


Welcome!

CME/CE 101:
How To Plan A CME/CE Activity
 a series for current and future course directors
 and coordinators

- **Wed, June 15: Discovery:** “What to teach?”
- **Wed, June 22: Construction:** “How to teach it?”
- **Wed, June 29: Design:** “Will they retain it?”
- **Wed, July 13: Assessment:** “Did they retain it?”
- **Wed, July 20: Foundations:** “Can it be accredited?”
- **Wed, July 27: Delivery:** “What’ll it cost?”
- **Wed, Aug 3: Outcomes:** “Can we measure it?”

CME/CE 101:
How To Plan A CME/CE Activity
 a series for current and future course directors and coordinators

- **Wed, June 15: CME/CE Discovery:**
 Formulating an Evidence-based Needs Assessment and Learning Gap (“What to teach?”)

- **Wed, June 22: CME/CE Construction: M.A.P.:** What is a Measurable, Achievable, Practical Learning Objective? (“How to teach it?”)
- **Wed, June 29: CME/CE Design:** Learning Modes, Styles and Preferences of the Adult Professional (“Will they retain it?”)
- **Wed, July 13: CME/CE Assessment:** Test Item Writing for Assessing Clinical Professionals (“Did they retain it?”)
- **Wed, July 20: CME/CE Brick and Mortar:** Foundations for Continuing Interprofessional Education (“Can it be accredited?”)
- **Wed, July 27: CME/CE Delivery:** Refining Instructional Methods and Maximizing Delivery Resources (“What’ll it cost?”)
- **Wed, Aug 3: CME/CE Outcomes:** Assessing Impacts of the Education Activity on Practice Change (“Can we measure it?”)

•Who We Are

- **Jack R. Scott, EdD, MPH**
Assistant Dean, Faculty
and Curriculum Development
- **Rob Martin, MBA, CHCP**
Assistant Dean, Director
of Continuing Medical
Education

Winthrop University Hospital Clinical Campus,
Stony Brook University School of Medicine



Financial Disclosures

- Nothing to Disclose



Today's Learning Objectives



Formulating an Evidence-Based Needs Assessment and Learning Gap ("What to teach?")

At the conclusion of this session, learners should be able to:

1. **List common methods** of (a) identifying a target audience and (b) measuring a learning gap for that audience
2. **Compare evidence sources** on generalizability, relevance and currency
3. **List common sources of evidence** used in conducting a needs assessment
4. **Relate the principles** of a Learner-Centric Needs Assessment and Inter-Professional Education(IPE)

Today's Agenda

I. Lecture (30-40 minutes)

- A. Just what IS a Needs Assessment?
- B. What is a "Target Audience"?
- C. What is a Learning Gap?
- D. Accreditation Requirements in Continuing Education (pre-class reading)
- E. What do we mean by "Learner-Centric"?
- F. Inter-Professionalism in Continuing Education
- G. ...And why is Evidence necessary?
- H. Where is Evidence found?
- I. Putting it Together: 8 Steps for Constructing a Needs Assessment

II. Worksheet Session – Tune Up Your Needs Assessment (20-30 min)

Just what IS a Needs Assessment?

a.k.a. “needs analysis”

- A “need” is a **discrepancy or gap** between “what is” and “what should be.”
- A “needs assessment” is a **systematic set of procedures** that are used to determine needs, examine their nature and causes, and set priorities for future action.
- In the real world, **there is never enough money to meet all needs**. Needs assessments are conducted to help program planners identify and prioritize education resources.

- **Source:** US Department of Education :COMPREHENSIVE NEEDS ASSESSMENT
Materials adapted from “Planning and Conducting Needs Assessments: A Practical Guide” (1995)
<https://www2.ed.gov/admins/lead/account/compneedsassessment.pdf>

Just what IS a Needs Assessment?

a.k.a. “needs analysis”

- **Performed prior to developing activities**, to determine what health care providers need to learn.
- **Knowledge, skills, attitudes, or changes in practice behavior** health care providers need.
- Enables you to **identify and measure gaps** between “what is” and “what ought to be”
→ program goals and objectives can then be identified.
- A way to collect **information that can be used to decide what type of educational information** will be relevant and useful.
- What skills and knowledge are **required to be more effective?**

Source: Association of Reproductive Health Professionals,
<http://www.arhp.org/about-us/joint-sponsorship/needs-assessment>

Q: What is a “Target Audience”?

A: They are the clinicians, practitioners, and other learners who have the learning need(s)

- **Profession**
- **Specialty**
- **Geography/Institution**

Section C: Specify your Target Audience (select all that apply – at least 1 box from profession, specialty and geographic location must be selected)		
<input type="checkbox"/> Physicians <input type="checkbox"/> Surgeons <input type="checkbox"/> Physician Assistants <input type="checkbox"/> Nurse Practitioners <input type="checkbox"/> Adv. Practice RN's <input type="checkbox"/> Fellows <input type="checkbox"/> Residents	<input type="checkbox"/> Registered Nurses <input type="checkbox"/> Dieticians <input type="checkbox"/> Social Workers <input type="checkbox"/> Respiratory Therapists <input type="checkbox"/> Physical Therapists <input type="checkbox"/> Occupational Therapists <input type="checkbox"/> Athletic Trainers <input type="checkbox"/> Diabetes Educators	<input type="checkbox"/> Speech/ Language Pathologists <input type="checkbox"/> Patient Ambassadors <input type="checkbox"/> Pathology Scientists <input type="checkbox"/> Patient/Family Caregiver <input type="checkbox"/> Other (specify below)
Target Specialties: (Please List)	<input type="checkbox"/> Queens County <input type="checkbox"/> Nassau County <input type="checkbox"/> Suffolk County <input type="checkbox"/> Statewide(NY)	<input type="checkbox"/> 5 Boroughs <input type="checkbox"/> Tri-State <input type="checkbox"/> Eastern Seaboard <input type="checkbox"/> National/International

Q: What is a “Target Audience”?

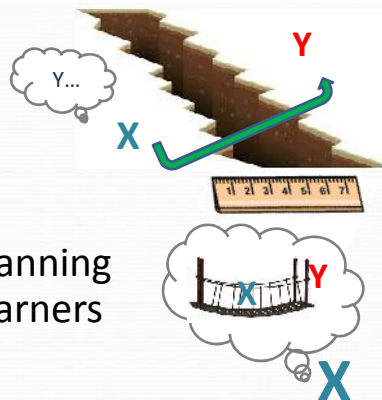
- You may need to segment or prioritize your audience

- Primary audience (must-haves)
- Secondary audience (nice-to-have)
- Tertiary audience (could also benefit)

Section C: Specify your Target Audience (select all that apply – at least 1 box from profession, specialty and geographic location must be selected)		
<input checked="" type="checkbox"/> Physicians <input checked="" type="checkbox"/> Surgeons <input type="checkbox"/> Physician Assistants <input type="checkbox"/> Nurse Practitioners <input type="checkbox"/> Adv. Practice RN's <input type="checkbox"/> Fellows <input type="checkbox"/> Residents	<input type="checkbox"/> Registered Nurses <input type="checkbox"/> Dieticians <input type="checkbox"/> Social Workers <input type="checkbox"/> Respiratory Therapists <input type="checkbox"/> Physical Therapists <input checked="" type="checkbox"/> Occupational Therapists <input checked="" type="checkbox"/> Athletic Trainers <input checked="" type="checkbox"/> Diabetes Educators	<input type="checkbox"/> Speech/ Language Pathologists <input type="checkbox"/> Patient Ambassadors <input type="checkbox"/> Pathology Scientists <input type="checkbox"/> Patient/Family Caregiver <input type="checkbox"/> Other (specify below)
Target Specialties: (Please List)	<input type="checkbox"/> Queens County <input type="checkbox"/> Nassau County <input type="checkbox"/> Suffolk County <input type="checkbox"/> Statewide(NY)	<input type="checkbox"/> 5 Boroughs <input type="checkbox"/> Tri-State <input type="checkbox"/> Eastern Seaboard <input type="checkbox"/> National/International

What is a Learning Gap?

- Best Practice v. Current Practice: The difference between “what currently is” and “what should be”
- This is the “Need” in the Needs Assessment
- Needs-based education planning is: finding a way to help learners bridge that practice gap



Accreditation Requirements in Continuing Education (pre-class reading)



ACCME Accreditation Criteria

- Criterion 2: The provider incorporates into CME activities the **educational needs** (knowledge, competence, or performance) that **underlie the professional practice gaps of their own learners**.
- Criterion 3: The provider generates activities/educational interventions that are **designed to change competence, performance, or patient outcomes** as described in its mission statement.
- **Note: “provider” here refers to Education Provider, not HCP*

What do we mean by “Learner-Centric”?

More ACCME Accreditation Criteria

- Criterion 10: The provider actively **promotes improvements in health care** and NOT proprietary interests of a commercial interest (SCS 5). (see ACCME's [Standards for Commercial Support: Standards to Ensure Independence in CME Activities](#))
- Criterion 11: The provider analyzes **changes in learners (competence, performance, or patient outcomes)** achieved as a result of the overall program's activities/educational interventions.
- Criterion 12: The provider gathers **data or information** and conducts a **program-based analysis** on the degree to which the CME **mission of the provider has been met** through the conduct of CME activities/educational interventions.
- **Note: “Provider” here refers to Education Provider, not HCP*



Inter-Professionalism in Continuing Education (a.k.a. IPE): What is it?

“Interprofessional education occurs when students or members of two or more professions learn from, with and about each other to improve collaboration and quality of care”



Center for the Advancement of Interprofessional Education, 2013



Inter-Professionalism in Continuing Education (*a.k.a.* IPE): What is it?

The goal is to prepare all health professionals for **deliberatively working together** with the common goal of building a US health system which is:

- safer and better
- patient-centered
- community/population oriented

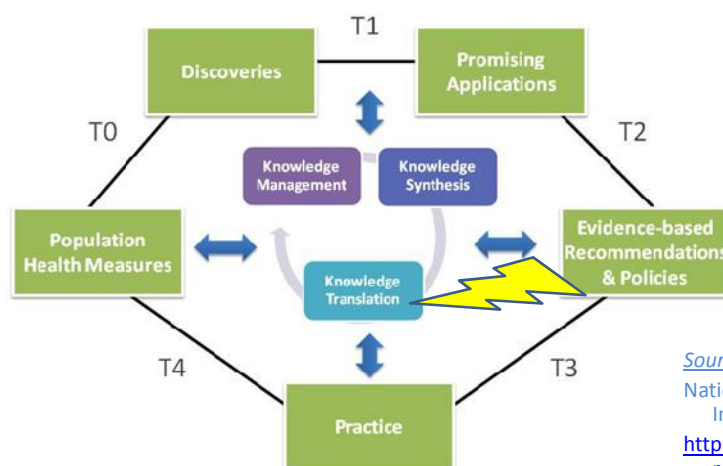
Interprofessional Education Collaborative Expert Panel (2011).
Core competencies for interprofessional collaborative practice:
Report of an expert panel. Washington D.C.: Interprofessional
Education Collaborative

How to make Continuing Education Inter-Professional?

- Appoint a Planning Committee
- Keep it small and engaged
- **But** strive to include a member of each segment of your Target Audience
- Often the profession must be represented or review the content for accreditation by that professions standards

...And why is Evidence necessary?

Incorporation of Knowledge Integration into the Translation Continuum



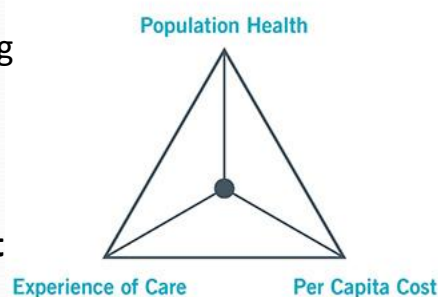
Source:
National Cancer
Institute
<http://epi.grants.cancer.gov/blog/archive/2012/10-16.html>

...And why is Evidence necessary?

Also, remember The Triple Aim

1. Improving the patient **experience of care** (including quality and satisfaction);
2. Improving the **health of populations**; and
3. **Reducing** the per capita **cost** of health care.

The IHI Triple Aim



The triple aim: care, health, and cost. Berwick DM(1), Nolan TW, Whittington J. , Health Aff (Millwood). 2008 May-Jun;27(3):759-69. PMID: 18474969
doi: 10.1377/hlthaff.27.3.759.

Where is Evidence found?

Expert Sources

- Planning Committee/Expert Panel
- Departmental chair
- Activity faculty
- Peer-reviewed literature (attach references)
- Research findings

Objective National Data Sources

- CMS/NCQA/AHRQ Data
- National Task force reports
- Epidemiological data
- Specialty Board's published practice guidelines

Where is Evidence found? Part 2

Learner Sources

- Evaluation data from previous education activities
- Formal or informal clinician/learner requests

Objective Local Data Sources

- Case data from Medical Records
- Chart audit or patient care review
- Local or regional practice-based statistics
- Evidence from local quality studies and/or performance improvement activities
- Hospital/Clinic Outcomes Data

Where is Evidence found? Part 3

Environmental Scanning Sources

- Direct observation
- Industry Press
- Lay press
- Direct-to-consumer Ads
- Trends in literature, law and health care

Other Evidence Sources for Needs Assessment

- Institution-Collaborative QI data, admission/discharge, core measures
- Other

Where is evidence found?



How do I adapt traditional needs assessment approaches to the ACCME Accreditation Criteria expectations?
<http://www.accme.org/education-and-support/video/faq/how-do-i-adapt-traditional-needs-assessment-approaches-accme>

YouTube

Quality of Evidence



Kopelow:

- Guidelines as evidence
- It's not the tool, it's the **information** it provides.
- Frame the question to learners in terms of a professional practice gap.
-

Assessing the quality of evidence

1. Is my evidence recent?
2. Is my evidence relevant to my Target Audience?
3. Is my evidence generalizable?
 - Internal validity - measures whether the observed results can be attributed to the intervention (Brownson, Gurney & Land, 1999)
 - External validity - the usefulness of research findings and potentially the quality of available evidence (Thomson & Thomas, 2012).

Further reading:

- Green, L.W. & Glasgow, R.E. (2006). **Evaluating the relevance, generalization, and applicability of research: Issues in external validation and translation methodology.** *Evaluation & The Health Professions*, 29(1), 126-153. doi: 10.1177/0163278705284445.

Eight Steps for Constructing a Needs Assessment in HCP Continuing Education

1. Identify the **population of learners**: profession, specialty, geography **(the Target Audience)**
2. Describe the **desired state** of knowledge, competence and/or performance **(the End State)**
3. **What evidence do we have** that the desired state is attainable in actual practice? **(the Reference)**
4. **Who is actually attaining** the desired state in practice? **(the Comparator)**
5. **What is the measure** of comparison? [Are we currently measuring?] **(the Measure)**
6. **How much** does the target group need to improve? **(the Gap)**
7. **What can we give them** to help them improve? **(the Intervention)**
8. What resources can we use to **measure results?** **(the Outcome)**

Resources for further exploration:

- Jack Scott's "Designing Effective Courses and Instruction" modules on Winthrop.InReachCE.com

1. Closing Performance Gaps
2. Sequencing a CME Series



WINTHROP
UNIVERSITY OF NORTH CAROLINA
Continuing Professional Education
Online Learning Center

A nationally accredited CME/CE sponsor of learning activities designed to enhance medical knowledge, clinical performance and patient care outcomes.

Univis by Delivery Type: Search: Download On Demand

Home » Courses » Designing Effective Courses and Instruction by Faculty » » Search Results

1. **Designing Effective Courses and Instruction: Closing Performance Gaps**
Designing effective instruction is based upon a set of educational principles that assure learner-centered, interactive teaching methods. Strategies are offered for closing CME performance gaps.
Available As:
On Demand (30)
Podcast
2. **Designing Effective Courses and Instruction: Sequencing a CME Series**
Designing effective instruction is based upon a set of educational principles that assure learner-centered, interactive teaching methods. Strategies offered are useful for sequencing CME activities.
Available As:
On Demand (30)
Podcast

Workshop/Worksheet Session

- **Critique an example:** Interstitial Lung Disease
 - How would you add learner-centric needs?
- **“Define Your Audience” Exercise:**
 My audience is/are _____ who see patients with _____

 These clinicians need _____ in order to better
 _____ patients with _____

Upcoming CME/CE 101 Sessions:

Date	Topic	Proposed Instructors
Wed, June 8: CME/CE Discovery: Research Room G-005/6	Formulating an Evidence-based Needs Assessment and Learning Gap (“What to teach?”)	•Jack R. Scott, EdD, MPH •Rob Martin, MBA, CHCP
Wed, June 15: CME/CE Construction Research Room G-005/6	<i>M.A.P.:</i> What is a <u>M</u> easurable, <u>A</u> chievable, <u>P</u> ractical Learning Objective? (How to teach it?)	•Jack R. Scott, EdD, MPH •Rob Martin, MBA, CHCP
Wed, June 22: CME/CE Design Research Room G-005/6	Learning Modes, Styles and Preferences of the Adult Professional (“Will they retain it?”)	•Jack R. Scott, EdD, MPH •Rob Martin, MBA, CHCP
Wed June 29: CME/CE Assessment **Research Room G-013/14	Test Item Writing for Assessing Clinical Professionals (“Did they retain it?”)	•Jack R. Scott, PhD •Rob Martin, MBA, CHCP
Wed, July 13: CME/CE Validation Research Room G-005/6	Brick and Mortar: Foundations of Inter-Professional Education(IPE) and Accreditation Standards	•Mary Cataletto, MD •Rob Martin, MBA, CHCP •Jack R. Scott, EdD, MPH
Wed, July 20: CME/CE Delivery: Research Room G-005/6	Refining Instructional Methods and Maximizing Delivery Resources (“What’ll it cost?”)	•Rob Martin, MBA, CHCP •Jack R. Scott, EdD, MPH •Peter Sandre
Wed, July 27: CME/CE Outcomes: Research Room G-005/6	Assessing Impacts of the Education Activity on Practice Change (“Can we measure it?”)	•Rob Martin, MBA, CHCP •Jack R. Scott, EdD, MPH

Appendix

- Other reference materials

Symposia Planning 101:

- **Start Planning Early!** Start new course/symposia topics 12 months early
- **Six to nine months advance planning for recurring annual courses is needed, especially if you will be seeking Grants**
 - **Why?** Grant committees inside Pharma only meet 1-2x per quarter, and can defer an application for 1 or 2 cycles

Timeline of Symposia Planning, Grants & Brochures

Time	Timeline of Key Planning Steps												
[36 weeks]	Submit your CME Planning Document for feedback(new course topics)												
	For courses in:	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	Submit planning	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr
[30 weeks]	Schedule your Planning Meeting with the CME office to draft budget												
[29 weeks]	Activity Director submits the balanced draft budget for Chair signature												
[28 weeks]	CME Application Must be Completed with Planning Committee members												
[28-18 weeks]	CPE Committee Review will occur												
[27 weeks]	Activity assigned to a CPE Committee member for review/recommendation												
[26-18 weeks]	Event is eligible to be included in the "Save the Date" postcard mailing												
[36-26 weeks]	Grant funding requests need to be filed												
[26 weeks]	Reserve your meeting rooms once you have CME office Accreditation												
[15 weeks]	Brochure Copy is Due to Graphic Artist												
[14 weeks]	Brochure Design Draft will need your approval												
[13 weeks]	Brochure will Print												
[11weeks]	Brochure will Mail												
[10 weeks]	Date Registration will open												
[4-5 weeks]	All Disclosures Due from Faculty, Speakers, and Planners												
[4 weeks]	Grant Letters and Exhibit space reservations must be signed;												
[2 weeks]	Syllabus Books, Catering, and AV will be ordered; Test/Survey questions due												
Meeting Date	Meeting will be held												
[4 weeks after]	Budget Reconciliation/ Post-Mortem will be prepared												
[5 weeks after]	Outcomes survey starts tabulation												
[6 weeks after]	Reconciliation of Grants due												

Wed, June 22: CE Construction: M.A.P.: What is a M measurable, Achievable, Practical Learning Objective? ("How to teach it?")

