’ work has now become multi-dimensional in the twenty-first century.

Review of Related Literature

In the present educational scenario, technology has found its way in almost in all walks of life. So, it has become the duty of the teachers, whichever discipline it may be, to inculcate technological knowledge in the students to cope up with the job market. S. C. J. Lim et al., in the book *Innovative Education Technologies for 21st Century Teaching and Learning* expresses that “from the educational perspective, digital transformation is also required to equip students with the necessary digital skills and computational thinking to become next generation digital innovators” (S.C. J. Lim et al., 2021). They are also of the view that online education has a greater impact on the development of youth in the digital arena.

At the same time, Artificial Intelligence is considered unreliable and unethical as it draws data from all kinds of platforms and users. Th researchers also believe that most of the people use AI in a wrong way to manipulate data, morph and cheat others. Against such a background comes Artificial Moral Agents (AMA) to aid in creating machines more like an ideal being with neurology. Donghee Shin in his book expresses that “the approaches to identifying and designing artificial moral agents are based on several philosophical idea about morality.” (Shin 2025). He also adds that in the process of creating AMAs, first ethics and code of conduct must be constructed and tested over machines with neurotechnology. The review of literature shows that AI has positively influenced teaching and learning processes through personalization, accessibility, and automation. However, most studies primarily focus on technological efficiency and academic performance, with limited attention to moral and ethical development. Existing research on AI ethics largely addresses issues of bias, privacy, and governance rather than the role of AI in nurturing humane values among students.

Asmat Ara Shaikh, et.al., in their article “The Role of Machine Learning and Artificial Intelligence for making a Digital Classroom and its sustainable Impact on Education during Covid-19” pinpoints the positive contribution of Artificial Intelligence in education during the Covid-19 pandemic. They opine that “ While statistical methods and automated based on learning jobs that are smarter than normal continue to be important, learning is becoming more automated. It helps individuals to be more concentrated on their learning opportunities and to recognize when they do not grasp a subject completely” (Shaikh: 2022)

Forero-Corba and Bennasar, in their article “Techniques and applications of Machine Learning and Artificial Intelligence in education: a systematic review” express that “Continually, research in the education sector seeks to close educational gaps, and ML and AI emerge as an alternative means to achieve optimal results.” They suggest that AI and Machine Learning (ML) would have a greater impact on the education of the students. Velentin Kuleto et.al., in their research article *Exploring Opportunities and Challenges of Artificial Intelligence and Machine Learning in Higher Education Institutions* state that though it is good to integrate machine learning and AI with education, there are a lot of challenges in this make-shift. They express that “Despite teachers, researchers, managers, and students all facing perennial problems, new approaches to problems faced by these three groups are being developed with the assistance of AI and ML. First, the teaching workforce’s quality should be improved to raise educational standards. Second, to achieve a higher standard of learning, it is critical to identify the factors contributing to teachers’ workload. Third, teacher performance management is critical for effectively achieving the goals and objectives of high-quality educational standards. It is an ongoing

process for identifying, evaluating, and developing teacher performance.” (Kuleto:2021). They are also of the view that due to the lack of funding and the constant inflation educational institutions couldn't manage the cost of building tech-friendly infrastructure and the cost of the apps.

Higher education institutions increasingly rely on AI-driven technologies for online learning, plagiarism detection, virtual mentoring, and automated evaluation. While these technologies improve efficiency, researchers argue that they cannot replace the emotional guidance and ethical mentorship provided by human teachers. Studies indicate that students using AI tools extensively may become passive recipients of information rather than active critical thinkers. Therefore, integrating AMI into educational AI systems can help promote reflective thinking, empathy, and ethical awareness. Researchers believe that morally informed AI can complement teachers by supporting students' cognitive as well as moral development.

Objectives

The review of literature thus shows that there is insufficient research examining how Artificial Moral Intelligence can be integrated into AI-based educational applications to support holistic education. The present study seeks to bridge this gap by analysing the importance of embedding AMI into AI systems used in higher education and evaluating its impact on students' emotional, ethical, and intellectual development.

Methodology

The present research article is foregrounded on a quantitative analysis of the two broader types of learning and testing, that is offline and online. A random sampling survey was conducted with 30 samples from B.A. English class, Fatima College, Madurai, Tamil Nadu, India. The survey was conducted at two phases. In the first phase, the students were asked to share their opinions about teaching and learning in the offline and online classes. Most of the students said that they liked the teaching and learning that happened in the offline classrooms. They responded that they were able to listen to the teacher in the physical classroom more attentively with less distractions. While in the online classrooms, they were unable to concentrate on the screen and they were not attentive to the monotonous voice and the same virtual materials, though colourful and readable with pictures and videos.

