MD900: Assessment in Clinical Education



1

Postgraduate Medical Education and Training Board. Developing and maintaining an assessment system - a PMETB guide to good practice. 2007.https://www.researchgate.net/profile/Christopher_Oliver/publication/264405740_Developing_and_Maintaining_an_Assessment_System-a_PMETB_Guide_to_Good_Practice/links/53dba0b50cf2cfac9928f468/Developing-and-Maintaining-an-Assessment-System-a-PMETB-Guide-to-Good-Practice.pdf

2

Association for the Study of Medical Education. Understanding medical education: evidence, theory and practice. Second edition. Chichester, West Sussex, UK: : Wiley Blackwell 2014.

http://lib.myilibrary.com/ProductDetail.aspx?id=543123&entityid=https://idp.warwick.ac.uk/idp/shibboleth

3

Cox M, Irby DM, Epstein RM. Assessment in Medical Education. New England Journal of Medicine 2007;**356**:387–96. doi:10.1056/NEJMra054784

4

Jolly, Brian, Grant, Janet. The good assessment guide: a practical guide to assessment and appraisal for higher specialist training. London: : Joint Centre for Education in Medicine 1997.

5

Schuwirth, Lambert W. T., Vleuten, C. van der, Association for the Study of Medical

Education. How to design a useful test: the principles of assessment. Edinburgh: : ASME 2006.

6

Black, H. D., Devine, Marion, Scottish Council for Research in Education. Assessment purposes: a study of the relationship between diagnostic assessment and summative assessment for certification. Edinburgh: : Scottish Council for Research in Education 1986.

7

Bloom, Benjamin S. Taxonomy of educational objectives: the classification of educational goals, Handbook 1: Cognitive domain. London: : Longman Group Ltd 1956.

8

Cangelosi JS. Designing tests for evaluating student achievement. New York: : Longman

9

Hart IR. Trends in clinical assessment. In: Approaches to the Assessment of Clinical Competence, Part 1 and 2. 1992.

10

Livingston SA, Zieky MJ. Passing scores. 1982.http://www.ets.org/Media/Research/pdf/passing scores.pdf

11

Samuel Messick. The Psychology of Educational Measurement. Journal of Educational Measurement; **21**:215–37.http://0-www.jstor.org.pugwash.lib.warwick.ac.uk/stable/1434780

12

Miller GE. The assessment of clinical skills/competence/performance. Academic Medicine 1990;65

 $: 63-7. http://o-ovidsp.dc2.ovid.com.pugwash.lib.warwick.ac.uk/sp-4.02.1a/ovidweb.cgi?WebLinkFrameset=1\& S=LJBFFPKHHDEBEBIDIPCKNGPEPMFBAA00\& returnUrl=ovidweb.cgi%3fMain%2bSearch%2bPage%3d1%26S%3dLJBFFPKHHDEBEBIDIPCKNGPEPMFBAA00& from jumpstart=0& directlink=http%3a%2f%2fovidsp.dc2.ovid.com%2fovftpdfs%2fFPEBIPPENGIDHD00%2ffs046%2fovft%2flive%2fgv023%2f00001888%2f00001888-199009000-00045.pdf& filename=The+assessment+of+clinical+skills%2fcompetence%2fperformance.& link_from=S.sh.22.23.27.31%7c45& pdf_key=FPEBIPPENGIDHD00& pdf_index=/fs046/ovft/live/gv023/00001888/00001888-199009000-00045& D=ovft& link_set=S.sh.22.23.27.31|45|s|_10|tocsiblings|S.sh.22.23.27.31.37|0$

13

Ozuah PO, Reznik M. Using unannounced standardised patients to assess residents' professionalism. Medical Education 2008;**42**:532–3. doi:10.1111/j.1365-2923.2008.03083.x

14

Peile E. Knowing and knowing about. BMJ 2006;**332**:645–645. doi:10.1136/bmj.332.7542.645

15

G. Rasch. Probabilistic models for some intelligence and attainment tests. Chicago: : University of Chicago Press 1980.

16

Rethans J-J, Norcini JJ, Baron-Maldonado M, et al. The relationship between competence and performance: implications for assessing practice performance. Medical Education 2002;**36**:901–9. doi:10.1046/j.1365-2923.2002.01316.x

17

Rethans J-J, Norcini JJ, Barón-Maldonado M, et al. The relationship between competence and performance: implications for assessing practice performance. Medical Education 2002;**36**:901–9. doi:10.1046/j.1365-2923.2002.01316.x

Rowntree, Derek. Assessing students: how shall we know them? Rev. ed. London: : Kogan Page 1987.

