

Workplace-based assessment in postgraduate training

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Assessment
that occurs
in the
context of
clinical
training or
practice

Assessment during postgraduate
education

Common features

Methods of workplace
assessment

Why are they good for learning?

Why are they good for
assessment?

Postgraduate Training: Differences

- Compared to undergraduate training
 - Curriculum is less structured and trainees have more responsibility
 - Education and assessment need to
 - Include a broader range of patient problems
 - More complex and acute care
 - Multi-system disease
 - More procedures
 - Support the development and assessment of integrated skills

Postgraduate Training: Differences

- Compared to practice
 - Trainees are not yet completely responsible for patients
 - Differentiation within specialty has not yet occurred
 - Training and assessment need to
 - Focus on the potential to practice, not actual practice
 - Support the educational enterprise

Postgraduate Training: Challenges

- Difficult to develop educational and assessment materials locally
 - Small numbers of trainees and faculty
 - Resources are fragmented across specialties
 - Faculty possess clinical expertise but educational expertise is less common
 - Faculty are busy
- Difficult to simulate at the level of the trainees
 - Content and skills are too sophisticated

Postgraduate Training: Opportunities

- Workplace-based learning and assessment capitalizes on
 - Routine interactions between trainees and patients
 - Clinical material is readily available
 - Routine interactions between trainees and the health care team
 - Serve both education and assessment (source of information on performance)



Methods: Common Features

- Trainee is observed in workplace activities either over time (e.g., ratings by faculty)
 - Based on observation over multiple occasions
 - Sometimes the behavior is not actually observed
 - It is subject to general impressions

Methods: Common Features

- Or the trainee is observed in an encounter-based workplace activity (e.g., mini-CEX)
 - Less subject to general impressions
 - Multiple encounters are needed so it is time-consuming





Methods: Common Features

- Observer judges the performance in 1 of 3 ways
 - Occurrence (checklist)
 - Simply note if a behavior has occurred
 - Non-experts can use checklists
 - Provide guidance for feedback
 - Misses some of the subtleties in performance

Methods: Common Features

- Observer judges the performance in 1 of 3 ways
 - Quality (global ratings)
 - Evaluate the quality of a performance
 - Requires an expert
 - Allows use of judgment
 - Highly correlated with checklists but slightly more valid and slightly less reliable





Methods: Common Features

- Observer judges the performance in 1 of 3 ways
 - Suitability
 - Evaluate the quality of a performance and judge if it is good enough
 - Requires an expert
 - Allows use of judgment
 - Differences in ratings are unclear (quality or standards?)

Methods: Common Features

- After the assessment, the observer provides feedback
 - Feedback is the most important part of the workplace methods
- For all of these methods, the observer is the assessment device
 - Critical role in their quality
 - Faculty development is essential



Methods



360° assessment

Faculty ratings

Chart-stimulated recall

Blinded patient encounters

And more...

Direct observation of procedural skills

mini-CEX

Peer assessment

Clinical encounter cards

Clinical work sampling

Methods



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And more...

Direct observation of procedural skills

mini-CEX

Peer assessment

Clinical encounter cards

Clinical work sampling

Mini-CEX

- Process
 - Assessor observes a patient-trainee encounter
 - Focused clinical task
 - Assessor rates along a number of dimensions
 - Assessor provides feedback
 - Takes 15-20 minutes
 - Multiple encounters



DOPs

- Process
 - Assessor observes a patient-trainee encounter
 - Procedure
 - Assessor rates along a number of dimensions
 - Assessor provides feedback
 - Takes 15-20 minutes
 - Multiple encounters



Chart-Stimulated Recall

- Process
 - Assessor reviews a patient record where the trainee made notes
 - Discussion around the trainee's notes
 - Assessor rates along a number of dimensions
 - Takes 15-20 minutes
 - Multiple encounters



360° Assessment

- Process
 - Trainee nominates assessors and self-rates
 - Assesses clinical and generic skills
 - Collated centrally
 - Trainee given self-ratings, assessor ratings, mean ratings, and comments



Why are workplace
methods good for
learning?

