International Journal for Multidisciplinary Research (IJFMR)
E-ISSN: 2582-2160 ● Website: www.ijfmr.com ● Email: editor@ijfmr.com

Empowering Educators: The Synergy between Emotional Intelligence and Artificial Intelligence in Teaching

Panna Kumaresh Purohit[1], Prof. (Dr) Mandeep Kaur Kochar[2]

[1]Research Scholar, University of Mumbai
[2]Professor, Bombay Teachers' Training College

Abstract:
The influence of artificial intelligence (AI) has become manifold in all walks of life since the launch of chatbots, natural language processors and digital content generators. Today's is the age of AI where we are using it knowingly or unknowingly; whether we like it or not; and whether we are skilled at it or not. Artificial Intelligence refers to intelligence displayed by machines, through computer programmes, enabling the machines to carry out specific tasks intelligently. The aim of AI is to assist human beings function in a better manner in many areas. Artificial intelligence, thus, is basically an imitation of human intelligence. This very imitation leads us to another facet of human beings and that is emotional intelligence (EI). How can a human being supersede an intelligent machine? The answer lies somewhere in the use of human emotions and EI. Emotional Intelligence is about understanding our own and others' emotions and channelising it into a positive direction for the betterment of the self and the society.
To be the master of artificial intelligence; and not the servant, we must explore and utilise our emotional intelligence skills. Artificial Intelligence is seen as posing a great threat to employment, sustenance and very survival of mankind on the earth. However, this need not be true, lest mankind uses his emotions intelligently to surpass the artificial intelligence which is merely an imitation of human intelligence. This research article explores the concepts of artificial intelligence (AI), emotional intelligence (EI) and attempts to present the significance of emotional intelligence in various fields in this new digital age and especially in the field of education and teaching. As NEP 2020 envisions adoption of emerging technology to remove inequality in education, the paper lays out the emphasis on the integration of artificial and emotional intelligences as a solution to the conflicting interests.

Keywords: Artificial Intelligence, Emotional Intelligence, Integration, NEP 2020, Educator

1 Introduction

It is often known that technology is always changing. What's trendy at the moment might not be in a month or two. Technology is becoming increasingly sophisticated and is outperforming human intelligence in many different domains and endeavours. The field of artificial intelligence is continually growing, changing, and becoming more sophisticated. Businesses yearn for a competitive edge in the AI era. Many will undoubtedly believe that just substituting robots for people solves the problem and results in significant cost savings. There is no denying that artificial intelligence has transformed a number of industries by bringing automation, data-driven decision-making, and increased efficiency. In actuality,

artificial intelligence (AI) poses a serious threat to many tasks that we once thought could only be performed by humans. However, here's the thing: Can you really believe that you will stand out when every other one uses AI to its fullest? To stand out from others, we need to be creative. And what can bring creativity? Emotional Intelligence. The capacity to identify, comprehend, and regulate emotions—also known as emotional quotient, or EQ—becomes even more important. In order to promote empathy, make moral decisions, and improve human-AI collaboration, emotional intelligence, also known as emotional quotient or EQ, is essential in the era of artificial intelligence. Even while AI systems can already accomplish more complicated jobs, there are some things that they will probably never be able to fully accomplish. For instance, AI systems are incapable of feeling other people's emotions or comprehending the subtle emotional aspects of a circumstance. This article explores the concepts of Artificial Intelligence (AI) and Emotional Intelligence (EI) and aims at establishing the need and importance of Emotional Intelligence in the modern age.

In light of the rapid and profound advancements in technology occurring globally, NEP 2020 advocates for tackling the wider effects of disruptive technologies that have bearing on education. To help our educational system deal with the swift and disruptive changes that put us personally and as a country at a dangerous disadvantage in an increasingly competitive world, they include research, de-skilling, and awareness-raising. The main goals of technology interventions will be to streamline educational planning, management, and administration, including procedures for admission, attendance, assessment, and other related areas; improve teaching-learning and evaluation processes; support professional development and teacher preparation; and improve educational access.

2 Understanding Artificial Intelligence

Artificial intelligence (AI) has been defined in many ways over the past few decades. John McCarthy defines Artificial Intelligence as: "It is the science and engineering of making intelligent machines, especially intelligent computer programs. It is related to the similar task of using computers to understand human intelligence, but AI does not have to confine itself to methods that are biologically observable."

