Designing Learning Experiences that Improve Health Care

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AT ESC EDUCATION CONFERENCE INTERACTIVE WORKSHOPS
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Leadership Roles in the Profession:
*Involved in CME for 45 years
*Consultant to over 300 CE organizations in last 35 years
*Member of ACCME Review Committee (7 years)
*ACEhp Leadership as Board member (10 years) and President (4 years)
*Full time positions:
  - American College of Cardiology (Chief Learning Officer; Sr. VP)
  - Duke School of Medicine (Associate Dean of CME)
  - Sharp HealthCare (VP for Educational Affairs)
  - Association of American Medical Colleges (Sr. Staff Associate)

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PROFESSIONAL AREAS OF INTEREST:
ADULT AND PROFESSIONAL LEARNING; PROGRAM (BACKWARDS) PLANNING; HOW PHYSICIANS LEARN AND CHANGE; EDUCATIONAL PSYCHOLOGY; ACCREDITATION; LEADERSHIP AND STRATEGIC PLANNING

PUBLICATIONS:
2 BOOKS (EDITOR AND AUTHOR); 13 CHAPTERS IN BOOKS; 12 JOURNAL ARTICLES; 8 PROFESSIONAL MAGAZINE ARTICLES; 2 BOOK REVIEWS
Disclosure of Relationships with Industry

Joseph S. Green, PhD

No Relationships

IF NOTED, THE RELATIONSHIPS DISCLOSED ARE AS FOLLOWS:

(A) GRANTS/RESEARCH SUPPORT (B) CONSULTANT (C) STOCK/SHAREHOLDER (SELF-MANAGED) (D) SPEAKER’S BUREAU (E) ADVISORY BOARD OR PANEL (F) SALARY, CONTRACTUAL SERVICES (G) OTHER FINANCIAL OR MATERIAL SUPPORT (ROYALTIES, PATENTS, ETC.)
The QUESTION

How do you as a health care professional and/or course chair...

design, implement and evaluate learning experiences for your colleagues and patients...

that actually impact their knowledge, competence and/or performance...

that then enhances patient care outcomes?
The ANSWERS

I. Changes that have occurred in medical education over the last several years

II. Latest research on using adult learning principles, curriculum design and assessment/evaluation

III. Developing faculty teams to enhance learning
“Achieving Desired Results and Improved Outcomes: Integrating Planning and Assessment Throughout Learning Activities”


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Plan for this talk

- Background—Adding perspectives [slides]
- Changes that have occurred in Medical Education [slides]
- Latest research
  - Assessment of needs [slides and small group discussion/Q&A]
  - Educational Design/Evaluation [slides and small group discussion/Q&A]
  - Faculty Teams [slides and small group discussion/Q&A]

- NOTE: Slides will be made available by ESC, including hidden slides for your possible use with your learners.
I. Changes that have occurred in medical education over the last several years
Where have we been?
The OLD planning process

- Decide on topic
- Re-tool previous programs
- Location
- Select faculty
- Faculty select content
- Put content into lectures and panels
- Assess success
  - #'s, $$, happiness
Traditional “CME”: passively providing information to physicians

- Linear planning models that start with content or faculty
- Exclusive use of passive formats & methods
- No required involvement of learners in improving performance in practice
- No commitment of planners/faculty to designing learning experiences to impact performance or studying outcomes of learning
Impact of Formal CME

Dave Davis, MD et al
JAMA, 1999

Traditional, formal CME (lectures) **failed** to achieve success in changing performance or health care outcomes.