When they were asked about the testing during the offline and online mode, they replied that they preferred online tests as it is easy to write. They also added that in the physical classroom tests they couldn't cheat or look for answers anywhere, whereas in the online tests, they were able to look for the answers in another screen or window and easily score good marks. They also added that in most of the online tests had multiple choice questions, so it was easy for them to choose one.

Considering their responses and analysing, it was also found that due to constant exposure to online tests, that too multiple choice or short answers, the students later became reluctant to write long answers and essays. In order to get a more analytical information on the decline of moral standards in the use of AI for education and testing, various testing apps were analysed. Apps like quiziz, kahoot, testmarker, quizzing, trivia and Quizmaker, were taken into study and it was found that most of these apps have anti-cheat controls,

that doesn't allow the takers of the quiz to check for the answers in the quizzes, but this feature is paid.

Findings and Discussion

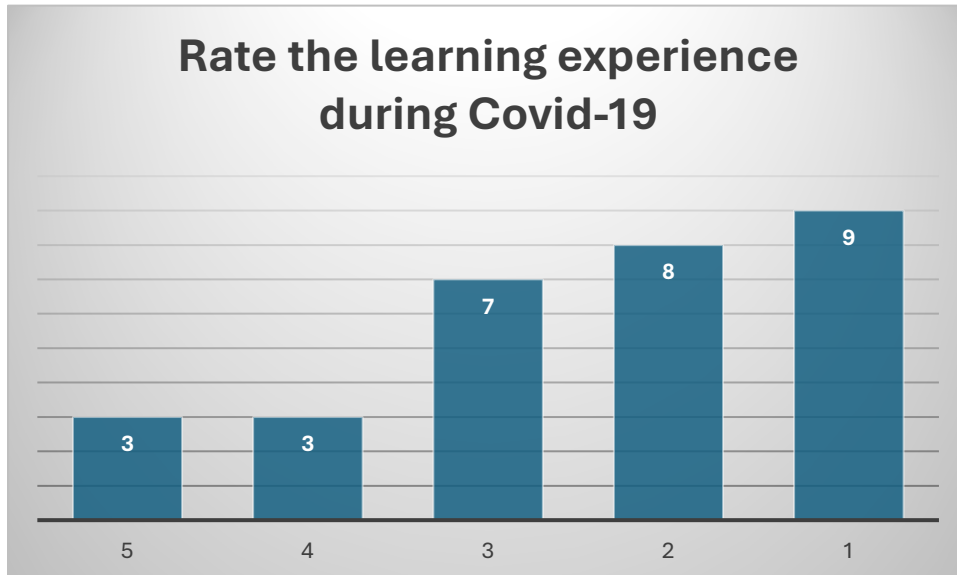


Figure 1: Rating of the learning experience during Covid-19 through online

The above chart shows that most of the students rated the online learning experience as not satisfactory, while a very few said that it was good. The rating ranged from 1 as the minimum and 5 as the maximum.

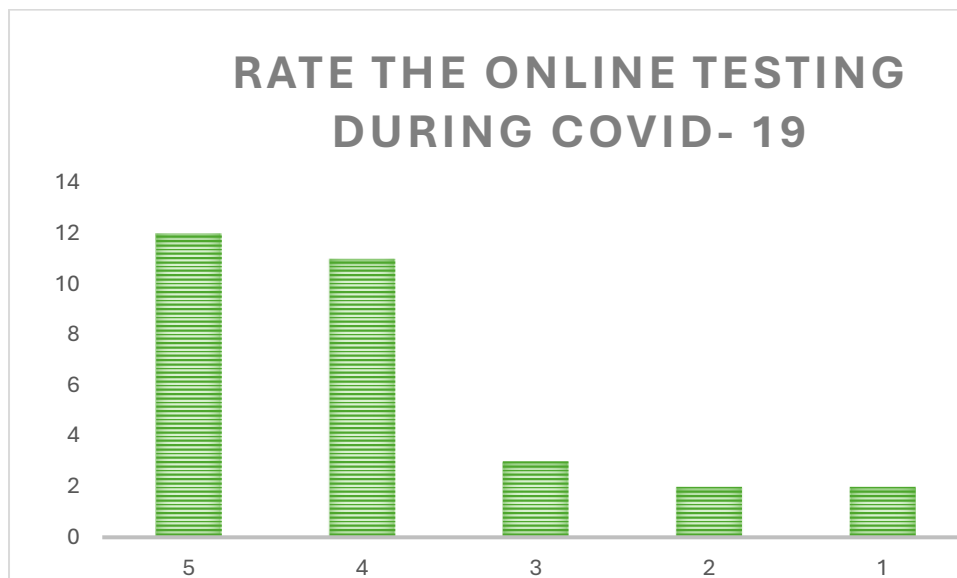


Figure 2: Rating of Online tests during Covid-19

Fig 2 reveals how much the students liked the online tests during covid-19. It shows that most of the students were highly satisfied with the online tests as it was easy and convenient for them. They also added that the online tests only took up a limited time and they liked it.

