

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 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 ventriculogram 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

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.



CASE

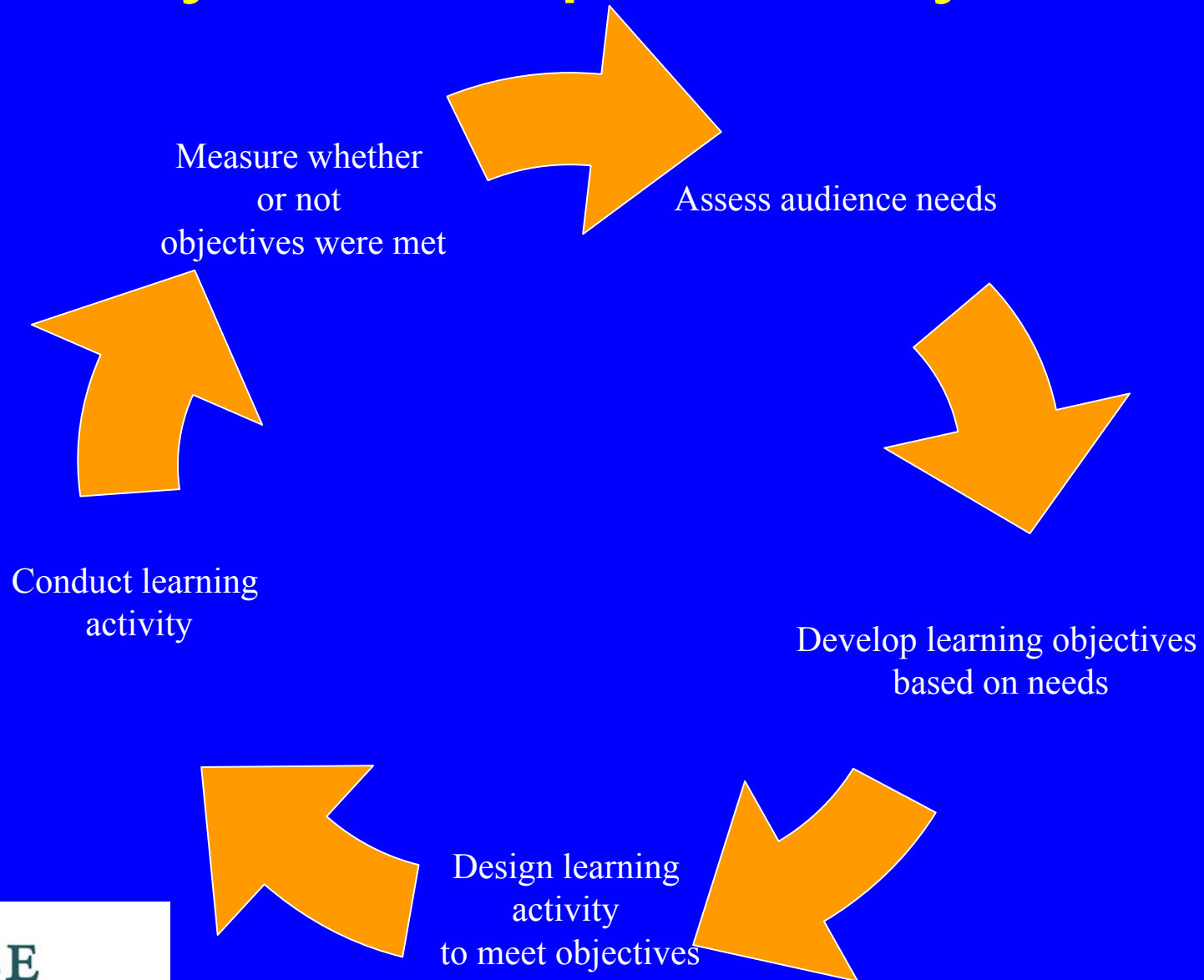
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Where do we start?

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



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

label

identify

duplicate

list

match

recall

memorize

name

reproduce

recognize

repeat

state

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



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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

analyze

arrange

breakdown

categorize

classify

compare

contrast

deduce

derive

diagram

distinguish

differentiate

discriminate

examine

infer

inspect

outline

relate

select

separate

solve

specify

subdivide

utilize

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

appraise

assess

conclude

criticize

critique

decide

defend

evaluate

estimate

grade

interpret

judge

justify

measure

rank

rate

score

support

test

value

Review

- ◆ 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 can not 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:

Anderson, L. & Krathwohl, D. A. Taxonomy for Learning, Teaching and Assessing: A Revision of Bloom's taxonomy of Educational Objectives. New York: Longman, 2001

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

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