ARTIFICIAL INTELLIGENCE AND HUMAN AUTONOMY IN EDUCATION: THE SEARCH FOR EQUILIBRIUM

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Abstract
Artificial Intelligence (AI) is being celebrated as solution to human inadequacies in almost every sector of human society. In education, the impact of AI is significant. However, in the bid to efficiently assist in achieving educational objectives, concerns are raised to the fact that AI is interfering with human autonomy. The aim of this paper, therefore, is to develop working strategies for achieving equilibrium between artificial intelligence and human autonomy in education. Using analytic philosophy as a tool, the paper discussed in depth the concepts of artificial intelligence and human autonomy. It highlighted critical areas in education where AI is having a sphere of dominance and the prospects it brings to education. Nonetheless, the paper concedes to the fact that human autonomy faces great challenges in education because of undefined AI boundaries. The paper proposes some strategies to effectively guide the use of AI and to ensure that those traditional areas of human interaction in education are protected.

Keywords: Artificial Intelligence, Human Autonomy, And Equilibrium

Introduction
Artificial Intelligence (AI) is significantly impacting on the trajectory of the development of the human society. From education, healthcare, finance, cyber security, warfare, transport to manufacturing, AI is becoming increasingly visible and active in man's social life. AI contextually are machineries or equipment fused with scientific application capable of making decisions, solving problems, understanding as well as mimicking human natural language and gestures. Particularly in education, the presence of AI is extensive and almost ubiquitous. So much is being talked about AI-powered educational games, adaptive learning platforms, automated grading and

feedback systems, Chabot's for students' support, intelligence tutoring systems, to mention but few (Hamilton & Swanston, 2024). As AI continue to permeate and dominate educational settings, questions and concerns inevitably arise. One of such concerns is about human autonomy.

Autonomy is a distinguishing factor of the human person as a free being (homo liberum). It is principally the capacity of the human person to determine his course of action in full consciousness without interference from another party. Dowling (2003) observed that a critical look at traditional philosophy of education underscores the role of human persons in teaching and learning. In this setting, humans interface with each other in order to foster critical thinking, creativity, and social-emotional skills in the classroom. These activities are performed in full recognition and respect of human freedom and uniqueness typical of each individual. However, the delegation of traditional human tasks in education to AI is raising palpable and legitimate fears of encroachment of machines into the frontiers of human interaction. It also raises concerns about teaching and learning experiences becoming too mechanical and robotic operations, totally devoid of social-emotional connection. Ingvild, et al. (2024) stated that at stake also are certain ethical considerations such as the collection and use of personal data by websites operating the AI and the possibilities of algorithmic bias (where AI systematically put certain groups of people in a disadvantaged position in decision making process). How can AI be effectively utilized in teaching and learning, while preserving at the same time the essential elements of human autonomy? This question is the major concern of this paper.

Concept of Artificial Intelligence
Defining Artificial intelligence (AI) has somewhat been problematic. This is because of the variety of meanings associated with the component words as well as the consideration of AI both as a field of study and as a technology (Russell & Norvig, 2016). Yet it is this consideration (that AI is either a field of study or a technology) that provided the points of departure for scholars who over the time offered various definitions. For instance, Russell and Norvig (2016) were very resolute in their defense of AI as a field of study. Leveraging on this conviction, they defined AI as the study of agents that receive precepts from the environment and take actions that affect that environment. Similarly, Woodridge (2009) who also approached AI as a domain of study, defined it as the study of intelligent agents, which are systems that perceive their environment and take actions that maximize their chances of successfully achieving their goals. From these definitions, a contextual definition of AI can be presented as a field of study concerned with developing machines capable of performing tasks that typically require human intelligence. This is on the one hand.

On the other hand, some scholars propose definitions of AI that seem to align with its notion as a technology. Notable in this regard is Nilson (2009) who defined AI as a technology that functions appropriately and with foresight in its environment. This implies that AI is systems that display intelligent behaviour by analyzing their environment and taking actions- with some degree of autonomy- to achieve specific goals. The standpoint therefore of those who subscribe to AI as a technology is that it encompasses various tools, systems and applications designed to perform tasks typically associated with human intelligence.

