

# Educational interventions

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## Section Overview

- What is education?
- What are the purposes of education?
- What is the process for education?
- What educational interventions can we use to effect KT?
- What are some current trends in CME?
- Future research

## What is education?

- AMA defines continuing medical education (CME) as: "any and all ways by which physicians learn and maintain their competence"
- Broad and holistic definition, but...
- CME often involves large group sessions that rarely demonstrate evidence of effect on clinician performance or health care outcomes
- We describe educational interventions to promote the use of best evidence into health professional practice

## What are the purposes of education?

External forces for change:

- Knowledge explosion
- Specialty society interests in CME
- Need for documenting knowledge and skills maintenance
- Pharmaceutical and commercial interests in influencing physician practice
- Innate professionalism

Internal forces for change:

- Recent personal experience
- Changing demographics (e.g. aging or changing populations and patient demands)
- Self-appraisal and awareness built from clinical experiences

- New and expanded competency or "zone of mastery"

Types of change:

- Small adjustments or accommodations (e.g. adding a new drug to a regimen)
- Larger redirections (e.g. adopting an entirely new method of practice)

Traits of the self-directed learner:

- Discipline and motivation
- Analytic abilities
- Ability to reflect and be self-aware
- Curiosity, openness and flexibility
- Well-developed information-seeking and retrieval skills
- Good general learning skills

(Candy, 1991)

## What is the process for education?

Steps in the change process:

- Rogers' "decision-innovation process"
- Prochaska and Velicer's "transtheoretical model"
- Pathman's "awareness-agreement-adoption-adherence" process
- Stages of learning important in studying effect of education interventions

<b>Learning change continuum</b>	<b>Awareness</b>	<b>Agreement</b>	<b>Adoption</b>	<b>Adherence</b>
<i>Elements of change:</i>	<i>Predisposing elements:</i>	<i>Enabling strategies:</i>	<i>Enabling strategies:</i>	<i>Reinforcing elements:</i>
Possible roles for educational interventions	Conferences, lectures, rounds, print materials	Small group learning activity; interactivity in lectures	Workshops; materials distributed at conferences; audit and feedback	Audit and feedback; reminders

Using only one technique rarely produces change, but...

- Awareness of new evidence, conferences, print materials and rounds may predispose to change

- Exposure to other learners at conferences may provide a setting for discussing new findings or guidelines
- Workshops or on-line learning experiences may facilitate adoption of new methods
- Audit/feedback may facilitate sustainability

## **What educational interventions can we use?**

Large group sessions produce little performance change, but...some useful and effective strategies to increase impact on performance and health care outcomes:

- Determining needs and setting objectives
- Formatting the large group session
- Variation in the educational method

### **Determining needs and setting objectives:**

- Driven by patients and health care system, not just needs of learners
- Subjective needs assessment strategies (questionnaires, focus groups, structured individual interviews, and diaries or log books)
- Objective tools (standardized measures of knowledge and/or skills, chart audits, peer review, observation of practice and reports of practice patterns and physician performance data)

### **Improve formatting of large group sessions by:**

- Employing multiple methods
- Increasing interactivity of the sessions
- Using other strategies to increase reach and impact

### **Employing multiple methods:**

- Use a variety of presentation media (e.g., audio tapes; actual or standardized patients or videotapes; panel discussions; debates; quizzes on learning needs or outcomes)
- Distribute practice enablers (e.g., patient care reminders, protocols and flow sheets, patient education materials, wall charts)
- Use clinical scenarios and vignettes to increase relevance and applicability of materials
- Staging two workshops instead of one (e.g., one month apart)

### **Increasing interactivity of the sessions:**

- Increase the frequency and duration of Q and A sessions
- Encourage "buzz groups" and pyramiding or snowballing techniques (e.g., think-pair-share)

## Small group learning:

- Groups of 5-10 learners who meet regularly
- Led by a facilitator
- Common in Canada and Europe
- Demonstrate an impact on competence and performance (possibly due to concentration on evidence-based material, peer pressure and influence)

## Distance education techniques:

- Web, video, or audiocasts
- Must be interactive to engage the learner
- Have shown increases in physician knowledge and knowledge retention
- Online communities of practice (promotes networking and consulting among peers)

## Self-directed learning:

- Traditional textbooks, monographs, clinical practice guidelines, and journals supplemented by...
- Printed or computerized self-assessments that provide feedback
- Portfolio-based learning (document learning, quality of learning, learning gaps, examples of learning plans, objectives and resourced required)

## What are some current trends in CME?

- Changing construct of CME (no longer just information transfer)
- Need for rapid response educational technologies for new and emerging disease states
- Improved chronic disease management
- Maintenance of licensure and certification (focus on demonstration of improved practice)
- Increasing focus on health care outcomes and performance

<b>Level</b>	<b>Outcome</b>	<b>Metrics or indicators</b>
1	Participation	Attendance
2	Satisfaction	Participant satisfaction
3	Learning	Changes in knowledge, skills, or attitude
4	Performance	Changes in practice performance
5	Patient health	Changes in patient health status
6	Population health	Changes in population health status

## Future research

The learner...

- Are self-assessment and self-directed learning core character logic traits or can they be taught?
- If the latter, how can this best be accomplished?

The communication vehicle...

- What knowledge transmission vectors work best? (PDA-mediated educational messages vs. traditional educational ones)

The context of learning...

- The seeing of learning, its remuneration pattern, and its linkage to IT resources

The effect on learning and uptake...

- How is the uptake of information effected by the nature, complexity, compatibility and level of evidence to be adopted?