

Resources for Clinicians Becoming Clinician Educators

Category	Article	Notes
Assessment	Davis DA, Mazmanian PE, Fordis M, Van Harrison R, Thorpe KE, Perrier L. Accuracy of physician self-assessment compared with observed measures of competence: a systematic review. JAMA.2006;296(9):1094–1102.	Classic article: the least competent are often the most confident. *
	Kirkpatrick DL, Kirkpatrick JD. Evaluating Training Programs: The Four Levels. 3rd ed. San Francisco, CA: Berrett-Koehler Publishers; 2006.	Post the 4 levels of evaluation in your office and teaching areas. *
	Miller GE. The assessment of clinical skills/ competence/ performance. AcadMed.1990;65(suppl 9):63–67.	Post Miller’s pyramid in your office, too. *
	Rickards G, Magee C, Artino AR Jr. You can’t fix by analysis what you’ve spoiled by design: developing survey instruments and collecting validity evidence. J Grad Med Educ. 2012;4(4):407–410.	Surveys are popular outcome measures; with these preparatory steps, you can greatly improve the quality of results. *
	Norman G. Likert scales, levels of measurement and the “laws” of statistics. Adv Health Sci Educ Theory Pract. 2010;15(5):625–632.	Yes, you can use parametric methods with data from Likert-type scales (ie, treat anchor numbers as actual numbers). *
Feedback	Ende J. Feedback in clinical medical education. JAMA. 1983;250(6):777–781.	A classic and still a great place to start. *
	Veloski J, Boex JR, Grasberger MJ, Evans A, Wolfson DB. Systematic review of the literature on assessment, feedback and physicians’ clinical performance: BEME Guide No. 7. Med Teach. 2006;28(2):117–128.	Summarizes best practices from the literature. *
	Sargeant J, Mann K, Sinclair D, van der Vleuten C, Metsemakers J. Challenges in multisource feedback: intended and unintended outcomes. Med Educ. 2007;41(6):583–591.	Methods to enhance credibility and use of multisource feedback. *
	Cantillon P, Sargeant J. Giving feedback in clinical settings. BMJ. 2008;337:a1961. A most effective and painless method (inviting learner self-reflection, validating, correcting).	Similar to the Pendleton method and better than the “sandwich” technique. *
	Ende J, Pomerantz A, Erickson F. Preceptors’ strategies for correcting residents in an ambulatory care medicine setting: a qualitative analysis. Acad Med. 1995;70(3):224–229.	Powerful study explains why learners think they don’t receive feedback. *
	Hurtubise L, Martin B, Gilliland A, Mahan J. To play or not to play: leveraging video in medical education. J Grad Med Educ. 2013;5(1):13–18.	Practical pearls for using video in teaching. *
	Mayer RE. Applying the science of learning to medical education. Med Educ. 2010;44(6):543–549. Mayer RE, ed. The Cambridge Handbook of Multimedia Learning. Cambridge Handbooks in Psychology. New York: Cambridge University Press; 2005.	Explains the relationship of visual presentation to learning. Essential reading for those who use PowerPoint. *
	Cook DA, Levinson AJ, Garside S, Dupras DM, Erwin PJ, Montori VM. Internet-based learning in the health professions: a meta-analysis. JAMA.	Summarizes best practices. *

	2008;300(10):1181–1196.	
Learning	Norman GR. The adult learner: a mythical species. Acad Med. 1999;74(8):886–889.	Challenges assumptions about adult learning theory and practice*
	Rohrer D, Pashler H. Learning styles: where's the evidence? Med Educ. 2012;46(7):634–635.	Challenges assumptions that tailoring teaching to learning styles has benefits. *
	Kirschner PA, van Merriënboer JJ. Do learners really know best? Urban legends in education. Educ Psychol. 2013;48(3):169–183.	Challenges myths about the nature of learner, learning, and teaching. *
Mentoring	Ludwig S, Stein RE. Anatomy of mentoring. J Pediatr. 2008;152(2):151–152.	Summary of mentor/mentee optimal characteristics based on a qualitative research approach. *
	Sambunjak D, Straus SE, Marusic A. A systematic review of qualitative research on the meaning and characteristics of mentoring in academic medicine. J Gen Intern Med. 2010;25(1):72–78.	Description of successful mentoring based on a systematic review of literature. *
Research and Scholarship in Medical Education	Cook DA. If you teach them, they will learn: why medical education needs comparative effectiveness research. Adv Health Sci Educ Theory Pract. 2012;17(3):305–310.	Explains why studies of interventions require a fair comparison group. *
	Yarris LM, Deiorio NM. Education research: a primer for educators in emergency medicine. Acad Emerg Med. 2011;18(suppl 2):27–35.	The basics: a great introduction. *
	Rebecca D. Blanchard, Alisa Nagler, Anthony R. Artino, Jr, (2015) Harvest the Low-Hanging Fruit: Strategies for Submitting Educational Innovations for Publication. Journal of Graduate Medical Education: September 2015, Vol. 7, No. 3, pp. 318-322.	A practical article highlighting opportunities and strategies for educators to get their innovations “out there” in the form of research and scholarship.
	Scott K, Caldwell P, Schuwirth L. Ten steps to conducting health professional education research. Clin Teach. 2015 Aug;12(4):272-6.	A practical guide for clinicians to identify ways to successfully communicate relevant education research to impact future health professional education.
Teaching	Sullivan GM, Feinn R. Using effect size—or why the P value is not enough. J Grad Med Educ. 2012;4(3):279–282.	Always, always, report effect size. *
	Bowen JL. Educational strategies to promote clinical diagnostic reasoning. N Engl J Med. 2006;355(21):2217–2225.	Nice introduction to a complex topic. *
	Steinert Y. Student perceptions of effective small group teaching. Med Educ. 2004;38(3):286–293.	Qualitative study of teacher attributes that students find effective. *
	Steinert Y, Mann K, Centeno A, Dolmans D, Spencer J, Gelula M, et al. A systematic review of faculty development initiatives designed to improve teaching effectiveness in medical education: BEME Guide No. 8. Med Teach. 2006;28(6):497–526.	Summarizes the little we know about this key area. *
Validity and Reliability	Cook DA, Beckman TJ. Current concepts in validity and reliability for psychometric instruments: theory and application. Am J Med. 2006;119(2):166.e7–166.e16.	This is a go-to source to understand sources of validity. *
	Downing SM. Validity: on meaningful interpretation of assessment data. Med Educ. 2003;37(9):830–837.	An alternative go-to source for understanding current concepts of validity. *
	Downing SM. Face validity of assessments: faith-based interpretations or evidence-based science? Med Educ. 2006;40(1):7–8.	Explains why you should no longer use the term face validity, period. *
Writing	Norman G. Data dredging, salami-slicing, and other successful strategies to ensure rejection: twelve tips on how to not get your paper published. Adv Health Sci Educ Theory Pract. 2014;19(1):1–5.	An esteemed editor's advice, which should be followed. *
	Sullivan GM. Writing education studies for	The essential format for Journal of Graduate Medical

* Gail M. Sullivan (2015) Resources for Clinicians Becoming Clinician Educators. Journal of Graduate Medical Education: June 2015, Vol. 7, No. 2, pp. 153-155.