As it is typical of concepts of interest, these controversies that trail the definition of AI have led to a non-consensus definition. This

is supported by the work of Sheik et al. (2023) who held that no definition of AI seems to be universally acceptable. Besides, there are also controversies surrounding the meanings of component words; artificial and intelligence in their reference to AI. The non-consensus in definition and controversies notwithstanding, a contextual definition of AI that tries to incorporate the two perspectives is presented here. AI is the field of study and the capability of machines or equipment fused with scientific application to make decisions, solve problems and understand as well as imitate human natural language.

Concept of Human Autonomy
Autonomy is a concept that is developed within the confines of political philosophy. Campbell (2017) suggested that the term was previously and popularly used in reference to independent city states of ancient times. This limited understanding of the concept probably informed the significantly less attention given to it by the scientific community. However, with rising concerns about the human person, his uniqueness, preferences, and responsibilities, human autonomy became a discourse of modern philosophers attracting multidimensional and multidisciplinary implications. Beginning with John Stuart Mill's definitions of autonomy that have more to do with the human person and less with city-states surfaced in public writings and discourses. Though, Mills did not use the term autonomy, he nonetheless, argued for the concept of "self-determination". Mills broadly defined self-determination as the capacity to be one's own person, to live one's life according to reasons and motives that are taken as one's own and not the product of manipulative or distorted external forces (Christman, 2018). Mills conception of self-determination in the course of time formed the basis for the definition of autonomy by Self-Determination Theory (SDT) as a sense of

willingness and volition in acting. Under this perspective, autonomy involves acting in accordance with ones' goals and values.

The idea or notion of human autonomy which began to be formed under J S Mills, gained more clarity and popularity with Immanuel Kant (1724-1804). Kant was outstanding in his discussion on autonomy. In fact, he is credited to have lifted the concept completely out of political circumscriptions to refer to the quality of a person as a self-governing moral agent (Kleingeld, 2017). For Kant, who was deeply preoccupied with an a priori concept of rational autonomy, he conceived two important factors that must be considered before an action could be said to be autonomous. Firstly, the agent has to have certain relevant internal cognitive capacities that are necessary for self-governance. Secondly, the individual has to be free from external constraints.

The broadening of the frontiers of human or personal autonomy by Mills and Kant inspired other definitions from various academic disciplines. For example, Engelbrecht (2014) considered autonomy in the health sector as the manifestation of one's legal and mental capacity to understand and make an informed decision. Engelbrecht's definition fully incorporated Kant's distinctive features of autonomy; rationality and freedom. Hence, for a patient for example, to make certain decisions about medical procedures to be administered to him, the patient must possess the cognitive capacity and must not be under any form of duress. Where these faculties are inhibited, the right to make such medical decisions usually falls to the patient's kin. Similarly, in education, Babalola (2014) defined autonomy as the capacity of an individual or educational institution to make an informed, un-coerced decision by its own self; it is the state or condition of having independence or freedom to decide a course of action.

Contextually, human autonomy is the capacity for an individual as a rational being (homo rationis) to determine a course of action in full consciousness without interference from another party. It is the condition in which one is able to do things freely without coercion.

Artificial Intelligence in Education (AIIED)

As the discourse on the ubiquity of AI in modern society continues to gain publicity, its activities in education are undoubtedly a conundrum for educational philosophers and indeed all stakeholders in education. Arguably, education is the topmost priority of the modern society. Expectedly too, human and material resources are being committed into it because of the perceived opportunities it offers for society's all round development, most especially in the area of economy. As a major driver of national economic growth, modern education is witnessing unprecedented development and involvement of technologies in its operations in order to achieve set national objectives. These technologies are deployed not only to enhance quality education but to also produce the critical individuals that will be at the forefront of national economic development. Hence, from teaching, learning, assessment, and administration, AI is almost ubiquitous in education (Majeed, 2023).

Technologies, ideally, are deployed to institutions and industries not to cause distractions but to enhance efficiency and productivity. This is evident across numerous sectors, including pharmaceuticals, automotive, aviation, defense, and security, where AI technologies are effectively utilized. Education too, has embraced these advancements. In fact, a significant portion of educational activities currently going on globally as observed by Majeed (2023) are either partially or completely operated by AI. These technologies are providing invaluable support and direction, making educational activities and administration seamless and attractive. Few examples out of the wide spectrum of AI involvement in education are presented.

