

Grand Rounds

Academy
of Medical
Educators

EVIDENCE-INFORMED TEACHING AND LEARNING PRINCIPLES: APPLYING THEORY AND RESEARCH TO EDUCATIONAL PRACTICE



Tuesday, April 25, 2023
12-1pm

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Anthony Artino is a tenured professor and Associate Dean for Evaluation and Educational Research at the George Washington University School of Medicine and Health Sciences. He earned his Ph.D. in educational psychology from the University of Connecticut and also holds master's degrees in physiology and education. Prior to joining GW, Dr. Artino served 23 years as an active duty naval officer; he retired as a Navy Captain in 2020.

In his current role, Dr. Artino teaches graduate courses, conducts research, mentors students and early-career faculty, and provides administrative leadership in evaluation and educational research. As a researcher, he has been an investigator on more than a dozen research grants funded by diverse organizations, including the Association of American Medical Colleges and the National Board of Medical Examiners. His most highly cited works are a blend of research and education articles on topics ranging from analyzing and interpreting quantitative data, examining questionable research practices, understanding academic motivation and self-regulation, measuring long-term physician outcomes, and developing questionnaires for educational research.

He publishes widely in medical and health professions education and serves on several editorial review boards, including *Academic Medicine* and the *Journal of Graduate Medical Education*. He is a fellow of both the Association for Medical Education in Europe and the Aerospace Medical Association.

Dr. Artino is married with four children. He lives in Gaithersburg, Maryland, a suburb of Washington, DC.

Session Overview: As medical educators, we carefully construct our instructional strategies around our goals for student learning and our understanding of “what works” from a teaching and learning perspective. Unfortunately, this understanding often arises mostly from the ways in which we were taught. Although this approach may be successful, its effectiveness is based more on luck than evidence. In contrast, instruction that is grounded in theory and research can be systematically tested and incrementally improved, thereby allowing us to refine both our understanding of how people think and learn and our execution of specific teaching strategies. Evidence-informed education is based on the underlying mechanisms of human cognition, motivation, and emotion; these principles provide insights into why and under what circumstances certain teaching and learning strategies work, while others do not. In this presentation, Dr. Artino will discuss several key principles from the education and psychology literature—principles that are informed by both theory and research. This session is not about how to teach, per se, because all teaching is context-bound, and our range of contexts is wide. Instead, Dr. Artino will discuss a set of generalizable teaching and learning principles that can be adapted and adjusted by the inventive teacher to fit a variety of medical education contexts

Workshop Overview: Lies, damned lies, and surveys: Designing better surveys for education and research

Mark Twain once wrote, “There are three kinds of lies: lies, damned lies, and statistics.” Surveys could be added to this list: both statistics and surveys are grounded in “facts” and thus imply objectivity and unimpeachable authority. Yet surveys, when poorly designed and conducted, can include (and often hide) important flaws that can bias results and lead to distorted interpretations, erroneous claims, and unsound decisions. In this highly interactive workshop, Dr. Artino will introduce six design principles that will help educators create high-quality surveys for evaluation and research.

At the end of the workshop, participants will be able to:

1. Recognize the elements of a survey
2. describe how cognitive processes and motivation guide the way people understand and respond to survey questions
3. Identify poorly written survey items and other design pitfalls
4. state several design principles
5. discuss expert reviews and cognitive interviews

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