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Geopolitical Impacts of Artificial Intelligence Education Technology

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Abstract. The modern world has witnessed the advancement in the field of artificial intelligence (AI) technology which influenced the education systems worldwide and resulted in the fact that more and more countries began to discuss its geopolitical impact. The paper will address the impact of AI educational technology on the geopolitical pattern and transform the geopolitical order in the international arena. The outcomes of the research conducted in five various countries or economies demonstrate that the countries, having paramount AI educational technologies not only gain power by their own but influence the standards of education and rules worldwide. Simultaneously, less developed nations or economies have also presented the long-term perspectives of AI technology. Lastly, in this work the author tries to develop an AI international system of cooperative governance. This system will help a huge success as it will make sure that all the countries and regions, irrespective of the level of their technologies and power position, will have an equal opportunity to consume AI educational technologies, thereby contributing to the creation of a more balanced world education environment and benefiting humanity.

Keywords: artificial intelligence learning technology, geopolitical state of the whole world, success in education and success in the long term

1. Introduction

Despite being an emergent technology, artificial intelligence (AI) has impacted international education industry resulting in emerging opportunities in teaching and learning. It has effectively made teaching more efficient, as well as a learning experience to students, and has innovated the manner students learn concerning learning resources. The possibilities have also been many because of AI, including both personalized learning models and virtual classes. Nevertheless, as this technological change occurred, it began to be also discussed in more countries, the United States, China, and the European Union are also taking different steps to respond, and they use AI technology to multiply the benefits of their education and secure a favorable place in the world of competition [1,2].

The high rate of technological application, especially in the education sector can create an increasing disparity in intelligence and this can raise the challenge of providing equal access to education among some countries and regions even more. This does not only have an impact on the

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personal development of the students, but it also increases the gap in economic development. Every nation should take into consideration its potential adverse impacts and find a solution that will lead to the equitable allocation of educational funds and encourage further sustainable development of world education. This paper will examine the role of educational technology of artificial intelligence in the global geopolitical situation.

2. AI impact on education with regard to geopolitics

2.1. Positive benefits: a global technological cooperation model and an educational framework reform

It goes without saying that artificial intelligence is an emerging technology. The positive impacts it exerts are predominantly in the enhancement of equality in learning, facilitation of individualized learning, better allocation of resources, and enhancement in the innovative nature of students. These aspects will be examined in detail by the author, where a variety of various methods are introduced and compared in the United States, China, the European Union, India and developing countries.

Educational Equity and Equal Inclusion: The technology of artificial intelligence created with the assistance of online education platforms and virtual environments eliminates the geographical limitation of educational resources. In the far corners of China or underdeveloped nations throughout the globe, individuals are able through these platforms to be able to access equal educational resources in the developed parts of the globe. China is a strong believer in the establishment of equity and equal participation in education. It adheres to the principles of equal rights, equal opportunities and equal rules and encourages the international collaboration and efficient support of resources to developing countries in order to continuously eliminate educational disparities. It assists in promoting educational equity, implementation of resource sharing and enables individuals take part in educational practice [3].

Customized learning and educational quality: A significant implication of artificial - intelligence on education is to dynamically and precisely implement a flexible learning difficulty, and to adjust the learning pace based on the cognitive performance and general results of various learners, so as to achieve customized learning and better the learning interest and quality of various learners. An example of this is how ChatGPT could provide education job seekers with career opportunities and employment-related information, as well as provide prompt changes to address the issues encountered by them [4]. ChatGPT, on its part with the assistance of artificial intelligence, rates the possible issues right and provides a particular answer. It creates timelines of job search to the job seekers, and it goes further to serve as a career development guide to the students.

Resource optimization and education innovation: The innovative AI technology has reduced the expenses of educational operations and the optimization of the distribution of educational resources by introducing innovative evaluation techniques. The developed economies are professionally managing the resource allocation and enhancing liveliness in the education. To take the example of the European Union, the Artificial Intelligence Act has been introduced. It establishes equal - level conditions in the creation and use of AI technology, such that AI in education meets the safety and ethical requirements. It assists to reduce wastage of resources and avoid risks associated with non - compliant technologies. The new projects that are initiated by the EU will provide new breath to the global educational systems and increase the quality of providing education [5].

