

# Academic Literacies in the Emergence of Artificial Intelligence

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You may never have thought that education could be daunting. Armed with a high school education, you may have stepped through the doors of the Great Hall of a university awed but nonetheless confident in your ability. For early school leavers or second-language learners, though, deciding to enrol in higher education can be a formidable step.

Literacy programs were born out of the desire to create educational opportunities to help such students bridge the sociocultural divide. Progressing from extracurricular writing centres and writing across the curriculum programs, current thinking embraces a holistic approach in which academic, information and digital literacies are embedded, not just within individual subjects, but in a cohesive and scaffolded manner across an entire course. When combined with the flexibility of online learning, an embedded literacies approach supports those who once believed higher education was beyond their reach in completing a degree.

The literacies approach is still in its infancy, with some institutions leading the way and others yet to fully embrace it. However, even as educators explore how literacies are best implemented into online courses at the subject level, we are faced with a disruptor: The emergence of artificial intelligence (AI) capable of not only answering questions about academic requirements but also generating a sophisticated response to an assessment question. Some may assume that these AI capabilities will remove the need for formal instruction in literacies. This article will argue that with AI looking set to become commonplace in all facets of life, the opposite is true: teaching literacies must be a priority, particularly to those learners who have never been challenged to employ them, one demographic attracted to online education. What then remains is to explore how AI might alter our approach.

## **Which literacies will remain important?**

Despite AI's ability to answer questions on the mechanics of learning, learners must develop an awareness of the nuances of lower-order literacy skills that a comma (a reference, a search on a particular database, the structure of a text etc.) introduces before they can fully understand and analyse an argument. Lower-order literacies cannot be ignored. For example, take the phrase brought into public awareness by [Lynne Truss](#) in her book of the same title, "Eats, shoots and leaves", which is not synonymous with "Eats shoots and leaves". A lack of awareness of these nuances could result in consequential misunderstandings. Hence, the need to develop proficiency of lower-order literacies through practice and application will persist where these literacies facilitate the development of higher-order skills.

There will be little debate that the requirement to cultivate higher-order literacy skills such as critical thinking remains a pivotal part of tertiary education. When applied to AI, critical analysis runs deeper

than understanding which skills the user must prompt the AI to include to generate a robust argument. Certainly, the knowledge that a piece of writing should be researched, referenced, structured, and reflective of current (unbiased) norms is important in generating a quality response. But such characteristics can be easily and, after a little experimenting, almost effortlessly prompted. More important should be a reluctance to accept AI answers at face value, without thought to truth or ethics, since this can perpetuate the [biases](#) which AI currently displays or, worse, prompt us to [regress](#) from the sociocultural progress we have fought hard to achieve, particularly in the areas of gender and race. These biases can be [remedied](#), but what of prejudices of which we are not yet aware (and I speak here of human thinking and not flaws in the code)? Regardless of AI's programming, it is only through critical analysis of AI arguments that we can hope to uncover such truths.

The urgency to develop our learners' critical thinking skills moves beyond a user's ability to evaluate the quality of a particular response from the chatbot. Equally important is contextualising the AI-generated response to the user's circumstances and context. Knowledge of content aside, efficient users of artificial intelligence will identify current and future factors which may impact on the validity of a response, particularly a recommendation, since the responsibility for accepting and implementing the AI's output is likely to remain with the user.

An even more compelling exigency is the value of stimulating human creativity in conjunction with critical thinking. Debate has arisen about whether AI will be [the last human invention](#). Whether the technical capabilities for invention are within the capacity of AI is for Information Technology (IT) experts to explore. Regardless of the consensus, we must ensure we retain our inherent drive for innovation. When AI works to solve a problem, it delves into data from the past, a realm that provides the insights necessary to build on the accumulated knowledge of millennia. When humans solve problems, they look not only to the past but also to the future, envisioning that which has not yet been conceived, including, at one time, AI itself. While AI can assist with the problem-solving that must occur to bring our imaginings to life, if critical thinking is not nurtured in tandem with innovation and imagination, AI will almost certainly be the last invention.

## **AI literacy**

For these reasons, AI's impact on a literacies program is profound. Frameworks around AI literacies have already been developed, with [Si-Cheung, Cheung and Zhang](#) (2023) describing three dimensions: The cognitive dimension (AI concepts such as machine learning); the affective dimension (empowering students to generate meaningful, creative output); and the sociocultural dimension (the ethics of AI). Their framework was applied to a single, in-depth AI course. However, in the not-too-distant future, we may well see all three dimensions of AI literacy integrated into a diverse range of degrees, to a greater or lesser extent, bringing AI literacy to the masses as the pervasiveness of the technology increases.

The immediate future, considering the content saturation of many courses, may choose to focus on the sociocultural dimensions, raising an awareness of the ethical issues within this new context, an area certainly within the purview of business schools. While educators may not require learners to become experts in the cognitive dimension, as AI permeates our lives, the affective dimension will become relevant to all learners, some of whom are currently struggling with digital literacy. Naturally,

learners must themselves aspire to creativity before such output can be obtained.

## Conclusion

The advent of AI demands of critical users both big-picture conceptualisation and detail focus. As a result, educators have more responsibility than ever before to ensure diverse groups of learners are competent and confident with the lower and higher-order literacies required to become AI literate. To remain relevant, literacies programs should expand on their offering, firstly placing greater emphasis on innovation, creativity and context analysis and secondly, teaching the affective and sociocultural dimensions of artificial intelligence. By doing so, we may reduce both the temptation to rely indiscriminately on machines and the daunting nature of study in a new age.

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