Those using **interactive techniques** (case discussion, role-playing, hands-on practice sessions) were more effective.
SHIFT HAPPENS

- 1997: FDA Guidance
- 2002: PhRMA Code
- 2003: HHS OIG
- 2004: AdvaMed Code
- 2005: Updated SCS
- 2006: Updated ACCME Criteria
- 2009: IOM Reports
Four Landmark IOM Reports

- To Err is Human: Building a Safer Health System--1999
- Crossing the Quality Chasm: A New Health System for the 21st Century--2001
- Health Professions Education: A Bridge to Quality—2002
- Redesigning Continuing Education in the Health Professions--2009
Clinical Faculty — New Educational Roles and Responsibilities
Faculty as Clinical Educator/Learner

- Course Chair
- Education Committee/Commission member
- Speaker
- Small group facilitator
- Faculty Mentor
- Moderator
- Panelist
- Learning planning committee member
- Evaluator
WHERE ARE WE GOING?

CONTINUING PROFESSIONAL DEVELOPMENT (CPD)...

SUPPORTING TRANSFORMATIONAL CHANGES IN HEALTHCARE
Productive Use of **Social Media**

- Content supplement
- Marketing tool
- Pre or post assessments
- Learner pre-tests
- Learner dialogue with faculty
- Communication tool for community of practices
Importance of Online-learning

- ‘Flipped classroom’
- More flexible format
- Supplemental materials for self-directed learning
- Comparing learner knowledge with guidelines and/or colleagues level of knowledge
- Connection to search engines and point-of-care learning
- Easy to add modifications and new content
- Learner preference of younger MD’s
Criticality of *Evaluation & Assessment* of Educational Outcomes

- Activity and organizational evaluation
- Planners and learners can track what is known and how much was learned and applied in practice
- Provides data on outcomes
- Maintenance of Certification, Licensure and Credentialing
- Allows for 'backwards planning' principles to design
- Data allows for obtaining more resources
Creation of **Competency-based Curriculum**

- Content based on competencies needed
- Allows for more efficiencies
- Helps learners know what they don’t know
- Learners have less time
- Can build a relevant curriculum for specific specialties, sub-specialties and the health care team
Increased Use of New Educational Technologies

- Patient-care simulation
- I-pads, I-phones
- EMR's—tracking your practice performance vis-à-vis standards of care
- ARS—tied into smart phone's and I-Pads
- New software--creating more engaging presentations
Linking Research, Quality Improvement and Medical Education

• Additional skill sets needed by clinicians
• Initiatives will combine all three learning and change methodologies
• Grants from pharma and device companies are going to start demanding research/QI paradigms
• More data needed that ‘proves’ that current education could improve competence or performance
Changes in *Funding* of Medical Education

- Pharma and Device companies are cutting back
- Clinicians will be asked to pay more
- Other sources: Payers, hospitals and health systems, national governments, computer companies, EMR companies, car companies
- More stress
Teaching Clinician Faculty about

**Learning and Change Principles**

- Obtaining advanced training in learning
- Faculty development
- More coordination across continuum of medical education
- More learning resources need to be made available to clinician educators
- Establish on-going “communities of practice” for clinician educators
Teaching the **Healthcare Team**

- Patient care and learning will move to health teams
- Healthcare problems will be target of educational initiatives
- Will need to design different content, formats and methods for different team members
II. Latest research on using adult learning principles, instructional design and assessment/evaluation
A. ASSESSMENT OF NEEDS:

1. Adult learning principles and target audiences
Address *gaps* in knowledge, competence and performance

Provide *motivation* for learning

Create *relevance* and enable *translation* to real world settings

Lead to *verifiable outcomes* through *constructive alignment*

Promote *learner engagement*

Provide and seek *feedback*

Allow opportunities for *reflection*
Course Chairs and their faculty need to:

- Understanding the learners’ work environment
- Learners’ Perceived needs—self assessment
Learners Need to Understand what they don’t know and have a clear vision of what should be achieved

- “I don’t know squared” syndrome
- Test about what is valued—application to medical practice, not esoteric facts
- Gap between current and ideal performance is motivation for learning
  - Too large a gap = aversion to learning
  - Too small a gap = no motivation
- Goal: Medium size gap = achievable
A. ASSESSMENT OF NEEDS:

1. Adult learning principles and target audiences

2. Motivation, learning gaps and levels of outcomes
When are you MOTIVATED to Learn??

- When I don’t know something that I need to know to succeed
- When my colleagues know something I don’t know
- When guidelines and standards of care suggest I should know something that I do not
- When some new procedure or medication has come out that I could use to improve my performance as a physician, if I only understood it
- If I were on the brink of developing my own new procedure or treatment option, but lacked some important piece of information
It is all about the “GAP”!