One of the most notable areas of AI application in education is personalization. Personalization according to Hattie (2021) involves adapting teaching methods to meet the individual needs, interests, and learning styles of students, thereby enhancing their engagement and achievement. This approach requires continuous assessment and adjustment of teaching strategies based on students' feedback, performance, and data tasks that can be daunting for human educators. In fact, many teachers and educational administrators consider personalization a major challenge. However, studies by Holmes, et al. (2021) revealed that AI is significantly alleviating this challenge. Separately, these authors observed that AI systems in education are comfortably adapting instructions based on students individual learning needs, strength and weaknesses.

Another area of AIs significant influence in education is the introduction of Intelligent Tutoring Systems (ITS). ITS represent a significant advancement in AI-driven education. Examples include Mathematics Tutor, e-Teacher, REALP, CIRCSIM-Tutor, Why2-Atlas, Smart-Tutor, and Auto-Tutor (Thakur, 2019). According to Lynch (2017), these technologies are revolutionizing lecture delivery by complementing human teachers and in some cases, these technologies take over certain instructional roles in E-learning environments. ITS do not only deliver lectures effectively; they are also equipped to extract feedback from students based on their responses to specific lecture content. This capability, as noted by Holmes, et al. (2021) enables educators to make targeted improvements to materials and teaching

methods. Additionally, AI systems are increasingly employed to conduct online assessments, compile results, and perform sophisticated data analysis with remarkable speed and accuracy.

Management and security of educational facilities are also receiving significant boost through the application of Artificial Intelligence technologies. As observed by Lynch (2017), AI systems are extensively utilized in these areas. Here, these technologies can pre-emptively identify and alert management to potential issues within educational infrastructures. For example, surveillance systems are built to detect unusual behaviour and movements in and around educational infrastructures and promptly provide real-time alerts for possible security attention. Furthermore, AI technologies have been seen to be highly efficient in monitoring and controlling building systems such as: lighting, heating, and cooling appliances, thereby optimizing energy use and maintaining comfort. Many educational institutions currently are utilizing facial, voice and fingerprint recognition devices to track attendance, reducing manual entry errors and improving time management. Without equivocation, AI is significantly changing the landscape of contemporary education system.

Artificial Intelligence and Human Autonomy in Education: Major Concerns

There is no doubt that artificial intelligence is significantly and positively affecting the educational landscape of the modern society. Stakeholders in education have come to agree especially, in the wake of covid-19 pandemic, that AI technologies are now integral part of education process (Sayad, et al. 2021). Learning management systems, transcription of faculty lectures, enhanced online classes and board discussions, analysis of students' success metrics, academic research, plagiarism

detection, and examination integrity have become strongly guaranteed and possible for the convenience of teachers, students and administrators curtsy of AI technologies. While the prospects of AI in education seem to be too numerous to quantify, there are plausible causes for worry.

Foremost to voice out concerns on AI overriding presence were Stephen Hawking, a renowned physicist and Elon Musk an entrepreneur and innovator. These separately expressed general fears in the rising role of AI in organizations and individuals. These duos maintained that with the perceived dominance of AI in human institutions, chances are high that AI will be out of control for humans when it reaches its advanced level (Shoham, et al. 2018). To be more specific, Ahmad, et al. (2023) investigated the impact of artificial intelligence AI on loss in decision-making, laziness, and privacy concerns among university students in Pakistan and China. The specific objectives of the investigation are critical aspects of human autonomy. Unsurprisingly, the investigation revealed that AI significantly impacted on human decision-making in education and contributed to laziness among students. The result also showed that students security and privacy were greatly compromised by AI. This result therefore, falls in line with Danaher (2018) who had earlier faulted the unmitigated AI superimposition of itself in human autonomous role, replacing human choices with its choices, and making humans lazy in various walks of life.

Further investigations by Sebastian and Sebastian (2021) revealed that AI technology involvement in the strategic decision-making processes in human institutions increased astronomically from 10% to 80% in the last five years. While this may be a positive development, there are unintended consequences to human autonomy especially in education. For

example, the limitation and substitution of human role in decision-making by AI has been found to critically affect such human mental capabilities as; intuitive analysis, critical thinking, and creative problem-solving. It further undermines human responsibilities, leading to a knock-out effect on happiness and fulfilment.

There are also major concerns surrounding the collection and management of personal data in education. Zuboff (2019), for example, investigated broader perspectives on how technology companies are commoditizing and exploiting personal data. Within education particularly, the author noted with concern the increasing likelihood of AI systems exploiting students' data for economic gains or behavioural manipulation rather than enhancing learning. Accenting further to the challenges of AI in data collection and management, Selwyn (2014) argued that unethical use of AI leads to data-driven decision-making that undermines educational values and privacy.

