AMEE 2015 Glasgow

# S6: So you ran your course …

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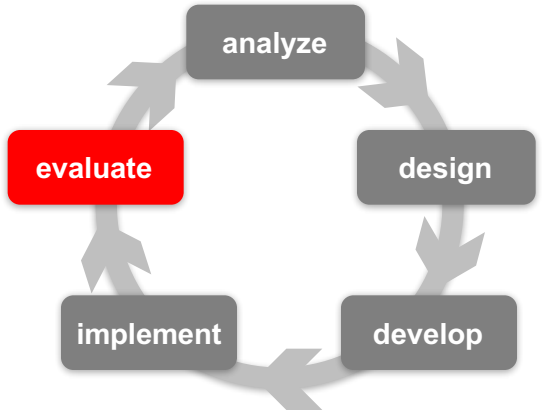
## Approaches to ID: ADDIE




## Evaluation challenges

- Anxiety about new models of medical education - using new technologies amplifies it
- Usability, accessibility of materials and learning environment often overlooked in mainstream evaluation practice
- Technology-mediated activities do not yield the same opportunities for informal evaluation and feedback that traditional forms do
- TEL can generate much more data (and different kinds of data) than can generated by traditional approaches
- Evaluating technologies, activities that use technology, or the use of technology in activities?

Cook DA, Ellaway RH. 2014. Evaluating technology enhanced medical learning. Medical Teacher (in review).

## What do you want to know?

- Efficacy - Kirkpatrick levels:
  - Reaction – happy sheets
  - Learning: increase in knowledge and/or skills, change in attitudes.
  - Behavior - transfer of knowledge, skills, and/or attitudes from training to practice
  - System-level change – patient outcomes, learning outcomes
- Effectiveness – economics, ecologies

## Evaluation activities

1. Needs analysis and environmental scan
2. Documentation: processes, decisions, and final product
3. Usability testing
4. Observation of implementation
5. Participant experience and satisfaction
6. Learning outcomes
7. Cost, reusability, and sustainability

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## Evaluation activities

- Evaluation might include:
  - needs analyses
  - documentation of processes, decisions, and final product
  - usability testing
  - observation of implementation
  - assessment of participant experience
  - Assessment of learning outcomes
  - evaluation of cost, reusability, and sustainability
- So, who is the intended audience?
- What is the audience likely to do with the information?''

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## Minimal evaluation

- Who is the intended audience for the evaluation?
- What will they do with this information?
- Evaluation ingredients:
  - Usability testing
  - Document key elements of the final product (operations, activities)
  - Capture the perceptions of both students and instructors
  - Assess Kirkpatrick Level 2 outcomes (knowledge, skills, attitudes)

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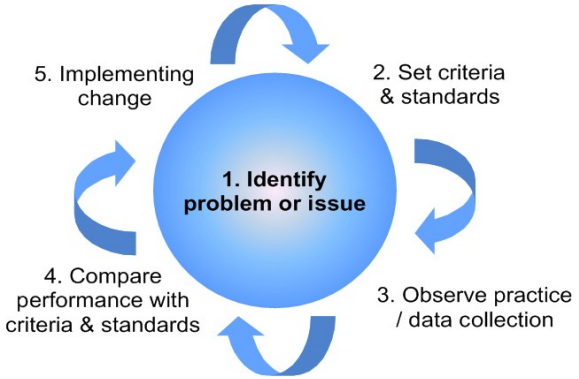
## What do you do with it?




Source: Wikimedia Commons - http://en.wikipedia.org/wiki/File:Clinical_audit_cycle.jpg

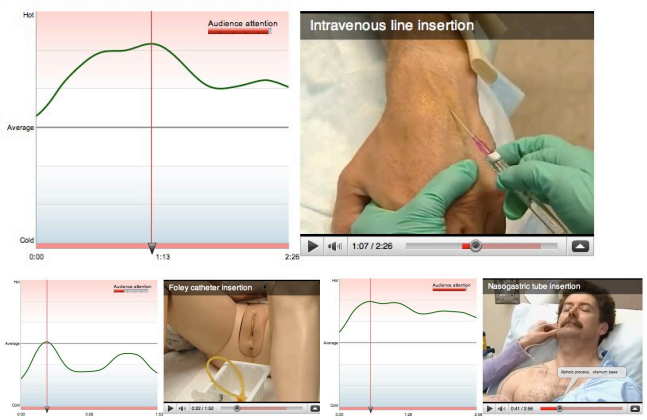
## Educational analytics

- Educational data – learner profiles and trajectories, benchmarks and program requirements, support options
- Activity data – who did what when
- Used for individual learner support and guidance
- Used to improve tutor awareness of learners' activity
- Used for class, school, institutional reporting and planning

## Analytics

- Logfiles – what events are recorded?
- Computer trackable events
- Google Analytics
- What you get …
- What you give …


## YouTube Analytics




Topps D, Ellaway R, Helmer J (2012). YouTube as a Platform for Publishing Clinical Skills Videos. Academic Medicine, 88(2): pp192-197.

## Analytics

- Analytics cf evaluation
  - pattern recognition
  - ambient tracking
- Analytics tell you what people did
- Analytics based on what the machines see …
- Time on page = study, snooze or snacks?
- Analytics don't tell you why they did it
- Still need to ask people the why …

## … and why activity is critical

- How are activities encoded/represented in analytics?
- Does a click = learning?
- Current models based on access, view time, completion
- No sense of what was happening outside of the machine
- We know learners game online learning to satisfy analytics
- What is useful, what is real?

## ACTIVITY 4

How will you know what happened?

## ACTIVITY 5

Usability testing

Laptops: https://www.nobelprize.org/educational/medicine/bloodtypinggame/

iPad: http://www.learningnurse.org/index.php/assessment/games