

Intelligent Graphic Design: The Effectiveness of Midjourney as a Participant in a Creative Brainstorming Session

Dr. Soha Mohammed Sharief Mansour

Assistant Professor, Department of Graphics and Multimedia, College of Media and Communication, Imam Mohammad Ibn Saud Islamic University, Riyadh, KSA.
smmansour9@gmail.com

Abstract:

This study aims to explore the effectiveness of the Midjourney artificial intelligence tool's participation in a creative brainstorming session, and the effect of that tool on the quality of the final product, and the quality of the brainstorming session, through an in-depth study that focuses on the effectiveness and actual participation of the tool in the creative process. The study followed the descriptive approach and the experimental approach to assess the effectiveness of sharing the artificial intelligence tool and testing the hypotheses. Where a deep, interactive mental thinking process was implemented that combines human thinking with artificial intelligent thinking, to find creative solutions to a specific design problem, which is the design of an educational advertising video on the "International Day of Happiness". The statistical study proved that there are statistically significant differences at the level of 0.01 in favor of the responses in sharing the artificial intelligence tool. This indicates the effectiveness of the tool's participation. The arithmetic mean of the tool's impact on the quality of the final creative product and the quality of the brainstorming session was (92.3), which is a high level, which indicates the positivity of the session and the quality of the creative product with the participation of Midjourney. Future research should conduct more in-depth studies on the effectiveness of AI tools in the creative thinking and design process, with a focus on the data of AI tools and how to exploit them in the creative process. Studies in the field of human-machine interaction, particularly in the field of creative thinking and design, are scarce. This research presents an in-depth study that was not discovered in previous studies in integrating the artificial intelligence tool Medjerney in particular and the tools of artificial intelligence in general in the creative thinking process during brainstorming sessions in the field of graphic design and multimedia.

Keywords:

Artificial Intelligence, Midjourney, Graphic Design, Brainstorming, Creative Thinking

References:

- 1- Shuri, Jawaher (2023) The effectiveness of the brainstorming strategy in developing higher thinking skills and creative thinking through teaching the hadith and biography course for the sixth grade, Journal of Arts, Literature, Humanities and Social Sciences, Issue 91. <https://doi.org/10.33193/JALHSS.91.2023.823>
- 2- Jumai, Aisha (2023) Employing the conceptual map in teaching Arabic morphology, Arabic Language Journal, Vol. 25, No. 1.
- 3- Faamousi, Abdel Qader (2022) The strategy of the mind map and its argumentative impact on the educational process, Studies Journal, Volume 11, Issue 1.
- 4- Hassan, Yasmine Ahmed (2022) Artificial Intelligence: Foundations and Application Areas in Libraries and Information Sciences, International Arab Journal of Information and Data Technology, Volume 2, Issue 2. <http://search.mandumah.com/Record/1282578>
- 5- Mathkour, Malika (2021) Artificial Intelligence and the Future of Distance Education, Studies in Development and Society, Vol. 6, No. 3, 131-144.
- 6- Artificial intelligence and the future of distance education
- 7- Rizk, Hana, (2021) Artificial Intelligence Systems and the Future of Education, Ain Shams University, Faculty of Education, University Education Development Center, Volume 52.
- 8- Bukhari, Fatehi; Al-Ashhab, Abd al-Salam (2021) Brainstorming as a strategy for developing creative thinking among students, Al-Shamel Journal for Educational and Social Sciences, Volume 4, Issue 2, pp. 269-277
- 9- Marei, Hisham Ahmed (2020) Applications of Artificial Intelligence in Photography, Scientific Society of Designers, Volume 10, Issue 4, 2020, pp. 75-86. <http://search.mandumah.com/Record/1165126>
- 10- Al-Maima'a, Ismail; Al-Khawaldeh, Nasser (2020) The impact of the two strategies "Tanal Al-Qamar" and "brainstorming" on developing creative thinking skills among sixth-grade students in the subject of Islamic education in Jordan, Journal of the Islamic University for Educational and Psychological

Studies, Volume 28, Number 4.

