Guide to writing objectives for continuing medical education

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Purpose

This guide serves as a resource to provide basic tools for planning a learning activity that will help physicians apply medical advances in their day to day practice of medicine with the ultimate goal of improving health care.

Our goal is to improve the quality of health care by improving the quality of medical education.
Objectives for this guide

Goal
Using this guide as a tool, the planning committee will prepare effective activities to help physicians apply new advances in basic and clinical science to health care.

When planning an activity the learner will be able to

- **Recognize** the role of objectives in the planning process
- **Determine** the relationship between the needs assessment and objectives
- **Consider** desired attributes for physicians
- **Identify** the three elements of the ideal objective
- **Write** clear objectives to direct the activity
- **Use** this guide a tool to prepare acceptable objectives for sponsorship
Objectives, outcomes and the Mission of CME

The mission of The Continuing Education Program requires us to support the lifelong education of physicians. To do so medical educators must understand how changes in society’s views of health and disease and changes in the organization, financing, and delivery of health care shape expectations of physicians. They must then use this understanding to inform the design, content, and conduct of medical education programs. Objectives guide the process by focusing on the desired outcomes.
What is the purpose of objectives?

Objectives are an integral part of the activity development cycle. They provide the map to direct development of design, content, and conduct leading to a desired outcome.
What is an objective?

An objective is a statement describing what the learner will be able to accomplish as a result of the instructional activity.

Example: Given a ventriclogram and cath lab data of pressures, cardiac outputs and ejection fraction, identify aortic stenosis.
Objectives contain three parts

1. a measurable verb
2. the condition or context under which the behavior will occur
3. the criterion of acceptable performance

Mager RF. Preparing Instructional Objectives
2nd Ed. Belmont, CA, Lake Publishing Co. 1984
Expectations of physicians

The American Association of Medical Colleges met with leaders of the medical education community in 1998 who reached consensus on four essential attributes required by physicians to meet society’s expectations of them in the practice of medicine.
Essential attributes for physicians

- Physicians must be altruistic.
- Physicians must be knowledgeable.
- Physicians must be skillful.
- Physicians must be dutiful.
Summary of attributes to consider in the planning process

- **Altruistic**: demonstrate traits, attitudes, and values that underpin ethical and beneficent medical care
- **Knowledgeable**: recognize relevant scientific advances, especially in the disciplines of genetics and molecular biology
- **Skillful**: provide care to individual patients including accurate medical history, relevant physical examination and appropriate diagnostic procedures, interpreting and managing lab and radiology information, and seeking consultation when indicated. Utilize science and evidence to provide therapeutic options communicating honestly and objectively
- **Dutiful**: collaborate with other health professionals to promote, maintain, and improve the health of individuals and populations
How do you measure achievement of these attributes?

Although we know measuring outcomes determines whether or not objectives have been met, measuring attitudes and values is a challenge.

To measure desired outcomes, look for a demonstration of the desired attributes within the context of the medical practice.
Where do we start?

Global objectives support prospective participants’ choice of continuing medical education based on their
1. perceived needs
2. preferred learning methods
3. practice setting
Activity Development Cycle

1. Assess audience needs
2. Develop learning objectives based on needs
3. Design learning activity to meet objectives
4. Conduct learning activity
5. Measure whether or not objectives were met
How do we get objectives?

1. **Look** at the whole picture first.
2. Start at the end by **selecting** the goals or desired outcomes of your activity.
3. **Determine** the learning gap between current practice and best practice by doing a needs assessment of the attributes as they relate to your activity:
Steps in the writing process

- **Determine** the desired outcomes
- **Identify** specific needs; perform a gap analysis
- **Write** learning objectives to meet identified needs
Examples of desired outcomes

- Reduced mortality rates
- Reduced hospitalizations
- Improved quality of life
- Early recognition and treatment of disease
- Prevention of disease
- Satisfied patients
- Patient compliance
- Cost effective practice
- Health care for patients who are unable to pay
- Access to health care for members of traditionally underserved populations
Analyze the learning gap between desired outcomes and current practice

- **Consider** the desired physician attributes
- **Perform** a needs assessment of attributes as they relate to your activity
- **Write** statements that reflect the achievement of the outcomes as a result of your activity
Physicians must be altruistic

Sample global objectives

- **Discuss** threats to medical professionalism posed by the conflicts of interest inherent in various financial and organizational arrangements for the practice of medicine.