The difference between *What is* and…

- What *ought to be*
- What *could be*
- What *is desired*
- What *peers are doing*

As it relates to…

- What a learner knows (*knowledge*)
- What a learner is capable of performing (*competence*)
- What a learner actually does in their practice (*performance*)
Determining Causes of Gaps

- Use literature review, surveys or focus groups to understand why gap exists.
- Does gap exist at least partially because physicians don’t know or understand something and can it be defined in terms of knowledge, skills or attitudes?
- Is gap caused primarily by other issues such as systems problems, lack of resources, cultural differences, reimbursement issues?

“How do we know that the gap will lend itself to an educational solution?”
Gather data on why physicians are not practicing at highest possible level

Clearly describe barriers to performance

Find examples of successful strategies to get around barriers

Use surveys or focus groups to understand dynamics of practice setting

“How do I understand why physicians aren’t performing at an optimal level?”
How do you do pre-course assessments?

Knowledge/Competency Levels

1- What is your current level?

2- What is your desired level?
<1 = low motivation

1 ~ 2.5 = good motivation

>2.5 = anxiety
Clinical Assessment of Practice

(George Miller, MD—University of Illinois—1950’s)

- **Knows how**
  - Procedural knowledge

- **Knows**
  - Declarative knowledge

- **Shows how**
  - Competence

- **Does**
  - Performance

- Performance assessment
- Competence assessment
Levels of Outcomes for CME/CPD:

- (1) Participation
- (2) Satisfaction
- (3) Learning
  - (3A) Knows
  - (3B) Knows how
- (4) Shows how (competence)
- (5) Performance in Practice
- (6) Patient Health Outcomes
- (7) Community health
A. ASSESSMENT OF NEEDS:

1. Adult learning principles and target audiences
2. Motivation, learning gaps and levels of outcomes
3. Backwards program planning
The OLD planning process

- Decide on topic
- Re-tool previous programs
- Location
- Select faculty
- Faculty select content
- Put content into lectures and panels
- Assess success
  - #'s, $$, happiness
Newer Planning Models
‘Backwards Planning’

START WITH THE END IN MIND — IDENTIFY DESIRED RESULTS (OUTCOMES) EARLY IN PLANNING PROCESS
New Planning Model—More complex, but much more effective

- Identify gaps in physician performance
- Measure self-perceived gaps in learner competence
- Delineate desirable outcomes for learning intervention (objectives) based on gaps
- Create content needed to satisfy objectives
- Pick most effective methods to meet objectives
- Select best expert faculty to provide content
- Determine the success of the activity in relation to desirable outcomes
Backwards planning

Health problem → Performance (should DO) → Competency (abilities to have) → Abilities domain K S A
Guiding questions for BACKWARDS PLANNING

- What is the patient care problem?
- Who is involved in this issues?
- Is the problem related to patient outcomes, physician behavior, competencies or knowledge?
- Can learning experiences impact physician performance?
- What are the necessary learning activity outcome measures?
- What are the best educational formats and methods to bring about these outcomes?
- Who are the best faculty and what is the best content?
GROUP DISCUSSION—
A. Assessment of Needs

Questions for Small Groups in audience:

- Why is understanding learners’ needs important in planning learning activities?
- What is the value in undertaking pre-course assessments?
- In backwards planning, what is the first question to ask?

