In order to adhere to the Accreditation Council for Pharmacy Education (ACPE) Accreditation Standards for Continuing Pharmacy Education, Tufts University School of Medicine Office of Continuing Education requires the use of supportive and supplemental instructional materials for use in the development of continuing pharmacy education activities.

The following guidelines for preparing learning objectives, self-assessment questions, visual aids and handouts have been prepared to assist you in developing meaningful instructional aids for your presentation.

**CPE Activities:** The following provides guidance to the three types of CPE activities: knowledge, application and/or practice-based education. You will be asked to identify the type of activity you will be presenting.

**Knowledge-based CPE activity:** These CPE activities should be designed primarily for pharmacists to acquire factual knowledge or recall facts. This information must be based on evidence as accepted in the literature by the health care professions. The minimum credit for these activities is 15 minutes or 0.25 contact hour.

**Application-based CPE activity:** These CPE activities should be designed primarily for pharmacists to apply the information learned in the time frame allotted. The information must be based on evidence as accepted in the literature by the health care professions. The minimum credit for these activities is 60 minutes or one contact hour.

**Practice-based CPE activity:** These CPE activities should be designed primarily for pharmacists to systematically acquire specific knowledge, skills, attitudes, and performance behaviors that expand or enhance practice competencies. The information within the practice-based CPE activity must be based on evidence as accepted in the literature by the health care professions. The formats of these CPE activities should include a didactic component and a practice component. The minimum credit for these activities is 15 contact hours.

Establishing educational objectives is among the most important steps in planning a CME activity, as they lay the foundation for what participants are expected to do, know or value as a result of the educational experience. Objectives are the critical link between gaps and outcomes. Objectives guide the choice of content, the educational format and methodologies, and the methods for evaluation.

**Instructions for Preparing ACPE Learning Objectives**
A behavioral objective states what the learner should be able to do on completion of a continuing pharmacy education (CPE) activity. A behavioral objective identifies the terminal behavior or outcome of the offering. Objectives are critical to the educational activity development because they: (1) reflect input from learners relative to educational needs; (2) determine the selection of content and teaching methods; and (3) provide a guide to the evaluation phase.
Verb Worksheet for Preparing ACPE Learning Objectives

Be sure that:

- Objectives are measurable and specific
- Objectives are appropriate for the activity-type selected (*Knowledge, Application or Practice-based*) for what a pharmacist will be able to do at the completion of the activity (*please see examples below*).
- Objectives describe the *learner outcome, NOT the instructor’s process or approach*
- Objectives relate to content that is appropriate for a pharmacist or technician
- Objectives are developed to specifically address the identified educational need
- In general, the objectives are covered by a learning assessment (Standard 9).

**AVOID using words that describe mental responses that cannot be measured, or terms that are broad, vague, and difficult to measure, and permit a variety of interpretation. Please do **NOT** use these verbs:**

<table>
<thead>
<tr>
<th>Know</th>
<th>Really know</th>
<th>Understand</th>
<th>Appreciate</th>
<th>Become</th>
<th>Enjoy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase</td>
<td>Learn</td>
<td>Think</td>
<td>Approach</td>
<td>Improve</td>
<td>Believe</td>
</tr>
<tr>
<td>Comprehend</td>
<td>Recognize</td>
<td>Study</td>
<td>Grow</td>
<td>Gain knowledge</td>
<td></td>
</tr>
</tbody>
</table>

**Activity Type & Description**

**MEASURABLE & SPECIFIC OBJECTIVES**

<table>
<thead>
<tr>
<th>Knowledge-based activity</th>
<th>Knowledge</th>
<th>Comprehension</th>
<th>Receiving &amp; Responding</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Participants will be able to state facts upon completion of activity.</em></td>
<td>Arrange, define, duplicate, label, list, memorize, name, order, recognize, relate, recall, repeat, reproduce, state</td>
<td>Classify, describe, discuss, explain, express, identify, indicate, locate, outline, report, restate, review, select, translate</td>
<td>Reply, accept, show, answer, read, greet, report</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Application-based activity</th>
<th>Application</th>
<th>Evaluation</th>
<th>Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Participants will apply what they learn before the completion of activity.</em></td>
<td>Apply, choose, demonstrate, dramatize, employ, illustrate, interpret, operate, practice, schedule, sketch, solve, use, write</td>
<td>Appraise, argue, assess, attach, choose compare, defend, estimate, judge, predict, rate, core, select, support, value, evaluate, decide, recommend</td>
<td>Adhere, alter, arrange, combine, compare, complete, defend, explain, formulate, generalize, identify, integrate, modify, order, organize, prepare, relate, synthesize</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Practice-based activity</th>
<th>Articulation</th>
<th>Precision</th>
<th>Manipulation</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Participants will complete an instructional designed activity.</em></td>
<td>Construct, solve, combine, coordinate, integrate, adapt, develop, formulate, modify, master, teach</td>
<td>Re-create, build, perform, execute, implement</td>
<td>Demonstrate, complete, show, perfect, calibrate, control, practice</td>
</tr>
</tbody>
</table>
Promoting Active Participation in Continuing Pharmacy Education