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2.2. Negative consequences: technological competition, the struggle to control the discourse all over the world, and the impact on the entire educational system across the globe

Artificial intelligence has both advantages and disadvantages of technology. As much as it grows at a rapid pace, it has also come out with various ill impacts. Some nations, such as the USA are exploiting this technology to keep up with other states and they are thus attempting to make their technological control and influence stricter. Concurrently, the global permeation of the AI technology has had significant consequences to education systems in the world. Its rapid propagation and the neglecting of the educational background gaps between the nations has harmed the roots of education. It manifests itself in several forms: augmenting technological dominance and governance, augmented ideology and culture distribution, establishment of education gaps and augmentation of educational strata.

The advancement of the technological monopolies and rule-making: China and the US being the most significant countries on the planet are now competing to the leadership in the area of education in artificial intelligence. Even in the recent past, the US government has indicated clearly that it will invest extensively in science and technology. It is also aiming at forming an alliance circle of AI with its partners and allies to together establish new assembly and techniques which will enable it triumph in the 21 st century competition with China [6]. On the other hand, China desires to utilize the artificial intelligence technology to introduce additional value to humanity and promote the construction of a community that holds a common future. It launched the Global Artificial Intelligence Governance Initiative to promote the irradiation of the Chinese solution across the world [3].

Intensified ideological infiltration and cultural out-reach: The emerging artificial intelligence education technology has turned up the platforms of education to be a new avenue through which countries and their economies propagate their ideologies as well as spread values. Use the case of the United States and China. The US imposes its principles in the artificial - intelligence technology sector using the platform Coursera, Udemy, and Masterclass and makes attempts to strengthen this need and turn it global. On the contrary, through the online education providers such as Yuanfudao, China publishes their online courses and teaching content, spreading the Chinese ideas of educational philosophy and values of collectivism, social responsibility, and national identity. The courses provided on them tend to focus on science, reasoned decision of oneself and affordability as part of the modernization education aspirations of Chinese government [7]. To the US and certain other western nations, during the process of expanding abroad, this can be considered as technology infiltration which is causing global geopolitical concern [6].

The emergence of educational gaps and the stagnation of the educational levels: It is necessary to state that due to the blistering development of AI-technology, the revolution in education not only provided new opportunities to everyone who participated in the learning process, but also introduced a new gap in intellectual parts of the world and strengthened educational hierarchies.

As the AI technology is rapidly growing, many developing nations have been faced with issues as well. Lacking the ability to develop their own AI education platforms independently, the developing nations struggle with a lack of one due to reasons like poor computing capabilities, poorly developed infrastructure, and international sanctions. They are quite reliant on the technology of the developed economies and countries. This not only damages the self - rule of local educational resources and technological innovation but also makes such countries disadvantaged in the international educational competition [8].

The long standing disadvantage of developing countries in global education competition makes students adopt the Western educational patterns and ideologies resulting to their low association with

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their culture. There is an impact of the deterioration or the disappearance of cultural identity on national social integrity and cultural confidence. It is born with a rigid educational system, increases the gap between the rich and the poor and the inequality in the educational opportunity, as well as increases the global educational gap.

3. Exploring different response measures and paths in various countries

In order to cope with the geographical factors, United States, China, the European Union, India and developing countries have already set in earnest to respond. With this in mind, the difference can be easily identified (see Table 1).

Table 1. The action of various countries towards the geopolitical impact caused by AI educational technology

Countries/ Economies	Measures
United States	Small - sized courtyards and high walls, the approach of technology alliance, must be in favor of global spreading of AI education standards and values [6].
China	Following the idea of equal relevance of security and development, we seek to make AI technology valuable to humanity and publicize Chinese solutions in papers such as the Global Artificial Intelligence Governance Initiative [3].
European Nation	Propose an Artificial Intelligence Act Bill; establish a risk pyramid and information fines, referring to the protection of the rights and privacy of citizens [5].
India	India In the context of the new National Education Policy 2020, the central government of India created the "AI for All program. It is aimed at making the people aware of the very essence of the AI technology [7,9].
Developing Countries	Attain technological independence through regional integration and insist on the role of the United Nations as a forefront [3].

