Showcases of Innovative Applications in Teaching Translation

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Abstract: The adoption of Artificial Intelligence (AI) in educational environments signifies a juncture change to the digital mode of learning within higher education. This paper investigates the functioning effects of integrating AI technologies within higher education, which include a focus on having a personalized interface and experience as well as a way of enhancing pedagogy and addressing learning and assessment-based challenges. The analysis of drastic learning theories including behaviorism, cognitivism, and constructivism reveals their fundamental role that AI plays for their integration in education and educational practices. Also, revelations about transformational education and knowledge creation show how AI has a vital role to play for these processes. Given the above, the present article is designed to conduct a critical analysis of the implications of AI integration in the translation classes at the Department of Translation Studies and Comparative Linguistics at the National University of Uzbekistan from foundational theories perspective and develop an efficient translation teaching course strategy. Therefore, the paper presents the opportunities for implementing AI in the teaching translation classroom checked by the principles of constructivism, behaviorism, and cognitivism to enhance language learning.

1 INTRODUCTION

The appropriateness of Artificial Intelligence (AI) in learning environment, AI in education, marks the next significant move in the growth horizon of higher education. The provisions, which hint at a further shift towards digital learning environments, are presenting more and more perspectives that could be beneficial to educational delivery. In this paper, the main focus is on how AI, or its subsets, will transit higher education through ideas for self-learning, education policy, and long-standing issues to instruction and university assessment. It is in the traditional learning theories like behaviourism, constructivism, cognitivism that the application of Artificial Intelligence in instruction can be founded. Patterned from the perspective of the learner with each theory, they describe the student's role in their learning process. There is an essential history of the roles learning theories of connectionist instruction in Artificial Intelligence and substantial perspectives gained from learning theories concerning the connectionist instructions. Technological evolution is closely related to pedagogical innovation, as we have observed before. Integral to knowledge teaching and learning processes, therefore, a university assessment is at the forefront of the essential these ideas. Most obviously, Artificial Intelligence can be founded in theory on traditional education that integrates learning. Learning involves several basic theories. Firstly, there is constructivism. A perspective on Artificial Intelligence that describes it as a conscious entity, constructs the learner's world and awareness. From their experiences, learners make aware decisions. The assistance can be provided mainly to enhance constructivist learning by giving learners information on their understanding.

Another useful theory is cognitivism, which focuses on cognitive processes, especially the role of intelligence, memory, knowledge, and problem-solving in thinking. (Ertmer and Newby, 2013) Cognitivism also helps to explore the role of AI in

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such complex cognitive processes. Firstly, AI can process large amounts of data and establish patterns and ideas that assist in creating learning content based on the cognitive processes of understanding and remembering. Secondly, it can be utilized in creating simulations and models that help learners develop excellent problem-solving skills. Transformative learning theory may also offer a profound understanding of AI integration in higher education as it is about fully changing one's frame of reference. (Gruetzemacher and Whittlestone, 2022) With AI, learners from various parts of the globe get access to unlimited resources and a wide range of perspectives that enable them to reflect critically on their ideas and values. It is essential because knowledge is created through questioning and expanding what people believe and accept as true from a young age. AI plays a critical role in supporting knowledge creation processes in higher education. The use of AI assists in aggregating and analyzing different information, making learning fun, and enabling it to promote for new knowledge and ideas. It also facilitates the building of a collaborative and inquiry-based learning where the students interact through dialogs and come up with new ideas. The achievement and integration of AI in learning fit into the traditional learning theories. However, their relation and integration help develop the traditional learning theories to new levels to grow as technology grows. Thus, AI's contribution to learning has helped develop learners' quality of knowledge and access levels at the higher level.

A Student - Centered Approach to Learning

Student engagement, personalized learning pathways, and adapted learning approaches – overwhelmingly effective with the help of AI technologies – are the areas prompting the learning-centered approach in higher education. This means that the new teaching approach needs to make students much more independent within the educational process itself, which will, at the same time, be much more oriented to the needs, wishes, and goals of students. The AI tools and platforms can become self-directed and independent in that they study student learning patterns to give recommendations, adjust learning courses, and change support where necessary, all in an effort to enhance learning outcomes together with experience (Zawacki-Richter et al., 2019). This use of AI is surely leading to a pedagogy approach, nature of student-centered, since it increases substantially the autonomy of the learners over the learning pathways. Being analytics-driven guarantees the way of providing possibilities for the adjustment of the learning content, pacing, and even way of conducting learning activities in real-time. This is where adaptivity comes in: AI can learn through monitoring both the learner profile and his performance information in order to be able to uniquely tailor each learning experience to achieve the highest possible engagement and understanding (Baker and Smith, 2019).