At the conclusion of this session, learners should be able to:

1. **Discuss Bloom's Taxonomy** of Measurable Verbs
2. **Identify non-measurable** learning objectives, and revise them to improve measurability
3. **Analyze measurable learning verbs** according to Bloom's levels of observable action
4. **Relate measurability** and observability of learning actions to clinical practice change

Wed, June 29: CE Design: Learning Modes, Styles and Preferences of the Adult Professional (**“Will they retain it?”**)

At the conclusion of this session, learners should be able to:

1. **Describe factors that distinguish** adult learning (andragogy) from child learning (pedagogy)
2. **Compare the efficacy** of various learning activity formats for achieving changes in knowledge, attitudes, competency, and performance
3. **Interpret learning preferences** from personality types, professional customs, and practice settings

Wed, July 13: CME/CE Assessment: Test Item Writing for Assessing Clinical Professionals (**“Did they retain it?”**)

At the conclusion of this session, learners should be able to:

1. Identify psychometrically sound principles of test construction.
2. Use relevant statistical indices when evaluating test items.
3. Identify techniques for writing items measuring various cognitive levels.
4. Use item construction guidelines for writing the stem, correct response, and distracters for multiple-choice questions.
5. List sources of potential item bias and critique multiple-choice items.
6. Distinguish between multiple-choice items and items that use alternate formats.

Wed, July 20: CME/CE Validation:

Independent Review of Clinical and Academic Content

("Can it be accredited?")

At the conclusion of this session, learners should be able to:

1. **Recognize inter-professional** aspects of learner-centric content planning
2. **Describe standards** of instructor disclosure, conflict of interest, fair balance, clinical objectivity, and industry support
3. **Assess and manage** an instructor's potential conflicts of interest
4. **Discuss resources** for independent and objective clinical/academic review

Wed, July 27: CME/CE Delivery: Refining Instructional Methods and Maximizing Delivery Resources ("What'll it cost?")

At the conclusion of this sessions, learners should be able to:

1. **Translate learning objectives** into agenda format using time-management principles
2. **Appraise activity formats** for multi-modal learning efficacy (VARK)
3. **Generate cost estimates** for common learning activities
4. **Evaluate fundraising** resources available for instruction

Wed, Aug 3: CME/CE Outcomes: Assessing
Impacts of the Education Activity on
Practice Change (“Can we measure it?”)

At the conclusion of this sessions, learners should be able to:

1. **Describe Moore’s Levels** of Learning Outcomes and their use in grant funding awards decisions
2. **Classify common assessment instruments** by the Moore’s Outcomes Levels they achieve
3. **Analyze the feasibility** of particular assessment instruments for a learning activity budget
4. **Design a comprehensive Outcomes Measures strategy** for common CME/CE formats

Welcome!

CME/CE 101:

How To Plan A CME/CE Activity

a series for current and future course directors
and coordinators

- Wed, June 15: Discovery: “What to teach?”
- Wed, June 22: Construction: “How to teach it?”
- Wed, June 29: Design: “Will they retain it?”
- Wed, July 13: Assessment: “Did they retain it?”
- Wed, July 20: Foundations: “Can it be accredited?”
- Wed, July 27: Delivery: “What’ll it cost?”
- Wed, Aug 3: Outcomes: “Can we measure it?”

CME/CE 101:

How To Plan A CME/CE Activity

a series for current and future course directors and coordinators

- Wed, June 15: CME/CE Discovery: Formulating an Evidence-based Needs Assessment and Learning Gap (“What to teach?”)
- Wed, June 22: CME/CE Construction: *M.A.P.*: What is a Measurable, Achievable, Practical Learning Objective? (How to teach it?”)
- Wed, June 29: CME/CE Design: Learning Modes, Styles and Preferences of the Adult Professional (“**Will they retain it?**”)
- Wed, July 13: CME/CE Assessment: Test Item Writing for Assessing Clinical Professionals (“Did they retain it?”)
- Wed, July 20: CME/CE Brick and Mortar: Foundations for Continuing Interprofessional Education (“Can it be accredited?”)
- Wed, July 27: CME/CE Delivery: Refining Instructional Methods and Maximizing Delivery Resources (“What’ll it cost?”)
- Wed, Aug 3: CME/CE Outcomes: Assessing Impacts of the Education Activity on Practice Change (“Can we measure it?”)



•Who We Are

- **Jack R. Scott, EdD, MPH**
Assistant Dean, Faculty
and Curriculum Development
- **Rob Martin, MBA, CHCP**
Assistant Dean, Director
of Continuing Medical
Education

Winthrop University Hospital Clinical Campus,
Stony Brook University School of Medicine



Your Health Means Everything.™

Financial Disclosures

- Nothing to Disclose



Your Health Means Everything.™

Wed, June 29: CE Design: Learning Modes, Styles and Preferences of the Adult Professional (“Will they retain it?”)



At the conclusion of this session, learners should be able to:

1. **Describe factors that distinguish** adult learning (andragogy) from child learning (pedagogy)
2. **Compare the efficacy** of various learning activity formats for achieving changes in knowledge, attitudes, competency, and performance
3. **Interpret learning preferences** from personality types, professional customs, and practice settings
4. **Identify barriers** that could prevent learning being applied in practice

Today's Agenda

I. **Lecture (30 minutes)**

- A. 5 minute Review of last week
- B. What is a Andragogy? What is Pedagogy?
 - How are they different?
- C. How is HCPD different from other professions?
- D. Activity formats used in CME/CE/CPD
- E. Learning Preferences: Personality, Norms, Settings
- F. Identifying Barriers to Learning and Practice
- G. **Putting it Together:** 8 Questions to Ask When Designing A Learning Activity

II. **Worksheet Session – Design a Learning Format (20 -30 min)**

Previously on....



5-minute Review of Last Week

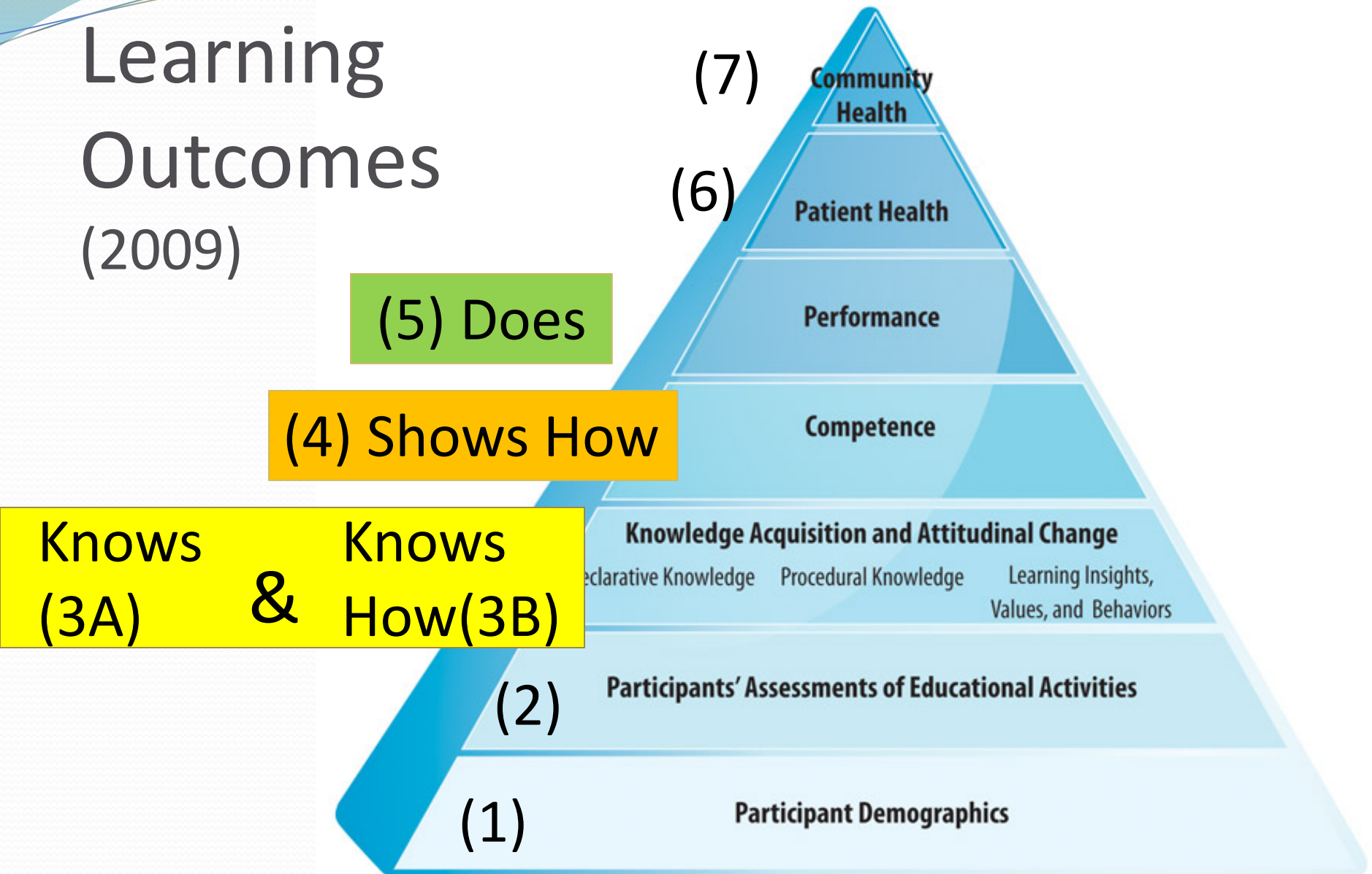


M.A.P.: What is a M measurable, Achievable, Practical Learning Objective? (“How to teach it?”)

At last week’s session, learners were able to:

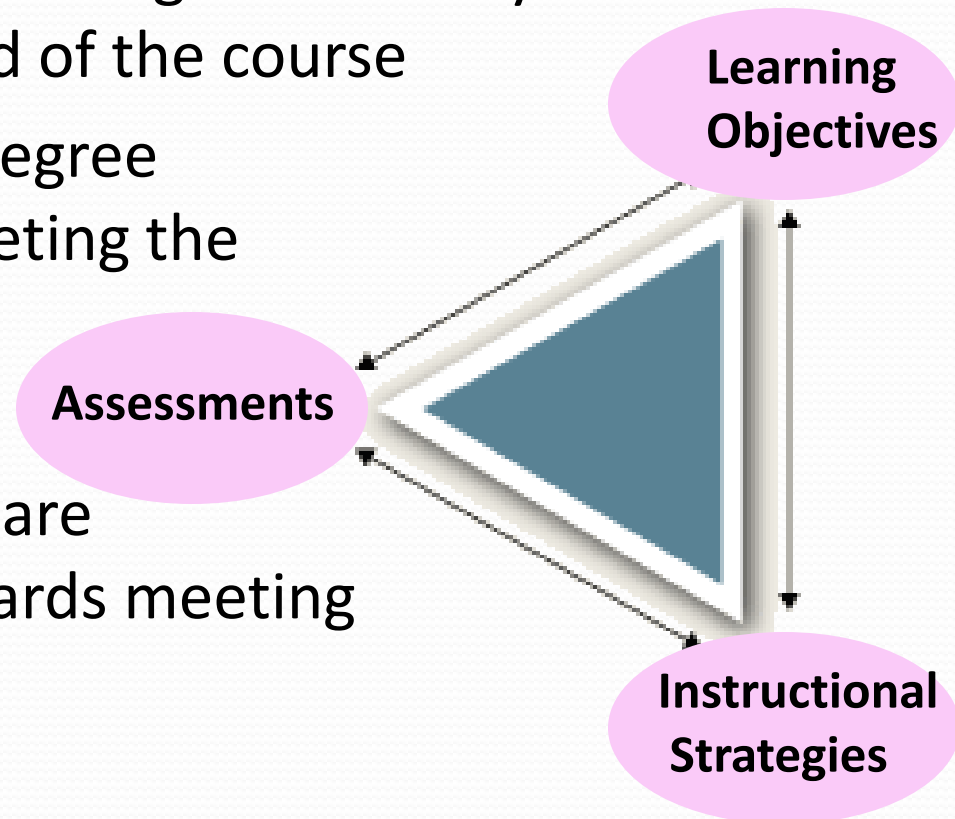
- A. Analyze measurable learning verbs according to **Bloom’s Six Levels** of observable action in learning:
 - 1) Knowledge 2) Comprehension 3) Application
 - 4) Analysis 5) Synthesis 6) Evaluation
- B. Discuss Bloom’s **Taxonomy of Measurable Verbs (“The List”)**
 - **Why measurability matters-** Making the most Scarce Resources: Money, Time, Space, Learner Goodwill
- C. **Relate measurability** and observability of learning actions to **clinical practice change**, using Miller’s Framework (Knows, Knows How, Shows How, Does) and **Moore’s 7 Levels of Outcomes**:
 - **1) Participation, 2) Satisfaction, 3) Knowledge [3A-Declarative and 3B-Procedural], 4) Competence, 5) Performance, 6) Patient Health, 7) Population Health**
- D. Identify non-measurable learning objectives, and revise them to improve measurability

Moore's Pyramid of Learning Outcomes (2009)



Aligning Learning Objectives

- **Alignment** among three main course components ensures an internally consistent structure. **Alignment** is when the:
- **OBJECTIVES** articulate the knowledge and skills you want students to acquire by the end of the course
- **ASSESSMENTS** measure the degree to which the students are meeting the learning objectives
 - and
- **INSTRUCTIONAL STRATEGIES** are chosen to foster learning towards meeting the objectives



Source: Carnegie-Mellon University

<https://www.cmu.edu/teaching/design/teach/design/learningobjectives.html>

Aligning Learning Objectives (continued)

When these components are not aligned

- Students may feel that a **test had little to do with** what was covered in class, or
- Instructors might feel that even though students are earning a passing grade, they **haven't really mastered** the material at the desired level.
- **Also, adult education implies a “Learning Contract”:**
 - i.e. “If I show up, how will I know what I’m getting?”

Achievable and Practical: Do They Matter?

Kotter's 8 Steps for Change


Source:
<https://www.scrumalliance.org/community/articles/2014/march/change-management-models>

What is a Andragogy? What is Pedagogy?

- How are they different?

How is HCPD different from other professions?

Activity formats used in CME/CE/CPD



Learning Preferences: Personality, Norms, Settings

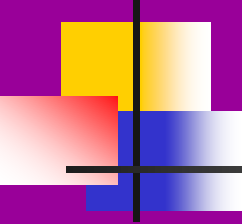
Identifying Barriers to Learning and Practice

Putting it Together: 8 Questions to Ask When Designing A Learning Activity



Workshop/Worksheet Session

- Jack R. Scott, EdD, MPH



Measureable, Achievable Learning Objectives

Sequencing a CME Series

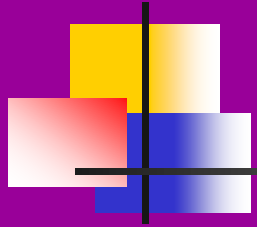


Jack R. Scott, EdD, MPH
Office of Academic Affairs



By the end of this workshop. . . .

