ARTIFICIAL INTELLIGENCE BASED CHATBOTS USAGE IN RELATION TO LANGUAGE CREATIVITY OF PROSPECTIVE TEACHERS

Shikha Sharma*   Sapna Nanda**

ABSTRACT

The present study was designed to assess the relation of Artificial Intelligence based Chatbots usage and the Language Creativity of Prospective Teachers. Descriptive survey method was used. A sample of 60 prospective teachers studying in Government College of Education was selected. Test of Language Creativity by Malhotra and Kumari (2012) was used to assess the Language Creativity of prospective teachers. Self-developed Questionnaire was used to find the frequency of usage of Artificial Intelligence based Chatbots. Appropriate statistical tools were employed to analyse the results. Results of the study revealed that there is no statistically significant relation between Artificial Intelligence based Chatbots usage and Language Creativity of Prospective Teachers. Findings of this study suggest that integration of Artificial Intelligence based Chatbots in teaching-learning process can be helpful, if done ethically.

Keywords: Artificial Intelligence based Chatbots, Language Creativity and Prospective Teachers.

*M.Ed. Student, Government College of Education, Chandigarh

**Principal & Associate Professor, Government College of Education, Chandigarh

INTRODUCTION

In the fast-changing education environment of today, technology is a key to improving teaching and learning processes. For future teachers, incorporating technological tools, including Artificial Intelligence (AI)-driven applications, can encourage innovative pedagogical practices and enhance student engagement. Language, being a basic tool of instruction and communication, is also as important in the formation of effective teachers. The power to use language creatively allows instructors to clarify concepts, promote critical thinking, and respond to a variety of classroom needs. By using technology to develop

language capabilities, prospective educators can build more interactive, diverse, and efficient learning environments that equip students for the challenges of the 21st century.

Language creativity is the capacity for using language in new, imaginative, and significant ways to express ideas, feelings, and thoughts. It is essential in communication, literature, teaching, and social interactions since it enables people to transcend traditional language forms and develop new forms of expression (Carter, 2004).Chatbots frequently use natural language processing (NLP) technologies, which enable them to comprehend, create, and respond to human language in meaningful and context-dependent ways. Artificial Intelligence based chatbots, which are used to communicate with users in a rich, interactive conversation, can be instruments to augment linguistic intelligence. According to Shawar& Atwell (2007), AI-based chatbots are computer programs that interact with users using natural language processing (NLP) to simulate human-like conversations. ChatGPTwaslaunched by OpenAIin 2022.It is a large language model chatbot that can generate text, produce diverse creative content, and deliver informative answers to questions (Dergaa et al., 2023; Khademi, 2023; Rudolph et al., 2023).The findings of many studies have indicated the role of ChatGPT in enhancing student engagement and motivation (Yuan and Liu , 2025; Ebadi and Amini , 2024).Fathi et al. (2024) in English as a Foreign Language (EFL) learners' demonstrated the role of AI chatbots in improving the speaking skills and willingness to communicate through AI-mediated speaking activities.The major concern about the use of AI chatbots is augmenting knowledge acquisition at the expense of creativity and research . Mohamed (2024) noted the perceptions of EFL faculty regarding AI tools like ChatGPT and highlighted such concerns.ChatGPT is likely to enhance creativity as it is unlike some educational chatbots that rely on predefined scripts, It is capable of engaging in open-ended dialogue and adapting to various user inputs. Its adaptability allows it to write articles, stories, and poems, provide summaries, accommodate different perspectives, and even write and debug computer code, making it a valuable tool in educational settings (Baidoo-Anu&OwusuAnsah, 2023; Tate et al., 2023; Williams, 2023).The training of prospective teachers includes learning about educational theories, effective classroom management, and responding to diverse student needs to provide an interesting and inclusive learning environment (National Council for Teacher Education, 2025).There are very few studies conducted to study the effect of AI tools like ChatGPT on the creativity of prospective teachers. However the findings of the study conducted by

Mushaddiq et al.,2024, concluded that AI chatbots significantly encourage creativity among EFL students by providing a safe space for language experimentation and immediate feedback. Therefore, researchers conducted this study to examine the effect of AI based ChatGPT on the creativity of prospective teachers.