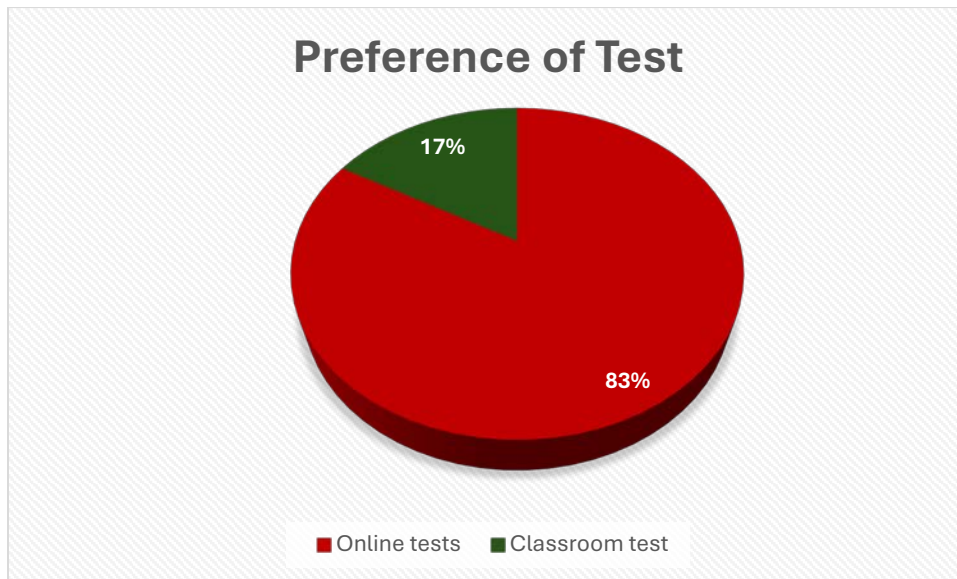


Figure 3: Students' preference of the mode of testing

The above figure shows that 25 students out of 30 expressed that they preferred online tests over the offline tests. This shows a sharp contrast between the earlier preference over online teaching and offline teaching. From this, it is inferred that the students are able to understand the teaching better in the physical classroom and they are able to feel the warmth of the human company. The contrast shows that the moral level of students is decreasing with the use of AI. This shows their mentality to choose shortcuts over the ethical standards of not to copy and be truthful. This makes the supposition of this research article that AI must have AMI by enabling the machines with Artificial Moral Agents that will not allow the students to diverge from the moral standards but make them more reliable citizens of the world.

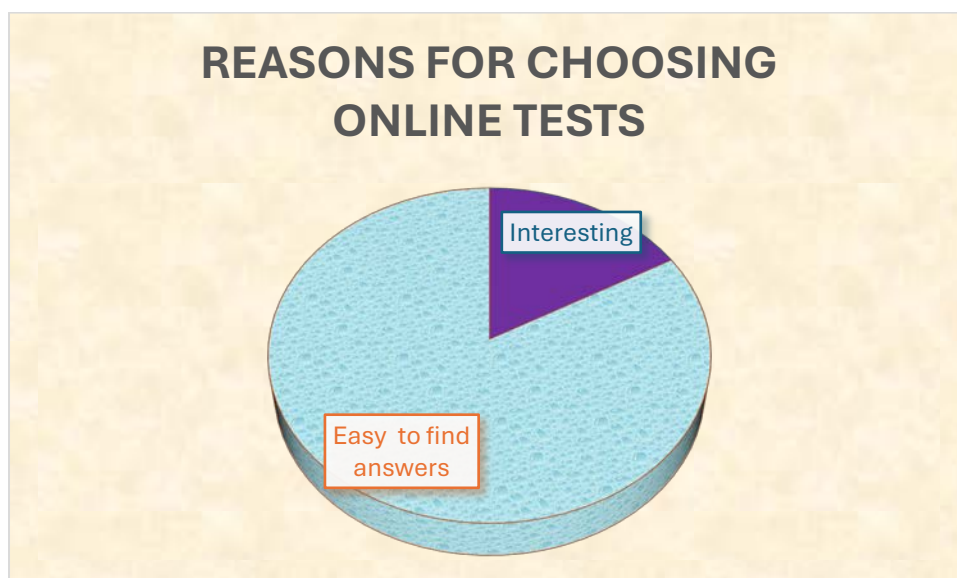


Figure 4: Reasons for choosing online tests over offline tests

Figure 4 correlates with the discussion of the previous question. It evidently shows that the students choose online tests not for being interesting like a game but for the convenience in just choosing answers instead of writing short or long answers and the

ease in locating or finding the correct answers with the help of other AI tools like ChatGPT, Perplexity, Meta, Google and so on. This also proves that students are not keen on developing or testing their knowledge but to get pass marks or full marks.

