

LANGUAGE CREATIVITY WITH REFERENCE TO ARTIFICIAL INTELLIGENCE IN EDUCATIONAL INSTITUTIONS, A REVIEW PAPER

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Abstract-The paper begins by discussing the concept of language creativity and the role it plays in language learning and teaching. It then provides an overview of the current state of AI technologies and their potential applications in language learning and teaching. Overall, the review paper concludes that AI has the both negative and positive potential to enhance language creativity in educational institutions. However, it is important to approach the use of AI with caution and to carefully consider the benefits and challenges from the perspectives of both students and teachers. Ultimately, the successful integration of AI into language learning and teaching will require collaboration between human educators and AI technologies.

Index Terms- Artificial Intelligence (AI), Language Creativity

I. Introduction

Creativity is a multidimensional concept that has attracted the attention of researchers from various fields of study, including psychology, education, business, and the arts. The study of creativity has focused on understanding the cognitive and behavioural processes involved in creative thinking, and on identifying factors that contribute to creative performance. Artificial Intelligence (AI) has made tremendous progress in recent years and has become a crucial part of our daily lives. From virtual personal assistants to language translation tools, AI has revolutionised the way we interact with technology. However, as much as AI has the potential to simplify our lives, there are also several negative aspects that need to be considered. In particular, AI tools have had a significant impact on language creativity, which this article will explore. This paper strives to look at Language creativity and AI in Teacher- Student side perspectives in Educational institutions with a few research reviews.

I.1. Creativity

Researchers from a variety of disciplines, including psychology, education, business, and the arts, have been drawn to the multifaceted concept of creativity. Understanding the cognitive and behavioural processes involved in creative thinking as well as determining the variables that influence creative performance have been the main goals of research on creativity. With an emphasis on the cognitive, social, and organisational perspectives, the goal of this research paper is to give an in-depth analysis of theoretical frameworks on creativity.

The individual cognitive processes that contribute to creative thinking are emphasised by the cognitive viewpoint on creativity. According to this viewpoint, cognitive functions including perception, memory, attention, and problem-solving interact to produce creativity. The "cognitive model of creativity," put out by Finke, Ward, and Smith, is one of the most important hypotheses in the cognitive viewpoint (1992). This theory holds that creative thinking entails the development of fresh, innovative, and practical ideas. The approach highlights the value of conceptual blending, which makes it easier to combine ideas that were previously unconnected to create innovative combinations.

The social viewpoint on creativity places a strong emphasis on the contribution of social and cultural elements to original thought. According to this viewpoint, creativity comes from interactions between people and their social and cultural environments. Paulus and Nijstad's "social creativity model" is one of the most important social theories (2003). According to this paradigm, social elements like group diversity, social norms, and social identity have an impact on creative thinking. The concept places a strong emphasis on the value of group methods for stimulating creative thinking, such as brainstorming and social facilitation.

The organisational viewpoint on creativity places a strong emphasis on the contribution of organisational structures and processes to the development of creative thinking. According to this viewpoint, creativity arises as a result of interactions between people and the organisational setting in which they work. The "componential theory of creativity," put out by Amabile, is one of the most important organisational theories (1983). According to this hypothesis, task motivation, creativity-relevant processes, and domain-relevant skills all have an impact on creative thinking. The approach highlights the significance of developing a positive work environment that offers people the tools, independence, and acknowledgment they need to engage in creative thinking.

I.2. Creativity in Education

Creativity plays a crucial role in education by promoting innovation, problem-solving skills, and critical thinking. In a learning environment, creativity is the capacity to come up with novel and helpful concepts or solutions to issues. This is applicable to all academic fields, including the humanities, sciences, and arts. One of the key advantages of encouraging creativity in the classroom is that it makes pupils more interested and motivated in their studies. Students are more inclined to be inquisitive, explore novel concepts, and take chances when given opportunities to think creatively. This may result in increased self-assurance and a more enthusiastic outlook on learning. Also, creativity fosters the growth of crucial abilities including teamwork, flexibility, and communication. When students work on creative projects, they develop their ability to collaborate well, play several roles, and adjust to shifting situations.

These abilities are becoming more and more crucial in a world that is undergoing rapid change and where success depends on an individual's capacity for innovation and adaptation. Moreover, creativity encourages the ability to solve problems. Encouragement of creative thinking in students increases their likelihood of developing original answers to issues. They are better able to recognise issues and use their creativity to develop original, workable solutions.

II. Student Perspective

AI could reduce opportunities for students to engage in critical thinking and analysis, as they may rely on AI-generated responses rather than formulating their own ideas.