OBJECTIVES OF THE STUDY

(i) To study the relationship between AI based chatbots usage and language creativity of prospective teachers.

HYPOTHESIS OF THE STUDY

H01. There exists no significant relation between usage of AI based chatbots and language creativity of prospective teachers.

DELIMITATION

Only ChatGPT was considered as the artificial intelligence based chatbot.

MATERIALS AND METHOD

Descriptive survey method was used to find the relation between Artificial Intelligence based Chatbots usage and Language Creativity of Prospective Teachers. A sample of 60 students (30 boys and 30 girls) of B.Ed. and M.Ed. course from Government College of Education were selected. The tools used in the study included the Test of Language Creativity by Malhotra and Kumari (2012) and a Self-Developed Questionnaire to assess the usage of AI-based chatbots. Both tools were administered in a systematic and ethical manner, ensuring anonymity, informed consent, and voluntary participation. Appropriate statistical tools were employed to analyse the results.

TOOLS USED

To find the usage of Artificial Intelligence based Chatbots

(i) Self-developed Questionnaire to find the frequency of usage of Artificial Intelligence based Chatbots
(ii) Test of Language Creativity by Malhotra and Kumari (2012) was used to assess the Language Creativity of prospective teachers.

RESULTS AND DISCUSSION

Table 1: Descriptive Statistics of Language Creativity and usage of Artificial Intelligence based Chatbots Score of the Total Sample

Variables	N	Mean	Median	Mode	Std. Dev.	Skewness	Kurtosis
Usage of AI Based Chatbots	60	80.33	77.00	77.00	18.06	-0.64	0.60
Language Creativity	60	503.67	499.50	474.50	60.57	0.04	-0.55

As seen in Table 1,the measures of Central Tendencies i.e. Mean, Median, Mode reveal normal distribution of the curve. The values of Skewness and Kurtosis also reveal the nature of the curve.The level of Usage of AI based Chatbots is divided into two categories, i.e. Low and High. Out of 60 prospective teachers 48 had high usage of Artificial Intelligence based Chatbots and 12 had low usage of Artificial Intelligence based Chatbots.

COMPUTATION OF CORRELATION

To calculate correlation, the raw scores obtained by the prospective teachers were taken and the relationship between the variables was calculated by Pearson's Product Moment Correlation method.The value of Coefficient of Correlation between Usage of AI based Chatbots and Language Creativity of prospective teachers is shown in the table below:

Table 2

Correlation between the Usage of ChatGPT and Language Creativity

Variables	Coefficient of correlation	Level of Sig.
Usage of AI based Chatbots and Language Creativity	-0.0412	0.05

Table 2 shows that the value of Coefficient of Correlation between Usage of AI based Chatbots and Language Creativity is -0.0412. It shows a negative correlation, which means that the increase in the value of one will result in the decrease of the value of the other variable. However, the correlation of -0.04127 is not statistically significant. This suggests that the observed weak negative relationship is likely due to chance rather than a meaningful connection. In other words, there is no strong evidence to suggest that using AI based chatbots significantly affects the Language Creativity of prospective teachers. Hence, the first hypothesis, "There exists no significant relation between usage of AI based chatbots and language creativity of prospective teachers." is accepted. Therefore, it can be interpreted from the results that Usage of AI based Chatbots and Language Creativity of prospective teachers are not correlated.

The study conducted by Shidiq (2023) explores the challenges that AI based chatbots present to the world, where they interpreted that it has somewhat of a negative impact on creative writing skills of students supports the present finding .This result is also corroborated by the studyconducted by Austria et al. (2022) to examine the effect of extent of using AI on writing skills of BSE (Bachelor of Secondary Education) students of Pangasinan State University. The statistical analysis showed that there was no significant correlation between the reliability and influence of AI based chatbots on the writing skills of students.