19

Vleuten CPM. The assessment of professional competence: Developments, research and practical implications. Advances in Health Sciences Education 1996; $\mathbf{1}$:41–67. doi:10.1007/BF00596229

20

Research Methods - Validity and Reliability in AllPsych Online. https://allpsych.com/research-methods/variablesvalidityreliability/validityreliability/

21

Research Methods Knowledge Base. http://www.socialresearchmethods.net/kb/

22

Cronbach LJ, Meehl PE. Construct validity in psychological tests. Psychological Bulletin 1955;**52**:281–302. doi:10.1037/h0040957

23

Messick S. Validity. In: Educational Measurement (The American Council on Education/Macmillan series on higher education). Macmillan USA

24

Developing and maintaining an assessment system. https://www.researchgate.net/publication/264405740_Developing_and_Maintaining_an_Ass essment System-a PMETB Guide to Good Practice

25

Schuwirth LWT, van der Vleuten CPM. Programmatic assessment and Kane's validity perspective. Medical Education 2012;**46**:38–48. doi:10.1111/j.1365-2923.2011.04098.x

26

Breakwell, Glynis M., Smith, Jonathan A., Wright, Daniel B. Research methods in psychology. 4th ed. Los Angeles: : SAGE 2012.

27

Downing SM, Haladyna TM. Validity threats: overcoming interference with proposed interpretations of assessment data. Medical Education 2004;**38**:327–33. doi:10.1046/j.1365-2923.2004.01777.x

28

Schuwirth LW. Assessing medical competence: finding the right answers. The Clinical Teacher 2004; 1:14-8. doi:10.1111/j.1743-498X.2004.00012.x

29

Schuwirth LW. Assessing medical competence: finding the right answers. The Clinical Teacher 2004; $\mathbf{1}$:14–8. doi:10.1111/j.1743-498X.2004.00012.x

30

Downing SM. Reliability: on the reproducibility of assessment data. Medical Education 2004; 38:1006-12. doi:10.1111/j.1365-2929.2004.01932.x

31

Murphy DJ, Bruce DA, Mercer SW, et al. The reliability of workplace-based assessment in postgraduate medical education and training: a national evaluation in general practice in the United Kingdom. Advances in Health Sciences Education 2009;**14**:219–32. doi:10.1007/s10459-008-9104-8

32

Tighe J, McManus I, Dewhurst NG, et al. The standard error of measurement is a more

33

Schuwirth LWT, van der Vleuten CPM. General overview of the theories used in assessment: AMEE Guide No. 57. Medical Teacher 2011;**33**:783–97. doi:10.3109/0142159X.2011.611022

34

Nunnally, Jum C., Bernstein, Ira H. Psychometric theory. 3rd ed. New York: : McGraw-Hill 1994.

35

Ricketts C. A plea for the proper use of criterion-referenced tests in medical assessment. Medical Education 2009;**43**:1141–6. doi:10.1111/j.1365-2923.2009.03541.x

36

Friedman Ben-Davis M. AMEE Guide No. 18: Standard setting in student assessment. Medical Teacher 2000;**22**:120–30. doi:10.1080/01421590078526

37

Norcini JJ. Setting standards on educational tests. Medical Education 2003; $\bf 37$:464–9. doi:10.1046/j.1365-2923.2003.01495.x

38

Norcini JJ. Setting standards on educational tests. Medical Education 2003; $\mathbf{37}$: 464–9. doi:10.1046/j.1365-2923.2003.01495.x

39

Downing SM, Tekian A, Yudkowsky R. RESEARCH METHODOLOGY: Procedures for

Establishing Defensible Absolute Passing Scores on Performance Examinations in Health Professions Education. Teaching and Learning in Medicine 2006;**18**:50–7. doi:10.1207/s15328015tlm1801 11

40

Bandaranayake RC. Setting and maintaining standards in multiple choice examinations: AMEE Guide No. 37. Medical Teacher 2008;**30**:836-45. doi:10.1080/01421590802402247

41

Liu M, Liu K-M. Setting Pass Scores for Clinical Skills Assessment. The Kaohsiung Journal of Medical Sciences 2008;**24**:656–63. doi:10.1016/S1607-551X(09)70032-4