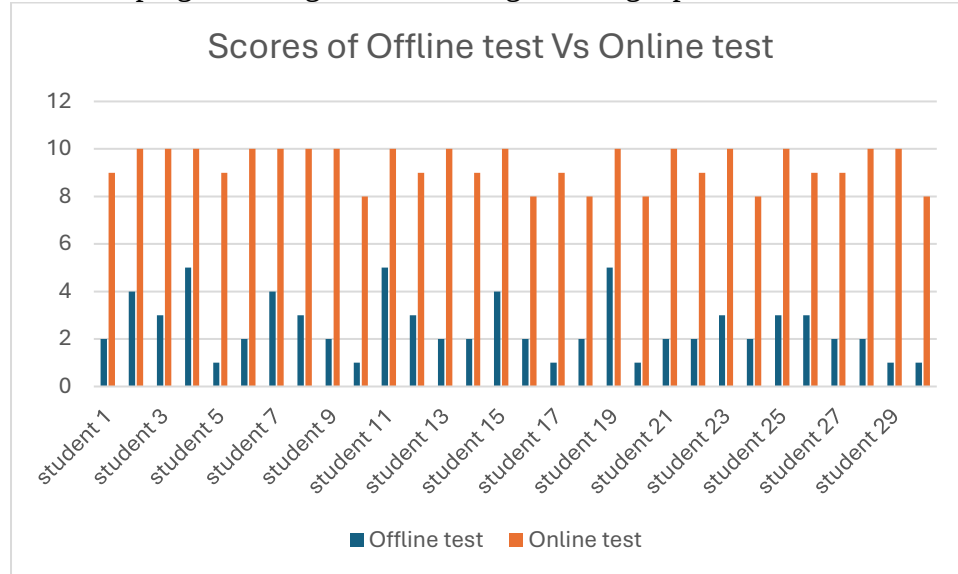


Figure 5: Scores of offline versus online tests

Finally after the sampling survey, the students were made to take up an offline and an online tests from a limited portion from their lesson. The tests were conducted to check the veracity of the previous survey conducted. In both the tests, 10 questions were given, out of the ten 8 questions remained the same. The results were shocking as the students scored high in the online test and in the offline tests, the scores were drastically low. Though the online testing was done with anti-cheat feature, the students were able to fish out the answers through some means to score high marks.

Conclusion

In the current scenario, AI is used in almost every field, commerce, finance, medicine and education. Though it is very much helpful in reducing labour for mankind, it is increasingly dangerous too. Wallach and Allen in their book state that “However, AI systems are increasingly required to develop their own values, to work out their own ethics, allowing them to make decisions as ethical subjects” (Wallach & Allen 2009). Though technology has developed and is developing in a very faster pace, there is always a lag in developing morally conscious machines using Artificial Moral Intelligence. Researchers in the field of AMI believe that this happens because of a glaring competition between the AI companies. There is huge discussion in the academia about holding AI systems responsible for the mishaps or degradation in quality and value system. Wynsberghe et al opine that the researchers also “...entertain the notion of artificial moral agents (AMAs) that can think and act morally and that might become essential if they turn out to be better than humans in deliberations and acting morally”. He also adds that they may also be able to adapt to the complexities of the contemporary societies in a better way than humans. Fanya Montalvo proposed the concept of AI Complete in the 1980s, that means creating an AI machine exactly like the humans with the same feelings, emotions and neurology. Unfortunately, though decades have passed still it’s unimaginable to create such devices. Marsland is of the view that “To proceed, science needs to better understand what the difference between a feeling and a thought is. Feeling

pain and knowing about pain are certainly not the same internal states. I am hopeful that future research in this area will bring some long-awaited answers.” (Marsland:2018). The research article thus makes it clear that if AI is instilled with Artificial Moral Agents, it can create more responsible teachers and students who can make the world a better place without any borders. Thus, this research article opens for discussions over keeping a fine balance between human teaching and AI teaching. It also suggests teachers to have a better hold on the students to teach them what, when, where, why and how and not to seek AI assistance. Thus, it is explicit that teachers’ have to take up another role of being a moderator as well as a kind of consciousness of the students to discern the good and the bad for the sustenance of the world.

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