- Use instructional design principles to plan curricula and courses in CME
- Describe appropriate higher-order teaching and learning methods in course content
- Apply a set of performance learning objectives for a course or instructional unit or a CME series in quality improvement



Instructional Design

- **Definition**: a systematic process to create effective instruction, incorporating instructional theory, research and outcomes.
- Glassick's criteria
- Curriculum planning model



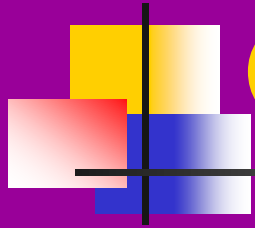
Glassick's Criteria

- Clear learning goals
- Adequate preparation
- Appropriate teaching methods
- Significant learning results
- Effective presentation
- Reflective critique for improvement

(1997)

Glassick, Huber & Maeroff

Theme-based CME Sequence Curriculum Design



**GRAND
ROUNDS**

**QUALITY
IMPROVEMENT
CONFERENCE**

**RESIDENT Case
Conference**

**M & M; Journal
Club; Tumor
Board**

Instructional Design

CME Course Series - Theme:

Instructional Unit:

**Evaluation & Performance
Improvement**

Educational Needs & Goal

Specific Measurable Objectives

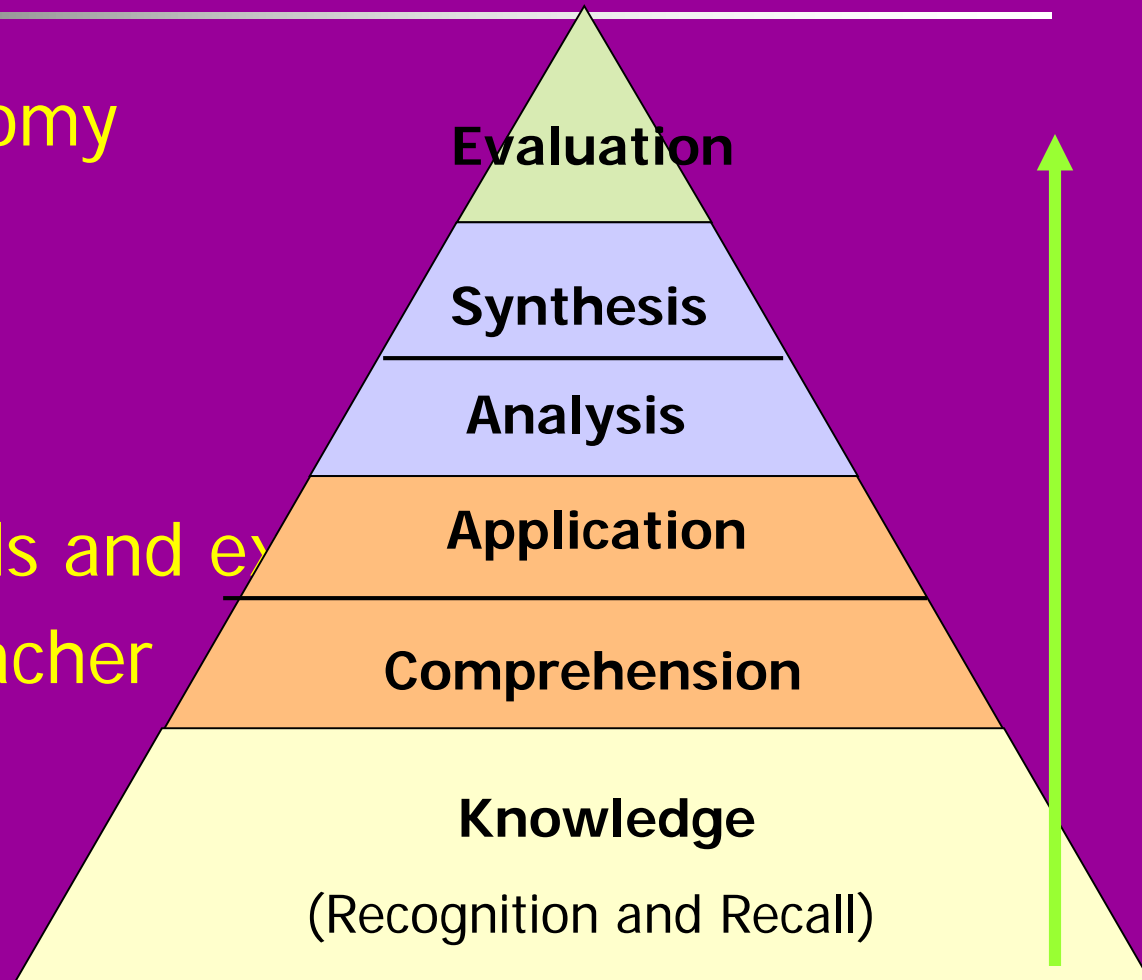
Educational Activity

**Anticipated Obstacles & Strategies
to Overcome Them**

Learning Goals and Objectives

Bloom's Taxonomy

- Measurable
- Specific
- Behavioral
- Learner needs and expectations -- *not* the teacher

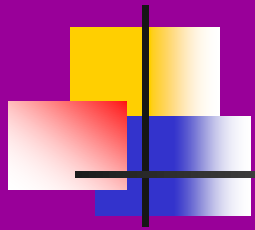




Learning Objectives -- *Verbs*

- Knowledge = define, describe, recall, list
- Comprehension = discuss, review
- Application = calculate, design, demonstrate
- Analysis = measure, examine, compare
- Synthesis = construct, organize, plan
- Evaluation = assess, judge, justify

Bloom (1956)



Examples

By the end of the GI series, the physician will be able to:

1. Discuss current GI endoscopy interventions
2. Diagnose and treat routine GI conditions
3. Analyze the efficacy of Per Oral Endoscopic Myotomy (POEM)



Learner-centered Instruction

Encouraging students to take responsibility and gain confidence in their own learning development.

Create interactive learning activities with interpersonal communication opportunities.

Interactive methods in CME -Impact of Formal Continuing Medical Education; JAMA (1999) v. 282 #9; Davis D., et al



WORKSHEET #1



SUMMARY

- QUESTIONS????
- Follow-up

jrscott@winthrop.org

Resources for further exploration:

- Jack Scott's **"Designing Effective Courses and Instruction"** modules on Winthrop.InReachCE.com
1. Closing Performance Gaps
 2. Sequencing a CME Series



The screenshot shows the homepage of the Winthrop University Hospital Continuing Professional Education Online Learning Center. The header includes the hospital's logo and name, along with the tagline "Your Health Means Everything." and "Continuing Medical Education". The main title is "Continuing Professional Education Online Learning Center". Below this, a statement reads: "A nationally accredited CME-CE sponsor of learning activities designed to enhance medical knowledge, clinical performance and patient care outcomes." The navigation bar includes a "Browse by Delivery Type" dropdown, a search bar with a magnifying glass icon, and an "Advanced Search" button. The breadcrumb trail shows the path: Home » Designing Effective Courses and Instruction for Faculty » Search Results. The main content area displays two search results, both featuring a thumbnail image of a modern building. The first result is titled "Designing Effective Courses and Instruction: Closing Performance Gaps" and describes a set of educational principles for closing CME performance gaps. It is available as "On Demand CPD" and "Podcast". The second result is titled "Designing Effective Courses and Instruction: Sequencing a CME Series" and describes a set of educational principles for sequencing CME activities. It is also available as "On Demand CPD" and "Podcast".

WINTHROP
University Hospital
Your Health Means Everything.
Continuing Medical Education
Clinical Campus of Stony Brook University
School of Medicine

Continuing Professional Education
Online Learning Center

A nationally accredited CME-CE sponsor of learning activities designed to enhance medical knowledge, clinical performance and patient care outcomes.

Browse by
Delivery Type ▼

Search...

Advanced Search ▼

Home » Designing Effective Courses and Instruction for Faculty » Search Results

- **Designing Effective Courses and Instruction: Closing Performance Gaps**

Designing effective instruction is based upon a set of educational principles that ensure learner-centered, interactive teaching methods. Strategies are offered for closing CME performance gaps.

Available As:
On Demand CPD
Podcast
- **Designing Effective Courses and Instruction: Sequencing a CME Series**

Designing effective instruction is based upon a set of educational principles that ensure learner-centric, interactive teaching methods. Strategies offered are useful for sequenced CME activities.

Available As:
On Demand CPD
Podcast

Upcoming CME/CE 101 Sessions:

<u>Date</u>	<u>Topic</u>	<u>Proposed Instructors</u>
<u>Wed, June 15:</u> <u>CME/CE Discovery:</u> Research Room G-005/6	Formulating an Evidence-based Needs Assessment and Learning Gap (“What to teach?”)	<ul style="list-style-type: none"> •Jack R. Scott, EdD, MPH •Rob Martin, MBA, CHCP
<u>Wed, June 22:</u> <u>CME/CE Construction</u> Research Room G-005/6	<i>M.A.P.</i> : What is a <u>M</u> easurable, <u>A</u> chievable, <u>P</u> ractical Learning Objective? (How to teach it?)	<ul style="list-style-type: none"> •Jack R. Scott, EdD, MPH •Rob Martin, MBA, CHCP
<u>Wed, June 29:</u> <u>CME/CE Design</u> Research Room G-005/6	Learning Modes, Styles and Preferences of the Adult Professional (“Will they retain it?”)	<ul style="list-style-type: none"> •Jack R. Scott, EdD, MPH •Rob Martin, MBA, CHCP
<u>Wed July 13:</u> <u>CME/CE Assessment</u> **Research Room G-013/14	Test Item Writing for Assessing Clinical Professionals (“Did they retain it?”)	<ul style="list-style-type: none"> •Jack R. Scott, PhD •Rob Martin, MBA, CHCP
<u>Wed, July 20:</u> <u>CME/CE Validation</u> Research Room G-005/6	Brick and Mortar: Foundations of Inter-Professional Education(IPE) and Accreditation Standards	<ul style="list-style-type: none"> •Mary Cataletto, MD •Rob Martin, MBA, CHCP •Jack R. Scott, EdD, MPH
<u>Wed, July 27:</u> <u>CME/CE Delivery:</u> Research Room G-005/6	Refining Instructional Methods and Maximizing Delivery Resources (“What’ll it cost?”)	<ul style="list-style-type: none"> •Rob Martin, MBA, CHCP •Jack R. Scott, EdD, MPH •Peter Sandre
<u>Wed, Aug 3:</u> <u>CME/CE Outcomes:</u> Research Room G-005/6	Assessing Impacts of the Education Activity on Practice Change (“Can we measure it?”)	<ul style="list-style-type: none"> •Rob Martin, MBA, CHCP •Jack R. Scott, EdD, MPH

Appendix

- Other reference materials

Symposia Planning 101:

- **Start Planning Early!** Start new course/symposia topics 12 months early
- **Six to nine months advance planning for recurring annual courses is needed, especially if you will be seeking Grants**
 - ***Why?*** Grant committees inside Pharma only meet 1-2x per quarter, and can defer an application for 1 or 2 cycles

Timeline of Symposia Planning, Grants & Brochures

Time	Timeline of Key Planning Steps											
	[36 weeks] Submit your CME Planning Document for feedback(new course topics)											
	<i>For courses in:</i>	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Jul</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>
	<i>Submit planning</i>	<u>May</u>	<u>Jun</u>	<u>Jul</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>
												<u>Dec</u>
												<u>Apr</u>
[30 weeks]	Schedule your Planning Meeting with the CME office to draft budget											
[29 weeks]	Activity Director submits the balanced draft budget for Chair signature											
[28 weeks]	CME Application Must be Completed with Planning Committee members											
[28-18 weeks]	CPE Committee Review will occur											
[27 weeks]	Activity assigned to a CPE Committee member for review/recommendation											
[26-18 weeks]	Event is eligible to be included in the “Save the Date” postcard mailing											
	[36-26 weeks] Grant funding requests need to be filed											
[26 weeks]	Reserve your meeting rooms once you have CME office Accreditation											
[15 weeks]	Brochure Copy is Due to Graphic Artist											
[14 weeks]	Brochure Design Draft will need your approval											
[13 weeks]	Brochure will Print											
[11weeks]	Brochure will Mail											
[10 weeks]	Date Registration will open											
[4-5 weeks]	All Disclosures Due from Faculty, Speakers, and Planners											
[4 weeks]	Grant Letters and Exhibit space reservations must be signed;											
[2 weeks]	Syllabus Books, Catering, and AV will be ordered; Test/Survey questions due											
	Meeting Date Meeting will be held											
[4 weeks after]	Budget Reconciliation/ Post-Mortem will be prepared											
[5 weeks after]	Outcomes survey starts tabulation											
[6 weeks after]	Reconciliation of Grants due											

Wed, July 13: CME/CE Assessment: Test Item Writing for Assessing Clinical Professionals (“**Did they retain it?**”)

At the conclusion of this session, learners should be able to:

1. Identify psychometrically sound principles of test construction.
2. Use relevant statistical indices when evaluating test items.
3. Identify techniques for writing items measuring various cognitive levels.
4. Use item construction guidelines for writing the stem, correct response, and distracters for multiple-choice questions.
5. List sources of potential item bias and critique multiple-choice items.
6. Distinguish between multiple-choice items and items that use alternate formats.

Wed, July 20: CME/CE Validation:

Independent Review of Clinical and Academic Content

("Can it be accredited?")

At the conclusion of this session, learners should be able to:

1. **Recognize inter-professional** aspects of learner-centric content planning
2. **Describe standards** of instructor disclosure, conflict of interest, fair balance, clinical objectivity, and industry support
3. **Assess and manage** an instructor's potential conflicts of interest
4. **Discuss resources** for independent and objective clinical/academic review

Wed, July 27: CME/CE Delivery: Refining Instructional Methods and Maximizing Delivery Resources (“What’ll it cost?”)

At the conclusion of this sessions, learners should be able to:

1. **Translate learning objectives** into agenda format using time-management principles
2. **Appraise activity formats** for multi-modal learning efficacy (VARK)
3. **Generate cost estimates** for common learning activities
4. **Evaluate fundraising** resources available for instruction

Wed, Aug 3: CME/CE Outcomes: Assessing Impacts of the Education Activity on Practice Change (“Can we measure it?”)

At the conclusion of this sessions, learners should be able to:

1. **Describe Moore’s Levels** of Learning Outcomes and their use in grant funding awards decisions
2. **Classify common assessment instruments** by the Moore’s Outcomes Levels they achieve
3. **Analyze the feasibility** of particular assessment instruments for a learning activity budget
4. **Design a comprehensive Outcomes Measures strategy** for common CME/CE formats

Welcome!

CME/CE 101:

How To Plan A CME/CE Activity


a series for current and future course directors
and coordinators

- Wed, June 15: Discovery: “What to teach?”
- Wed, June 22: Construction: “How to teach it?”
- Wed, June 29: Design: “Will they retain it?”
- Wed, July 13: Assessment: “Did they retain it?”
- Wed, July 20: Foundations: “Can it be accredited?”
- Wed, July 27: Delivery: “What’ll it cost?”
- Wed, Aug 3: Outcomes: “Can we measure it?”

CME/CE 101:

How To Plan A CME/CE Activity

a series for current and future course directors and coordinators

- Wed, June 15: CME/CE Discovery: Formulating an Evidence-based Needs Assessment and Learning Gap (“What to teach?”)
-  Wed, June 22: CME/CE Construction: M.A.P.: What is a Measurable, Achievable, Practical Learning Objective? (How to teach it?”)
- Wed, June 29: CME/CE Design: Learning Modes, Styles and Preferences of the Adult Professional (“Will they retain it?”)
- Wed, July 13: CME/CE Assessment: Test Item Writing for Assessing Clinical Professionals (“Did they retain it?”)
- Wed, July 20: CME/CE Brick and Mortar: Foundations for Continuing Interprofessional Education (“Can it be accredited?”)
- Wed, July 27: CME/CE Delivery: Refining Instructional Methods and Maximizing Delivery Resources (“What’ll it cost?”)
- Wed, Aug 3: CME/CE Outcomes: Assessing Impacts of the Education Activity on Practice Change (“Can we measure it?”)



•Who We Are

- **Jack R. Scott, EdD, MPH**
Assistant Dean, Faculty
and Curriculum Development
- **Rob Martin, MBA, CHCP**
Assistant Dean, Director
of Continuing Medical
Education

Winthrop University Hospital Clinical Campus,
Stony Brook University School of Medicine



Your Health Means Everything.™



Financial Disclosures

- Nothing to Disclose



Your Health Means Everything.™



Wed, June 22: CE Construction: M.A.P.:

What is a Measurable, Achievable, Practical Learning Objective? (“How to teach it?”)

At the conclusion of this session, learners should be able to:

1. **Discuss Bloom’s Taxonomy** of Measurable Verbs
2. **Identify non-measurable** learning objectives, and revise them to improve measurability
3. **Analyze measurable learning verbs** according to Bloom’s levels of observable action
4. **Relate measurability** and observability of learning actions to clinical practice change, using Moore’s levels

Today's Agenda

I. Lecture (30 minutes)

- A. 5 minute Review of last week
- B. What is a Learning Objective?
- C. M.A.P. – How can we objectify learning?
- D. **Measurable** Learning: Bloom's Levels of Cognition
- E. Taxonomy of measurable verbs- Bloom
- F. **Achievable** Behavior Change: Kirkpatrick's Model
- G. **Practical** = Practice Change in medical learning: Miller & Moore models
- H. Miller's Skill Levels
- I. Moore's Outcome Levels
- J. Why do we measure?
- K. **Putting it Together:** 8 Steps for Constructing a Learning Objective

II. Worksheet Session – Tune Up Your Learning Objectives(30 min)

Previously on....



5-minute Review of Last Week

Formulating an Evidence-Based Needs Assessment and Learning Gap (“What to teach?”)



At last week's session, learners were able to:

- A. List common methods of
 - (a) **identifying a target audience**
 - **Profession(s), Specialty, Geography**
 - (b) **measuring a learning gap for that audience (Gap = Need)**
 - **A difference between a desired state and an actual/observed state**
 - **in a Knowledge, Competence, or Performance dimension**
- B. Compare evidence sources on **generalizability, relevance and currency**
- C. **List common sources of evidence** used in conducting a needs assessment
 - 1)Expert Sources; 2)Objective National Data Sources; 3)Learner Sources;
 - 4) Objective Local Data Sources; 5)Environmental Scanning Sources; 6)Other
- D. **Relate the principles** of a Learner-Centric Needs Assessment and Inter-Professional Education(IPE)
 - 1. **Learner-Centric: Expressed or observed needs** vs. Implied needs
 - 2. **IPE occurs when students or members of two or more professions** learn from, with and about each other to improve collaboration and quality of care”



A. What is a Learning Objective?

- Your Thoughts?