42

Wood TJ, Humphrey-Murto SM, Norman GR. Standard Setting in a Small Scale OSCE: A Comparison of the Modified Borderline-Group Method and the Borderline Regression Method. Advances in Health Sciences Education 2006; **11**:115–22. doi:10.1007/s10459-005-7853-1

43

Cohen-Schotanus J, van der Vleuten CPM. A standard setting method with the best performing students as a point of reference: Practical and affordable. Medical Teacher 2010;**32**:154–60. doi:10.3109/01421590903196979

44

Hurley KF. OSCE and clinical skills handbook. Second edition. Toronto: : Elsevier/Saunders 2011.

45

Epstein RM. Assessment in Medical Education. New England Journal of Medicine; **356**:387–96. doi:10.1056/NEJMra054784

Schuwirth, Lambert W. T., Vleuten, C. van der, Association for the Study of Medical Education. How to design a useful test: the principles of assessment. Edinburgh: : ASME 2006.

47

Schuwirth LWT. ABC of learning and teaching in medicine: Written assessment. BMJ 2003; **326**:643–5. doi:10.1136/bmj.326.7390.643

48

Schuwirth LWT, van der Vleuten CPM. ABC Of Learning And Teaching In Medicine: Written Assessment. BMJ: British medical journal 2003;**326**:643–5.http://0-www.jstor.org.pugwash.lib.warwick.ac.uk/stable/25453994

49

Dory V, Gagnon R, Charlin B. Is case-specificity content-specificity? An analysis of data from extended-matching questions. Advances in Health Sciences Education 2010;**15**:55–63. doi:10.1007/s10459-009-9169-z

50

Farmer EA, Page G. A practical guide to assessing clinical decision-making skills using the key features approach. Medical Education 2005;**39**:1188–94. doi:10.1111/j.1365-2929.2005.02339.x

51

Farmer EA, Page G. A practical guide to assessing clinical decision-making skills using the key features approach. Medical education 2005;**39**:1188–94. doi:10.1111/j.1365-2929.2005.02339.x

52

Gagnon R, Charlin B, Roy L, et al. The Cognitive Validity of the Script Concordance Test: A Processing Time Study. Teaching and Learning in Medicine 2006; $\bf 18$:22–7. doi:10.1207/s15328015tlm1801 6

Tweed M, Wilkinson T. A randomized controlled trial comparing instructions regarding unsafe response options in a MCQ examination. Medical Teacher 2009; $\mathbf{31}$:51–4. doi:10.1080/01421590802146018

54

National Board of Medical Examiners. Constructing Written Test Questions For the Basic and Clinical Sciences. http://www.nbme.org/publications/item-writing-manual.html

55

Brigden D. Constructing a learning portfolio. BMJ 1999;**319**:2a-2a. doi:10.1136/bmj.319.7201.2a

56

Challis M. AMEE Medical Education Guide No.11 (revised): Portfolio-based learning and assessment in medical education. Medical Teacher 1999;**21**:370–86. doi:10.1080/01421599979310

57

Challis M. Portfolios and assessment: meeting the challenge. Medical Teacher 2001;23:437-40. doi:10.1080/01421590120075643

58

Does a student log provide a means to better structure clinical education? Medical Education 1999;**33**:89–94. doi:10.1046/j.1365-2923.1999.00285.x

59

Driessen E, van Tartwijk J, Vermunt J, et al. Use of portfolios in early undergraduate medical training. Medical Teacher 2003;**25**:18–23. doi:10.1080/0142159021000061378

06/18/25

60

Driessen E, van der Vleuten C, Schuwirth L, et al. The use of qualitative research criteria for portfolio assessment as an alternative to reliability evaluation: a case study. Medical Education 2005;39:214–20. doi:10.1111/j.1365-2929.2004.02059.x

61

Driessen EW, Overeem K, van Tartwijk J, et al. Validity of portfolio assessment: which qualities determine ratings? Medical Education 2006;**40**:862–6. doi:10.1111/j.1365-2929.2006.02550.x

62

Driessen EW, Muijtjens AMM, van Tartwijk J, et al. Web- or paper-based portfolios: is there a difference? Medical Education 2007;41:1067–73. doi:10.1111/j.1365-2923.2007.02859.x

63

du Boulay C. From CME to CPD: getting better at getting better? BMJ 2000;**320**:393-4. doi:10.1136/bmj.320.7232.393

64

Freeman, Richard T., Lewis, Roger. Planning and implementing assessment. London: : Kogan Page 1998.