At the same time, the global community, including the United Nations is also in the effort of balancing technological invention and international competition in a number of ways. It attempts to equilibrate the situation in the global geopolitical arena and ensure that technological rivalry is unlikely to inflict significant harm to the international geopolitical landscape. Take the case of July 2023. The United Nations published a policy report of the "New Peace Programme." It explicitly details the rules of managing AI with an UN in charge, namely, encourage the establishment of a comprehensive and equitable international level of governance dialogue [3]. Addressing the aspects of safe development and peaceful application, the initiative of the Global Artificial Intelligence Governance developed in China requests more technological support to the developing countries worldwide. It further calls to shatter the small circles and reject the use of AI in - power stand - offs. It suggests the developed nations and economies donate emerging technologies to the developing nations in the good interest of the local communities and the entire humanity [3]. According to some foreign scholars, the opportunities between China and the US, in the technology sector, are much more than the rivalry. Two nations are supposed to collaborate in matters related to technology security such as enhancing the collaboration to deter against the use of artificial intelligence misuse and sharing the external threats. This would reduce the number of issues brought about by technological competition [10]. The international community is collaborating to minimize any potential conflicts occasioned by the competition in technology.

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Some economic entities and countries are also making attempts at discovering progress in technology ethics. This is an issue that is well appreciated in the regulatory design of the EU. It considers that AI technology is aligned with the long-term well-being of humanity, which demonstrates the interest of technology innovation and social ethics. Rapid development of AI will alter the human life, activity, and social system. That is why certain measures are required to enhance the social well-being and minimize the potential negative impacts [11]. The EU-inspired project precisely demonstrates its ethical obligation and devotion to the artificial-intelligence development. Although its impact might be localized, it is incredibly valuable as it guides to ethical standards with AI in place and reduces the degree of dependence on outside technologies [5,12].

This is an indication that sovereign states enhance technological innovation and cultural influence by creating national policies and standards and through exporting platforms. The United States and China, as one of the examples, actively invest in the education of AI to maintain their top positions in the world competition [13,14]. This competition is not only connected with the technological innovation but also with the cultivation of talent and the novelty of educational systems, and a redistribution of the world educational resources. Other global institutions such as the United Nations, are interested in setting global standards of education and enforcing it. They strive to educate the people on AI by ensuring everyone has access to AI and making it available to all people, eliminating disparities in education across the globe. As much as this strategy may lead to international cooperation, it will also cause tensions among nations due to lack or late resource allocation. The European Union, on the other hand, are increasing the marketing of AI learning technology and standards of ethics through legislation. Such an approach not only takes into account the needs of people, but may also make EU have a more significant political influence on the international arena. By sharing educational purpose and technical standards, the EU can play a greater role regarding creation of AI education technology principles, across the world.

To conclude, with more advanced AI-like technology, education is not the only sphere that will change but, possibly, it will transform relations of power between nations and geopolitical balance. Next time, the one capable of combining the education technology of AI with the national strategy and working toward win-win cooperation with other nations without jeopardizing self-interests will be more successful. It is with this that we can only collaborate to respond to the global threats of artificial intelligence and educational technologies.

4. Conclusion

Artificial intelligence and its geopolitical implications in education are becoming a topic of increasing interest, and several nations are undertaking a number of measures aiming to harness the potential of the field. By investing in AI research work, the US government attempts to do more innovative products and retain its major role as the world leader in developing AI. Although a similar strategy is displayed in the New Generation Artificial Intelligence Development Plan of China, it is trying to bring AI to the education process and spread technological advancement to achieve national development and educational equality in the world. The EU emphasis on the significance of ethics and promotes the responsible use of AI in the field of education. It is also through them that data privacy protection guidelines and equitable - access opportunities are formulated. Studies have indicated that AI has the potential of advancing significant enhancement in customized education, enhanced academic achievement, and reducing the educational disparity. However, there can also be a plethora of potential impacts that can be caused by these improvements. In this way, it is needed to establish an international system of cooperative governance on AI, which allows all the nations and regions, irrespective of the development degree

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and the status in power, equal access and use of AI educational technologies, in order to encourage a more equal international educational environment and bring good to the world.

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