M.A.P. – How can we measure learning & objectives?

- M.A.P. – Above all learning objectives should be
 - Measurable
 - Achievable
 - Practical
- The best learning objectives are also S.M.A.R.T.
 - Specific
 - Measurable
 - Achievable
 - Relevant
 - Time-bound

Source: *Doran, G. T. (1981). "There's a S.M.A.R.T. way to write management's goals and objectives". Management Review (AMA FORUM) 70 (11): 35–36.*

Introduction: Bloom's Levels of Cognition(1956):

According to Benjamin Bloom and colleagues, **there are six levels of cognition:**

1. Knowledge: rote memorization, recognition, or recall of facts
2. Comprehension: understanding what the facts mean
3. Application: correct use of the facts, rules, or ideas
4. Analysis: breaking down information into component parts
5. Synthesis: combination of facts, ideas, or information to make a new whole
6. Evaluation: judging or forming an opinion about the information or situation

- Ideally, **each** of these levels should be covered in **each** course and, thus, at least **one objective should be written for each level.**
- Depending on the nature of the course, **a few** of these levels may need to be given **more emphasis** than the others.

Source: University of North Carolina, Charlotte, Division of Academic Affairs
<http://teaching.uncc.edu/learning-resources/articles-books/best-practice/goals-objectives/writing-objectives>

Taxonomy : Bloom's Levels

LEVEL	LEVEL ATTRIBUTES
1: KNOWLEDGE	Exhibits previously learned material by recalling facts, terms, basic concepts and answers.
2: COMPREHENSION	Demonstrating understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions and stating main ideas.
3: APPLICATION	Solving problems by applying acquired knowledge, facts, techniques and rules in a different way.
4: ANALYSIS	Examining and breaking information into parts by identifying motives or causes; making inferences and finding evidence to support generalizations.
5: SYNTHESIS	Compiling information together in a different way by combining elements in a new pattern or proposing alternative solutions.
6: EVALUATION	Presenting and defending opinions by making judgments about information, validity of ideas or quality of work based on a set of criteria.

Source: University of North Carolina, Charlotte, Division of Academic Affairs
<http://teaching.uncc.edu/learning-resources/articles-books/best-practice/goals-objectives/writing-objectives>

Bloom's Levels: More taxonomy

LEVEL	KEYWORDS
1: KNOWLEDGE	who, what, why, when, omit, where, which, choose, find, how, define, label, show, spell, list, match, name, relate, tell, recall, select
2: COMPREHENSION	compare, contrast, demonstrate, interpret, explain, extend, illustrate, infer, outline, relate, rephrase, translate, summarize, show, classify
3: APPLICATION	apply, build, choose, construct, develop, interview, make use of, organize, experiment with, plan, select, solve, utilize, model, identify
4: ANALYSIS	analyze, categorize, classify, compare, contrast, discover, dissect, divide, examine, inspect, simplify, survey, take part in, test for, distinguish, list, distinction, theme, relationships, function, motive, inference, assumption, conclusion
5: SYNTHESIS	build, choose, combine, compile, compose, construct, create, design, develop, estimate, formulate, imagine, invent, make up, originate, plan, predict, propose, solve, solution, suppose, discuss, modify, change, original, improve, adapt, minimize, maximize, delete, theorize, elaborate, test, improve, happen, change
6: EVALUATION	award, choose, conclude, criticize, decide, defend, determine, dispute, evaluate, judge, justify, measure, compare, mark, rate, recommend, rule on, select, agree, interpret, explain, appraise, prioritize, opinion, support, importance, criteria, prove, disprove, assess, influence, perceive, value, estimate, influence, deduct

Source: University of North Carolina, Charlotte, Division of Academic Affairs

<http://teaching.uncc.edu/learning-resources/articles-books/best-practice/goals-objectives/writing-objectives>

Bloom's Taxonomy of Educational Objectives for Knowledge-Based Goals

LEVEL OF EXPERTISE	DESCRIPTION OF LEVEL	EXAMPLE OF MEASURABLE STUDENT OUTCOME
1. KNOWLEDGE	Recall, or recognition of terms, ideas, procedure, theories, etc.	
2. COMPREHENSION	Translate, interpret, extrapolate, but not see full implications or transfer to other situations, closer to literal translation.	
3. APPLICATION	Apply abstractions, general principles, or methods to specific concrete situations.	

<http://teaching.uncc.edu/learning-resources/articles-books/best-practice/goals-objectives/blooms-educational-objectives>

Bloom's Taxonomy of Educational Objectives for Knowledge-Based Goals

(continued)

LEVEL OF EXPERTISE	DESCRIPTION OF LEVEL	EXAMPLE OF MEASURABLE STUDENT OUTCOME
4. ANALYSIS	Separation of a complex idea into constituent parts; understanding of organization and relationship between parts. Realizing distinctions: <ul style="list-style-type: none">•between hypothesis/fact•between relevant/extraneous variables.	
5. SYNTHESIS	Creative, mental construction of ideas and concepts from multiple sources to form complex ideas into a new, integrated, and meaningful pattern subject to given constraints.	

<http://teaching.uncc.edu/learning-resources/articles-books/best-practice/goals-objectives/blooms-educational-objectives>



That's all great in theory....

- *But what is **Achievable**?*

Achievable Learning-

Kirkpatrick's Model(1994)



- **Level 1: Reaction**

- The degree to which participants find the training favorable, engaging and relevant to their jobs

- **Level 2: Learning**

- The degree to which participants acquire the intended knowledge, skills, attitude, confidence and commitment based on their participation in the training

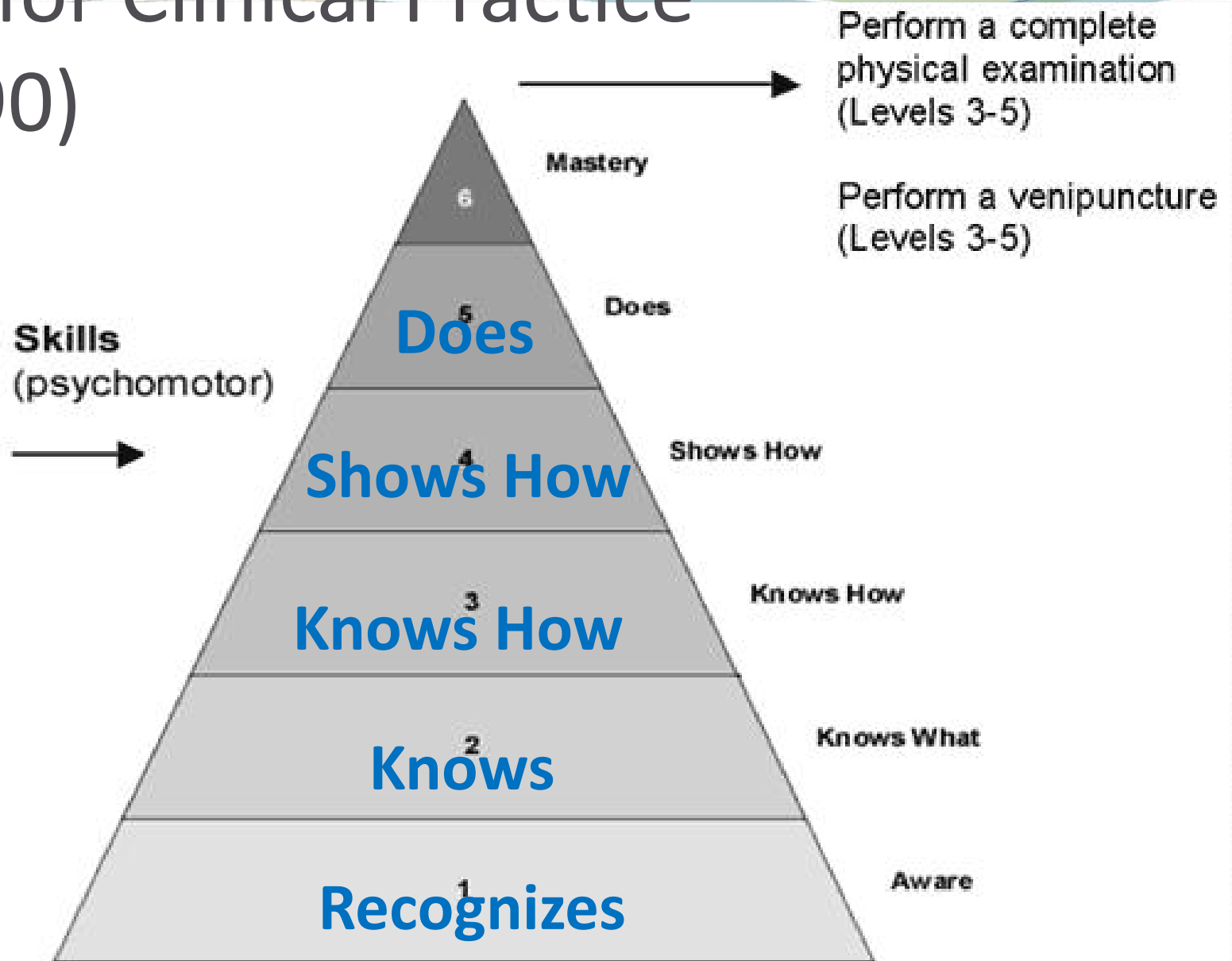
- **Level 3: Behavior**

- The degree to which participants apply what they learned during training when they are back on the job

- **Level 4: Results**

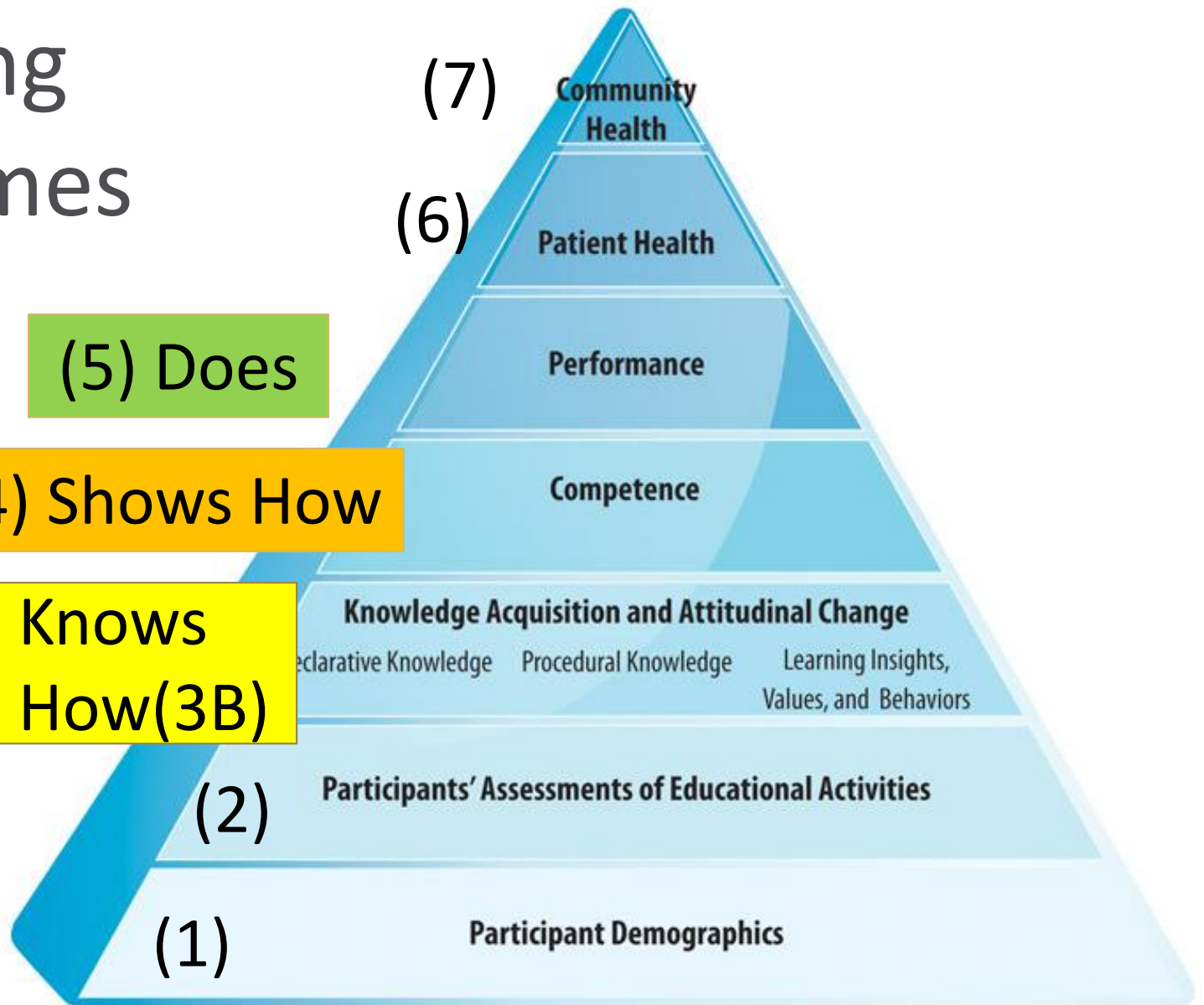
- The degree to which targeted outcomes occur as a result of the training and the support and accountability package

Miller for Clinical Practice (1990)



Source: <http://teaching.uncc.edu/learning-resources/articles-books/best-practice/goals-objectives/developing-objectives>

Moore's Pyramid of Learning Outcomes (2009)

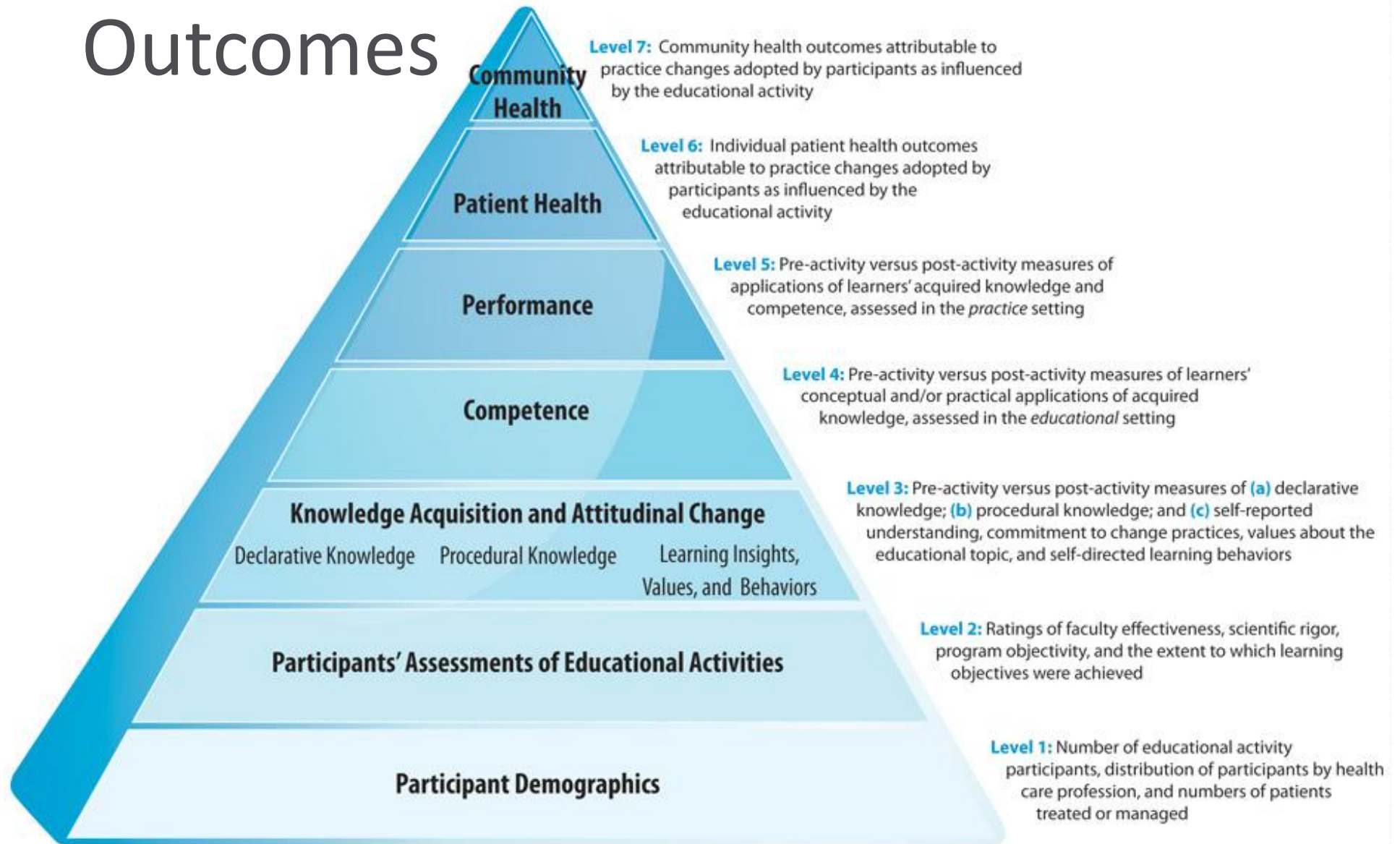


(5) Does

(4) Shows How

Knows (3A) & Knows How (3B)

Moore's Pyramid of Learning Outcomes



Source: http://www.primece.com/scienceofcme/adult_learning_principles

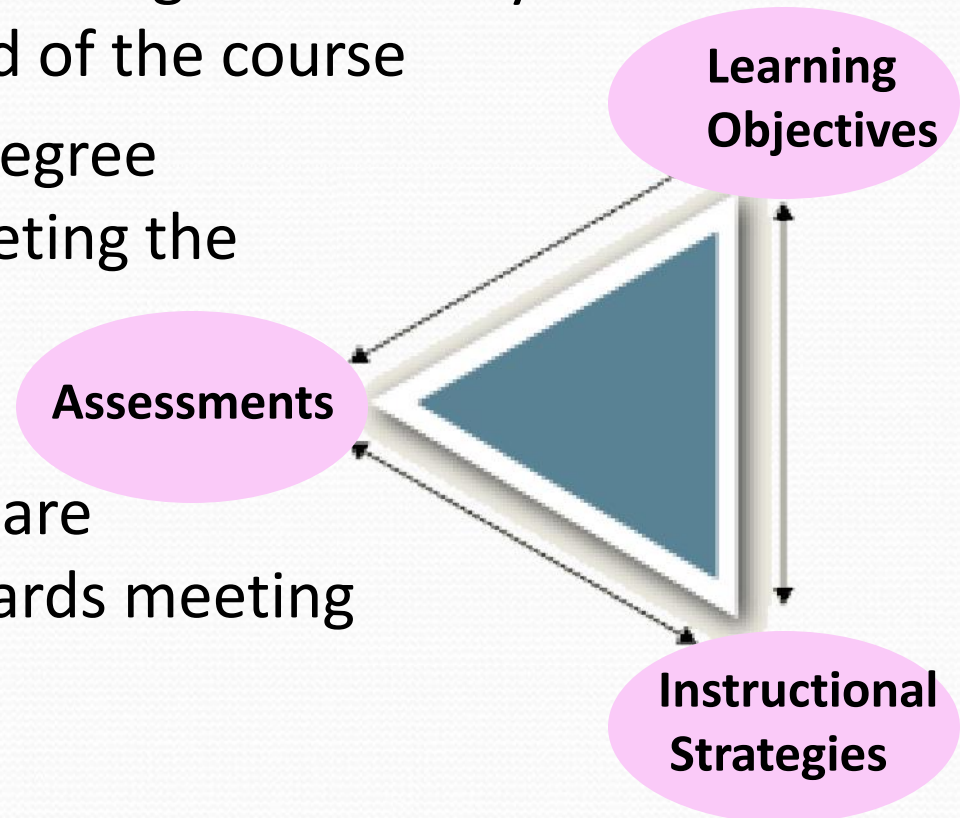


Why do we even need to measure learning?