65

David MFB, Davis MH, Harden RM, et al. AMEE Medical Education Guide No. 24: Portfolios as a method of student assessment. Medical Teacher 2001;**23**:535–51. doi:10.1080/01421590120090952

66

Hays RB. Reflecting on learning portfolios. Medical Education 2004;**38**:801–3. doi:10.1111/j.1365-2929.2004.01831.x

Brian Jolly. Clinical logbooks: recording clinical experiences may not be enough. Medical Education 1999;**33**:86–8. doi:10.1046/j.1365-2923.1999.00386.x

68

Mathers NJ, Challis MC, Howe AC, et al. Portfolios in continuing medical education - effective and efficient? Medical Education 1999;**33**:521–30. doi:10.1046/j.1365-2923.1999.00407.x

69

O'sullivan PS, Reckase MD, McClain T, et al. Demonstration of Portfolios to Assess Competency of Residents. Advances In Health Sciences Education 2004;**9**:309–23. doi:10.1007/s10459-004-0885-0

70

Pearson DJ, Heywood P. Portfolio use in general practice vocational training: a survey of GP registrars. Medical Education 2004;**38**:87–95. doi:10.1111/j.1365-2923.2004.01737.x

71

Pitts J, Coles C, Thomas P. Enhancing reliability in portfolio assessment: 'shaping' the portfolio. Medical Teacher 2001;**23**:351–6. doi:10.1080/01421590120057021

72

Pitts J, Coles C, Thomas P. Educational portfolios in the assessment of general practice trainers: reliability of assessors. Medical Education 1999;33:515-20. doi:10.1046/j.1365-2923.1999.00445.x

73

Pitts, John, Association for the Study of Medical Education. Portfolios, personal development and reflective practice. Edinburgh: : ASME 2007.

Rees C. The use (and abuse) of the term 'portfolio'. Medical Education 2005;**39**:436–436. doi:10.1111/j.1365-2929.2005.02119.x

75

Roberts C, Newble DI, O'Rourke AJ. Portfolio-based assessments in medical education: are they valid and reliable for summative purposes? Medical Education 2002; **36**:899–900. doi:10.1046/j.1365-2923.2002.01288.x

76

Schuwirth LWT, Vleuten CPM. A plea for new psychometric models in educational assessment. Medical Education 2006;40:296–300. doi:10.1111/j.1365-2929.2006.02405.x

77

Snadden D. Portfolios - attempting to measure the unmeasurable? Medical Education 1999;**33**:478–9. doi:10.1046/j.1365-2923.1999.00446.x

78

Snadden D, Thomas ML. Portfolio learning in general practice vocational training - does it work? MEDICAL EDUCATION 1998;**32**:401–6. doi:10.1046/j.1365-2923.1998.00245.x

79

Webb C, Endacott R, Gray M, et al. Models of portfolios. Medical Education 2002;**36**:897–8. doi:10.1046/j.1365-2923.2002.01318.x

80

Webb C, Endacott R, A Gray M, et al. Evaluating portfolio assessment systems: what are the appropriate criteria? Nurse Education Today 2003;**23**:600–9. doi:10.1016/S0260-6917(03)00098-4

Wilkinson TJ, Challis M, Hobma SO, et al. The use of portfolios for assessment of the competence and performance of doctors in practice. Medical Education 2002; 36:918-24. doi:10.1046/j.1365-2923.2002.01312.x

82

Archer JC. Use of SPRAT for peer review of paediatricians in training. BMJ 2005;**330**:1251–3. doi:10.1136/bmj.38447.610451.8F

83

Archer J, Norcini J, Southgate L, et al. mini-PAT (Peer Assessment Tool): A Valid Component of a National Assessment Programme in the UK? Advances in Health Sciences Education 2008; 13:181–92. doi:10.1007/s10459-006-9033-3

84

Campbell LM, Howie JG, Murray TS. Use of videotaped consultations in summative assessment of trainees in general practice. British Journal of General Practice 1995;45:137–41.http://0-bjgp.org.pugwash.lib.warwick.ac.uk/content/45/392/137

