

Discussion on the Changes Brought by Artificial Intelligence to Education

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Abstract

The rapid development of technologies such as cloud computing, big data, the Internet of Things has made us realize that modern society has entered the stage of artificial intelligence. Artificial intelligence is a science and technology used to simulate, extend and expand human intelligence, and gradually enters the education industry, bringing great changes to education. This paper will discuss the changes of artificial intelligence to education from three aspects: educational goals, teaching equipment and teachers' roles.

Keywords

Artificial intelligence, Education, Change.

1. Introduction

The English abbreviation for artificial intelligence is AI. It is a new technical science for research and development of theoretical methods and application systems for simulating the extension and expansion of human intelligence. With the advancement of Internet technology, many traditional industries have begun to the Internet. Artificial intelligence is constantly developing. Therefore, the concept of AI is gradually entering various industries. In the field of education, this paper will discuss the artificial intelligence pair from three aspects: the role of educational target teaching equipment. Educational change abbreviation for artificial intelligence is AI. It is a new technical science for research and development of theoretical methods and application systems for simulating the extension and expansion of human intelligence. With the advancement of Internet technology, many traditional industries have begun to the Internet. Transformation and upgrading, and artificial intelligence is constantly developing. Therefore, the concept of AI is gradually entering various industries. In the field of education, this paper will discuss the artificial intelligence pair from four aspects: educational goals, teaching equipment, learning method and teachers' roles.

2. The Impact of Artificial Intelligence on Educational Goals

In 2016, the BBC analyzed the "rejection rate" of 365 occupations in the future based on the data systems of Oxford University's Carl Frey and Michel Osborne. The results showed that the telemarketer was 99.0% and the typist was 98.5. %, accounting staff is 97.6%, insurance salesman is 97.0%, bank employee is 98%. These occupations are replaced by more than 90%. Other occupations, such as the artist is 3.8%, the musician is 4.5%, the scientist is 6. 2%, the lawyer, the judge is 3.5%, the dentist is 2.1%, and the architect is 1.8%. Teachers are 0.4%, etc. These occupations are replaced at a very low rate. According to this study, if the work is characterized by the following characteristics, the possibility of being replaced by the robot is low: social and negotiation ability required to deal with people; sympathy, and sincere support and concern for others; creativity and aesthetics. If the work performed has the following

characteristics, the possibility of being replaced by the robot will be relatively large: skill can be mastered after simple training; a large amount of repetitive work, no need to brain

In the era of industrial revolution, machines replaced simple and repetitive manual labor. In the information age, artificial intelligence will also replace simple and repetitive mental labor. Translators, customer service, and typists may become disappearing professions. The type of occupation has also changed. Artificial intelligence liberates the brain from the labor of repetitive machinery. The future education should be suitable for this change. The educational goal should focus more on cultivating students' love, empathy, creativity, communication and aesthetics. In the society of artificial intelligence, teachers should help students find its own career orientation and life pursuit.

3. The Changes That Artificial Intelligence Brings to Teaching Equipment

The field of application of AI technology is a wide range of robots. In 2017, AlphaGO's victory once again brought artificial intelligence into the public. In the field of education, intelligent robots can be applied in many aspects, two of which are more important: the robot that interacts with the teacher and the student – automatic questioning and coaching; intelligent evaluation Robots - can be used for marking, correcting assignments, oral assessments, etc. These robots use a variety of artificial intelligence technologies such as speech recognition, text recognition, and face recognition. The interaction between robots and students is not only due to simple communication. In the future, with the advancement of technology, robots will also conduct deep learning with students according to the content of communication with students. At this stage, the combination of artificial intelligence technology and virtual reality technology enables interaction with the real thing in the classroom. For example, Marriott's "excellent travel" virtual reality experience activity is to place individuals in the entire London travel experience. VR technology will make students immersive, and artificial intelligence technology will make the physical objects more intelligent and humanized. The combination of the two technologies will make the education method a great breakthrough.

4. The Changes That Artificial Intelligence Brings to Learning Method

Today, the knowledge or skills that can be mastered by rote memorization gradually lose value, and artificial intelligence is better than people in these aspects. This requires students' learning to adapt to the complex challenges of the future.

If human beings want to win from the workplace of the artificial intelligence era, they must be separated from the traditional learning that emphasizes memory and practice. Learning must not stop at the surface understanding and repetitive memory of knowledge. Students should establish new knowledge and original knowledge based on existing knowledge, gain a deep understanding of knowledge, and establish a set of their own thinking framework. It is also necessary to move to other problem situations and cultivate students' creativity. The current sub-discipline teaching is conducive to the acquisition of system knowledge, but it is not conducive to the formation of a complete knowledge system and the cultivation of comprehensive thinking ability. The "STEM" education that has emerged in recent years has focused on interdisciplinary, emphasizing the cross-integration of different disciplines and cultivating students' innovative spirit and practical ability. Smart education connects knowledge learning with real life. Any place where high quality learning can be achieved is a school. Smart education integrates virtual scenes into the real world, giving students the opportunity to observe the microcosm, perceive abstract concepts, and make learning a personal experience in a rich context.

5. The Changes That Artificial Intelligence Brings to the Role of Teachers

In the future, artificial intelligence can help teachers to educate and manage. Artificial intelligence can diagnose and evaluate problems, optimize learning paths, and generate personalized questions. Artificial intelligence will help teachers and parents discover problems in students' learning, give timely feedback, and propose targeted solutions. Artificial intelligence can also detect students' psychological quality, analytical ability, cognitive ability, etc., and assist teachers to intervene and guide students. Artificial intelligence can provide students with accurate data about their life, including physical fitness, psychology, and academic literacy, so that parents and teachers can understand students as comprehensively and objectively as possible and make appropriate decisions. For the consideration of students, it is no longer a single score, but a comprehensive consideration of comprehensive quality, and provides students with personalized programs that suit their learning characteristics.

Future education requires teachers and artificial intelligence to collaborate and give full play to their respective advantages, helping students find a path suitable for their own development and promote the improvement of students' comprehensive quality. Artificial intelligence can present invisible learning processes with accurate data. In the context of artificial intelligence, the role of teachers will change. This part of knowledge education may be replaced by artificial intelligence, and the role of teachers in education is more important. Because artificial intelligence does not have social attributes and psychological attributes, teachers can't be completely replaced. The future education should shift from the teaching of knowledge-oriented system to the cultivation of core literacy. Teachers should pay more attention to students' creativity, aesthetic power, Collaborative ability and so on.

With the development of artificial intelligence, some simple and repeated mental work will be replaced by robots. Educators are paying more and more attention to how education can train the talents and types of jobs needed in the future and how human beings are better than intelligent robots in the era of artificial intelligence. Therefore, it is more important to cultivate people's creativity, aesthetic power, and collaboration. The era of artificial intelligence will subvert the traditional teaching methods and achieve student-centered personalized learning. Artificial intelligence records the data of the student's learning process, analyzes the students' learning traces, and the teacher guides the students' individual needs. Artificial intelligence is changing our educational goals, teaching equipment, and the role of teachers. The way we learn, the way we teach, the way we think, and the way we solve problems change. Artificial intelligence technology has made great breakthroughs in perceptual intelligence and entered the application stage, but it still needs technical research in cognitive intelligence. What we need to do is to make full use of artificial intelligence technology to fully exert its positive influence in the fields of management and teaching and promote the development of education.

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