CANADIAN ANESTHESIOLOGISTS' SOCIETY

## Guidelines for Writing Learning Objectives

Why Write Learning Objectives?

Believe it or not, the insistence on creating clear learning objectives is not simply unjust torture by educators. Writing learning objectives helps planners translate learning needs into action and provide a basis from which to evaluate success and outcomes of educational events. They are a <u>requirement</u> of the *Royal College of Physicians and Surgeons* when applying for accreditation.

Criteria for writing effective learning objectives:

When reviewing objectives, accreditors are looking for specific statements based on educational standards developed by the Royal College. When writing the learning objectives for a session, session organizers need to use statements that are:

1. Written from the perspective of **what the learner will gain**; e.g. "After participating in this workshop, participants <u>will be able to</u> …"

2. **Action verbs** (e.g. describe, determine, explain, synthesize, evaluate, choose…) Refer to "Helpful Verbs" section below.

    NOT – understand, appreciate, learn to appreciate – *because these words may mean a lot but cannot be measured.*

3. **Specific**, not general

4. **Measurable** and

5. Stated within a **context**; e.g. "After participating in this web based simulation program, participants will be able to identify the most common risk factors for anesthetizing patients who are obese. Participants will also be able to evaluate the variety of treatments available and choose those most appropriate for their practice setting."

In a nutshell, a learning objective outlines what an attendee will be able to do differently after attending the session – it is not a description of the content of the session.
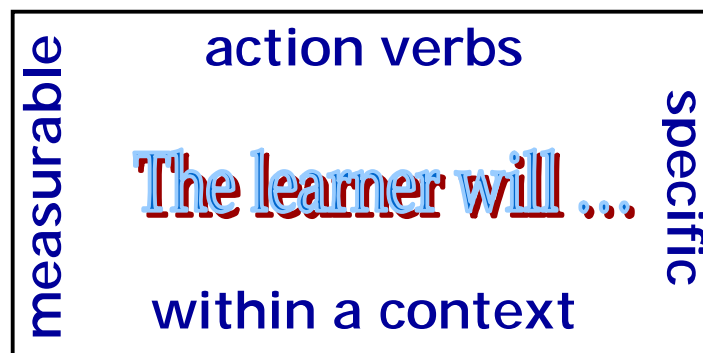
EXAMPLES

You may want to refer to the Scientific Program of the CAS Annual Meeting for examples. Following are a few sample learning objectives:

Sample 1 – Case Discussion

At the end of this session attendees will:
1. Describe the challenges of postoperative and post-discharge nausea and vomiting;
2. Apply latest evidence to their practice;
3. Evaluate current evidence on drug therapy for the problem of PONV.

Sample 2 – Panel Discussion

The participant will be able to:
1. Identify the most appropriate funding source for their research proposal;
2. Summarise the priorities of the grant reviewer and describe the review process;
3. Describe the specific strengths and unique difficulties of translational research;
4. Outline the critical contribution of statistics to good study design.

Sample 3 - Workshop:

After attending this workshop, the participant will
1. Describe the anatomy of the lumbar epidural space;
2. Demonstrate effective use of equipment and machine settings required to utilize ultrasound in the visualization of the epidural space; and
3. Refine their use of this tool in their clinical practice.

Sample 4 - Seminar:

By the end of this session, residents will be able to articulate the purpose of a portfolio as an assessment tool during residency. They will be able to identify activities that can be recorded in portfolios as evidence of acquiring CanMEDS competencies.

Sample 4 - Symposium:

Upon completion of this session, participants should be able to:
- Identify different types of reporting guidelines;
- Provide examples of reporting guidelines for randomized controlled trials and observational studies;
- Explain the importance of key sections of an article: title, abstract, tables, figures, and to optimize the information content of these components;
- Identify common statistical errors in the reporting of randomized controlled trials;
- Appraise the current grading system in grading levels of evidence for guidelines and statements in scientific publications;
- Discuss application of grading of evidence in meta-analyses;
- Give examples of ways to improve the quality of manuscripts submitted to medical journals.

Helpful Verbs

Below are examples of active and measurable verbs. They are arranged according to knowledge, skill and attitude. These are just examples; please feel free to use other – action and measurable – verbs.

Knowledge

Basic level of comprehension:

compare	contrast	define	describe	discuss
distinguish	identify	illustrate	label	list
recognize	repeat	report		

Higher level of learning denoting ability to interpret - apply - analyze:

appraise	classify	compare	compute	determine
differentiate	estimate	judge	predict	

Highest level of cognitive skill – forming solution - synthesize - evaluate:

assess	calculate	choose	decide	Design
examine	formulate	invent	plan	Propose
select	speculate			

Skill

Copy:

adjust	demonstrate	diagram	measure	record

Control:

diagnose	handle	listen	locate	make
palpate	percuss	perform	perform	prescribe
separate				

Act:

advise	build	choose	counsel	Integrate
operate	project			

Attitude

Receptive:

accept	agree	allow	approve	volunteer

Respond:

advocate	build on	co-operate	criticize	defend
empathize	encourage	endorse	evaluate	formulate
judge	justify	question	reassure	recommend

Internalize:

acknowledge	adopt	choose	collaborate	decide to
empathize	exemplify	lead	manage	recommend

If you would like feedback or assistance in writing objectives, the CAS Office can arrange for you to consult with an educator.