AI restricts kids' options for linguistic exploration and experimentation, which is one way it stifles their ability to be creative with language. Algorithms are used in AI-powered learning systems to anticipate students' learning requirements and offer individualised learning opportunities. While this may be useful in assisting kids in learning important ideas, it may also limit their exposure to novel linguistic concepts and difficulties. As a result, kids might grow unduly reliant on AI to provide them the "correct" answers, which would stifle their innate curiosity and linguistic development.

By limiting their exposure to other viewpoints and ideas, AI may also hinder pupils' ability to express themselves creatively through language. AI-driven learning systems frequently make use of data sets that are constrained in their scope and might not accurately reflect the whole spectrum of human experiences and viewpoints. As a result, pupils could only encounter a limited range of linguistic constructions and expressions, which could restrict their capacity for critical and inventive language use.

Moreover, rote memorization and standardised testing are frequently given precedence in AI-powered learning systems over language creativity and innovation. Instead of encouraging students to think creatively and innovatively with language, these systems frequently place an emphasis on pupils learning the language knowledge and skills that the system deems significant. As a result, some students could be exceptionally good at remembering grammatical rules and vocabulary but fall short in their ability to use critical thinking to apply such knowledge in authentic language contexts.

Moreover, the application of AI in education has the potential to exaggerate current linguistic biases and disparities. AI systems are only as objective as the data they are trained on, therefore if those data sets are biased or lacking in certain information, the systems will also be biased. As a result, AI-driven learning systems may maintain current linguistic biases and disparities, further limiting students' opportunities for linguistic innovation and creativity.

II.2. Teachers Perspectives

AI has the potential to automate many risks that are currently performed by teachers, such as grading papers and providing feedback. While this could save teachers' time.

Personalised Learning: One of the most significant benefits of AI is its ability to personalise learning. With the help of AI algorithms, teachers can create customised learning paths for each student based on their individual needs, strengths, and weaknesses. This way, students can engage, motivate, and be academic (Penuel et al., 2016).

AI-driven educational tools can give pupils fascinating, interactive learning opportunities. For instance, immersive learning environments that can keep students motivated and engaged can be made using gamification strategies and virtual reality. Gamification has been found in studies to greatly increase student engagement and learning results (Sailer et al., 2017).

Teachers can grade and evaluate student work more effectively with the aid of AI. Teachers can spend more time on higher-level duties like giving comments and creating instructional methods by automating regular grading tasks. According to studies, computerised grading can greatly shorten the grading process and be just as accurate as human grading (Dikli, 2003).

Intelligent teaching systems driven by AI can assist students in mastering difficult subjects by offering individualised, in-the-moment feedback and direction. These programmes employ algorithms to evaluate student performance and modify the speed and subject matter of the course accordingly. Intelligent tutoring systems can considerably enhance students' learning outcomes, according to studies (VanLehn, 2011).

AI can assist teachers in analysing massive volumes of data to understand more about the preferences, needs, and learning styles of their students. The development of curricula and teaching tactics can be enhanced with the help of this data. Data-driven insights have been shown in studies to dramatically improve student learning results (Papamitsiou & Economides, 2014).

Teachers can save time by using AI-powered educational tools to complete rote chores like lesson planning, grading, and assessment. This may free them up to concentrate on more challenging activities, including mentoring pupils and giving them individualised feedback. According to studies, time-saving features can greatly enhance teachers' job happiness and well-being (Kyriacou & Sutcliffe, 1978).

III. Discussion

The decrease in human contribution is one of the most important detrimental effects of AI tools on linguistic originality. By eliminating the need for human input, AI language technologies such as automatic translation software aim to make language processing simpler. Yet, as individuals rely more and more on AI programmes to complete tasks for them, this has also resulted in a decline in language originality. People may now rely on automatic translation software rather than translating documents themselves, for instance, which can result in a decline in language proficiency and inventiveness.

The fact that AI tools for linguistic innovation might be constrictive and limited is yet another drawback. AI language technologies can only translate or generate language that falls within the constraints they were built to work within. Due to the AI tool's inability to produce original and novel expressions, this may result in a decrease in language diversity and originality. By limiting creativity and diversity, AI language tools might reinforce pre-existing biases and stereotypes in language because they are only as good as the data they are trained on.

Moreover, the development of language may be negatively impacted by AI language tools. AI language tools may not be able to keep up with new advances and changes in language because they are made to function with already existent languages. Due to AI tools' inability to keep up with the evolution of language, this can lead to a lack of innovation and creativity in language. The shortcomings of AI tools in terms of language development are shown by the fact that Google Translate's automatic translation engine has received criticism for its failure to translate some slang idioms.

