A Comparison of Avatar and Text-Based Case Studies in Teaching Psychopathology by
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Simulation-based learning, including case study assignments, is commonly used in human service education to support the development of clinical skills, such as diagnosing mental health concerns. As a faculty member who teaches primarily applied clinical psychology courses, I saw AI as a way to improve upon the format of my existing case study assignments to make them more engaging. Limited research has examined the motivational impact of avatar case studies for teaching diagnostic reasoning at the undergraduate level. Guided by the Attention, Relevance, Confidence, Satisfaction (ARCS) model of motivational design (Keller, 2010), my teaching assistants and I developed a mixed-methods, within-subjects study to compare undergraduate students' perceptions of avatar-based and text-based case studies in an asynchronous online Abnormal Psychology course. Participants in this IRB-approved study were 64 undergraduate students who completed both a traditional written case study and an avatar-based case study depicting different symptomatology. Both cases were developed through a rigorous, multi-step process involving expert review and AI-assisted refinement to ensure clarity and accurate representation of diagnostic criteria. The text-based case depicted a fictional client with an anxiety disorder, while the avatar-based case presented a first-person narrative of a client with a mood disorder, brought to life using AI-generated video designed to simulate a realistic teletherapy interaction. Specifically, AI Studios by DeepBrain AI (Jang, 2026) was used to generate an avatar-based video portraying the client delivering the scripted narrative. AI Studios allows users to select from a range of avatars that can be filtered according to characteristics such as profession, ethnicity, and gender. The platform also provides different background environments in which avatars can be placed. To simulate a teletherapy interaction, we selected an avatar and environment resembling a therapy session (e.g., an individual sitting and speaking directly to the camera in a private setting). The platform provides a dialogue box for inputting the scripted narrative, and users can modify the avatar's voice by selecting an alternative avatar voice or providing a separate voiceover. Pauses can also be inserted to improve the flow and timing of speech. After inputting the script, voice, and pause selections, the video is submitted for generation, a process that occurs automatically. The avatar case study was approximately three minutes and 40 seconds long.

The case study assignments were administered through Canvas and required students to hypothesize and provide justification for a diagnosis, specify additional questions they have about the case, and identify possible evidence-based treatments to use with the client. After each assignment, students completed the Reduced Instructional Materials Motivation Survey (RIMMS; Loorbach et al., 2015) and responded to open-ended questions regarding their learning experiences. Quantitative analyses indicated no statistically significant differences between case formats on total instructional motivation or on the Attention, Relevance, Confidence, or Satisfaction subscales, with both formats receiving relatively high ratings overall. Qualitative thematic analysis revealed that students perceived both formats as professionally relevant and beneficial for learning diagnostic criteria, while also identifying distinct strengths and limitations for each format. Text-based cases were valued for their clarity and organization, whereas avatar-

based cases were seen as more realistic, though some students reported initial barriers to full immersion due to features of the avatar, such as tone of voice. Overall, avatar-based case studies appear to offer distinct experiential advantages while maintaining comparable levels of instructional motivation relative to text-based cases.

Teaching Implications

Below we provide several ARCS-based (Keller, 2010) teaching implications for the use of case studies in online psychopathology courses.

1. Students' perceptions of the case study assignments were largely positive, and case studies might be especially effective for diversifying the learning experience within an online context.
2. We recommend offering students case studies in both formats, as doing so has the potential to meet unique learning needs and better aid in addressing a wider range of skills. From an ARCS model perspective, offering diverse media formats has the potential to better sustain students' attention throughout the course (Desai & Patwardhan, 2025).
3. Scaffolding learning resources helps build confidence (Desai & Patwardhan, 2025; Keller, 2010). While research is needed to examine sequencing effects, existing research suggests that video-based cases are perceived as more challenging, suggesting they may best be implemented after text-based case studies (Woodham et al., 2015).
4. Qualitative findings from the current study suggest that features of the avatar may impede immersion for some students. Specifically, some students mentioned being distracted by the avatar, which may diminish motivation according to the ARCS model (Keller, 2010). Faculty should therefore carefully consider avatar characteristics (e.g., affective range, fluidity of facial movements, tone of voice) when designing avatar-based case studies to maximize student motivation. While the current study used the avatar's synthetic voice, AI Studios by DeepBrain AI (Jang, 2026) also allows instructors to record custom voice-overs to accompany the avatar.
5. Lastly, the current study utilized an individualized assignment format. However, discussion boards have the potential to enhance student motivation by increasing attention and satisfaction (Desai & Patwardhan, 2025). Faculty might consider offering case study assignments such as these in a discussion board group format.

Additional Reading and Resources:

Barnhill, J. W. (Ed.). (2023). *DSM-5-TR clinical cases*. American Psychiatric Publishing.

Desai, R., & Patwardhan, S. (2025). Bridging Motivation and Technology: Integrating ARCS Model in LMS. *Journal of Engineering Education Transformations*, *38*, 518-528. https://doi.org/10.16920/jeet/2025/v38is2/25064

Jang, E. (2026). *AI Studios* (Version 4.0) [Artificial intelligence video generation platform]. DeepBrain AI Inc. https://www.aistudios.com

Keller, J. M. (2010). *Motivational design for learning and performance: The ARCS model approach.* Springer eBooks. https://doi.org/10.1007/978-1-4419-1250-3

Loorbach, N., Peters, O., Karreman, J., & Steehouder, M. (2015). Validation of the Instructional Materials Motivation Survey (IMMS) in a self-directed instructional setting aimed at working with technology. *British Journal of Educational Technology, 46*(1), 204–218. https://doi.org/10.1111/bjet.12138

Woodham, L. A., Ellaway, R. H., Round, J., Vaughan, S., Poulton, T., & Zary, N. (2015). Medical student and tutor perceptions of video versus text in an interactive online virtual patient for problem-based learning: A pilot study. *Journal of Medical Internet Research, 17*(6), e151. https://doi.org/10.2196/jmir.3922