Chatbots and the use of Artificial Intelligence in the Implementation of Instructional Techniques for Post-Secondary Education

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LTEC 6210

4/27/2019

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* What are Chatbots?

* Chatbots, alternatively known as "chatterbots", "talkbots", and various other names, are artificial intelligence (AI) examples of computer programs which interact with humans in a way that simulates conversations between the human and the computer program.

History of Chatbots

* The first modern chatbot, and still one of those popular ones, is ELIZA which was created by Joseph Weisenbaum at the Massachusetts Institute of Technology in the mid-1960's, (Watters, 2015).
* Eliza is based on the "Eliza Dolittle" character in the popular film 'My Fair Lady'.

Well-known Chatbots in Popular Culture

* There are many freely available chatbots to test online such as Jabberwacky, Arisa, Joan, and Kimbot. Most of these chatbots were developed with recreational or gaming use in mind. Such technological uses, eventually, were implemented for business purposes, such as Siri. Siri, used on Apple iPhones, is one of the most prominent and robust examples of an artificially sentient chatbot in the industry, (Watters, 2015).

Chatbots in Industry

* Chatbots, and related technology, are artificially intelligent interfaces that can simulate conversations with humans.
* The use of chatbots as an artificial intelligence technology is being featured in many industries and this paper examines whether or not such technology can be used to help facilitate the academic process in post-secondary education.

Chatbot Potential In Education

* Educators are constantly using technology to further the academic experience of their students.

* Such technology does not seek to take the place of an actual human instructor and this paper discusses the advantages of using such a technology in post-secondary education.

Chatbot Educational Potential on Display

* Dr. Ashok Goel at the Georgia Institute of Technology who, unbeknownst to his students, built a chatbot to act as a teaching assistant (TA) for his computer science courses, (McFarland, 2016).

* Based on a similar but scaled down version of IBM's Watson AI, Dr. Goel named his TA "Jill Watson" ("Jill"). In some ways, "Jill" was very successful.

* Questions that "Jill" could not handle based on a confidence threshold set by Dr. Goel were referred to human TAs.

* During the course of class term, however, some of Dr. Goel's students began to suspect that perhaps Jill was not human as evidenced by posts to course message boards. Overall, most of the students reported that they were satisfied with the feedback from "Jill", (McFarland, 2016).

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PossibleDisadvantages of Chatbots in Education

* While the structural aspect of the AI seemed to be viable, Dr. Goel's decision not to tell his students that they were dealing with an AI raised some ethical issues for some students and professionals in the academic and corporate industries, (Maderer, 2016).
* Some felt that it was deceptive to have an AI answering questions as a TA without informing students when students had paid their money to be instructed by human representatives of school. "We should have full disclosure: Am I talking to a machine or to a person?" said Oren Etzioni, CEO of Seattle's Allen Institute for Artificial Intelligence, (Nickelsburg, 2016).

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Questions

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