- **Apply** HIPPA regulations in support of compassionate treatment of patients, and respect for their privacy and dignity.
Physicians must be altruistic

Sample specific objectives

- **Select** appropriate diagnostic regimen for female patients at risk for heart disease
- **Communicate** with patients about treatment options for breast cancer recognizing traditional and nontraditional modes of care
- **Outline** the elements of effective record keeping in compliance with local and national regulations
- **Discuss** the benefits and potential hazards of xenotransplantation
Physicians must be knowledgeable.

Sample specific objectives

- When given a list of patients, **identify** with 100% accuracy those patients for whom nutritional support is indicated.

- **Diagram** a simplified model of the cross-bridge cycle and identify which step is associated with force production and which is impaired at low levels of ATP.
Physicians must be skillful.

Sample specific objectives

◆ **Construct** a disease management strategy for patients with type 2 diabetes selecting from models proven to reduce hospitalizations

◆ **Evaluate** patient charts for documentation of patient education

◆ **Apply** latest advances in pain management to ameliorate the suffering of patients in end stage cancer
Physicians must be dutiful.

Sample specific objectives

- **Promote** healthy behaviors by **counseling** patients with obesity and their families to set goals for lifestyle changes
- **Apply** the principles of evidence-based medicine and cost effectiveness in making decisions about the utilization of limited medical resources for patients in need of lung transplant
Action Verbs: Recall:

Retrieve previously learned information

define
identify
list
recall
name
recognize
state

label
duplicate
match
memorize
reproduce
repeat
record
Action Verb list: Comprehension
Discover the meaning of information

classify

cite
convert
describe
detect
discover
discuss
distinguish
explain
Give
examples
indicate
identify
inventory
locate
question
report
select
sort
summarize
translate
Action Verb list: Application

Use previously learned information in new situations

- add
- apply
- calculate
- change
- choose
- compute
- demonstrate
- employ
- graph
- illustrate
- implement
- instruct
- perform
- practice
- produce
- schedule
- show
- sketch
- solve
- teach
- use
- utilize
# Action Verb list: Analysis

Examine information and break it into its component parts to identify motives or causes, make inferences, determine relationships, or draw conclusions.

<table>
<thead>
<tr>
<th>Analyze</th>
<th>Discriminate</th>
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<tbody>
<tr>
<td>Arrange</td>
<td>Examine</td>
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<td>Breakdown</td>
<td>Infer</td>
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<td>Categorize</td>
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<td>Classify</td>
<td>Outline</td>
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<tr>
<td>Compare</td>
<td>Relate</td>
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<td>Contrast</td>
<td>Select</td>
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<td>Deduce</td>
<td>Separate</td>
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<td>Derive</td>
<td>Solve</td>
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<td>Diagram</td>
<td>Specify</td>
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<tr>
<td>Distinguish</td>
<td>Subdivide</td>
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<tr>
<td>Differentiate</td>
<td>Utilize</td>
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**Action Verb list: Synthesis**

**Apply prior knowledge and skills to produce something new**

- assemble
- combine
- compile
- compose
- construct
- create
- design
- devise
- develop
- diagnose
- experiment
- Formulate
- generate
- group
- hypothesize
- integrate
- invent
- manage
- modify
- organize
- plan
- prepare
- prescribe
- propose
- rearrange
- reconstruct
- reorganize
- revise
- rewrite
- set up
- synthesize
- transform
- write
### Action Verb list: Evaluation:

*Make judgments on basis of given criteria*

<table>
<thead>
<tr>
<th>Action Verb</th>
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<tr>
<td>appraise</td>
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<td>value</td>
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Think about the information you want conveyed, attitudes you want to promoted and behavior you want displayed.

Write with the attributes and the list of verbs as a guide including performance, criteria and condition (criteria and condition need not be stated directly if they are obvious).

Remember since not all outcomes are concrete they cannot all be measured.
Objectives revisited

You should now be able to do the following to plan your activity

- **Recognize** the role of objectives in the planning process
- **Determine** the relationship between the needs assessment and objectives
- **Consider** desired attributes for physicians
- **Identify** the three elements of the ideal objective
- **Write** better objectives to direct your activity
- **Use** this guide a tool to prepare acceptable objectives for sponsorship
Your turn......

Let us know if you have questions, suggestions or comments. We will be happy to help you develop your objectives as part of the activity planning process.

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For further reading:


Report I Learning Objectives for Medical Student Education- Guidelines for Medical Schools AAMC/1998