- 11- Abdullah, Ibrahim (2016) 3D printing, International Journal of Internet Education, Technology and Human Development Association, December issue, Cairo.
- 12- Al-Baroudi, Manal (2015) brainstorming and the art of creating ideas, The Arab Group for Training and Publishing.
- 13- Jarwan, Fathi Abdel-Rahman (2012) Teaching Thinking, Concepts and Applications, Dar Al-Fikr Publishers and Distributors, Amman, 5th Edition.
- 14- Al-Awfi, Issa Saad and others (2010) The Arabic Dictionary of Terminology for the Sciences of Thinking, Amman, Dar Debono for Publishing and Distribution.
- 15- Al-Zubaidi, Haitham Ahmed (2010) The Effectiveness of Brainstorming in Developing Creative Thinking, The Seventh Arab Conference for the Gifted and Talented, Arab Council for the Gifted and Talented, Volume 2, pp. 405-448. <http://search.mandumah.com/Record/483504>
- 16- Hanano, Muhammad (2008) Brainstorming skills and their role in developing creative thinking among students, College of Basic Education Research Journal, 4 (2), pp. 1-28.
- 17- Abdel Aziz, Hassan Rasheed (2006) 3D printing (rapid product transit), Journal of Research and Studies in Literature, Science and Education, Volume 3 - Issue 5, Saudi Arabia.; Fakhro Abed <http://search.mandumah.com/Record/7261>
- 18- Thaer, Hussein; Fakhro Abdel (2002) Guide to Thinking Skills, Juhayna House for Publishing and Distribution, Amman.
- 19- Ruskov, M., (2023): Grim in Wonderland: Prompt Engineering with Midjourney to Illustrate Fairytales, 19th IRCDL, Bari, Italy, arXiv, Cornell University, <https://doi.org/10.48550/arXiv.2302.08961>
- 20- Dehouche, N. Dehouche, K. (2023): What's in a Text-to-Image Prompt? The Potential of Stable Diffusion in Visual Arts Education, Heliyon, Volume 9, Issue 6. <https://doi.org/10.1016/j.heliyon.2023.e16757>
- 21- OPPENLAENDER, J. (2023): A Taxonomy of Prompt Modifiers for Text-To-Image Generation, arXiv, Cornell University. <https://doi.org/10.48550/arXiv.2204.13988>
- 22- Zijie J. W., Montoya, E. Munechika, D., Yang, H., Hoover, B., Horng, D. C. (2023): DIFFUSIONDB: A Large-scale Prompt Gallery Dataset for Text-to-Image Generative Models, arXiv, Cornell University . <https://doi.org/10.48550/arXiv.2210.14896>
- 23- Oppenlaender, J., Linder, R., Silvennoinen, J. (2023): Prompting AI Art: An Investigation into the Creative Skill of Prompt Engineering, arXiv, Cornell University. <https://doi.org/10.48550/arXiv.2303.13534>
- 24- Radhakrishnan, M. (2023): Is Midjourney-AI A New Anti-Hero of Architectural Imagery and Creativity? An Atypical Era of AI-Based Representation & Its Effect on Creativity in the Architectural Design Process, Global Scientific Journals GSJ: [online] Volume 11, Issue 1 ISSN 2320-9186. <http://www.globalscientificjournal.com/>
- 25- Boymamatovich, S. M. (2023): Exploring the Benefits and Future of Artificial Intelligence, Central Asian Journal of Theoretical and Applied Sciences, Volume 04, Issue 03, 2660-5317 <https://cajotas.centralasianstudies.org>
- 26- Jonas Oppenlaender, J. (2022): The Creativity of Text-to-Image Generation, arXiv, Cornell University. <https://doi.org/10.48550/arXiv.2206.02904>
- 27- Avijit Ghosh, A., Genoveva Fossas, G. (2022): Can There be Art Without an Artist? arXiv, Cornell University. <https://doi.org/10.48550/arXiv.2209.07667>
- 28- Dosari, M. S.; Braiqi, R. O. (2022): The effect of brainstorming strategies in developing the skill of employing reading text in solving problems among third grade intermediate students, Journal of Curriculum and Teaching Methodology Volume (1), Issue (9).
- 29- Cheng, M. (2022): The Creativity of Artificial Intelligent in Arts, MDPI Journals, Proceedings 2022, 81(1), 110; <https://doi.org/10.3390/proceedings2022081110>
- 30- Aldrady, I. (2021): Creative conception in the design of awareness advertising campaigns to achieve sustainable development, Journal of Architecture, Arts and Humanistic Sciences, Volume 6, Issue 27. 10.21608/MJAF.2020.29554.1606.
- 31- Dash, S. P. (2021): An Exploratory Study on Design Process in Architecture: Perspective of Creativity, Vilnius Tech, Creativity studies ISSN 2345-0479, Volume 14 Issue 2: 346-361 <https://doi.org/10.3846/cs.2021.12989>.
- 32- Moh. A., Attair, A. (2021): Impact of Brainstorming Method in Developing Speaking skills in Arabic among Level I Female Students at the University of Science and Technology, Journal of Educational and Psychological Sciences Volume (5), Issue (20), 92 - 107. DOI: <https://doi.org/10.26389/AJSRP.A510112> , Available at: <https://www.ajsrp.com>

Citation: Soha Mansour (2023), Intelligent Graphic Design: The Effectiveness of Midjourney as a Participant in a Creative Brainstorming Session, International Design Journal, Vol. 13 No. 5 (September 2023) pp 501-512

- 33- Fathy Bokhari, F. (2021): The Mind Mapping as a Strategy for Developing Student's Creative Thinking, Al- Shami Journal of Educational and Social Sciences, Volume 4, Issue 2.
- 34- Marei, H.A (2020): Artificial Intelligent in Photography:5 cases That Modify Photography. June 27, <https://digitalcommons.aaru.edu.jo/faa-design/vol10/iss4/7>

Paper History:

Paper received June 18, 2023, Accepted August 26, 2023, Published on line September 1, 2023