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Emotional intelligence in the digital age: Harnessing AI for students' inner development

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Abstract

Artificial Intelligence (AI) presents both opportunities and challenges in fostering emotional intelligence (EI) in students. EI, vital for personal, academic, and professional success, involves recognising and regulating emotions in oneself and others. This opinion piece explores AI's potential and challenges in enhancing EI. AI's role in higher education and its various applications, including assessment and prediction, are discussed. The article also addresses the recent proliferation of Generative AI (GenAI) tools, which generate diverse content types and have sparked debates in education. AI's potential in developing each component of Goleman's EI model (1998) is examined, focusing on empathy, social skills, self-awareness, self-regulation, and motivation. AI-driven applications, such as those aiding individuals in recognising and managing emotions, practising empathy, and tailoring educational content to foster motivation, are highlighted. The piece also acknowledges concerns, such as ethical and privacy considerations in data collection, potential biases in AI algorithms, and the risk of overreliance on AI. In conclusion, we advocate for a balanced approach that combines AI tools with traditional teaching methods and human interactions to cultivate EI effectively whilst managing associated risks.

Keywords: artificial Intelligence, development, digital, emotional intelligence, skills

Introduction to emotional intelligence

In today's digital age, the rapid advancement of technology, particularly artificial intelligence (AI), has brought both opportunities and challenges in various fields. One field is the development of emotional intelligence (EI) in students. Defined as the ability to recognise and regulate emotions in ourselves and others (Goleman, 2001), EI plays a crucial role in personal, academic, and professional success (MacCann et al., 2020). EI is not fixed, but rather can be increased through developing the contributing components, a process Goleman (2001) suggests leads to individuals being better equipped to navigate social situations, form healthy relationships, manage stress, and lead effectively. This opinion piece will explore the potential use of AI in the development of each component of Goleman's (1998) model of EI: empathy, social skills, self-awareness, self-regulation, and motivation. Having developed these components from research into EI in the workforce, Goleman's (1998) model provides an appropriate focus for its links with AI, especially given the overlaps with key skills necessary for the future (World Economic Forum, 2023).

Artificial intelligence and its role in higher education

AI is not a new concept. The term was popularised by McCarthy (1956) following a conference which explored how machines might simulate human intelligence through computational techniques and algorithms, but the idea of 'intelligent machines' had been introduced earlier by Turing (1936; 1950). AI has continued to develop and now has many applications, including within higher education (HE) institutions. A recent systematic review identified AI being used for assessment/evaluation, predicting (forecasting trends in data), AI assistant/chatbots, intelligent tutoring systems, and managing student learning through learning analytics (Crompton & Burke, 2023). Other applications include assisting with admissions and enrolments, improving accessibility (for example, automatically generating captions for video recordings) and AI-based plagiarism detection software.

Most recently, educators have been reacting to the proliferation of Generative AI (GenAI) tools. GenAI is generally seen as a subset or specific application of artificial intelligence which, as the name suggests, involves the generation of new data or content. This might be in the form of images, videos, music, and of most concern to educators, text. Discussion on the use of GenAI tools such as ChatGPT in education has generated contrasting views on whether/how they should be used. Critics have highlighted concerns about the potential drawbacks, arguing that they may undermine students' ability to think critically and to develop their own perspectives, and suggesting AI use in education reduces decision-making capabilities and increases laziness (Ahmad et al., 2023; Farrokhnia et al., 2023). Conversely, supporters maintain such tools have the potential to enhance the development of higher order skills, enrich the student learning experience and promote engagement (Farrokhnia et al., 2023). Indeed, GenAI tools such as ChatGPT could personalise learning and act as a 'dialogic tutor' (Compton, 2023), and potentially even help towards addressing the 'awarding gap' (Fido & Wallace, 2023).

Potential uses of artificial intelligence to develop emotional intelligence

When used correctly, AI has the potential to play a significant role in developing students' EI, aligning with Goleman's (1998) model. This section will outline some possible uses, and limitations, of integrating AI in this space.

Firstly, AI-driven applications such as those developed to help children with Autism Spectrum Disorder recognise facial expressions (Awatramani & Hasteer, 2020) may help students enhance self-awareness by providing personalised feedback on their emotional states. Emotion recognition algorithms can analyse facial expressions voice tone, and even physiological signals (Middya, Nag & Roy, 2022) which could help individuals better understand their emotions. Through continuous monitoring and feedback, students can learn to recognise and label their feelings more accurately, a fundamental aspect of EI.

Secondly, AI can assist in self-regulation by offering strategies for managing emotions (Ahmed et al., 2021). Emotional support chatbots or virtual coaches can guide students through relaxation techniques, mindfulness exercises, and emotional regulation practices (Zheng at al., 2023). These tools can help individuals develop the ability to control impulsive reactions and manage stress effectively, fostering emotional resilience.

Additionally, AI-powered simulations and role-playing exercises can facilitate the development of empathy and social skills. Schutte & Stilinović (2017) demonstrated the potential of virtual reality to develop empathy. In the future, students might interact with AI-generated characters or avatars in scenarios that

require them to understand and respond to various emotional cues and social situations. This immersive learning experience helps students practice empathy, active listening, and conflict resolution in a safe and controlled environment.

Finally, AI can motivate students by adapting educational content to their emotional states and preferences. Personalised learning platforms can adjust the difficulty of assignments, provide relevant examples, and offer real-time encouragement to keep students engaged and motivated, ultimately contributing to their EI (Farrokhnia et al., 2023).

Whilst AI holds promise for enhancing students' EI, it also brings forward significant concerns. The collection and storage of sensitive data, such as facial expressions and physiological signals, raise substantial privacy and ethical considerations, potentially leading to misuse and breaches of personal information (Furze, 2023). AI algorithms used for emotion recognition and feedback are not flawless and can introduce bias and inaccuracies, particularly in culturally diverse or unique emotional expressions (Hosseini, 2023). Additionally, AI's ability to simulate emotions is limited, possibly leaving students with an incomplete grasp of the complexity of human emotions.

An overreliance on AI tools may also delay the essential growth of authentic human-to-human interactions, which are central to understanding and connecting with people. This may hinder the transfer of emotional skills to real-world scenarios, where AI assistance is unavailable, undermining the practical application of EI. Therefore, balancing the benefits and challenges of AI in this context is fundamental for effective EI development in students.

Concluding thoughts

In conclusion, AI-driven solutions can contribute to the holistic development of EI, preparing students for success in both their academic and personal lives. However, it is essential to approach its implementation with caution and consider the potential drawbacks and limitations. A balanced approach that combines AI-driven tools with traditional methods of teaching and interpersonal interactions is likely the most effective way to foster EI in students whilst mitigating the risks associated with AI use in education.

Biographies

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