- *To make the most of Scarce Resources:*
- *What are they?*
 - Time
 - Space
 - Money
 - And
 - Goodwill!

Aligning Learning Objectives

- **Alignment** among three main course components ensures an internally consistent structure. **Alignment** is when the:
- **OBJECTIVES** articulate the knowledge and skills you want students to acquire by the end of the course
- **ASSESSMENTS** measure the degree to which the students are meeting the learning objectives
 - and
- **INSTRUCTIONAL STRATEGIES** are chosen to foster learning towards meeting the objectives



Source: Carnegie-Mellon University

<https://www.cmu.edu/teaching/design/teach/design/learningobjectives.html>



Aligning Learning Objectives (continued)

When these components are not aligned

- Students may feel that a **test had little to do with** what was covered in class, or
- Instructors might feel that even though students are earning a passing grade, they **haven't really mastered** the material at the desired level.
- **Also, adult education implies a “Learning Contract”:**
 - i.e. “If I show up, how will I know what I’m getting?”

“Achievable and Practical: Do They Matter?”

Kotter’s 8 Steps for Change

Source:

<https://www.scrumalliance.org/community/articles/2014/march/change-management-models>



Workshop/Worksheet Session

- Jack R. Scott, EdD, MPH



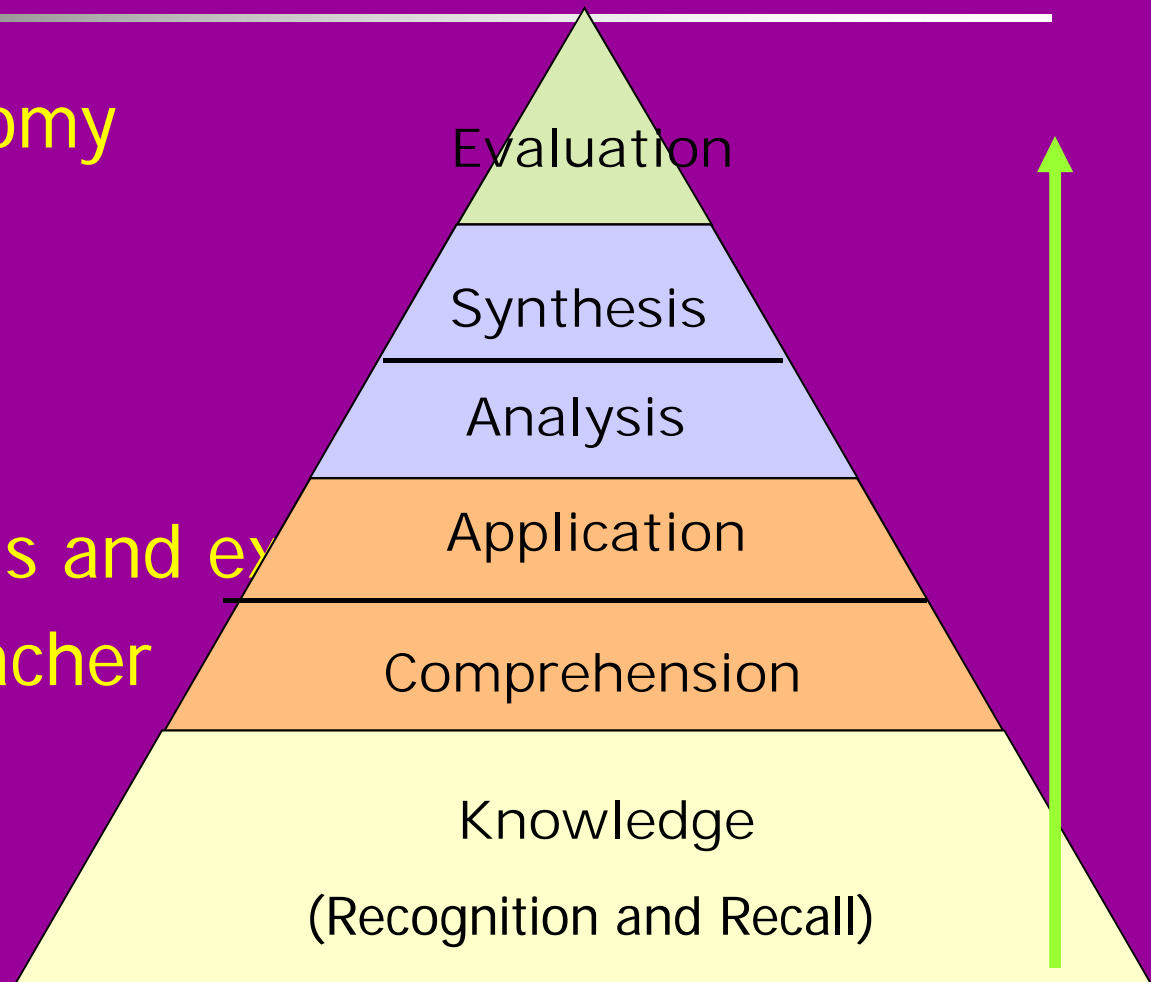
Appraise these learning objectives:

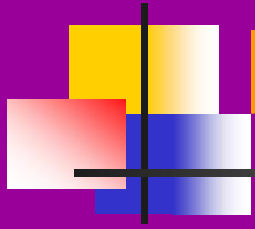
1. The physician will appreciate the use of endoscopic procedures.
2. The physician will understand the patient safety significance of endoscopic resection techniques.
3. The physician will learn the nurses' role in GI practice.
4. The physician will describe three patient safety procedures when entering the peritoneum.

Learning Goals and Objectives

Bloom's Taxonomy

- Measurable
- Specific
- Behavioral
- Learner needs and expectations -- not the teacher

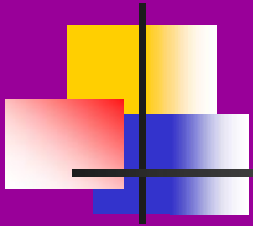




Learning Objectives -- Verbs

- Knowledge = define, describe, recall, list
- Comprehension = discuss, review
- Application = calculate, design, demonstrate
- Analysis = measure, examine, compare
- Synthesis = construct, organize, plan
- Evaluation = assess, judge, justify

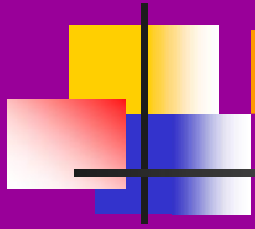
Bloom (1956)



Examples

By the end of the GI series, the physician will be able to:

1. Discuss current GI endoscopy interventions
2. Diagnose and treat routine GI conditions
3. Analyze the efficacy of Per Oral Endoscopic Myotomy (POEM)



Learner-centered Instruction

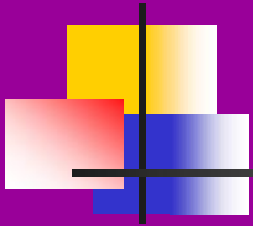
Encouraging students to take responsibility and gain confidence in their own learning development.

Create interactive learning activities with interpersonal communication opportunities.

Interactive methods in CME -Impact of Formal Continuing Medical Education; JAMA (1999) v. 282 #9; Davis D., et al



WORKSHEET #1



SUMMARY

- QUESTIONS????
- Follow-up

jrscott@winthrop.org

Resources for further exploration:

- Jack Scott's **"Designing Effective Courses and Instruction"** modules on Winthrop.InReachCE.com

1. Closing Performance Gaps
2. Sequencing a CME Series



The screenshot shows the homepage of the Winthrop University Hospital Continuing Professional Education Online Learning Center. The header includes the hospital's logo and name, along with the tagline "Your Health Means Everything." and "Continuing Medical Education". The main title is "Continuing Professional Education Online Learning Center". Below this, a description states: "A nationally accredited CME-CE sponsor of learning activities designed to enhance medical knowledge, clinical performance and patient care outcomes." There is a search bar with a "Search..." input field and a "Browse by Delivery Type" dropdown menu. Below the search bar, there are two search results listed:

- 1. Designing Effective Courses and Instruction: Closing Performance Gaps**
Designing effective instruction is based upon a set of educational principles that ensure learner-centered, interactive teaching methods. Strategies are offered for closing CME performance gaps.
Available As:
On Demand CPD
Podcast
- 2. Designing Effective Courses and Instruction: Sequencing a CME Series**
Designing effective instruction is based upon a set of educational principles that ensure learner-centric, interactive teaching methods. Strategies offered are useful for sequenced CME activities.
Available As:
On Demand CPD
Podcast

Upcoming CME/CE 101 Sessions:

<u>Date</u>	<u>Topic</u>	<u>Proposed Instructors</u>
<u>Wed, June 15:</u> <u>CME/CE Discovery:</u> Research Room G-005/6	Formulating an Evidence-based Needs Assessment and Learning Gap (“What to teach?”)	<ul style="list-style-type: none"> •Jack R. Scott, EdD, MPH •Rob Martin, MBA, CHCP
<u>Wed, June 22:</u> <u>CME/CE Construction</u> Research Room G-005/6	<i>M.A.P.</i> : What is a <u>M</u> easurable, <u>A</u> chievable, <u>P</u> ractical Learning Objective? (How to teach it?)	<ul style="list-style-type: none"> •Jack R. Scott, EdD, MPH •Rob Martin, MBA, CHCP
<u>Wed, June 29:</u> <u>CME/CE Design</u> Research Room G-005/6	Learning Modes, Styles and Preferences of the Adult Professional (“Will they retain it?”)	<ul style="list-style-type: none"> •Jack R. Scott, EdD, MPH •Rob Martin, MBA, CHCP
<u>Wed July 13:</u> <u>CME/CE Assessment</u> **Research Room G-013/14	Test Item Writing for Assessing Clinical Professionals (“Did they retain it?”)	<ul style="list-style-type: none"> •Jack R. Scott, PhD •Rob Martin, MBA, CHCP
<u>Wed, July 20:</u> <u>CME/CE Validation</u> Research Room G-005/6	Brick and Mortar: Foundations of Inter-Professional Education(IPE) and Accreditation Standards	<ul style="list-style-type: none"> •Mary Cataletto, MD •Rob Martin, MBA, CHCP •Jack R. Scott, EdD, MPH
<u>Wed, July 27:</u> <u>CME/CE Delivery:</u> Research Room G-005/6	Refining Instructional Methods and Maximizing Delivery Resources (“What’ll it cost?”)	<ul style="list-style-type: none"> •Rob Martin, MBA, CHCP •Jack R. Scott, EdD, MPH •Peter Sandre
<u>Wed, Aug 3:</u> <u>CME/CE Outcomes:</u> Research Room G-005/6	Assessing Impacts of the Education Activity on Practice Change (“Can we measure it?”)	<ul style="list-style-type: none"> •Rob Martin, MBA, CHCP •Jack R. Scott, EdD, MPH



Appendix

- Other reference materials



Symposia Planning 101:

- **Start Planning Early!** Start new course/symposia topics 12 months early
- **Six to nine months advance planning for recurring annual courses is needed, especially if you will be seeking Grants**
 - ***Why?*** Grant committees inside Pharma only meet 1-2x per quarter, and can defer an application for 1 or 2 cycles

Timeline of Symposia Planning, Grants & Brochures

Time	Timeline of Key Planning Steps												
	[36 weeks] Submit your CME Planning Document for feedback(new course topics)												
	For courses in:	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	Submit planning	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr
[30 weeks]	Schedule your Planning Meeting with the CME office to draft budget												
[29 weeks]	Activity Director submits the balanced draft budget for Chair signature												
[28 weeks]	CME Application Must be Completed with Planning Committee members												
[28-18 weeks]	CPE Committee Review will occur												
[27 weeks]	Activity assigned to a CPE Committee member for review/recommendation												
[26-18 weeks]	Event is eligible to be included in the “Save the Date” postcard mailing												
	[36-26 weeks] Grant funding requests need to be filed												
[26 weeks]	Reserve your meeting rooms once you have CME office Accreditation												
[15 weeks]	Brochure Copy is Due to Graphic Artist												
[14 weeks]	Brochure Design Draft will need your approval												
[13 weeks]	Brochure will Print												
[11weeks]	Brochure will Mail												
[10 weeks]	Date Registration will open												
[4-5 weeks]	All Disclosures Due from Faculty, Speakers, and Planners												
[4 weeks]	Grant Letters and Exhibit space reservations must be signed;												
[2 weeks]	Syllabus Books, Catering, and AV will be ordered; Test/Survey questions due												
	Meeting Date Meeting will be held												
[4 weeks after]	Budget Reconciliation/ Post-Mortem will be prepared												
[5 weeks after]	Outcomes survey starts tabulation												
[6 weeks after]	Reconciliation of Grants due												



Wed, June 29: CE Design: Learning Modes, Styles and Preferences of the Adult Professional (“Will they retain it?”)

At the conclusion of this session, learners should be able to:

1. **Describe factors that distinguish** adult learning (andragogy) from child learning (pedagogy)
2. **Compare the efficacy** of various learning activity formats for achieving changes in knowledge, attitudes, competency, and performance
3. **Interpret learning preferences** from personality types, professional customs, and practice settings

Wed, July 13: CME/CE Assessment: Test Item Writing for Assessing Clinical Professionals (“**Did they retain it?**”)

At the conclusion of this session, learners should be able to:

1. Identify psychometrically sound principles of test construction.
2. Use relevant statistical indices when evaluating test items.
3. Identify techniques for writing items measuring various cognitive levels.
4. Use item construction guidelines for writing the stem, correct response, and distracters for multiple-choice questions.
5. List sources of potential item bias and critique multiple-choice items.
6. Distinguish between multiple-choice items and items that use alternate formats.

Wed, July 20: CME/CE Validation:

Independent Review of Clinical and Academic Content

("Can it be accredited?")

At the conclusion of this session, learners should be able to:

1. **Recognize inter-professional** aspects of learner-centric content planning
2. **Describe standards** of instructor disclosure, conflict of interest, fair balance, clinical objectivity, and industry support
3. **Assess and manage** an instructor's potential conflicts of interest
4. **Discuss resources** for independent and objective clinical/academic review

Wed, July 27: CME/CE Delivery: Refining Instructional Methods and Maximizing Delivery Resources (“What’ll it cost?”)

At the conclusion of this sessions, learners should be able to:

1. **Translate learning objectives** into agenda format using time-management principles
2. **Appraise activity formats** for multi-modal learning efficacy (VARK)
3. **Generate cost estimates** for common learning activities
4. **Evaluate fundraising** resources available for instruction



Wed, Aug 3: CME/CE Outcomes: Assessing Impacts of the Education Activity on Practice Change (“Can we measure it?”)

At the conclusion of this sessions, learners should be able to:

1. **Describe Moore’s Levels** of Learning Outcomes and their use in grant funding awards decisions
2. **Classify common assessment instruments** by the Moore’s Outcomes Levels they achieve
3. **Analyze the feasibility** of particular assessment instruments for a learning activity budget
4. **Design a comprehensive Outcomes Measures strategy** for common CME/CE formats

Welcome!

CME/CE 101:

How To Plan A CME/CE Activity

- Wed, July 13- Assessment:
- Test Item Writing and Analysis

Please complete the
Pre-session Reading.
Thank you.

1

CME/CE 101:

How To Plan A CME/CE Activity

a series for current and future course directors and coordinators

- **Wed, June 15: CME/CE Discovery:** Formulating an Evidence-based Needs Assessment and Learning Gap ("What to teach?")
- **Wed, June 22: CME/CE Construction: M.A.P.:** What is a Measurable, Achievable, Practical Learning Objective? ("How to teach it?")
- **Wed, June 29: CME/CE Design:** Learning Modes, Styles and Preferences of the Adult Professional ("Will they retain it?")
- **Wed, July 13: CME/CE Assessment:** Test Item Writing for Assessing Clinical Professionals ("Did they retain it?")
- **Wed, July 20: CME/CE Brick and Mortar:** Foundations for Continuing Interprofessional Education ("Can it be accredited?")
- **Wed, July 27: CME/CE Delivery:** Refining Instructional Methods and Maximizing Delivery Resources ("What'll it cost?")
- **Wed, Aug 3: CME/CE Outcomes:** Assessing Impacts of the Education Activity on Practice Change ("Can we measure it?")