CONCLUSION

This paper presented a comprehensive analysis of the data collected from a sample of 60 prospective teachers enrolled in the B.Ed. course at Government College of Education, Sector 20-D, Chandigarh. The purpose of the analysis was to examine the relationship between the usage of AI-based chatbots and the language creativity of prospective teachers.Descriptive statistics were computed to understand the distribution and level of both language creativity and usage of AI based chatbots among the participants. These measures provided a foundational understanding of the nature of the data and ensured its suitability for further inferential analysis. Correlation analysis was used to examine the relationship between the usage of AI-based chatbots and language creativity.The finding revealed that there is no significant relationship between the usage of AI-based chatbots and the language creativity of prospective teach. The results therefore indicate that while AI-based chatbots like ChatGPT are being used by prospective teachers, their usage does not have a statistically significant impact on their language creativity. Nevertheless, the limitations of the study such as small sample size and reliance on descriptive data highlight the need to conduct future studies by employing larger sample and adopting mixed method approach.This research has implications for policy makers and Teacher Training institutions that they must create awareness among prospective teachers about thepotential risk of using AIchatbots as overreliance on these tools may impact the creative and critical thinking so crucial for teacher educators for content creation and use of right pedagogical approaches. The challenges such as reliability, accuracy, and ethical considerations related to the use the AI applications must also be examined for their careful integration in the educational setting.

REFERENCES

Austria, F. Z., Camagay, E. B. A., Domasing, M., Gelido, A., Libatique, C. V., &Cabutotan, V. M. (2023).Extent of Influence of Using AI Chatbots in the Writing Skills of BSE Students of Pangasinan State University – Lingayen Campus. Southeast Asian Journal of Science and Technology, 7(1), 39-47. Retrieved from https://www.sajst.org/online/index.php/sajst/article/view/273.

Baidoo-Anu, D., &OwusuAnsah, L. (2023). Education in the era of generative artificial intelligence (AI): Understanding the potential benefits of ChatGPT in promoting teaching and learning. Available at SSRN 4337484.

Carter, R. (2004). Language and creativity: The art of common talk. Routledge.

Dergaa, I., Chamari, K., Zmijewski, P., &Saad, H. B. (2023). From human writing to artificial intelligence generated text: Examining the prospects and potential threats of ChatGPT in academic writing. Biology of Sport, 40(2), 615–622.

Ebadi, S., &Amini, A. (2024).Examining the roles of social presence and human-likeness on Iranian EFL learners' motivation using artificial intelligence technology: a case of CSIEC chatbot. Interactive Learning Environments, 32(2), 655–673. https://doi.org/10.1080/10494820.2022.2096638.

Khademi, A. (2023). Can ChatGPT and bard generate aligned assessment items? A reliability analysis against human performance.ArXiv Preprint ArXiv:2304.05372.

Malhotra,S.P&Kumari,S. (2012) English Language Creativity Scale , Published by NPC,KacheriGhat, Agra

Mushaddiq, Mushaddiq& Noni, Nurdin& Abdullah, Abdullah &Tahir, Muhammad.(2024). Exploring EFL Students' Creativity and Engagement with AI Chatbot in Web-Based English Course. GLENS: Global English Insights Journal. 2. 19-27. 10.61220/glens.v2i1.591.

Rudolph, J., Tan, S., & Tan, S. (2023). War of the chatbots: Bard, Bing Chat, ChatGPT, Ernie and beyond. The new AI gold rush and its impact on higher education.Journal of Applied Learning and Teaching, 6(1).

Shawar, B. A., & Atwell, E. (2007).Chatbots: Are they useful? Journal of Linguistic Studies, 3(1), 29-44.

Shidiq, M. (2023).The use of artificial intelligence-based chat-gpt and its challenges for the world of education; from the viewpoint of the development of creative writing skills.Proceeding of International Conference on Education, Society and Humanity, 1(1), 353–357.

Yuan, L., & Liu, X. (2025). The effect of artificial intelligence tools on EFL learners' engagement, enjoyment, and motivation. Computers in Human Behavior, 162, 108474.

https://doi.org/https://doi.org/10.1016/j.chb.2024.108474.Carter, R. (2004). *Language and creativity: The art of common talk*. Routledge.

National Council for Teacher Education.(n.d.).*Norms and standards for teacher education programmes*. Retrieved April 16, 2025, from https://ncte.gov.in/Website/NCTEACT10.aspx/about.aspx