Evaluating Current Learning Opportunities

This part of the spectrum is one of the most important frontiers that higher education has been reaping benefits from using AI to increase learning opportunities, especially in cases where it is adopted by online and hybrid models. These kind of learning opportunities have developed a trend to this era of education, which is that dimensionally interactive and individually customized to open the field to the student, and not vice versa. AI can be noticed to afford personalized learning environments, AI-powered tutors, and chatbots that present direct instant feedback to students free of charge. This coupled element has the potential of enhancing the above but has to be counter-weighed with potential risks. Numerous studies claim AI can present learning outcomes developments holistically. According to the research by Li and Ma (2020), the proposition that the fields of AI can improve student engagement and accordingly retention integration, therefore, "when students have adaptive learning systems, they are more than willing to stay around longer. Several positive developments associated with AI that can be positively be linked with learning achievement through formative assessment and feedback" (He et al., 2020). The domain of the human factor in education comes with bigger challenges to the respective domains of privacy of data and that of the digital divide (Weller et al., 2020). This scope only outlines the human-centric approach over AI and, consequently, the risks of the external threats to private information should then more or less be considered destructively. The dualism of AI represents more critical sophistication in the usage of form in the later application for AI to learn. A point that also needs to be noted is the fact that the research intersubjectivity in the field found much more research still needs to be executed on the matter, because the dialogue on the integration will stay open and cannot be limited, given the complexities of the field. This is also undoubtedly true for the context in question since Acar (2023) approaches the formulation angle of using the education AI method, clearly bringing out how emphasis on precise problem formulation becomes the prerequisite to problem acquisition. There is a critical underemphasizing when hiring an AI tool to frame a

concrete usage phase for the development of active direction of learning opportunities.

2 PROBLEM FORMULATION

Acar (2023) in the Harvard Business Review, points out that many times, at the level of learning contexts or professional fields, the core of many problems is not the lack of solution but poorly comprehended problems before attacking it. Problem formulation is defined as the capability of a person to recognize, analyze, and delineate problems clearly. This is considered a weak point across the world, and it identifies an important area of development in educational environments. He illustrates a common problem for students in the definition phase: Students are likely to have difficulties coming to grips with what questions they could possibly ask regarding the topic that has been given. He points out that herein lies a place where generative AI tools will greatly assist the student in critically appraising their research problem. Here, the example of how ChatGPT can be used, through problem decomposition in essay questions, students might get the key concepts and interrelations by utilizing AI. The following is the description suggested by Acar (2023). This process involves (**Figure 1**):

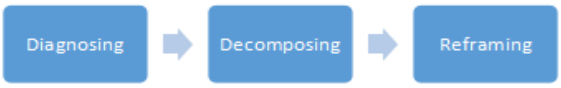

Figure 1: AI implementation stages.

Diagnosis means 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 appropriate to be implemented in teaching English translation course to students of the National University in Tashkent, which will allow teachers to make the process easier and more practical. The Diagnosing, Decomposing, and Reframing (DDR) approach is hence illustrative in this classroom situations.

Constructivism and AI in Translation Education Constructivist learning theory argues that that learner constructs information from experiences and reflections. Thus, in the context of the translation course, AI can improve learners' experiences since it creates an interactive platform for learners to play with the available text can range from legislation to fiction. For instance, during translation, AI tools can enable learners to input translated words, sentences and even paragraphs; then the AI system will compare the translation with a plethora of professional translated databases and then the feedback is given. In this case, students are prepared to engage in reflect for thought and play with the complex and contextual nature of language in learned examples. It helps them understand how an effective translation is done. Behaviorism and AI-Driven Repetition Behaviorism asserts learning as a product of repetition and reinforcement. Indeed, an AI tool language earning applications with spaced repetitive algorithms may suit the translation course well to support students in learning and retrieving various target languages vocabulary terms and popular idioms. AI would then present translation quizzes at optimal intervals to solidify the translation vocabulary. For this case, the accurate translations can be positively reinforced by immediate feedback while the inaccurate translations are presented back to students to correct the word selection until the habit is formed. As regards cognitivism, here it focuses on the processing involved in language. To process the statements made, we would assume that one requires language that is "cognitive enough" in context and familiar to the culture they come from and questions that require some exercises that are otherwise given in this translation AI application. Some of the tasks that the AI applicable would have been challenging include the translation of idiomatic expression and cultural reference; hence one is required to think critically of how to proceed with this assignment to get the right translation. The AI is to control the task such that it adjusts to a point where it becomes cognitive enough according to the learner.