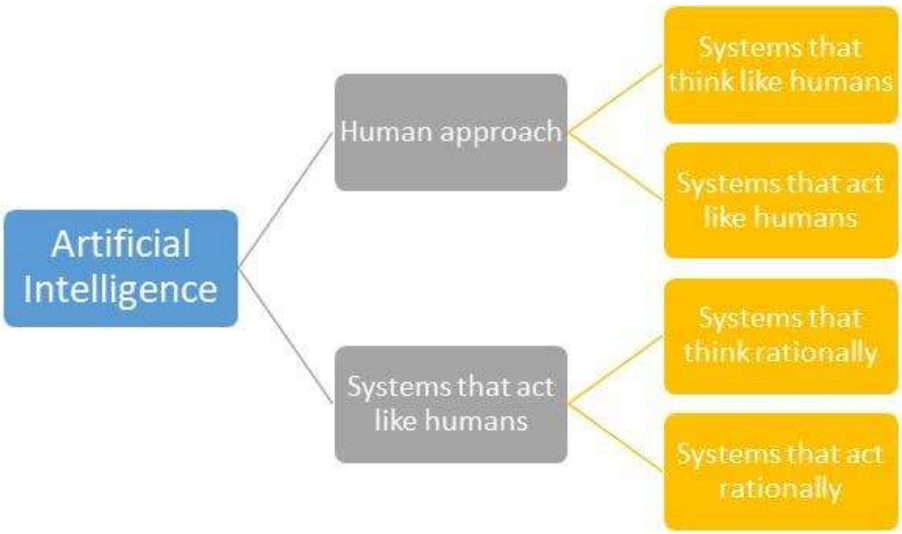

Figure 1: Approaches to Artificial Intelligence

'Artificial Intelligence: A Modern Approach', written by Stuart Russell and Peter Norvig, went on to become one of the most prominent textbooks on the subject of artificial intelligence. They, in their book, examine four possible definitions of artificial intelligence (AI), differentiating computer systems according to their reasoning and whether they act or think.

To simplify, artificial intelligence is a discipline that combines strong datasets and computer science to facilitate problem-solving. Artificial intelligence also includes the machine learning and deep learning sub-fields, which are often cited together. These fields use AI algorithms to build expert systems that classify or predict things based on data that is fed into them.

AI systems are currently being used in many different real-world applications. Here are a few of the most typical use cases:

Speech recognition is a technology that translates spoken words into written form using natural language processing (NLP). It is often referred to as computer speech recognition, speech-to-text, or automatic speech recognition (ASR). Speech recognition is a common feature of mobile devices that allows for voice search. • Computer vision: Digital movies, photographs and other visuals can be interpreted using computers and similar systems based on this AI technology and decisions can be taken based on the information gathered from them. It is different from picture recognition jobs in that it can make recommendations. Computer vision, which uses convolution neural networks, is used in self-driving automobiles in the automotive sector, radiological imaging in healthcare, and photo tagging in social media. • Automated stock trading: AI-powered high frequency trading platforms can execute millions of deals daily without the participation from humans, all with the goal of optimising stock portfolios. • Engines that make recommendations: Artificial intelligence (AI) algorithms can assist in identifying data trends that can be utilised to create cross-selling tactics that are more successful by utilising historical consumption behaviour data. Online shops utilise this to suggest suitable add-ons to customers during the checkout process. • Customer service: Virtual online agents are taking the place of human agents at every stage of the customer journey. They alter the way we think about client involvement across websites and social media platforms by responding to commonly asked questions (FAQs) about various topics, offering personalised advice, cross-selling products, or suggesting sizes for users.

3 Understanding Emotional Intelligence

People with emotional intelligence are driven to realise their own potential and purpose. It awakens their deepest beliefs and ambitions, turning them from ideas into actions. The ability to recognise, comprehend, and effectively respond to emotions in ourselves and others, as well as to successfully use the knowledge and energy of emotions in our day-to-day lives and at work, is known as emotional intelligence. Emotional intelligence, according to Cooper and Sawaf (1997), is the capacity to perceive, comprehend, and use emotions as a source of human energy, knowledge, connection, and influence. Emotional intelligence is defined by Mayer and Salovey (1993) as the capacity to observe and distinguish between one's own and other people's feelings and emotions, then utilise that knowledge to inform one's decisions and actions. The ability to accurately identify, evaluate, and express emotions; the capacity to access and/or generate feelings when they support thinking processes; the comprehension of emotions and emotional knowledge; and the capacity for intellectual development are all components of emotional intelligence. Going forward, Goleman (1995) popularised the term 'emotional intelligence'. Understanding our own emotions as well as those of others, inspiring ourselves, and igniting positive emotions in both ourselves and our relationships are all considered aspects of emotional intelligence. Precise perception, evaluation, and

expression of emotions, as well as the capacity to create sentiments that support thought and control emotions to foster development, are all necessary for emotional intelligence. According to Goleman (1995), emotional intelligence has five elements: self-awareness, self-regulation, motivation, empathy, and social skills.