Questions concerning what I have presented?
B. EDUCATIONAL DESIGN:

1. Relevant content, application to the clinical setting and opportunities for practice and feedback
Application of learning to the clinical setting:

“Can learners apply what they have learned to their practice setting?”
Relevance

• Content needs to be relevant to practice realities of learners
• Hierarchy of outcomes for learning experiences
• Faculty, learners and content need to be aligned
Focus on clinical problems that can be used in practice

- Summarizing information contained in recent research publications
- Comparing personal performance with peers
- Information about personal outcomes with patients and comparing to standards of care
- Seeking colleague resources
- Tools to help integrate into practice
Look at outcomes

- Desired behavior of physicians in the practice setting is starting point for outcome-based objectives
- Might be multiple behaviors to be targeted such as diagnosis, treatment and/or follow-up behaviors
- Understand desired outcomes before creating other enabling activities

“How do I make sure that I start the design of instruction with the appropriate outcomes in mind?”
Start with outcomes-based objectives

- Start curriculum planning process with outcomes-based objectives to guide selection of educational formats, methods and media
- Develop decision-making criteria based on the best mechanisms to reach the desired outcomes
- Reject the standard criterion used—we have always done it that way...

“How do I make sure that my planning process leads to reaching the desired outcomes?”
Focus on barriers and strategies for application of learning

- Planners need to build in presentations and discussion around barriers to applying learning to practice
- Use Opinion Leaders to share successful strategies
- Create plans of action

“How do I make sure what has been learned is able to be applied back in the physician’s practice setting?”
Provide Opportunities for practice and feedback

- **Goal** not retention of facts, but application of what was learned into practice setting
- Planners need to create authentic settings that engage learner in complex, realistic and “messy” clinical problems
- Actively involve learners in own learning
- Provide opportunities to interact with colleagues
- Provide learners with feedback on performance
Consider reinforcements for learning

- Assure that additional content is provided after the formal learning to reinforce outcomes-based objectives
- Use case studies to determine that knowledge can be applied to practice environment

“How can I assist the learning and application of learning to practice by our physician learners?”
B. EDUCATIONAL DESIGN:

1. Relevant content, application to the clinical setting and opportunities for practice and feedback

2. Interactivity of learning methods
What is most expected of faculty?

*Increasing Interactivity*
Interaction With Whom or What?

- Content
- Faculty
- Peer Learners
Why increase learner interactivity?

Enhance learning and application to practice
Interactive Learning Formats

- Case Studies
- Discussion Groups
- Use of ARS
- Panel discussions
- The art of moderating
B. EDUCATIONAL DESIGN:

1. Relevant content, application to the clinical setting and opportunities for practice and feedback
2. Interactivity of learning methods

3. Continuous assessment of outcomes
Continuous Assessment/Participant Learning

- **Needs assessment**: gaps in competence and performance lead to desired outcomes

- **Self-assessment**: knowing what you don’t know—key to motivation

- **Formative assessment**: progress towards desired results (during practice and feedback)

- **Summative assessment**: accomplishment of desired results
Formative Evaluation
How are we doing in Meeting our Course Objectives?

Purposes

- Mid-course corrections
- Meeting objectives
- Reacting to suggestions/criticisms
- Colleague evaluators
- Identification of new needs
- Change in formats (more interaction)
Summative Evaluation

HOW DID WE DO?
Participants perception of change over time

- Assess learners’ desire to change during activity
- Provide guidance in identifying areas where change is necessary for individual physician
- Engage physicians in verifying commitment to change after formal activities
- Measure changes in physicians’ perception of their own change at several points in time

“How do I judge whether a given learner has improved their targeted performance after the learning activity?”
Selection of most appropriate assessment methods

- Different methods for different purposes
- Keep it simple
- Protect anonymity of respondents
Selection of most appropriate assessment methods (con’t)

