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NEW APPROACHES IN TEACHING AND LEARNING

Abstract

The presented paper explored the possibilities of integrating generative AI in learning theories and in higher educational frameworks. Based on the results of a perspective-oriented discussion, main benefits of AI application were identified: an opportunity to create adaptive learning environments, personalized feedback, upgrade research and data analysis capacities, perform routine administrative tasks automatically, and use innovative assessment methods. Two proposals developed during the synthesis concern AI literacy for teachers and students and the lack of reliability of the information processed by AI systems. Both advantages and obstacles, evaluated critically in the current paper, suggest that AI tool may significantly improve the educational sphere of higher education if managed properly.

Keywords: AI, New Approaches, Learning Theories, Diagnosing, Decomposing, and Reframing model, EAP, DPI.

Introduction

Utilizing artificial intelligence (AI) is a significant move in the evolution of higher education as schools and universities drift towards digital learning settings. AI contributes to improving education functioning in fundamental ways. This paper seeks to examine how AI is revolutionizing and transforming higher education specifically on independent learning methods, educational policy, and long-run problems in teaching and evaluation. AI implementation is based on the main theories and concepts concerning learning, including behaviorism, cognitivism, and Constructivism. The mentioned theories play a crucial role in students' active participation in educational processes as AI makes learning programs flexible and adjusts them to existing students' rigors.

According to educational theory historical perspectives, the system merging between connectionist learning models and the principal concern of artificial neural networks confides a sturdy schooling ideology to which the mollified might approach this example. As Evers states (2000), the "educational extensions", therefore, related to AI based on technological developments cogency's implementation pivotal tools in promoting comprehending frameworks as well as the redistribution of school "know-how skills" (Grubaugh, Levitt, & Deever, 2023). Furthermore, the AI based on the organized intellectually constructed education, which enables the anchorage of artificial intelligence to traditional discoursing. AI-based on the organized intellectually constructed education, which enables the anchorage of artificial intelligence to traditional discoursing. Furthermore, AI in education, allied to this a revolutionary idea s, also can better AI through requisite learning, such as messages about learners' world-founding exile's active things shaping how they see it as the cognizant interaction which means that constructivism and cognitivism are vital when determining the influence of AI on education. AI paradigms the constructivist erudition provisions when extending it can provide learners with custom feedback that profound their comprehending in that that their practice is mentally engaging (Grubaugh, et al., 2023). AI also assists in the cognitivist zone in which it permits teachers to process extensive data elements to indicate imitates originated in that data then accordingly creating foreign information promotion that attains their comprehending length and processing discernments (Baker & Smith, 2019). And

transformative theory can help students who may agree to doubtfully reconsider the suggested ideas (Anderson & Dron, 2021).

One of the fundamental shifts that AI integration into the educational sector has entailed is the development of individual tools with educational trajectories, including AI tutors and adaptive learning systems, that contribute to the learner-centered educational paradigm (Zawacki-Richter et al., 2019). Specifically, these shifts entail the capacity for instant adjustment to individual students and activities, facilitating the combination of enhanced learner engagement and instant adjustability of the educational experience and the associated learning outcomes (Baker & Smith, 2019). Overall, AI integration into the novel educational paradigm, particularly in the online and hybrid educational models, has significantly increased the range of available educational opportunities, making education substantially more interactive and flexible (Li & Ma, 2020). However, as Weller et al., (2020) and Acar (2023) pointed out that the AI implementation in the educational sector remits challenges concerning data privacy and the digital divide. In this way, the AI educational phenomenon appears to be two-faced and necessitates continued research specifically aimed at coordinating its implications. An essential component of any educational or professional domain is the process of problem formulation, as it predicates the efficiency of the associated solutions; as Acar suggested, AI-related tools enable students to articulate and reformulate problems by decomposing the overarching issue.

Diagnosis means it is to find the root of a problem and lay bases for sustainable solutions. Decomposition means to break down the problem into smaller, more manageable pieces. Reframing means the shift in perspective toward a problem in a creative manner to come up with new, innovative solutions. This, therefore, makes the approach of problem-solving in teaching English for Academic Purposes (EAP) and Developing Professional Identity (DPI) a substantial assistance to university students. The Diagnosing, Decomposing, and Reframing (DDR) approach is hence illustrative in this hypothetical classroom situation.

