



Stemmler Grants

2026 Stemmler Grants Projects

Established in 1995, the Edward J. Stemmler, MD Medical Education Research Grant Program supports the research and development of innovative assessment approaches with the potential to advance assessment in medical education. Each year, as many as three awards of up to \$150,000 each are given to research teams to support their efforts to drive innovations in the field.

Learn more about the 2026 projects.

Artificial Intelligence-Assisted Real-Time Feedback Analysis, Collection and Tracking System (FACTS)



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Abstract

The Feedback Analysis, Capture, and Tracking System (FACTS) is an AI-powered platform designed to enhance formative assessment in medical education by transforming verbal feedback into structured, actionable data. FACTS integrates automated speech recognition, speaker diarization, and natural language processing to accurately transcribe and classify feedback provided during simulation and clinical encounters. The system maps feedback content to established competency frameworks such as Entrustable Professional Activities and the AAMC Foundational Competencies, supporting learners and educators in tracking performance over time. This two-year, mixed-methods study will first develop and alpha test FACTS within simulation settings to evaluate transcription accuracy, NLP classification effectiveness, and user acceptance. In the second year, implementation will expand to authentic clinical environments, assessing feasibility and scalability across diverse contexts. A validation study will compare AI-generated classifications to human-coded transcripts, ensuring reliability and thematic fidelity. By

providing interactive dashboards and visualizations, FACTS empowers learners to reflect on progress and plan targeted improvements, while supporting faculty development and consistent coaching. This project addresses the urgent need for scalable, evidence-based feedback tools that improve learning outcomes and readiness for practice.

Validating the Virtual Rater: A Psychometric Validation of AI-Based Video Assessment Across Diverse Rubric Types



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Abstract

Assessment of complex competencies in medical education, such as communication and clinical reasoning, relies on human raters—a process that is resource-intensive, unreliable, and prone to bias. This project will validate an Agent Based Video Assessment (ABVA) tool, leveraging artificial intelligence to address these longstanding challenges. A critical gap exists in understanding if AI can be a robust assessment tool across the diverse rubric types used in medical education. This study will address this gap through a large-scale, retrospective validation using approximately 1850 admissions interviews and 1050 OSCE recordings. Our aims are to: (1) validate the ABVA against human ratings on holistic admissions rubrics; (2) compare its reliability on low-inference checklists versus high-inference supervision scales in OSCEs; (3) evaluate the model for differential performance across demographic subgroups using rigorous statistical tests for predictive invariance; and (4) synthesize these findings into evidence-based guidelines. Using robust psychometric methods (ICC, Gwet's AC1, regression) and by analyzing the AI's transparent Chain-of-Thought reasoning, this project will provide a foundational framework for the valid and reliable implementation of AI in medical assessment, directly supporting the NBME's mission to advance the science of assessment.