Figure 2: Components of Emotional Intelligence

4 Need and Significance of Emotional Intelligence in the Digital Age of AI

Even while AI systems can already accomplish more complicated jobs, there are some things that they will probably never be able to fully accomplish. For instance, AI systems are incapable of feeling other people's emotions or comprehending the subtle emotional aspects of a circumstance. This is the point at which emotional intelligence is useful. AI systems will depend more and more on human-generated data as they grow more ingrained in our daily lives to train and enhance their algorithms. And humans' ability to comprehend and manage the emotional ramifications of these interactions will grow more and more crucial as they take on ever-more tasks. In 2019, Kalyani Y. and Ayachit M, researched on the significance of Emotional Intelligence in the era of Artificial Intelligence in the Finance and Educational Service Sectors. Within the educational sector, students are beginning to use online portals more frequently. They are mostly employed as an adjunct to conventional classroom instruction. The survey revealed that, regardless of the learner's stage, 85% of the sample believed that artificial intelligence would never be able to fully replace the traditional teacher-student dynamic. One of the other motivations for using virtual learning platforms is the gap that currently exists between academics and industry. As a result, each must give the other a compliment. Therefore, it was concluded that emotional intelligence and artificial intelligence need to coexist in the financial and educational service sectors in order to get the greatest results. Sharma V. and Kumar H. (2023) explored the need of Emotional Intelligence in medical profession and suggested in the rapidly evolving field of healthcare, the synergistic interaction between Artificial Intelligence (AI) and Emotional Intelligence (EI) may lead to a new paradigm for medical professionals. The importance of EI in providing comprehensive and compassionate patient care is highlighted by the way AI enhances clinical competencies. In addition to being the keystone around which patient outcomes are determined, the intricate dance between state-of-the-art technology and human-centred empathy acts as a buffer against emotional detachment following AI integration. Therefore, encouraging a harmonious synthesis of AI and EI has the potential to retain the innate humanity that is the essence of healthcare in addition to improving medical practice.

Unquestionably, automation, data-driven decision-making, and increased efficiency brought about by artificial intelligence have transformed a number of industries. But even with technology progressing,

people are still important, especially in positions of leadership. Inspiring and motivating their staff, encouraging creativity, and managing tricky interpersonal relationships are all tasks assigned to leaders. This is when emotional intelligence comes into play.

Figure 3: EI in Leadership Position

Unquestionably, automation, data-driven decision-making, and increased efficiency brought about by artificial intelligence have transformed a number of industries. But even with technology progressing, people are still important, especially in positions of leadership. Inspiring and motivating their staff, encouraging creativity, and managing tricky interpersonal relationships are all tasks assigned to leaders. This is when emotional intelligence comes into play.

The significance of Emotional Intelligence in the field of education and teaching can be summed as given in the figure 4:

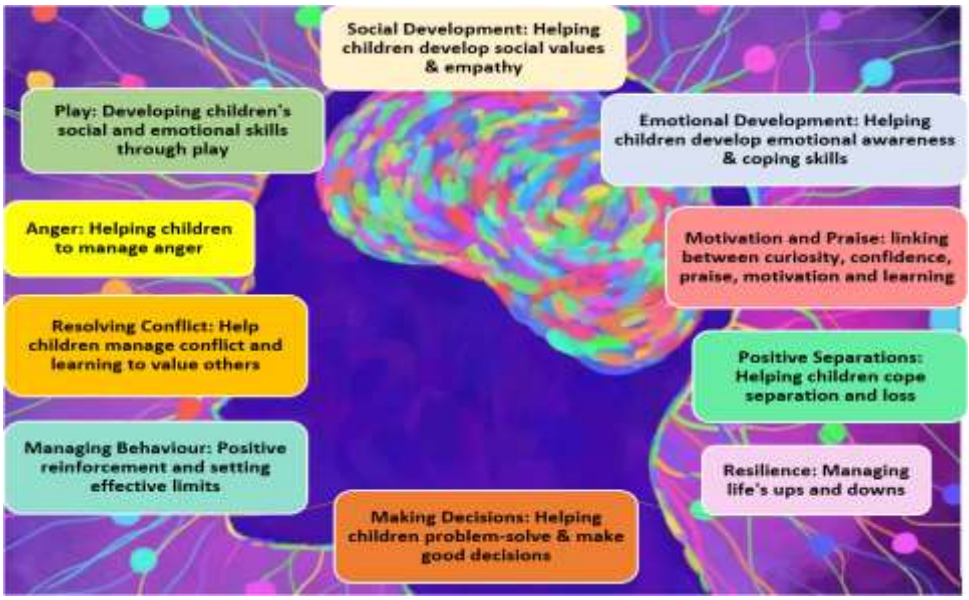

Figure 4: EI in Education

5 Integration of AI with EI in Education for the Empowerment of Educators and Learners

Artificial Intelligence has greatly simplified many tasks in the area of education. AI and Machine Learning, according to many researchers and innovators, have the potential to improve educational standards. Therefore, the use of AI in education has received a lot of attention. In education and teaching-learning, a lot of attention is given to learner-centred approach and empowering learners on what to teach and how to teach. Learner empowerment calls for teacher empowerment. Utilising modern technology sailed the world through the COVID crisis so it can make the teaching-learning processes more accessible and seamless for all. NEP 2020 envisions adoption of emerging technology to remove inequality in the education. Artificial Intelligence is the fastest growing emerging technology which can both disruptive and constrictive in the field of education. Through integration of AI with EI, we can promote the ethical use of technology to enhance learning potential.

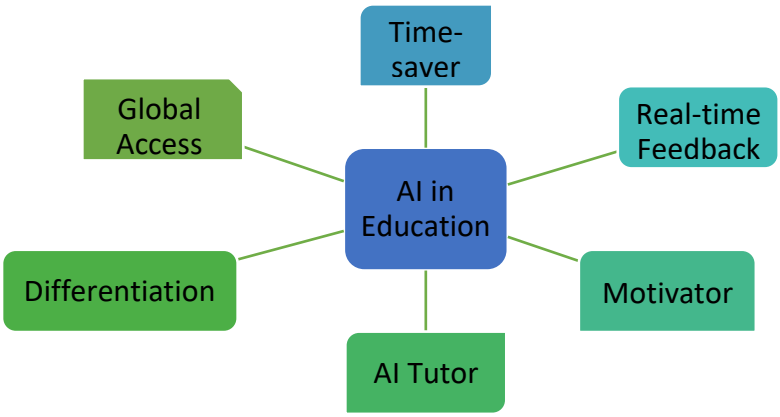

Figure 5: Artificial Intelligence in Education

The integration of AI with EI can be utilised in the following areas of education:

- **Focus on Skill Development:** With the help of rapidly emerging AI tools, teachers can shift their focus from information delivery to skill development such as problem-solving and 5Cs – Critical thinking, Communication, Collaboration, Creativity and Compassion.
- **Customisation of Learning Process:** Each learner comes with her/his unique capabilities, learning style, pace and preference. With AI-powered tools, data can be gathered on individual learner's behaviour and performance in order to create custom-made learning experiences.
- **Lessening of the Mental Health Crisis:** In an increasing crisis in the mental health of both learners and teachers, emotionally intelligent AI tools can help analysing emotional cues of the learners and providing them a virtual vent to express their feelings. Thus, the focus can be shifted on the learner's mental health with a computer-generated support system. AI-powered tools can reduce the teaching time and focus can be shifted to lifelong learning and professional development of teachers.
- **Global Access to Quality Education:** Integrating emotional intelligence (EI) into online learning systems might help them adjust content based on learners' feelings and responses. With wider outreach, AI-powered learning can recognize the dissatisfaction of a learner and modify its strategy to motivate the learners to focus on learning.
- **Automated Assessment and Administration:** Generating testing material, completing day-to-day administrative tasks and evaluation processes take a big chunk of an educator's time. When AI-

powered tools are utilised for administrative and assessment tasks, the focus can be shifted to engaging in important discussions, mentoring and counselling the learners.

