

## Chapter 11

# Ethical Responsibilities of Preserving Academicians in an Age of Mechanized Learning: Balancing the Demands of Educating at Capacity and Preserving Human Interactivity

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### ABSTRACT

*In quickly-changing educational delivery modalities, the central role of the instructor is being redefined by technology. Examining some of the various causes with ethical frameworks of utilitarianism, relativism, and care ethics, the centrality of human agency in educational interaction is argued to be indispensable. While exploring the forefront of online, face-to-face, and massive open online courses, the shape and technique of teaching and learning as well as their corollary research methodologies are being modified with automated technology. Ethical engagement with new technologies like learning analytics, automatic tutors, and automated, rubric-driven graders is proposed to be a frontier of critical thinking.*

### INTRODUCTION

Humans have a need for leaving remnants of their lives and cultural experiences behind. Artifacts have been left for thousands of years, as a footprint of human existence and importance. Whether it is a room full of valuables next to a deceased king or a time capsule that is buried to be reopened in fifty years, humans place significance upon these man-made objects to show the world that they did, indeed, “exist”

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and were not meant to be forgotten. Currently, people are living in an age where most cannot remember a time when they did not possess a cell phone; they are tied to this electronic device as if it were a lifeline to the outside world. Forgotten are those moments where face-to-face human interaction was the most vital of each and every day. Times are changing, and the ways people interact, communicate, and learn are quickly evolving to match the rate of technological advances.

These advances face an acute and rapidly-changing environment in teaching and learning. People must learn various “literacies” to navigate an increasingly-complex world, especially one that is connected at the speed of the Internet. As digital learning and teaching tools expand, one question becomes critical. Is there an intrinsic, verifiable role in human teaching? This becomes an ethical question when technology is able to replace the human instructor; it is ethical because it not only reshapes how education is carried out, but also because the interaction of the agent changes, too. There is a real value in human teaching, while not jeopardizing or hindering the speed of invention. Further, the scale by which teaching occurs is already enormous, as evidenced by the rapid expansion of massive, open, online courses (MOOCs); this is augmented by automatic grading technology, automated and digitalized teachers, and various other technologies that are quickly changing educational delivery. Special attention must be paid to the ethical development of the technologies that are at the forefront of teaching and learning.

## **ARTIFICIAL INTELLIGENCE, OPEN STANDARDS, AND EMERGING EDUCATION**

The proliferation of increasingly-complex systems of artificial intelligence, intelligent machines, information aggregation and interpretation is driven, in part, by educational opportunity and profit. Though there are numerous ways to approach the boundaries and meanings of “intelligence” when applied to computerized technology, several themes are especially critical: educational data modeling in the aggregate is expanding and is, thus, becoming more accurate and reliable; the way *intelligence* is defined may need serious revision soon; and the ways people learn are being tested and refined with technology. The rapidity of such innovation is underpinned with open standards, open source software, and systems designed for linking data (like JSON-LD) from searches to outcomes. What this means to classrooms, both virtual and brick-and-mortar, to students, and to instructors is an open question. Certain specific projects that link individual data, educational opportunities, and transparent assessment, like open digital badges, bridge together the current capabilities with a promise to the immediate future (Schenke, Tran, & Hickey, 2013).

The topic of artificial intelligence cannot be discussed without giving credit to those pioneers who were part of its inception but perhaps not recognized in a fitting way. Alan Turing, mathematician, and to those who knew him, genius at large, wrote a paper in 1936 called “On Computable Numbers, With an Application to the Entscheidungsproblem” discussing a machine that could be built and perform any function (Turing, 1937). This idea would be a topic of conversation for a group of researchers who would meet two decades later in Dartmouth in 1956. One of those researchers was Marvin Minsky, who would later cofound the AI laboratory at MIT in 1959. These early pioneers most likely “saw” into the deep future of computation, but how these technologies have been applied to the particular instance of education could not necessarily have been anticipated. For example, one of the current understandings of artificial intelligence is that it embodies modes of data aggregation, modeling, and forecasting; applied to education, this substantiates how competency-based education has caught political and financial attention. For example, some schools apply competency-based models of education to fields demand-

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