Also, the teaching of languages may suffer as a result of AI language tools. Language instruction may become less significant as individuals rely more and more on AI to complete their tasks as a result of the growing use of AI tools. As people become less engaged in the language process, this may result in a decline in language proficiency and inventiveness. Also, when the demand for

human language teachers declines as a result of AI language tools, there may be a loss of knowledge and competence in the field of language education.

The potential for disseminating false information is yet another significant drawback of AI tools for language creativity. While AI language tools are made to generate language based on current data, if that data is inaccurate, they may propagate false information. This can be particularly harmful when it comes to the distribution of news and information, as AI language tools may disseminate erroneous material to a broad audience, causing a decline in confidence in the veracity of the information.

IV. Conclusion

Personalised learning, improved student engagement, effective grading and evaluation, intelligent tutoring, data-driven insights, and time savings are a few ways that AI has the potential to alter teaching and learning experiences. It is critical to keep looking into how AI may be used in education and to make sure that it is applied in an ethical and responsible way. With the above discussions on different papers it is concluded that AI has both positive and negative effects in educational institutions especially in Language creativity.

V. References

1. Dikli, S. (2003). The nature of automated essay grading. *Educational Technology Research and Development*, 51(4), 5-20.
2. Kyriacou, C., & Sutcliffe, J. (1978). Teacher job satisfaction and motivation to teach. *Educational Studies*, 4(3), 265-278.
3. Papamitsiou, Z., & Economides, A. (2014). Learning analytics and educational data mining in practice: A systematic literature review of empirical evidence. *Educational Technology & Society*, 17(4), 49-64.
4. Penuel, W. R., Boscardin, C. K., Masyn, K., & Crawford, V. (2016). Teaching with data
5. Markman, A. B., & Gentner, D. (1997). Structure mapping in analogy and similarity. *American psychologist*, 52(1), 45-56.
6. Finke, R. A., Ward, T. B., & Smith, S. M. (1992). *Creative cognition: Theory, research, and applications*. MIT press.
7. Paulus, P. B., & Nijstad, B. A. (2003). *Group creativity: Innovation through collaboration*. Oxford University Press.
8. Florida, R. (2002). *The rise of the creative class: And how it's transforming work, leisure, community and everyday life*. Basic books
9. Amabile, T. M. (1983). The social psychology of creativity: A componential conceptualization. *Journal of personality and social psychology*, 45(2), 357-376.
10. Rogers, E. M. (1962). *Diffusion of innovations*. Free Press of Glencoe.
11. H. Kaji, "Impact of Artificial Intelligence on Human Creativity," *International Journal of Humanities and Social Science Research*, vol. 8, no. 5, 2018, pp. 141-148.
12. K. T. Ramesh, "The Impact of Artificial Intelligence on Language," *Journal of King Saud University - Computer and Information Sciences*, vol. 32, 2020, pp. 249-254.
13. M. Johnson, "The Effects of Automated Translation Tools on Second Language Learning," *The Modern Language Journal*, vol. 101, no. 4, 2017, pp. 689-703.
14. S. Z. Li, "The Impact of Artificial Intelligence on Language Learning," *Journal of Educational Technology Development and Exchange*, vol. 8, no. 1, 2015, pp. 1-14.
15. J. Ma and X. Zhang, "The Impact of Artificial Intelligence on the Translation Industry," *International Journal of Business and Management*, vol. 12, no. 12, 2017, pp. 16-24.
16. Beghetto, R. A. (2010). Creativity in the classroom. In J. C. Kaufman & R. J. Sternberg (Eds.), *The Cambridge handbook of creativity* (pp. 447-463). Cambridge University Press.
17. Craft, A. (2005). *Creativity in schools: Tensions and dilemmas*. Abingdon: Routledge.
18. Cropley, A. J. (2006). In praise of convergent thinking. *Creativity Research Journal*, 18(3), 391-404.
19. Csikszentmihalyi, M. (1996). *Creativity: Flow and the psychology of discovery and invention*. New York: Harper Perennial.
20. Robinson, K. (2001). *Out of our minds: Learning to be creative*. Oxford: Capstone.
21. Sawyer, R. K. (2011). *Explaining creativity: The science of human innovation*. Oxford: Oxford University Press.
22. Sternberg, R. J. (2006). The nature of creativity. *Creativity Research Journal*, 18(1), 87-98.

23. Zohar, A., & Dori, Y. J. (2003). Higher order thinking skills and low-achieving students: Are they mutually exclusive? *Journal of the Learning Sciences*, 12(2), 145-181.