Search for Equilibrium
Granted that education globally is witnessing a preponderance of artificial intelligence activities with remarkable capabilities, the fact remains that human presence and autonomy in education is indispensable. This is because within the educational community framework the human actors engage themselves in live academic discussions and activities that underscore critical consciousness, analytic capabilities and emotional connection. These aspects and other critical areas already highlighted in preceding discussions are spotlights where AI tends to infringe and supplant human autonomy. While this infringement is pronounced and regrettable, the search for equilibrium between these two critical components of educational process remains paramount. Maintenance of equilibrium between AI

and human autonomy involves several key strategies.

The first strategy is the need to define the scope of AI in educational activities. There needs to be a clear job definition and delineation of specific goals for AI before it is integrated into education activities. The works of Baker (2010) is very lucid on this and have contributed enormously in defining the framework of AI in education, thus ensuring that AI supports rather than replaces human input. AI is a human fabrication and executes specific instructions such as assigned to it. Therefore, if clear objectives are set and the framework of operations defined, sensitive areas of human autonomy within education will be protected.

The second strategy is to ensure that humans still supervise and control educational processes. All stakeholders in education must see to it that there is human oversight of educational processes. Traditional education system has always been a human cantered activity. Within this framework, humans interact with each other as educators and learners. The end result of this interaction is the conscious acceptance of the capabilities as well as limitations of the human actors in education and a gentle but firm invitation to growth. In view of this, Selwyn (2014) advocated for a cautious approach while integrating AI into education insisting for a human oversight of education to ensure that technology complement rather than take over educational processes. This implies that human cantered approach to education should be encouraged where AI technology only plays the supporting role rather than overshadow human elements of teaching and learning.

The third strategy is the conjuration for transparency in information management and use. Transparency in the use of AI technology in education and ethical best

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practices in data collection is a critical step towards maintaining a healthy synergy between AI and human autonomy. Luckin (2018) for instance has been very consistent in the call for transparency in the implementation of AI technologies in education. In part, she advocated for a clear understanding of how AI collect and use personal data. Likewise, Selwyn (2014) has solicited for the protection of students right to privacy and ethical use of personal data by AI technologies. These are in line with the opinion of Zuboff (2019) who had earlier raised alarm on the activities of some of the technology companies who commoditize and exploit personal data in education for economic gains or behavioural manipulation rather than enhancing learning. Therefore, AI systems must be made to be transparent in their operations so as to allow educators and students understand how decisions concerning them are made and how their personal data is collected and used.

The fourth strategy proposed here is ongoing training and professional development of educators. With the rapid development and use of technologies in almost every sector of life, there is need to train and retrain personnel to accept the inevitable changes that will occur. In education particularly, calls have gone out for the training and retraining of educators to adapt to these technological changes, including AI, to enhance their pedagogical strategies. Selwyn (2014), for example, lamented the insufficient training being offered educators on AI services in education. He endorsed the proposal for a comprehensive and ongoing professional development of educators on the use of AI tools, ensuring they align with educational goals and avoid potential challenges being addressed in this work. The ongoing training of educators will ensure that they can effectively utilize AI in the classroom while maintaining their traditional role as guide and mentors to students.

In addition, students are to be encouraged to see AI technologies as support tools. Educators are to deemphasize students' overreliance on AI for studies and assignments as that will hamper their power of critical thinking and resourcefulness.

Finally, there is need for regular assessment of the impact of AI on educational goals and human roles. By implementing these strategies, AI can enhance educational experiences while preserving the essential role of human autonomy in learning.

Conclusion

Artificial Intelligence is a monumental breakthrough in the search for man's social and economic well-being and convenience. As a machine, AI has displayed capabilities of executing tasks short of man due to certain inadequacies with breath-taking speed and accuracy. The transformations brought about by the use of AI in human institutions and activities especially, in education are too numerous to be captured all in this work. At the same time there are legitimate fears that AI as man's creation possesses such capabilities to become man's own nemesis if left unguarded. Human autonomy is one of those areas in education where AI is deemed to be infringing upon. This work has highlighted the possible benefits of AI in education, its challenges to human autonomy with recommendations on how to build a synergy between AI and human autonomy for greater efficiency in educational processes and activities.

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