Article Summary #3: The Impact of Adaptive Gamification on Neurodivergent Learners

Bryn Hotes

Department of Education, Instructional Design and Technology, The University of Tampa

EME 610-1: Trends and Issues in Instructional Design and Technology

Dr. Kim

February 18, 2026

Article Name: *Beyond the One-Size-Fits-All: A Systematic Review of Personalized and Gamified e-Learning for Neurodivergent Learners*

Article Link:

https://research-ebsco-com.esearch.ut.edu/c/2zotdu/viewer/pdf/2sxx7r4mgj?route=details

Article Summary

The authors of the article, *Beyond the One-Size-Fits-All: A Systematic Review of Personalized and Gamified e-Learning for Neurodivergent Learners,* Sheejamol, Anu Mary Chacko, and Madhu Kumar, describe their investigation of 82 modern studies discussing the application of gamification and adaptive accessibility in learning experiences. The authors analyze the studies through the lens of neurodivergent audiences, investigating whether seemingly accessible, adaptive, and engaging learning experiences truly consider all audiences. Specifically, the authors focus on the accessibility of learning experiences for those belonging to the autism spectrum disorder (ASD), attention deficit hyperactivity disorder (ADHD), and Dyslexia communities. Although the authors note that their analysis demonstrates positive feedback about general educational accessibility, they uncovered a lack of features for neurodivergent adults. Specifically, the authors emphasized that true accessibility for neurodivergent adults may look like producing more engaging, visually minimalist, and transfer-focused training. In addition, the authors mention that creating learning experiences with neurodivergent audiences in mind could benefit all learners, as it refines the training to be easier to navigate, more entertaining, and effective. Moreover, many of the studies demonstrated the high impact of multimodal design for neurodivergent audience success. The researchers found that this strategy enhanced overall audience engagement and knowledge retention. Especially considering audiences with ADHD, the multimodal strategy could prove useful when designing

learning experiences. The authors of the article also mention the lack of neurodivergent-audience-focused studies, pronouncing the need for increasing sample diversity and inclusion.

Selection Rationale

I chose this article to evaluate because it discusses gamification, adaptive learning, and accessibility: topics I believe are incredibly relevant in the instructional design industry's current landscape. Additionally, while other authors discuss common accessibility issues and the possibility of actively adaptive features, this article's authors emphasize the true scale of learning accessibility. While accessibility features such as closed captioning, read-aloud, and platform choice are often discussed, researched, and implemented, more specialized accessibility may fall under the radar. When considering large-scale learning experiences, a designer is creating a product for everyone. This could include students with ASD, ADHD, and Dyslexia. When I create future trainings in my career, I aim to develop learning experiences that are not only accessible but effective for all audiences. Learning about the accessibility needs and historical neglect of certain audiences can help me think creatively and truly consider all possible user needs. Additionally, considering the significant increase of diagnosed neurodivergent adults in the United States, Li et al. (2023), my future audiences may need different features.

Article Reflection

The authors' revelation about the lack of focus on neurodivergent audiences reflects a lack of accessibility features designed for all possible students. Additionally, I agree with their claim that designing instruction with neurodivergent audiences in mind can benefit everyone by making training that is simpler to navigate and better for knowledge retention through repetition. Based on their evaluation, I want to begin improving my designs to intentionally consider

neurodivergent audiences. To do this, I could use strategies they emphasized, including making content presentation and navigation visually simplistic, using multimodal design, and providing numerous opportunities for practice and knowledge retention.

References

Li, Q., Li, Y., Zheng, J., Yan, X., Huang, J., Xu, Y., Zeng, X., Shen, T., Xing, X., Chen, Q., & Yang, W. (2023). Prevalence and trends of developmental disabilities among US children and adolescents aged 3 to 17 years, 2018–2021. *Scientific Reports*, *13*(1), Article 17254. https://doi.org/10.1038/s41598-023-44472-1

P.T., S., Chacko, A. M., & Kumar, S. D. M. (2025). Beyond the one-size-fits-all: a systematic review of personalized and gamified e-learning for neurodivergent learners. *Electronic Journal of E-Learning*, *23*(3), 101–119. https://doi.org/10.34190/ejel.23.3.4051