Provide Feedback

- Provision of feedback in surgery is limited
 - Teaching in the operating room
 - Survey of US general surgery residents (Snyder et al, 2012)
 - Faculty identified personal preoperative educational goals (18%), areas for improvement (37%)
 - So the performance of new Fellows is not surprising...
 - Survey of Fellowship program directors (Mattar et al., 2013)
 - 21% felt trainees arrived unprepared for the operating room
 - 34% felt trainees were able to operate 30 unsupervised minutes for a major procedure
 - 56% felt trainees were not proficient in laparoscopic suturing

Provide Feedback

- The same is true for medicine...
 - Medical students
 - Structured observation done for only 7-23% of students (Kassebaum & Eaglen, 1999)
 - Only 28% of IM clerkships include formative assessment strategy (Kogan & Hauer, 2006)
 - Postgraduate trainees
 - 82% were observed only once (Day et al., 1990)
 - 80% observed never or infrequently (Isaacson et al., 1995)

Provide Feedback

- Feedback is critical to learning and has a significant influence on achievement
 - General education (Hattie, 1999)
 - Meta-analysis of 12 meta-analyses
 - Feedback is among the largest influences on achievement ($ES=.79$)
 - Medical education (Veloski et al., 2006)
 - Feedback alone effective is effective in 71% of studies

Optimize Learning

	Massed Training	Spaced Training
Sessions	Few, Intense	Many, Spread Out
Speed		
Confidence		
Satisfaction		
Retention		
Performance		

Optimize Learning

	Massed Training	Spaced Training
Sessions	Few, Intense	Many, Spread Out
Speed	Faster	
Confidence	Higher	
Satisfaction	Greater	
Retention		Longer
Performance		Better

Create Learning

- Retrieval of information or a performance enhances learning
 - Students read a passage (Roediger & Karpicke, *Psych Science*, 2006)
 - Group 1 took three tests on the passage
 - Group 2 re-read the passage carefully three times
 - On a test one week later, Group 1 did better
 - Students read science text (Karpicke & Blunt, *Science*, 2011)

Why are workplace
methods good for
assessment?

Traditional Workplace Assessment

- Clinical Evaluation Exercise
 - One examiner observes a trainee interact with an unfamiliar (in)patient
 - Trainee does a complete Hx/PE, presents findings, management plan, written record
 - Examiner rates along several dimensions
 - Takes about two hours
 - 82% of trainees undergo a CEX in their first year

Multiple Patients

- The trainee is evaluated with only one patient
 - Physician performance varies considerably from patient to patient

“The tendency of the casual mind is to pick out or stumble upon a sample which supports or defies its prejudices, and then to make it the representative of a whole class.”

Walter Lippmann

Multiple Examiners

- The trainee is evaluated by only one examiner
 - Examiners differ in stringency

“Where there is much desire to learn, there of necessity will be much arguing, much writing, many opinions; for opinions in good men is but knowledge in the making.”

John Milton

Realistic Tasks

- Most real physician-patient encounters are short and focused
 - The task is artificial

"Reality is merely an illusion, albeit a very persistent one."

Albert Einstein



- Encounter-based methods
 - Patient records (4-8)
 - Observers (4-8)
 - Items (5-10)
- Over time methods
 - Observers except patients (6-10)
 - Items (5-10)

What do the data
say about numbers?



Workplace assessment

- Education
 - Drive and guide learning
 - Provide feedback
 - Create learning
 - Optimize learning
- Assessment
 - Multiple encounters
 - Multiple faculty perspectives
 - Realistic tasks

Challenges

- Not many trainees will be considered unsatisfactory
 - Workplace assessment alone is not a substitute for summative assessment

"Everywhere I go I'm asked if I think the university stifles writers. My opinion is that they don't stifle enough of them."

Flannery O'Connor

Challenges

- Standards across programmes will not be equivalent
 - Results will not be useful for comparing or ranking of trainees

“Equal opportunity means everyone will have a fair chance at becoming incompetent.”

Laurence J Peter

Challenges

- Implementation is difficult
 - Trainees control who examines them and on which patients
 - Assessment might be biased in their favour
 - Faculty control the process
 - Assessment might not get done

“It is hard to believe that a man is telling the truth when you know that you would lie if you were in his place.”

H. L. Mencken

Challenges

- Faculty are the method!
 - Faculty development is necessary
 - Take ownership of the process
 - Calibrate examiners
 - Learn how to provide effective feedback

“A university is what a college becomes when the faculty loses interest in the students”

John Ciardi

Summary

Common features

Methods of workplace assessment

Why are they good for learning?

Why are they good for assessment?