“Learning is not a spectator sport. [Pharmacists] do not learn much just by sitting...listening to [lectures]. They must talk about what they are learning...relate it to past experiences, and apply it to their daily lives. They must make what they learn part of themselves.”

What is active participation?
Active participation encourages the audience to do more than passively listen to a lecture. Rather, participants are processing and applying knowledge gained during the lecture. Active participation requires the audience to talk, listen, and reflect on the material presented.

What are the benefits of active participation?
During a lecture, the participants’ attention often waxes and wanes, declining precipitously after the first 10 minutes of lecture. Active participation encourages interest and attention throughout the lecture. In addition, traditional lecturing creates a passive learning environment while active participation requires the audience to assume a participatory role. As a consequence, greater comprehension and better retention of the material is achieved. In fact, research has demonstrated greater learning and enjoyment when participants are actively involved in the learning experience.

What are some examples of techniques that promote active participation?

- **Ask what questions** participants would like addressed during the lecture. The information may then be used to guide the talk. This strategy may be done at the beginning or end of the topic, close of a discussion or in the middle.

- Lecturers can promote active participation by modifying their lecture format to include several two-minute pauses. During the pauses speakers should encourage participants to review and reflect on the information presented. Such pauses promote active listening and increase understanding of the material.

- **Provide immediate feedback.** Using this technique, speakers pose a question and ask for a show-of-hands indicating agreement with possible responses. Such activities not only give participants instant feedback but also provide the speaker with some indication regarding the extent to which the material was understood.

- **Allow the audience to think-pair-share.** The speaker asks the audience to first, think about a question or patient case alone for one-minute, and then has them discuss the case or question with the person next to them. Finally, the speaker can randomly select one or two groups to respond to the entire audience. This type of activity can help individuals to organize knowledge and apply the information presented.

- **Create a forum** through which participants can communicate following the lecture. For example, chat rooms can allow participants to discuss their incorporation of the knowledge gained at their respective practice sites. Such follow-up techniques promote active learning and encourage application of the information presented.
Using Audience Response within Your Presentation

Example of cards that can be distributed to participants to use as an Automated Response System

**Why is audience response important?**
Adult learners need to be involved in the learning process for learning to be successful. Active learning engages the audience and keeps their attention.

**Audience Response** questions throughout a presentation benefit the speaker and the activity participants by engaging adult learners in interactive learning as well as providing instant feedback on learning comprehension.

**How to use Audience Response Questions**
Ask questions at the beginning of your presentation to establish a base-line level of knowledge of your audience. Your questions can be Yes or No, True or False, or Multiple Choice options. Intersperse questions throughout the presentation. This helps keep the audience engaged in the presentation. Include the questions as part of the power point presentation. As the slide comes on the screen, the participant can read and hear the question as well as the possible responses. This technique appeals to the different learning styles of the target audience. Some people are more visual learners, some are auditory learners and some need to be more physically involved in the learning process.

**Summary of recommendations when incorporating active learning strategies:**
- Select strategies with which you feel comfortable.
- Develop a goal for the activity and determine when in the lecture the activity will occur. Determine what preparation you will require to effectively use the activity.
- Develop a plan for the activity, implement the activity and collect feedback. Use the feedback to modify the plan.

**Preparing Self Assessment Questions**
- Pose the question in the affirmative; avoid the use of negative statements such as NOT and EXCEPT because they often confuse the reader.
- Ensure that each self-assessment question is similar in terms of grammatical construction, length and complexity.
- Each choice for the answer should be specific and distinct and not overlap with the other answers. Avoid “all of the above” and true or false questions.
- Choices for answers to self-assessment questions should be uniform in length and style and grammatically consistent with the question.
- Be careful not to use the same or similar words in either the question or the correct answer, as
this may provide the reader with clues to the correct answer. Don’t read visuals – relate to audience rather than to your Audio-Visual support

- Place points in order of importance.
- Consider using slide build sequences, fill in the blanks.
  ✓ Keep grammar and punctuation consistent throughout.
  ✓ Keep copy and design simple, clear and large.
  ✓ Keep artwork simple and uncluttered.
  ✓ Align text to left.
- Each has a clear, distinct purpose for the audience which is reflected in the title as well as the design of the visual.
- All information presented has been double checked for accuracy of data, spelling, and grammar.
- Unnecessary detail is avoided with information selectively and concisely presented, without repetition.
- Visuals are consistent in size, color, graphics and style.
- When graphics are utilized, words are kept to a minimum.
- A good visual should be understandable, without need for lengthy explanation, reinforcing, rather than repeating the presentation.