•Who We Are

- **Rob Martin, MBA, CHCP**
Assistant Dean, Director
of Continuing Medical Education

- **Jack R. Scott, EdD, MPH**
Assistant Dean, Faculty
and Curriculum Development

Winthrop University Hospital Clinical Campus,
Stony Brook University School of Medicine



3

Financial Disclosures

- Nothing to Disclose



4



Test Item Writing and Analysis

Jack R. Scott; EdD, MPH
Assistant Dean

2016



Learning Objectives

By the end of this session, participants will be able to:

- Describe the purposes and methods of testing
- Discuss effective elements of test item construction using the 'one-best answer'
- Evaluate exam questions using performance – based measures
- Use the Test Blueprint to determine test item performance



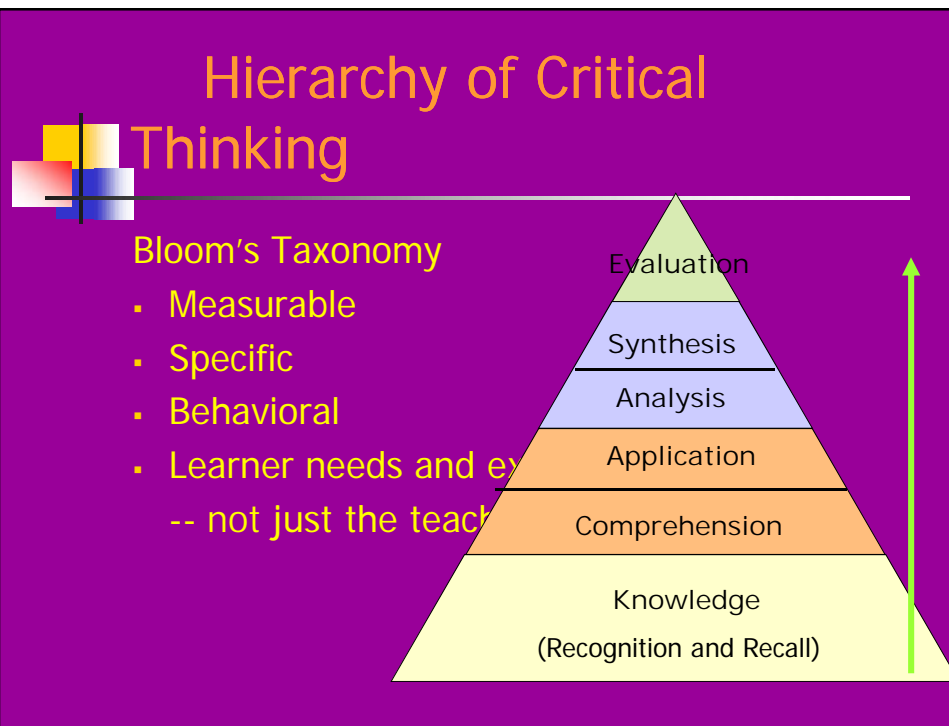
Purposes of Testing

- Communicate to students what material is important
- Motivate students to study
- Identify areas of deficiency in need of remediation or further learning
- Determine final grades or make promotion decisions
- Identify areas where the course/curriculum is weak



What should be tested?

- Exam content should match course objectives
- Important topics should be weighted more heavily than less important topics
- The testing time devoted to each topic should reflect the relative importance of the topic
- The sample of items should be representative of the instructional goals



Learning Objective:
 By the end of the course, students will be able to:
 Assess anatomy and physiology of the nervous system

Exam Question:
 In the spinal cord, primary blood supply to the spino-thalamic tract is the:

- posterior spinal tract
- anterior spinal tract
- vertebral artery
- PICA (posterior inferior spinal cerebral artery)



ONE BEST ANSWER: Anatomy of the Multiple Choice Question

Stem: A 32-year-old man with 4-day history of progressive weakness in his extremities. He has been healthy except for an upper respiratory tract infection 10 days ago. Temperature is 37.8 C, blood pressure is 130/80 mm Hg, pulse is 94/min, and respirations are 42/min and shallow. He has symmetric facial weakness and proximal and distal muscles of the extremities. Sensation is intact. No deep tendon reflexes can be elicited; the plantar responses are flexor.

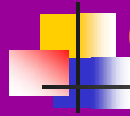
The most likely diagnosis is:

- Options:**
- A. acute disseminated encephalomyelitis
 - B. Guillain-Barre syndrome
 - C. myasthenia gravis
 - D. poliomyelitis
 - E. polymyositis



General Guidelines: Item Construction

- Make sure the item can be answered without looking at the options OR that the options are 100% true or false
- Include as much of the item as possible in the stem; the stems should be long and the options short
- Avoid superfluous information
- Avoid “tricky” and overly complex items
- Use only short (preferably single word) options



General Guidelines (cont.)

- Write options that are grammatically consistent and logically compatible with the stem; list them in logical or alphabetic order
- Write distractors that are plausible and the same relative length as the answer
- Avoid using absolutes such as always, never, and all in the options; also avoid using vague terms such as usually and frequently
- Avoid negatively phrased items (e.g., those with except or not in the lead-in); if you must use a negative stem, use only short options



What makes a good test question?

- Test questions should be clear and unambiguous.
- Test questions should test material that is both basic and essential to the understanding of the material.
- Test questions should be well-constructed one-best answer questions satisfy the "cover the options" rule. They could be administered as short-answer questions. The entire question is included in the stem.



What are good test questions?

A good question should be easily answerable by someone who knows the material while minimizing the chance that someone who doesn't know the material can guess the correct answer.



Don't test material that is trivial or totally irrelevant:

X

Don't use the word "not" in the stem:

X

"All of the Above" is not an allowed choice, since it is not a single best answer:

X

Avoid any form of multiple answers:


X

Use adjectives with extreme care.

Terms such as "Relatively Common," "Quite Often," "Rarely, " or "Occasionally" are impossible to quantify and are confusing:

X Avoid mixing dissimilar distractors
(Distractors should be similar entities, for example
microscopic findings, gross findings, or lab data):

X Avoid questions in which the obviously
longest answer is the correct choice:

 And finally, here is an actual American Board of Pathology Exam Remembrance:

Alpha-1-anti plasmin deficiency is not unlike that which is least likely to be unassociated with all of the following, EXCEPT:

- A. Excessive lack of bleeding.
- B. Decreased Hypercoaguability.
- C. Lack of a-beta-lipoproteinemia.
- D. Uncharacteristically Large Micromegakaryocytes.
- E. Relative acceleration or delay of failure of neutrophilic primary degranulation (with or without associated hyper-fibrinogenemia).



To avoid bias, the choices should be alphabetized:



Better adjectives are terms such as
"Most Likely" or "Least Common"



The stem should be answerable
before the choices are read.
"COVER OPTIONS"



Test reasoning or deductive powers rather than simple recall; Clinical vignettes are especially encouraged:



Worksheet #2

Test Item Appraisal -
Think/share groups



Example of Objectives

- **Knowledge:** Name 12 prefabricated drugs
- **Application:** Given a table of incidents of heart attacks among men of varying ages and weights, the student will compute the change in risk of heart attack in a 40-year-old male effected by a 20% weight loss.
- **Problem-solving:** Given a patient diagnosed with an upper extremity problem, the student will assess the extent of the abnormality according to the patient's structural loss of function and behavior.



Matching Test Items to Instructional Objectives

- *When you develop test items that are implied by the objective, always ask for behaviors that are either at the same or lower level of the cognitive hierarchy. **See Bloom's Taxonomy!**



Planning the Test


- Good classroom tests require planning!
- Before any test items are written you must develop a plan!



Steps in Constructing a Test Plan


1. Specify the content areas
2. Determine the relative emphasis for each content area and cognitive level
3. Coordinate instructional objectives with the content areas and cognitive levels
4. Determine the number of items and select item types

Test Blueprint



Topic	%Overall Content	# Test Items	Type of Question		Taxonomy		
			Multiple Choice	Essay	I Knowledge	II Application	III Problem Solving
ABO System	25	13	13		4	5	4
Rh System	25	12	12		5	4	3
Antiglobulin Testing	20	10	10		2	3	5
Lewis System	10	5	5		2	2	1
P System	10	5	5		2	2	1
I System	10	5	5		3	1	1
Totals		50	50		18	17	15

Performance of Test Items

- 
- Item Analysis used to assess the effectiveness of test questions
 - Evaluation of learning (student)
 - Evaluation of instruction and to guide instruction



Item Analysis

- Response frequencies for each distractor and the correct answer
- Item Difficulty
- Item Discrimination
- Point-biserial correlation



Item Analysis

- Item Difficulty -
Percentage of total group that answered
item correctly



Item Analysis

- Item Discrimination – Comparison of percentage correct between Upper group and Lower group (groups based on overall test score).
- $D = \% \text{ of upper group that got the item correct} - \% \text{ of lower group that got item correct} / 100$.
- e.g. $71\% - 36\% = 35\% / 100 = .35$



Item Discrimination

- If discrimination index is positive-good discriminator
- If zero then no discrimination –all correct or all missed
- If negative then discriminates against the higher scorers.



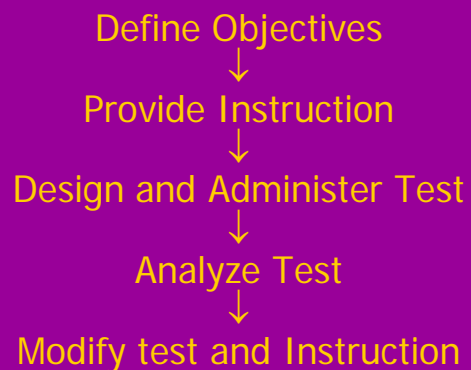
Item Analysis

Point-Biserial Correlation-

- Correlation between those who got the item correct and the total test score.
- .30 good (those who got item correct did well on the test)
- .20 fair
- .09 low
- -.10 those who got the item correct did not do well on the test



Considerations



Item Analysis for Competency Questions

Standard Item Analysis Report On Exam1 Version A

Total Possible Points: 10.00 Median Score: 8.86 Highest Score: 10.00
 Student in this group: 69 Mean Score: 8.63 Lowest Score: 4.00
 Standard Deviation: 1.30 Reliability Coefficient (CPE20): 0.60

No.	Correct Group Responses			Point Biserial	Correct Answer	Response Frequencies - * indicates correct answer										Non Distractor
	Total	Upper 27%	Lower 27%			A	B	C	D	E						
1	96.63%	100.00%	87.50%	3.23	D	1	1	1	*86	0						E
2	90.00%	100.00%	95.00%	3.20	C	0	0	*00	1	0						ADC
3	100.00%	100.00%	100.00%	3.00	D	0	*05	0	0	0						ACD
4	02.02%	100.00%	50.00%	3.45	D	0	*70	12	4	0						AE
5	70.78%	100.00%	58.33%	3.45	D	17	0	1	*71	0						BE
6	03.26%	100.00%	83.33%	3.32	D	2	4	0	*83	0						CE
7	67.42%	100.00%	33.33%	3.63	D	0	25	1	*60	0						AE
8	77.16%	100.00%	41.67%	3.62	A	*66	16	0	5	0						CE
9	97.38%	100.00%	87.50%	3.29	C	4	1	*84	0	0						DE
10	76.40%	100.00%	41.67%	3.46	A	*68	7	1	13	0						E



Worksheet #3

Test performance case study -
Think/share groups



Reflection and Synthesis

Questions and comments

Resources for further exploration:

- Dr. Jack Scott's **"Designing Effective Courses and Instruction"** modules on Winthrop.InReachCE.com

1. Closing Performance Gaps
2. Sequencing a CME Series



WINTHROP
UNIVERSITY OF NORTH CAROLINA
Your Health Means Everything.
Continuing Medical Education
Winthrop University

**Continuing Professional Education
Online Learning Center**

A nationally accredited CME/CE sponsor of learning activities designed to enhance medical knowledge, clinical performance and patient care outcomes.

Univis by Delivery Type Search Download Download

Home » Courses » Courses and Instruction by Faculty » Search Results

- Designing Effective Courses and Instruction: Closing Performance Gaps**

Designing effective instruction is based upon a set of educational principles that assure learner-centered, interactive teaching methods. Strategies are offered for closing CME performance gaps.

Available As:
On Demand (30)
Podcast
- Designing Effective Courses and Instruction: Sequencing a CME Series**

Designing effective instruction is based upon a set of educational principles that assure learner-centered, interactive teaching methods. Strategies offered are useful for sequencing CME activities.

Available As:
On Demand (30)
Podcast

Upcoming CME/CE 101 Sessions:

Date	Topic	Proposed Instructors
Wed, June 15: CME/CE Discovery: Research Room G-005/6	Formulating an Evidence-based Needs Assessment and Learning Gap ("What to teach?")	•Jack R. Scott, EdD, MPH •Rob Martin, MBA, CHCP
Wed, June 22: CME/CE Construction Research Room G-005/6	M.A.P.: What is a <u>M</u> asurable, <u>A</u> chievable, <u>P</u> ractical Learning Objective? (How to teach it?)	•Jack R. Scott, EdD, MPH •Rob Martin, MBA, CHCP
Wed, June 29: CME/CE Design Research Room G-005/6	Learning Modes, Styles and Preferences of the Adult Professional ("Will they retain it?")	•Jack R. Scott, EdD, MPH •Rob Martin, MBA, CHCP
Wed July 13: CME/CE Assessment **Research Room G-013/14	Test Item Writing for Assessing Clinical Professionals ("Did they retain it?")	•Jack R. Scott, PhD •Rob Martin, MBA, CHCP
Wed, July 20: CME/CE Validation Research Room G-005/6	Brick and Mortar: Foundations of Inter-Professional Education(IPE) and Accreditation Standards	•Mary Cataletto, MD •Rob Martin, MBA, CHCP •Jack R. Scott, EdD, MPH
Wed, July 27: CME/CE Delivery: Research Room G-005/6	Refining Instructional Methods and Maximizing Delivery Resources ("What'll it cost?")	•Rob Martin, MBA, CHCP •Jack R. Scott, EdD, MPH •Peter Sandre
Wed, Aug 3: CME/CE Outcomes: Research Room G-005/6	Assessing Impacts of the Education Activity on Practice Change ("Can we measure it?")	•Rob Martin, MBA, CHCP •Jack R. Scott, EdD, MPH

45

CME/CE 101:

How To Plan A CME/CE Activity

a series for current and future course directors

- Wed, June 8: Discovery: “What to teach?”
- Wed, June 15: Construction: “How to teach it?”
- Wed, June 22: Design: “Will they retain it?”
- Wed, June 29: Assessment: “Did they retain it?”
- Wed, July 13: Validation: “Can it be accredited?”
- Wed, July 20: Delivery: “What’ll it cost?”
- Wed, July 27: Outcomes: “Can we measure it?”

CME/CE 101:

How To Plan A CME/CE Activity

a series for current and future course directors and coordinators

- Wed, June 15: CME/CE Discovery: Formulating an Evidence-based Needs Assessment and Learning Gap (“What to teach?”)
- Wed, June 22: CME/CE Construction: M.A.P.: What is a Measurable, Achievable, Practical Learning Objective? (How to teach it?)
- Wed, June 29: CME/CE Design: Learning Modes, Styles and Preferences of the Adult Professional (“Will they retain it?”)
- Wed, July 13: CME/CE Assessment: Test Item Writing for Assessing Clinical Professionals (“Did they retain it?”)
- Wed, July 20: CME/CE Brick and Mortar: Foundations for Continuing Interprofessional Education (“Can it be accredited?”)
- Wed, July 27: CME/CE Delivery: Refining Instructional Methods and Maximizing Delivery Resources (“What’ll it cost?”)
- Wed, Aug 3: CME/CE Outcomes: Assessing Impacts of the Education Activity on Practice Change (“Can we measure it?”)

Wed, July 20: CME/CE Delivery: Refining Instructional Methods and Maximizing Delivery Resources (“What’ll it cost?”)

At the conclusion of this sessions, learners should be able to:

1. **Translate learning objectives** into agenda format using time-management principles
2. **Appraise activity formats** for multi-modal learning efficacy (VARK)
3. **Generate cost estimates** for common learning activities
4. **Evaluate fundraising** resources available for instruction

Resourcing? What is Resourcing anyway?

Is this a class on

-Catering and AV?

No!

-printing invitation mailers?

No!

-Event Planning?

Maybe

This IS a class on...








...SCARCITY



- **Time**
 - learners' time
 - planners' time
- **Space**
- **Money**
- **Attention/goodwill**

Interprofessional Planning Committee and other staffing:

- **Good ideas can come from anywhere**
- **Use Parallel Thinking!, i.e.**
DeBono's Six Thinking Hats Method

						
What is the current information on the issue or problem?	How does everyone feel about the current situation, issue or problem?	What are the positive aspects of the current situation, issue or problem?	What are the negative aspects of the current situation, issue or problem?	What are new creative ideas or alternatives in solving the issue or problem?	How does everyone feel now that we have worked on the issue or problem?	What conclusions or summaries can we make in moving forward on the issue or problem?

See: Edward de Bono. *Six Thinking Hats* (1985) [ISBN 0-316-17831-4](https://www.amazon.com/dp/0316178314)
Image, <http://johnkapeleris.com>

...back to SCARCITY:

Once you have all the
committee's ideas on the table,



Think of SCARCITY your most
useful tool.

What?! How can Scarcity be useful?

- Limits are constructive in creative endeavors, they can set you free!
 - *"Making it count"*
- Limits help you recognize when "Scope creep" is starting to happen.
 - Don't try to make everyone happy, or say yes to everything. "No" is empowering!
- Limits remind you to be efficient, and ...
- *(from Economics)* Scarcity increases Value



Time Management, part I

How much time will be needed to accomplish my learning objectives and activity formats?