85

Crossley J, Eiser C, Davies HA. Children and their parents assessing the doctor-patient interaction: a rating system for doctors' communication skills. Medical Education 2005;**39**:820–8. doi:10.1111/j.1365-2929.2005.02230.x

86

Daelmans HEM, van der Hem-Stokroos HH, Hoogenboom RJI, et al. Feasibility and reliability of an in-training assessment programme in an undergraduate clerkship. Medical Education 2004;38:1270–7. doi:10.1111/j.1365-2929.2004.02019.x

87

Evans R. Review of instruments for peer assessment of physicians. BMJ 2004;**328**. doi:10.1136/bmj.328.7450.1240

Govaerts MJB, Vleuten CPM, Schuwirth LWT, et al. Broadening Perspectives on Clinical Performance Assessment: Rethinking the Nature of In-training Assessment. Advances in Health Sciences Education 2007; **12**:239–60. doi:10.1007/s10459-006-9043-1

89

Murphy DJ, Bruce DA, Mercer SW, et al. The reliability of workplace-based assessment in postgraduate medical education and training: a national evaluation in general practice in the United Kingdom. Advances in Health Sciences Education 2009;**14**:219–32. doi:10.1007/s10459-008-9104-8

90

Norcini JJ. The Mini-CEX (Clinical Evaluation Exercise): A Preliminary Investigation. Annals of Internal Medicine 1995;123. doi:10.7326/0003-4819-123-10-199511150-00008

91

Norcini JJ. ABC of learning and teaching in medicine: Work based assessment. BMJ 2003; **326**:753–5. doi:10.1136/bmj.326.7392.753

92

Postgraduate Medical Education and Training Board. Developing and maintaining an assessment system - a PMETB guide to good practice. 2007.http://www.gmc-uk.org/Assessment good practice v0207.pdf 31385949.pdf

93

Ramsey PG. Use of Peer Ratings to Evaluate Physician Performance. JAMA: The Journal of the American Medical Association 1993;**269**. doi:10.1001/jama.1993.03500130069034

94

Ringsted C, Henriksen AH, Skaarup AM, et al. Educational impact of in-training assessment (ITA) in postgraduate medical education: a qualitative study of an ITA programme in actual

practice. Medical Education 2004; **38**:767–77. doi:10.1111/j.1365-2929.2004.01841.x

95

Whitehouse A, Hassell A, Bullock A, et al. 360 degree assessment (multisource feedback) of UK trainee doctors: Field testing of team assessment of behaviours (TAB). Medical Teacher 2007;29:171–6. doi:10.1080/01421590701302951

96

Moonen-van Loon JMW, Overeem K, Donkers HHLM, et al. Composite reliability of a workplace-based assessment toolbox for postgraduate medical education. Advances in Health Sciences Education 2013;18:1087–102. doi:10.1007/s10459-013-9450-z

97

Bullock AD, Hassell A, Markham WA, et al. How ratings vary by staff group in multi-source feedback assessment of junior doctors. Medical Education 2009; 43:516-20. doi:10.1111/j.1365-2923.2009.03333.x

98

Cleland JA, Knight LV, Rees CE, et al. Is it me or is it them? Factors that influence the passing of underperforming students. Medical Education 2008;**42**:800–9. doi:10.1111/j.1365-2923.2008.03113.x

99

Davies H, Archer J, Bateman A, et al. Specialty-specific multi-source feedback: assuring validity, informing training. Medical Education 2008;**42**:1014–20. doi:10.1111/j.1365-2923.2008.03162.x

100

Hill F, Kendall K, Galbraith K, et al. Implementing the undergraduate mini-CEX: a tailored approach at Southampton University. Medical Education 2009;**43**:326–34. doi:10.1111/j.1365-2923.2008.03275.x

Kogan JR, Holmboe ES, Hauer KE. Tools for Direct Observation and Assessment of Clinical Skills of Medical Trainees. JAMA 2009;**302**. doi:10.1001/jama.2009.1365

102

Postgraduate Medical Education and Training Board. Workplace Based Assessment: A Guide for Implementation.

2009.http://train-com.de/mediadb/9468/20532/eng41_workplace.pdf

103

Richards SH, Campbell JL, Walshaw E, et al. A multi-method analysis of free-text comments from the UK General Medical Council Colleague Questionnaires. Medical Education 2009;**43**:757–66.https://go.exlibris.link/dqJBlzww