- Mix and match methods to fit the information needs of course:
  - Paper and pencil questionnaire
  - ARS
  - Focus groups
  - External expert evaluators
  - E-mail surveys
  - Opinions/cases/cognitive test items

“If you are not going to use it, don’t ask it”
Disseminate Findings

- Data summary—Staff
- Data analysis—Educational Director
- Recipient of findings—Course Chair
- Just most important findings, not all results
- Only focus on implications for improving course
GROUP DISCUSSION—
B. Educational Design

Questions for Small Groups in Audience:

- How do you make sure that content your faculty provides can be used in the clinical setting?
- Why is interactivity so important to learning?
- What is the most effective learning method and why?
- What is the most important concept related to evaluating outcomes?

Questions concerning what I have presented?
III. Developing *faculty teams* to enhance learning
C. ROLE OF THE CHAIR:

1. Tasks of course Chairs—Challenge assumptions of faculty
Chair and Faculty Roles—Challenge Assumptions!
Challenge Assumptions in Your Chair and Faculty Roles!

- Don’t use same approach to creating learning experiences just because you have always done it that way
- Expand your comfort with new formats, methods and techniques
- Use formats that are:
  - Tied to competencies and key learning outcomes
  - Most effective to accomplish goals
  - Promote interaction of learner with content, faculty and other learners
  - Authentic—closest to reality of practice setting
C. ROLE OF THE CHAIR:

1. Tasks of course Chairs— Challenge assumptions of faculty

2. Select best content experts/moderators, build effective faculty teams and assure activities are planned to improve quality, coordination and cost of care
Select best faculty team to meet outcome-based objectives of learning activity

- Invite based upon expertise (content & process!)
- Communicate learning outcomes of the session
- Point out the importance of any online activities or pre-course faculty sessions
Competencies of Course Chair: Manage faculty

- Match faculty with appropriate content & methods
- Share evaluation & assessment data with faculty
- Prepare & conduct pre-course activities including early communication with faculty
- Troubleshoot during educational activity, eg, absent faculty, ill prepared faculty, inappropriate/bias presentations, etc
“The Art of Moderating—How to Provoke, Incite, Cajole and Keep on Time”
Levels of Outcomes for CME
CHAIRS--Target outcomes at levels 4-5!

Levels of outcomes:

- Participation (1)
- Satisfaction (2)
- Learning
  - Knows (3A)
  - Knows how (3B)
  - Shows how (4)
- Performance (5)
- Patient Health (6)
- Community health (7)
C. ROLE OF THE CHAIR:

1. Tasks of course Chairs— Challenge assumptions of faculty
2. Select best content experts/moderators, build effective faculty teams and assure activities are planned to improve quality, coordination and cost of care

3. Design productive pre-course and assure scientific rigor without conflicts of interest
Pre-Course Faculty Meeting

The better the Faculty Meeting before the course, the more successful the educational event itself will be!
Pre-Course Characteristics

- **Multiple communications** prior to Live Meeting
- Establish **Faculty TEAM**
- Keep **primary Faculty there all days** of Meeting
- **Share purpose of Meeting** with all Faculty
- Faculty **share their talks with Colleagues**
- **Share objectives** of course with Faculty
- Describe **Educational principles**
- **Feedback to faculty** during Meeting
- **Feedback from Faculty to Chair**
- **Faculty assist Chair in reading success** with meeting objectives
- Faculty **agree to step in** as situations warrant
- Discuss **characteristics of learners** and assumptions
- Nightly or early morning faculty meetings to **make Course corrections**
Assuring Scientific Rigor, Content Validity and Prevention of Conflict Of Interest
GROUP DISCUSSION— Role of the Chair

Questions for Small Groups in audience:

- Why is it important to challenge assumptions of your faculty?
- What are the most important advantages of creating a faculty team?
- What is the most important argument for a pre-course?

Questions concerning what I have presented?
THANK YOU FOR YOUR ACTIVE PARTICIPATION IN THIS TALK!