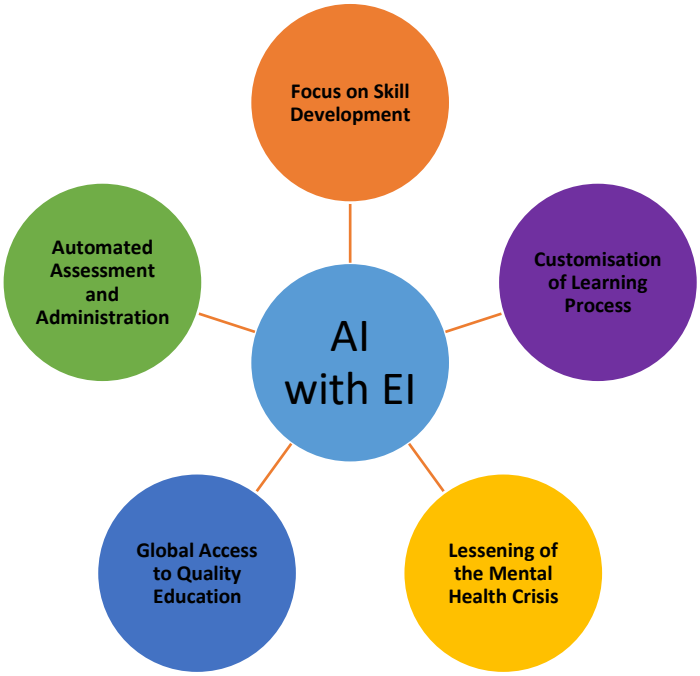

Figure 5: Integration of AI with EI

6 Conclusion

Understanding, inspiring, and communicating with people are among the skills and qualities that artificial intelligence struggles to replicate, thus those who wish to remain relevant in their fields must concentrate on developing these traits. More accurately than a doctor, a smart machine may be able to identify a condition and even suggest a course of therapy. But it requires a human to sit down with a patient, get to know their circumstances (money, family, quality of life, etc.), and assist in figuring out the best course of action.

In a similar vein, an intelligent machine would be able to identify intricate business issues and provide solutions to advance a company. Still, nothing beats a human for tasks like motivating the leadership group to take initiative, steering clear of political hot spots, and spotting astute people to spearhead change.

Over the next ten years, these human qualities will be increasingly valued. Persuasion, social intelligence, and empathy are among the skills that will become more valuable when machine learning and artificial intelligence replace our other responsibilities. Regretfully, in terms of training and education, these human-oriented skills have typically been seen as secondary. Everybody has dealt with a physician, financial planner, or consultant who is more preoccupied with his or her reports and data than with our particular needs and goals. For better or worse, as automated systems grow more common, these abilities will become necessary for everyone who wishes to remain current in their industry. It takes dedication to self-awareness and introspection to develop emotional intelligence. It entails being aware of and able to react to both our own emotions as well as those of others.

Emotional intelligence is more crucial than ever in the era of artificial intelligence. It will be crucial for people to comprehend and manage the emotional ramifications of these encounters as AI systems grow

more and more interwoven into our daily lives. In an increasingly AI-powered world, people may remain ahead of the curve and prosper by honing their emotional intelligence skills.

AI and EI are two significant aspects that can mutually augment the education system. The relationship between the learner and the teacher can be enhanced by gaining a deeper understanding of all stakeholders, and making more morally and intelligent decisions by using the synergy between these two domains. However, it is imperative that utmost caution has to be exercised in the integration of EI and AI, keeping ethical considerations in mind and placing learners and teachers at the centre of the integration. Using this synergy, educational institutes and schools can allow the learners to prosper in the ever-changing world of technology.

References

1. McCarthy, J. (2004). What is Artificial Intelligence? retrieved from https://wwwformal.stanford.edu/jmc/whatisai.pdf
2. Turing, A. M. (1950). Computing Machinery and Intelligence retrieved from https://redirect.cs.umbc.edu/courses/471/papers/turing.
3. Norvig P. and Russell S. (Ed. 2022). Artificial Intelligence: A Modern Approach, 4th US ed.
4. Cooper, R. K., & Sawaf, A. (1997). Executive EQ: Emotional Intelligence in Business. London: Orion Business Books.
5. Mayer, J. D., & Salovey, P. (1993). The intelligence of emotional intelligence. *Intelligence, 17*(4), 433–442.
6. Goleman, D. P. (1995). Emotional intelligence: Why it can matter more than IQ for character, health and lifelong achievement. New York: Bantam Books.
7. Y Kalyani and Ayachit M. (2019). Significance of Emotional Intelligence in the Era of Artificial Intelligence: A Study on the Application of Artificial Intelligence in Financial and Educational Services Sector. Ushus-Journal of Business Management 2019, Vol. 18, No. 1, 35-48.
8. Sharma V. and Kumar H. (2023). Emotional Intelligence in the Era of Artificial Intelligence for Medical Professionals. Journal for International Medical Graduates, Vol. 2, Editorial.
9. Kumar, A., Singh, R.R., & Chandra, R. (2018). Emotional Intelligence for Artificial Intelligence: A Review.
10. NEP 2020, retrieved from: https://www.education.gov.in/sites/upload_files/mhrd/files/NEP_Final_English_0.pdf
11. Zainab Khan, S. Reshma Jamal. "Chapter 4 Bridging the Gap", IGI Global, 2024.
12. David Mhlanga. "FinTech and Artificial Intelligence for Sustainable Development", Springer Science and Business Media LLC, 2023.