Properties of good text slides

- No more than 6 -7 lines of text per slide.
- No more than 6 - 7 words on a line. No more than 5 words in a title.
- If you can read your slide without a magnifier, the text is probably large enough for your audience to read it from the back of the room.
- **Use colors wisely** – light colors on dark background

Preparation of Visual Aids

- Keep visuals simple to convey - just one idea or thought per visual.
- Use visuals as outline for content.
- Know what you want to highlight; boil down the points.
- Use visuals as a reminder to yourself to keep focused
- Use bullets rather than letters or numbers.
- Upper and lower case are easier to read than all caps.
- Use graphics instead of text whenever possible (pie or bar charts, etc.)
- Use typeface that projects clearly and plainly (e.g. sans-serif).
- Use horizontal or vertical lines to create zones on the visuals (e.g., title above line, information below; columns of information).
- Show visuals only when referring to them.
**Blue background** with white or yellow font is good; lights in the room can be kept up higher.

**Warm colors** – red, yellow, orange are good to focus attention on an item.

**Cool colors** – blue, green, purple are good background colors.

Use complementary colors (blue background with orange or yellow letters). Elderly prefer red, yellow and orange; they have trouble discriminating between greens, blues, purples and violets.

- At a minimum the handout must consist of a detailed outline; the presentation’s measurable learning objectives and assessment questions.
- Reproduce the text of important visual aids in the handout. Evaluation forms completed by activity participants consistently request that this material be included in the handout. A participant would rather concentrate on your presentation instead of trying to take detailed notes as you speak. Focus on reproducing charts, tables and other data intensive elements that participants may find difficult to copy.
- Another common remark on activity evaluation forms is that handouts should follow your presentation.
- Do not use all capital letters when preparing your handout. Text that is printed entirely in upper case is difficult to read.
- **A bibliography** or **reference list** must be included in your handout, especially if you will refer to certain studies or publications in your presentation.
- Educational materials should serve as a guide, provide additional sources of information, and include reference tools usable in practice.
Glossary of Terms

**Commercial Interest**
The ACPE defines a "commercial interest" as any entity producing, marketing, reselling, or distributing health care goods or services consumed by, or used on, patients. Providers of clinical services directly to patients are not commercial interests.

**Financial relationships**
Financial relationships are those relationships In which the individual benefits by receiving a salary, royalty, intellectual property rights, consulting fee, honoraria, ownership interest (e.g., stocks, stock options or other ownership interest, excluding diversified mutual funds~) or other financial benefit. Financial benefits are usually associated with roles such as employment, management position, Independent contractor including contracted research), consulting, speaking and teaching, membership on advisory committees or review panels, board membership, and other activities from which remuneration is received, or expected. ACPE considers relationships of the person involved in the CPE activity to Include financial relationships of a spouse or partner.

**Relevant financial relationships**
ACPE focuses on financial relationships with commercial interests in the 12-month period proceeding the time that the individual is being asked to assume a role controlling content of the CPE activity. ACPE has not set a minimal dollar amount for relationships to be significant. Inherent In any amount is the incentive to maintain or increase the value of the relationship. The ACPE defines... “Relevant financial relationships" as financial relationships in any amount occurring within the past 12 months that creates a conflict of Interest.

**Conflict of Interest**
Circumstances create a conflict of interest when an individual has an opportunity to affect CPE content about products or services of a commercial interest with which he/she has a financial relationship.

References:

*Accreditation Council on Pharmacy Education*

*St. James, D., Writing and Speaking for excellence. A brief guide for the medical professional. Miles, Inc. West Haven, Connecticut. 1995.*

*Office of Educational Resources. “If you want good slides... keep in mind that:” University of Texas Health Science Center at San Antonio*


*American Society of Health System Pharmacist*


*Indiana University School of Medicine Division of Continuing Medical Education: http://cme.medicine.iu.edu/event-development/*

*Special thanks to Anita Young, Med. R.Ph. Director of Continuing Pharmacy Education Northeastern University, Boston, MA*