Discussion: Showcases in EAP and DPI

First, identify major root challenges students are having in handling academic English; these may include issues related to academic writing, reading, or conventions of academic discourse. Then it can be an AI-driven diagnostic test that can assess the individual needs of students. It may attempt to determine specified areas of problems—for example, deficiencies in vocabulary, grammatical accuracy, coherence in writing. From here, these can be decomposed into smaller, targeted learning objectives by an instructor. For example, when a student has a problem even with the structure of the essay, the exercise may be made simpler with keen emphasis on how to understand the thesis statement, topic statements, and supporting arguments. Personalized learning platforms then serve up exercises targeting each of these, offering practice and feedback at every level. Finally, reframing these into opportunities for growth comes on the stage. In other words, this may suggest a change in the attitude of the student towards the problem, making him/her see that academic English is by no means a certain set of rules which constrains, but rather a tool for developing complex ideas, elaborating on the possibility of college debate art. In this perspective, through AI, it is made possible to trigger into an authentic academic scenario applied to real life, like debates, research groups, and so on, all of them in a virtual space, so that the student develops his or her creative and critical use of the language. Showcase one involves a teacher of EAP at the university who provides the following steps: at the commencement of the semester, students undertake a diagnostic test, using AI for assessing the places where strengths and weaknesses were potentially found within academic English. Afterward, the teacher, working with the data produced by the tests, develops for each of the students an individualized study plan. For instance, an average student weak in writing argumentative essays would practice AI-driven exercises on developing and arguing a thesis, counterarguments. The instructor sets up an academic conference in an AI environment where the entire class is supposed to present their essays rather than give traditional lectures, get AI feedback reflected as continuous comments in real-time over their use of academic language and arguments. This will enable them to look at EAP not only as a part of academic coursework but actually as quite a useful practical skill set for their life after studies. In the light of these, when a problem-based approach integrates with AI tools in EAP education, it may enhance the student's

learning experience since it becomes more personalized, focused, and relevant toward becoming a member of his/her academic and professional life.

In showcase two, this phase looks into how this aspect of the module of Developing Professional Identity is learned. This scenario takes into consideration the DDR model but instead is contextualized towards these learning theories: when Diagnosing, Decomposing, and Reframing to solving problems, it can greatly enhance the process of development and learning and be better integrated with learning theories such as Constructivism, Behaviorism, and Cognitivism. For instance, since the integration would increase the student's internalization of what actually should be their roles and responsibilities as an emerging professional. Therefore, this step should diagnose where the student is in their process of professional identity formation. Educators can also use AI-driven diagnostic assessment tools to find the current perception and understanding of students with regard to their future profession. This diagnosis may indicate the following: lack of knowledge, misunderstanding of the profession, or dissonance with the professional values. The stage is such that, according to constructivist principles, students can be exposed to their existing knowledge and beliefs while an opportunity for them to recognize further growth or changes is also provided. For instance, the tool can be used to assess a class of nursing students' understanding of the patient care principles. AI can diagnose general problems: for instance, the student knows the procedures on caring for the patient but does not appreciate the empathetic approach lying underneath, which is a must for a nurse to be professional. Decomposing the term "professional identity" that is, explaining it in terms of its smaller constituents. Control believes that learners have the ability to process information in chunks, which is especially useful in complex tasks like developing professional identity. A breakdown of the disciplines in nursing would separate technical skills, ethical reasoning, interpersonal skills, and self-care. AI could influence this through learning modules made for each part, hence encouraging a more intricate approach to learning.

Namely, the application of an AI platform in which the students of themselves while putting themselves in challenging situations relating to the different components of professional identity. One such interaction could be with a virtual patient and the

nursing student's use of their empathetic communication, clinical reasoning, and decision-making reasoning process, as well as their ethical reasoning and understanding of clinical knowledge. From the reframing of professional identity, the same reframed the learners of the same to them that it was to be reflected by themselves with the professional norms, standards of behaviors, and even the ethics associated with the field. The reframing is closely associated with the behaviorist perspective, where learning is changed by the surroundings through reinforces. For example, the role-play simulations provided by the AI tools, which gave the learners real-time feedback on their performance. This feedback would act upon the learners as a reinforcement measure that would reinforce the correct understanding of the same, or, where there is a misinterpretation, it would make the learners adapt to the same. Along this line, the examples have been fitted so as to view in the context of the theories of learning in the best way of learning through the same. For example, the law program would best utilize the constructivist approach, in which the learners can build up a case study collaboratively and interact with an AI-driven legal database. This would, through reflection, and their active interaction build for them, a professional identity in the field of law. Further still, the application could be that of an AI program, which has been built within a behaviorist approach. This would reinforce learners for their correct ethical decision-making in the presence of systems of rewards after pursuing a course in engineering ethics. This would make the learners align themselves more with the professional standards of their professional.