3 STUDENT-INFORMED TRANSLATION SIMULATION

Students work with a text presentation AI to translate texts across domains. The AI interacts with students, offering instantaneous advice and corrections during translation as the social practice of the tool, providing learners with a "learning by doing" experience.

Vocabulary practice through a series of drills: Students get a series of daily drills in the morning according to their levels and the amount they need to have caught up. Spaced repetition enables the students to have long-term memory of the translation-specific words.

Another variant to use simulations in the classroom is to exploit different Computer-Assisted Tools (CATs), which further graduates may use in their real-life situations. Here are some simulation programs and platforms commonly used training and simulating tasks:

1.SDL Trados Studio. This is a popular CAT that also offers features translation memory, terminology management, and project management. It is widely used in the industry and often integrated into translation training programs.

2. MemoQ. MemoQ is another CAT tool that provides a platform for translation memory, terminology management, and collaborative translation projects. It is used in professional settings and is also incorporated into translation education and simulation programs.

3. Wordfast. Wordfast is a suite of translation tools that includes Wordfast Classic, Pro, and Anywhere. These tools are utilized for different types of translation projects and are also used in educational programs for training and simulation purposes.

4. OmegaT. OmegaT is a free and open-source translation memory application that is also utilized in training programs and educational settings for simulating translation tasks.

5. Across. Across is a language translation software providing a range of translation management tools. It is used in professional settings and is also integrated into translation education for simulation and training purposes.

6. XTM Cloud. XTM Cloud is a web-based translation management system with features for translation memory, terminology management, and project management. It is used both in professional translation and incorporated into translation training programs.

These programs and platforms are commonly utilized in both professional and educational settings to provide students with hands-on experience and simulation of real-world translation tasks. They help to bridge the gap between theoretical knowledge and practical application in the field of translation.

In our showcase we used OmegaT CAT in order to create a real-life environment for collaborative translation, which also provided good opportunities for students to make own conclusions regarding advantages and disadvantages of this tool. Therefore, learners become not only passive performers of the provided instructions, but mostly make their own decisions and come to the conclusions independently.

4 COLLABORATION WITH PEERS

Furthermore, students collaborate with peers throughout the program in projects such as finding and sharing AI resources, collaborative translation where they get group feedback from the AI system, and building a learning environment in which they use constructive learning. Therefore, throughout the course, teaching involves AI is not merely a backing process with interaction and customization; it matches the theoretical foundation for which kids can learn best. It could be a very useful aid to the successful education of competent translators; it promotes the cognitive, behavioral, and constructivist learning of the translation skills through AI so that the challengers of the profession can be faced multi-dimensionally. During this paper's development, we have learned a lot of details about Al 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 Al is to create more opportunities for group learning, a learning landscape responsive to a particular case, with possibilities according to an educational approach, making learning more open and affordable.

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 be 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.

Therefore, 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. Moreover, 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 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.

5 CONCLUSION

In conclusion, integrating AI into higher education demonstrates the potential to reshape the learning terrain. Realizing the full promise of AI without falling into its pitfalls, in a wise, forward-looking, and accountable manner, may well open direct opportunities to the future where technology helps harness both transformational and ethical learning. In other words, the developing story tempts with a trajectory so labyrinthine it will need the joint efforts of educators, technologists, and policymakers if the transformative potential of AI for the future of learning is to be fully realized. The first one: this case study will indicate that the integration of AI in institutions of higher learning does not stop at yet another technology tool in assisting to solve the pedagogical problem but that it acts as a catalyst for the pedagogical revolution. The case study has also addressed the need for educators to understand the problem at an elementary level if they have to realize AI's maximum benefits to learning spheres. Finally, the present case study implies the breadth to which the individual experiences of learning were given prominence instead of the breadth to which applications of AI in the development of academic and professional training competencies were covered. This not only gets students into and participating with what can often be somewhat dry research topics but also shows how AI is transforming the world of learning. This kind of penetration into the material with AI assistance in the identification of the problem will develop the students' thinking level and capability of problem-solving at a far higher or elevated level than it would have developed for them simply by reading the material.

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