- For reading-based material, Mergener's "a priori" formula(1991) has been validated by ACPE For estimating time-based credit to award:

Time(in minutes)=

$$\begin{aligned}
 & -22.3 + (0.0209)(\text{number of words}) \\
 & + 2.78 * (\text{number of questions}) \\
 & + (15.5) * (\text{difficulty level, 1 to 5 Likert}) * (0.91 \\
 & \text{correction factor})
 \end{aligned}$$



Source:

[De Muth JE, Hanson AL. Validation of a Formula for Assigning Continuing Education Credit to Printed Home Study Courses. *American Journal of Pharmaceutical Education*. 2007;71\(6\):121.](#)

Time Management, part II

But what if my activity is a live conference, not a self-paced reading activity?



- Use the time you have: veteran speakers can tell you how much time they will need. One minute per slide is a good estimate.
- Allow a ratio of **Q&A to Didactic** time somewhere between **1:4 and 1:8** (15 minutes per 2 hours)
- For interactive workshops, pair/share, or hands-on sessions, let users **practice material from one didactic presenter at time**. Blending 2 objectives requires 2.5x as much time.

Time Management, part III

But how much time is enough to achieve intended knowledge changes/ practice changes?



(Learn by “heuristics”, a fancy word for best-guess, trial and error)

- Different professions have different learning rates, *depending on prior exposure to material*
- But! Different professions can also have different **retention rates**, depending on how often new material is encountered

Time Management, part IV

- **Multi-modal Learning=**
Something for everyone
- Strive to reinforce the message using multiple modes of VARK
 - Visual Learners
 - Auditory Learners
 - Read-Write Learners
 - Kinesthetic Learners
- Encourage speakers to plan extra time for multi-modal (1.25-1.5x or more for IPE)



Time Management, part V

- **Use-it-or-Lose-it Rule**
- **Reinforcement, Follow-up and Self-reflection** can be powerful actuators of change in adult learners



- Consider using:
 - ❑ Surveys,
 - ❑ Opt-in reminders(text msg),
 - ❑ Planned check-ins,
 - ❑ Mentoring
- Reinforce Longitudinally

Audience Building

- **Social Media?** Facebook, Twitter
- **Web presence** for ongoing courses
- **Mailings/Emailings**
- **How much, how often, how soon?**
 - Before the web, advertisers measured that buying required 4-5 “**impressions**”
 - Nowadays (The Flood) web advertisers say it takes 5-20 **impressions** to get a commitment or make a “sale”
 - **But quality matters!**
 - Renting targeted lists
 - 1 high quality mailer v. E-blasting repeatedly



Speakers: Where can I find them?

- First and foremost, speakers should be **experts in the content matter** you identified in your Need Assessment

Look in the obvious places:

- Your clinical practice
- Association leaders
- National Task Forces



But, look in non-obvious places also:

- Your committee may have mentors
- Pub-Med Literature search, researchers, journal editors

Budget 101:

Spending=S , Registrations=R

1. What can we spend?
2. What can we charge?

Must $S == R$? Or, could $S > R$?

- **Consider whether:**

$$S <?> R + x(\text{Exhibits}) + y(\text{Grants})$$

- To find out, **Solve for T_{LeadTime} !**
("Lead Time is everything")


FUNDING
 next exit

Commercial Grants, Part I

- Grants from Pharma and Device makers are all around us
- **But** read the ACCME Standards for Commercial Support (and Independence) before proceeding
 - Apply through online portals
 - Awards decisions juried by Medical Affairs committees inside firm
 - Usually quarterly budgets
 - Decisions are “firewalled” from marketing staff(usually!)

Commercial Grants, Part II

- **Start at the Beginning:**
Draft an evidence-based grant (before you even Google)
- Draft must include:
 - Needs Assessment, with evidence
 - Target Audience
 - Gap Analysis
 - Measurable Learning Objectives
 - Bibliography/References/Citations to published evidence
- *And recently encouraged or even required:*
 - Resume of the institution (accreditations we hold)
 - Outcomes measurement plan
 - Verifiable budget
 - Contingency plan (what changes if you had to scale down budget?)
- **Formats vary widely across commercial firms**



Commercial Grants, Part III

Strategies

- Start at least 120-180 days before your event
- “Multi-funding” is always attractive to large grantors(shared burden)
 - You won’t get all the dollars you ask for; you will get some No’s
- **Sunshine Act:** All money used to pay for speaker honoraria, learner meals, hospital space rental or other “transfer of value” is now reportable by the commercial firm to the federal database, including individual names.
- Be prepared to indicate which expenses the grant will fund.
- Do not promise Outcomes data for any Moore’s level you will not measure (*You mean I gotta know Moore’s?*)



Commercial Grants, Part IV

“I got a grant award, now what?”

- CME office will sign the firm’s **Letter of Agreement(LOA)** for you
 - prevents you or your planning committee members from becoming “Sunshine subjects”
- **Outcomes, the key to repeat grants:**
 - Begin set up your Outcomes Data gathering(surveys, pre/post tests),
 - Thinking of it as building capacity to measure (and your reputation)
- Before you spend a cent, know that you must reconcile all funds awarded, 90 days later. Get receipts for all spending.



Exhibits & Earned Income 101

- Exhibits **are not Grants**
- Exhibits **are not Donations**
- Exhibits **are not subject to reconciliation**
- Exhibits ARE fee-for-value
- Exhibits ARE marketing activity
- Therefore, they can they not be where?
- Inside the classroom!



Exhibits/Earned Income, part II

- **Table Rentals**
 - Public Org's with an interest in the clinical population
 - Vendors with a commercial interest in the therapeutic area
 - must be **strictly managed**. Use the CME Office as clearinghouse for payments
 - to keep them out of any involvement in developing the educational content
 - to minimize Sunshine reporting and appearance of "kick-back"
 - **The classroom is a "sacred" space.** No vendor presence allowed inside, or on educational materials
 - To assure independence, see ACCME Standards for Commercial Support <http://www.accme.org/requirements/accreditation-requirements-cme-providers/standards-for-commercial-support>



Exhibits/Earned Income, part III

- **Other earned income ideas:**
 - **Satellite Symposia:** can be Accredited or non-accredited
 - **For Sale items, i.e.,**
 - Bake-Sale, Raffles, Auctions: can be Labor Intensive ,but can add an element of fun!



Timeline of Symposia Planning, Grants & Brochures

Time	Timeline of Key Planning Steps
[36 weeks]	Submit your CME Planning Document for feedback(new course topics)
	For courses in: Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
	Submit planning May Jun Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr
[30 weeks]	Schedule your Planning Meeting with the CME office to draft budget
[29 weeks]	Activity Director submits the balanced draft budget for Chair signature
[28 weeks]	CME Application Must be Completed with Planning Committee members
[28-18 weeks]	CPE Committee Review will occur
[27 weeks]	Activity assigned to a CPE Committee member for review/recommendation
[26-18 weeks]	Event is eligible to be included in the "Save the Date" postcard mailing
[36-26 weeks]	Grant funding requests need to be filed
[26 weeks]	Reserve your meeting rooms once you have CME office Accreditation
[15 weeks]	Brochure Copy is Due to Graphic Artist
[14 weeks]	Brochure Design Draft will need your approval
[13 weeks]	Brochure will Print
[11 weeks]	Brochure will Mail
[10 weeks]	Date Registration will open
[4-5 weeks]	All Disclosures Due from Faculty, Speakers, and Planners
[4 weeks]	Grant Letters and Exhibit space reservations must be signed;
[2 weeks]	Syllabus Books, Catering, and AV will be ordered; Test/Survey questions due
	Meeting Date Meeting will be held
[4 weeks after]	Budget Reconciliation/ Post-Mortem will be prepared
[5 weeks after]	Outcomes survey starts tabulation
[6 weeks after]	Reconciliation of Grants due

Budgeting Case Study

- The Planning Process
- Group Budget Exercise

Project:			
	Price Each	How Many	Item Subtotal
What Expenses?			\$ 15,550
Guest Speakers			\$ 2,955
Honoraria/Speaking Fee	\$ 500.00	3	\$ 1,500
Travel/Transpo	\$ 1,050.00	1	\$ 1,050
Lodging	\$ 202.50	2	\$ 405
	\$ -		\$ -
Meals/Refreshments, if any			\$ 6,160
Breakfast	\$ 12.00	110	\$ 1,320
Lunch	\$ 38.00	110	\$ 4,180
Coffee/Break	\$ 6.00	110	\$ 660
	\$ -		\$ -
Brochure Printing			\$ 3,990
printing	\$ 0.44	3000	\$ 1,320
postage	\$ 0.39	3000	\$ 1,170
mailing list rental	\$ 1,500.00	1	\$ 1,500
	\$ -		\$ -
Instructional Materials			\$ 1,820
Binders	\$ 10.00	110	\$ 1,100
Flash Drives	\$ 6.00	110	\$ 660
Audiovisual materials	\$ 60.00	1	\$ 60
	\$ -		\$ -
Room Rental Fees			\$ 625
Facility Fee	\$ 600.00	1	\$ 600
Furniture Rental	\$ 25.00	1	\$ 25
	\$ -		\$ -
Other Expenses			\$ -
	\$ -		\$ -
	\$ -		\$ -
What sources of Revenue?			\$ 15,550
Registration Fees for Audience			\$ 14,450
Physicians	\$ 160.00	50	\$ 8,000
Non-Physicians	\$ 130.00	50	\$ 6,500
Residents	\$ 10.00	5	\$ 50
WUHI discount?	\$ 5.00	20	\$ (100)
Committee Members	\$ -	2	\$ -
	\$ -		\$ -
Grants			\$ -
Sponsor1	\$ -		\$ -
Sponsor2	\$ -		\$ -
Sponsor3	\$ -		\$ -
Sponsor4	\$ -		\$ -
Sponsor5	\$ -		\$ -
	\$ -		\$ -
Exhibit Fees for booths			\$ 600
Departmental Funds available	\$ 500.00	1	\$ 500
Projected Balance			\$ -

Case Study:

Your Planning Committee has decided to hold a 6-hour interprofessional symposium. Two of the members will attend at no charge.

You will print and mail 3000 invitations to the tristate area. The nurses' association will rent you a list for \$500. The AMA will rent you a doctors mailing list for \$1000. Postage is 39 cents per piece. Printing is 44 cents apiece. Signage for the meeting will cost \$60.

You think you can attract 50 physicians and 50 nurses. The 3 guest speakers have agreed to \$500 honorarium each. One speaker coming from Hawaii will need 2 nights lodging. Garden City Hotel charges 202.50 per night. The Hawaii plane ticket costs \$950 and an airport sedan costs \$50 each way.

You will provide continental breakfast for \$12 per person, lunch for \$38pp, and a coffee break for \$6pp. Your department can provide \$500 toward the \$600 cost of renting a banquet room at a local restaurant. The restaurant lacks a speaker podium, which you can rent for \$25 a day. You have sold exhibitor booths at \$100 each to 6 insurance providers. Ten MD and ten nurse Staff of your hospital, are guaranteed to attend, but expect a \$5 discount. Five residents from your hospital who will attend are charged only \$10. Binders containing the symposium materials cost \$10 each to produce, and flash drives cost \$6 each.

Question 1: How many people will you need to feed?

110

Question 2: If no grants are received, What will you need to set the registration fees prices in order to break even on this project? (Hint: Charge the Physicians \$30 more than the Nurses)

Physicians 160 Non-Physicians 130

Correct! You balanced

Solution to the Homework,
Q1-2

Project:			
	Price Each	How Many	Item Subtotal
What Expenses?			\$ 15,770
Guest Speakers			\$ 2,955
Honoraria/Speaking Fee	\$ 500.00	3	\$ 1,500
Travel/Transpo	\$ 1,050.00	1	\$ 1,050
Lodging	\$ 202.50	2	\$ 405
	\$ -		\$ -
Meals/Refreshments, if any			\$ 6,380
Breakfast	\$ 12.00	110	\$ 1,320
Lunch	\$ 38.00	110	\$ 4,180
Coffee/Break	\$ 8.00	110	\$ 880
Brochure Printing			\$ 3,990
printing	\$ 0.44	3000	\$ 1,320
postage	\$ 0.39	3000	\$ 1,170
mailing list rental	\$ 1,500.00	1	\$ 1,500
	\$ -		\$ -
Instructional Materials			\$ 1,820
Binders	\$ 10.00	110	\$ 1,100
Flash Drives	\$ 6.00	110	\$ 660
Audiovisual materials	\$ 60.00	1	\$ 60
	\$ -		\$ -
Room Rental Fees			\$ 625
Facility Fee	\$ 600.00	1	\$ 600
Furniture Rental	\$ 25.00	1	\$ 25
Other Expenses			\$ -
	\$ -		\$ -
	\$ -		\$ -
What sources of Revenue?			\$ 10,300
Registration Fees for Audience			\$ 9,200
Physicians	\$ 160.00	15	\$ 2,400
Non Physicians	\$ 120.00	50	\$ 6,500
Residents	\$ 10.00	40	\$ 400
WUH discount?	\$ 5.00	20	\$ (100)
Committee Members	\$ -	2	\$ -
Grants			\$ -
Sponsor1	\$ -		\$ -
Sponsor2	\$ -		\$ -
Sponsor3	\$ -		\$ -
Sponsor4	\$ -		\$ -
Sponsor5	\$ -		\$ -
Exhibit Fees for booths			\$ 600
Departmental Funds available	\$ 900.00	1	\$ 900
Projected Balance			\$ (5,470)

Case Study:

Your Planning Committee has decided to hold a 6-hour interprofessional symposium. Two of the members will attend at no charge.

You will print and mail 3000 invitations to the tristate area.

The nurses' association will rent you a list for \$500.

The AMA will rent you a doctors mailing list for \$1000.

Postage is 39 cents per piece. Printing is 44 cents apiece.

Signage for the meeting will cost \$60.

You think you can attract 50 physicians and 50 nurses.

The 3 guest speakers have agreed to \$500 honorarium each.

One speaker coming from Hawaii will need 2 nights lodging.

Garden City Hotel charges 202.50 per night.

The Hawaii plane ticket costs \$950 and an airport sedan costs \$50 each way.

You will provide continental breakfast for \$12 per person, lunch for \$18pp, and a coffee break for \$6pp.

Your department can provide \$500 toward the \$600 cost of renting a banquet room at a local restaurant.

The restaurant lacks a speaker podium, which you can rent for \$25 a day.

You have sold exhibitor booths at \$100 each to 6 insurance providers.

Ten MD and ten nurse Staff of your hospital, are guaranteed to attend, but expect a \$5 discount.

Five residents from your hospital who will attend are charged only \$10.

Binders containing the symposium materials cost \$10 each to produce, and flash drives cost \$6 each.

Question 1: How many people will you need to feed?

Question 2: If no grants are received, What will you need to set the registration fees price in order to break even on this project? (Hint: Charge the Physicians \$30 more than the Nurses)

Question 3A: To bring in all 40 of your hospital residents to attend in physician slots, how much grant money will you need, if any, to balance the project budget (assume the number of total seats does not change)?

Correct!

Solution to the Homework, Q3A

Project:			
	Price Each	How Many	Item Subtotal
What Expenses?			\$ 14,890
Guest Speakers			\$ 2,955
Honoraria/Speaking Fee	\$ 500.00	3	\$ 1,500
Travel/Transpo	\$ 1,050.00	1	\$ 1,050
Lodging	\$ 202.50	2	\$ 405
	\$ -		\$ -
Meals/Refreshments, if any			\$ 5,500
Breakfast	\$ 12.00	110	\$ 1,320
Lunch	\$ 38.00	110	\$ 4,180
Coffee/Break	\$ -	110	\$ -
Brochure Printing			\$ 3,990
printing	\$ 0.44	3000	\$ 1,320
postage	\$ 0.39	3000	\$ 1,170
mailing list rental	\$ 1,500.00	1	\$ 1,500
	\$ -		\$ -
Instructional Materials			\$ 1,820
Binders	\$ 10.00	110	\$ 1,100
Flash Drives	\$ 6.00	110	\$ 660
Audiovisual materials	\$ 60.00	1	\$ 60
	\$ -		\$ -
Room Rental Fees			\$ 625
Facility Fee	\$ 600.00	1	\$ 600
Furniture Rental	\$ 25.00	1	\$ 25
Other Expenses			\$ -
	\$ -		\$ -
	\$ -		\$ -
What sources of Revenue?			\$ 15,550
Registration Fees for Audience			\$ 7,850
Physicians	\$ 140.00	15	\$ 2,100
Non Physicians	\$ 110.00	50	\$ 5,500
Residents	\$ 10.00	35	\$ 350
WUH discount?	\$ 5.00	20	\$ (100)
Committee Members	\$ -	2	\$ -
Grants			\$ 6,500
Sponsor1	\$ 3,000.00	1	\$ 3,000
Sponsor2	\$ 3,500.00	1	\$ 3,500
Sponsor3	\$ -		\$ -
Sponsor4	\$ -		\$ -
Sponsor5	\$ -		\$ -
Exhibit Fees for booths			\$ 700
Departmental Funds available	\$ 500.00	1	\$ 500
Projected Balance			\$ 660

Case Study:

Your Planning Committee has decided to hold a 6-hour interprofessional symposium. Two of the members will attend at no charge.

You will print and mail 3000 invitations to the tristate area.

The nurses' association will rent you a list for \$500.

The AMA will rent you a doctors mailing list for \$1000.

Postage is 39 cents per piece. Printing is 44 cents apiece.

Signage for the meeting will cost \$60.

You think you can attract 50 physicians and 50 nurses.

The 3 guest speakers have agreed to \$500 honorarium each.

One speaker coming from Hawaii will need 2 nights lodging.

Garden City Hotel charges 202.50 per night.

The Hawaii plane ticket costs \$950 and an airport sedan costs \$50 each way.