Finally, speaking about cognitivism, how much can an AI application help the learning process of a student of finance and economics? In fact, it sounds too difficult. However, in reality, the application can help to see the way of approaching myriads of complicated and sophisticated financial data, enhancing the understanding of economic theories and financial models. Therefore, the future economist or financial analyst can understand his future duties criminalist better, a mix of multiple economic indicators, market trends and financial statements to make the right decisions. For example, a learner can use an AI platform. The application can include some useful features – interactive statistics graphics, comparing talking historical information, and predicting models – to help the student form and make predictions about the market behavior, which will lead to independent determination and development of patterns

in decision-making about future financial positions. This simple example shows the great future of higher education of AI is creating a completely new education environment. During this paper's development, we have learned a lot of details about AI integration in educational technologies – support in personalized ease of learning through adaptive strategies and in ethical questions concerning human interaction subtleties in a digital learning form on the heads. Therefore, the role of AI is to create an more group for learning opportunities, a learning landscape responsive to a particular case, with possibilities according to an educational approach, making learning more open.

Nevertheless, the way for AI in education has just been paved by the practitioners. While rapid technological change offers new opportunities, it also poses serious threats. However, it is clear that additional research is needed. First of all, it does not seem possible to visualize very clearly that the ultimate arch would be harmed in the long run. There are simply too many unknowns and knowledge collecting needs to be done. The way the most essential needs would be better understood is with very systematic research about how exactly are these technologies used to advance the educational goal. Data privacy and security remain major concerns, and it should be a concern that must be kept vigilant by educators and those they educate. There is also the area of developing inclusive AI systems, which bridges the gap so that the winnings of technological advancement are available to everyone. Again, the process must happen exactly like this as educators and learners' needs remain up-to-date, and so should these supporting technologies. It is meant to be a process as it is essential to restate a disparity in learning experiences that are most social, most effective, and more available to attain the full potential of AI.

Thus, the use of AI in higher education presents an opportunity to revolutionize the field of learning. Through utilizing the capabilities AI provides, while also addressing its challenges with caution and insight, an inspiring and ethical pathway for the use of AI in education is possible. The path to achieving this goal is exciting and, at times, daunting. Therefore, it is essential to unite educators, technologists, and policymakers in the collaborative effort to harness the potential of AI in the domain of education. The case study illustrates evidently the incorporation of AI in higher education, not

only as a technology but also as a means through which pedagogies can advance. The understanding of the art of problem formulation is essential for all parties involved to realize the best that the AI technologies have to offer at any given learning experience. Moreover, its application transcends the impact it has on an individual and reflects the relevance of AI in developing the twenty first century academic and professional skills. The facets it embraces do not only enhance the understanding and desire to pursue the topics by students.

Conclusion

Lastly, speaking about cognitivism, how critical does an AI application help the learning session of a finance and economics student? Actually, it seems as well difficult. Rather, the application may help to reveal the appropriate method to access billions of intricate and important economic information, understand economic theories and economic models. Subsequently, the future economist or financial analyst might comprehend their future responsibilities, criminalist best, combine multiple revenue indicators, market-movements, and financial statements to render decisions from accurate, a blend of numerous data. Following, a student might operate an AL platform, with factual variations in stock markets that one can visualize and harness, for instance, how economic instances influencing market positions. The AL – application includes links – interactive statistic graphics, multiple historical evidence into becoming charts and forecasting models – to help facilitate the student tutorial and is possible to answer on what market work model, producing independent recognition and improvement patterns in considering future financial posture. The basic version this way discovers the promising prospect of higher study and AI is creating a noticeably new educational environment. While developing this paper is fetching, we have discovered more elements around AI synthesis in educational technologies – sustenance in personalized human learning cooperation by many personalized strategies and human interaction essence in digital learning forms. Accordingly, the role in AI is to facilitate a broader spectrum of learning, a learning sphere that reacts to the specialized case in hand, by beneficial outcomes according to the educational approach, as shown. Nevertheless, the path for AI in information is barely an opening by actors. Rapid technological variation may prove new opportunities but additionally major threats. Nevertheless, it is obvious that additional

research is needed, as It is very challenging to see perfectly how students are ultimately deprived anywhere in the lay long-term. There are ample unknowns and learning remains. The method the barely essential problems will the better recognized are with systematic shows exactly how are these technologies being used to develop educational scholarships. Privacy and security are still major oppressions due to the disturbing factors, and it remains a task that worthy of educators' vigilance. It is proposed to be a developing process because there is a true regular shift in technological utilization prevailing assigned to execute a culture with education grounded to guarantee that the more useful, more efficient, and many open to do get the total impact of AI.

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