You will provide continental breakfast for \$12 per person, lunch for \$18pp, and a coffee break for \$6pp.

Your department can provide \$500 toward the \$600 cost of renting a banquet room at a local restaurant.

The restaurant lacks a speaker podium, which you can rent for \$25 a day.

You have sold exhibitor booths at \$100 each to 6 insurance providers.

Ten MD and ten nurse Staff of your hospital, are guaranteed to attend, but expect a \$5 discount.

Five residents from your hospital who will attend are charged only \$10.

Binders containing the symposium materials cost \$10 each to produce, and flash drives cost \$6 each.

Question 1: How many people will you need to feed?

Question 2: If no grants are received, What will you need to set the registration fees price in order to break even on this project? (Hint: Charge the Physicians \$30 more than the Nurses)

Question 3A: To bring in all 40 of your hospital residents to attend in physician slots, how much grant money will you need, if any, to balance the project budget (assume the number of total seats does not change)?

Question 3B: You apply for three grants at \$6000 each from Pfizer, BMS, and Lilly.

Lilly awards you \$3000, Pfizer awards \$3500, and BMS declines to award, but instead would like to purchase an exhibit table.

Will this provide your department a surplus or deficit at the end of the project? How much?

\$ 660

Correct!

Solution to the Homework, Q3B

SUMMARY

- Questions?
- What did you find MOST useful?
- What concepts were least understood ('muddiest points')?

Welcome!

CME/CE 101:
How To Plan A CME/CE Activity
 a series for current and future course directors
 and coordinators

- **Wed, June 15: Discovery:** “What to teach?”
- **Wed, June 22: Construction:** “How to teach it?”
- **Wed, June 29: Design:** “Will they retain it?”
- **Wed, July 13: Assessment:** “Did they retain it?”
- **Wed, July 20: Foundations:** “Can it be accredited?”
- **Wed, July 27: Delivery:** “What’ll it cost?”
- **Wed, Aug 3: Outcomes:** “Can we measure it?”

1

CME/CE 101:
How To Plan A CME/CE Activity
 a series for current and future course directors and coordinators

- **Wed, June 15: CME/CE Discovery:**
 Formulating an Evidence-based Needs Assessment and Learning Gap
 (“What to teach?”)
- **Wed, June 22: CME/CE Construction: *M.A.P.*: What is a Masurable,
Achievable, Practical Learning Objective?**
 (“How to teach it?”)
- **Wed, June 29: CME/CE Design:** Learning Modes, Styles and
 Preferences of the Adult Professional (“Will they retain it?”)
- **Wed, July 13: CME/CE Assessment:** Test Item Writing for Assessing
 Clinical Professionals (“Did they retain it?”)
- **Wed, July 20: CME/CE Brick and Mortar:** Foundations for Continuing
 Interprofessional Education
 (“Can it be accredited?”)
- **Wed, July 27: CME/CE Delivery:** Refining Instructional Methods and
 Maximizing Delivery Resources
 (“What’ll it cost?”)
- **Wed, Aug 3: CME/CE Outcomes:** Assessing Impacts of the Education
 Activity on Practice Change (“Can we measure it?”)

2

•Who We Are

- **Jack R. Scott, EdD, MPH**
Assistant Dean, Faculty
and Curriculum Development
- **Rob Martin, MBA, CHCP**
Assistant Dean, Director
of Continuing Medical
Education

Winthrop University Hospital Clinical Campus,
Stony Brook University School of Medicine



3

Financial Disclosures

- Nothing to Disclose

Today's Agenda

- I. **Lecture (30 minutes)**
- II. **Worksheet Session – Design a Program Evaluation**
– Logic Model application (20 -30 min)



4

Wed, Aug 3: CME/CE Outcomes: Assessing Impacts of the Education Activity on Practice Change ("Can we measure it?")

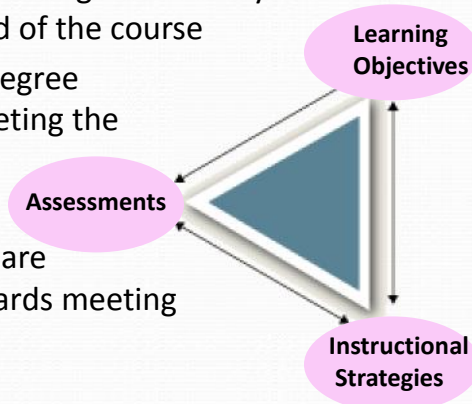
At the conclusion of this sessions, learners should be able to:

1. **Describe Moore's Levels** of Learning Outcomes and their use in grant funding awards decisions
2. **Classify common assessment instruments** by the Moore's Outcomes Levels they achieve
3. **Identify opportunities** for evaluating CPE instruction
4. **Use evaluation concepts** for implementing curriculum change using the Logic Model of evaluation
5. **Design a comprehensive Outcomes Measures strategy** for common CME/CE formats

5

Aligning Learning Objectives: Review

- **Alignment** among three main course components ensures an internally consistent structure. **Alignment** is when the:
- **OBJECTIVES** articulate the knowledge and skills you want students to acquire by the end of the course
- **ASSESSMENTS** measure the degree to which the students are meeting the learning objectives
 - and
- **INSTRUCTIONAL STRATEGIES** are chosen to foster learning towards meeting the objectives



Source: Carnegie-Mellon University

<https://www.cmu.edu/teaching/design/teach/design/learningobjectives.html>

6

Aligning Learning Objectives (continued)

When these components are not aligned

- Students may feel that a **test had little to do with** what was covered in class, or
- Instructors might feel that even though students are earning a passing grade, they **haven't really mastered** the material at the desired level.
- **Also, adult education implies a "Learning Contract":**
 - i.e. "If I show up, how will I know what I'm getting?"

<https://www.cmu.edu/teaching/designteach/design/learningobjectives.html>

7

Program Evaluation

- A process to determine the worthiness or value of a medical education program, curriculum, or instructional unit
- Asks: What needs to be measured? How will it be measured? What impact will it have for change?
- Key Stakeholders
- Evaluation systems

Common Definitions

Program: Series of educational events/activities

Evaluation: Process of obtaining useful information/data for judging value or worth

Program evaluation: Systematic collection, analysis and reporting of information about a program to assist in decision-making; summative

Assessment: Process for judging learning performance according to criteria; formative

Stakeholders: Individuals or groups (internal and external) with an interest in the evaluation

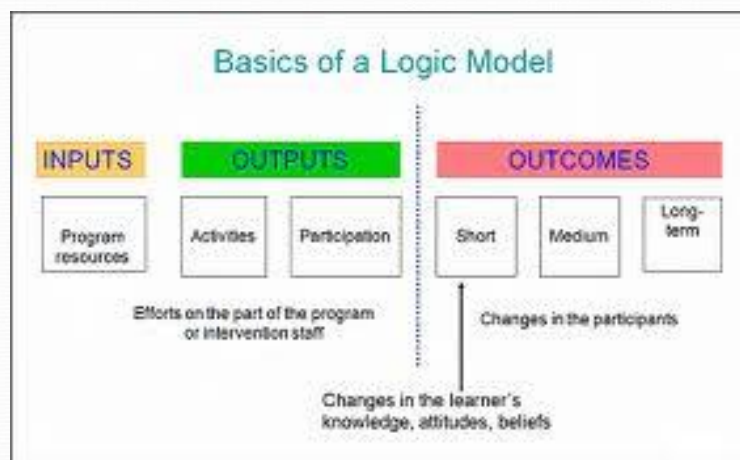
Forms of Evaluation

- **Formative** – information/data collected at beginning of or during instruction or educational activity
- **Summative** – information/data collected at the end of instruction or educational activity; determine merit

For your CME course or curriculum:

- Why evaluate courses?
- What information do you need to evaluate the course?
- Who are stakeholders?
- What are challenges and barriers?
- What makes for an improved course?
- Does our academic program have a mission statement that provides direction and emphasizes evaluation?
- Is it clear who is responsible for our evaluation system?
- Do we regularly examine our evaluation system's benefit to learners, faculty and the institution?

Logic Model



Program Evaluation Standards

Framework to assess evaluation of education programs:

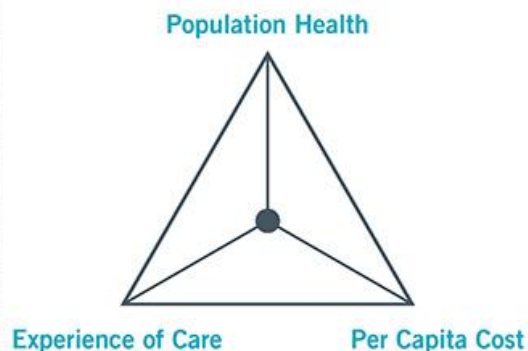
- **Perspective** – program personnel information
- **Sensitivity** – in-depth examination of data
- **Utility** – serves information needs of intended users
- **Feasibility** – keeps evaluation operations realistic, viable
- **Propriety** – conducts evaluation legally/ethically with due regard for those affected by results and outcomes
- **Accuracy** – reveals, conveys technically sound information to determine merit, value or worth

Why focus on Outcomes?

The key to understanding what grant-makers value

- Even Pharma Grants Committees now think like **public health researchers**
- Education that is **effective at improving care**

The IHI Triple Aim



Source: Institute for Healthcare Improvement
<http://www.ihl.org/engage/initiatives/tripleaim/pages/default.aspx>

14

Moore's Levels in Depth:

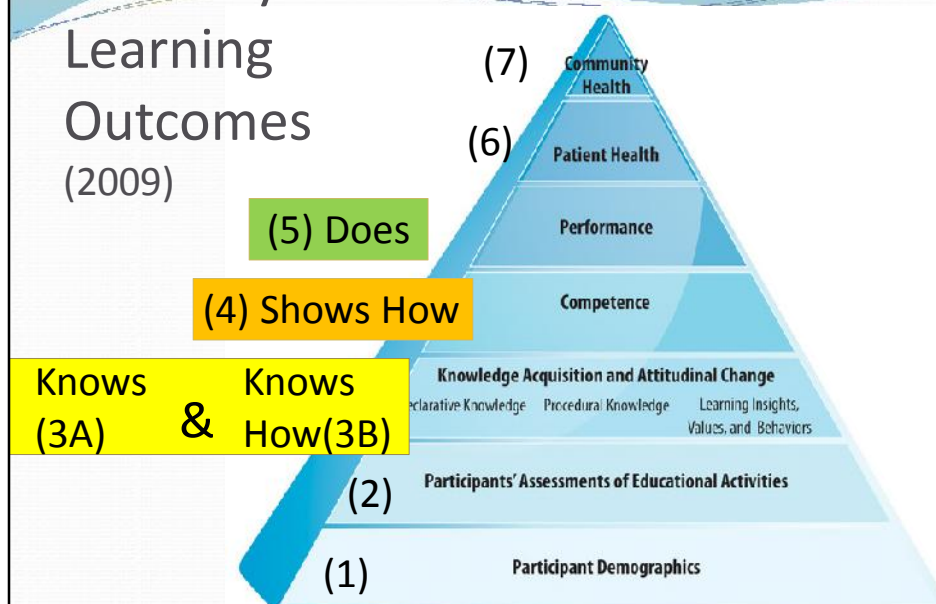
But what do we mean by
“Effective” at improving care?

What are we trying to measure?



15

Moore's Pyramid of Measureable Learning Outcomes (2009)



Source: http://www.primece.com/scienceofcme/adult_learning_principles

16

Moore levels: tools & examples, Part I

- **Moore 1: Participation** → *Did they sign-up, sign-in, attend, click?*
 - **Moore 2: Satisfaction** → *Did they complete a survey, or provide other feedback. "What can we educators do better?"*
 - **Moore 3A: Didactic Knowledge change**
 - **Moore 3B: Procedural Knowledge change**
 - **Moore 3C(?): Attitude/Values change**
- *Did they complete a quiz, Pre+Post test, or group knowledge survey (Formative and Summative assessments)*

17

Moore levels: tools & examples, Part II

- **Moore 4: Change in Competence**
→ *Did they complete a demonstration, OSCE, simulation, preceptorship?*
- **Moore 5: Change in Performance**
→ *Did they transfer the learned skills into clinical practice? Subjective Self Report(SSR), Chart Review, Chart Audit*
- **Moore 6: Change in Patient Health**
→ *Did a patient improve based on the change in the clinician's skills? Chart Audit, CMS scores, QI study projects*
- **Moore 7: Change in Population Health**
→ *Did health of a patient group improve based on the change in the clinician's skills? Chart Audit, CMS scores, QI study projects, HIT aggregates*

18

Beware of Survey-taker “exhaustion”



- **You can only ask so many questions**
 - Respondent may lose interest
 - Respondent may become self-conscious (unblinded)
 - Respondent may lack time
- **Wherever possible, use automation to provide them shortcuts**
 - **Personalized links:** [SurveyGizmo](#), MailChimp, SurveyMonkey Pro, Qualtrics, SurveyPro
 - **Survey Apps that keep the user logged-in:** PollEverywhere, LinkedIn, Facebook

19

Consider the arrival of Big Data:

- **How do we feel about being measured in everything we do?**
- **Does scale make social science datasets more “objective”?**



20

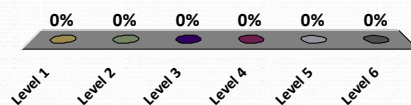
Thinking beyond Moore's: Patient-Centered Outcomes(PCOR)

- Pfizer has recently begun soliciting grants “that focus on the healthcare providers’ (HCPs) **understanding of the patient’s perception of** ” (a disease)
 - Patient Ambassadors on the CE/CME/CPE planning committee
 - Patient Advocacy groups as education partners
 - “Ask your doctor about” becoming “**Tell** your doctor about”
- **PCORI- Nationally funded \$10K-1M grant “contracts”**
 - **Vision:** “Patients and the public have information they can use to make decisions that **reflect their desired health outcomes....**” and
 - **Mission:** “...research guided by patients, caregivers, and the broader healthcare community”- <http://www.pcori.org/>

21

Consider a CME course. Describe assessments using Moore’s model. Is there evidence and if so how measured? Example: Do course graduates become competent physicians?

- A. Level 1
- B. Level 2
- C. Level 3
- D. Level 4
- E. Level 5
- F. Level 6



Workshop/Worksheet Session

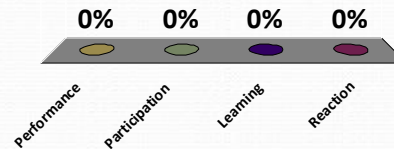
- **Worksheet #1**
- **THINK-PAIR-SHARE**
- **Use the Logic Model and identify examples of each factor (e.g., Inputs, Outputs, Impact, etc.). What are Moore's levels for Outputs? You have 20 minutes. Thank you!!**

Program Evaluation Guidelines

- **Keep the process simple**
- **Design an evaluation plan: key events, database, timelines and expectations**
- **Apply a program evaluation model**
- **Connect program outcomes to program goals including formative and summative evaluations**
- **Gain consensus among stakeholders**
- **Control for bias or conflict**
- **Disseminate report to stakeholders in timely manner for quality improvement and reflection**

Which is Moore's Level 3?

- A. Performance
- B. Participation
- C. Learning
- D. Reaction



Reflection and Questions

- **Application to quality improvement**
- **Feedback**
- **Post-session Questionnaire**

Moore DE Jr, Green JS, Gallis HA. Achieving desired results and improved outcomes: integrating planning and assessment, J Contin Ed Health Prof. 2009 Winter: 29 (1): 1-15.

Stufflebeam DL (2000) The CIPP model for evaluation. Kluwer Academic Publishing: Boston

Kirkpatrick DL (1998) Evaluating training programs: The four levels. Berrett-Koehler: San Francisco

Wholey JS Hatry HP, Newcomer KE (2004) Handbook of practical program evaluation. Jossey-Bass: San Francisco

The program evaluation standards (1994) Sage Publishing: Thousand Oaks, CA

jrscott@winthrop.org

Resources for further exploration:

- Jack Scott's "Designing Effective Courses and Instruction" modules on Winthrop.InReachCE.com
- 1. Closing Performance Gaps
- 2. Sequencing a CME Series



27

Symposia Planning 101:

- **Start Planning Early!** Start new course/symposia topics 12 months early
- **Six to nine months advance planning for recurring annual courses is needed, especially if you will be seeking Grants**
 - **Why?** Grant committees inside Pharma only meet 1-2x per quarter, and can defer an application for 1 or 2 cycles

28

Timeline of Symposia Planning, Grants & Brochures

Time	Timeline of Key Planning Steps												
[36 weeks]	Submit your CME Planning Document for feedback(new course topics)												
	For courses in:	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	Submit planning	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr
[30 weeks]	Schedule your Planning Meeting with the CME office to draft budget												
[29 weeks]	Activity Director submits the balanced draft budget for Chair signature												
[28 weeks]	CME Application Must be Completed with Planning Committee members												
[28-18 weeks]	CPE Committee Review will occur												
[27 weeks]	Activity assigned to a CPE Committee member for review/recommendation												
[26-18 weeks]	Event is eligible to be included in the “Save the Date” postcard mailing												
[36-26 weeks]	Grant funding requests need to be filed												
[26 weeks]	Reserve your meeting rooms once you have CME office Accreditation												
[15 weeks]	Brochure Copy is Due to Graphic Artist												
[14 weeks]	Brochure Design Draft will need your approval												
[13 weeks]	Brochure will Print												
[11 weeks]	Brochure will Mail												
[10 weeks]	Date Registration will open												
[4-5 weeks]	All Disclosures Due from Faculty, Speakers, and Planners												
[4 weeks]	Grant Letters and Exhibit space reservations must be signed;												
[2 weeks]	Syllabus Books, Catering, and AV will be ordered; Test/Survey questions due												
Meeting Date	Meeting will be held												
[4 weeks after]	Budget Reconciliation/ Post-Mortem will be prepared												
[5 weeks after]	Outcomes survey starts tabulation												
[6 weeks after]	Reconciliation of Grants due												