



AZPA

Arizona Pharmacy Association

SPEAKER HANDBOOK

Congratulations on being selected to present continuing education (CE). One of AzPA’s core values is to educate pharmacy professionals through relevant and innovative programs. To help achieve this goal, we’ve created this handbook. The AzPA speaker handbook is designed to assist and enhance the speaker’s CE presentation.

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SECTION I: CONTENT

GAP ANALYSIS

 "The provider must develop CE activities based on a knowledge, skill, or practice gap. The provider should identify gaps between what pharmacists and pharmacy technicians currently know or do and what is needed and desired in practice."¹

TYPES OF CE ACTIVITIES

Knowledge-based CE activity: These CE activities should be designed primarily for pharmacists and technicians to acquire factual knowledge. 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.¹

Application-based CE activity. These CE activities should be designed primarily for pharmacists and technicians 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.¹

Practice-based CE activity. These CE activities should be designed primarily for pharmacists and technicians to systematically acquire specific knowledge, skills, attitudes, and performance behaviors that expand or enhance practice competencies. The information within the practice-based CE activity must be based on evidence as accepted in the literature by the health care professions. The formats of these CE activities should include a didactic component and a practice component. The minimum credit for these activities is 15 contact hours.¹

SPEAKER COVENANTS, PRESENTATIONS, AND WARRANTIES

1. *Applicability of Content Across Practice Settings.* Please refer to the speaker application, go through each step of the application for further information.
2. *No Defamation.* Speaker shall not defame, slander or libel any person, firm, or corporation and present sessions according to AzPA Speaker Guidelines and shall not denigrate AzPA, its programs or representatives in any manner.
3. *Original Content.* Speaker represents and warrants that all materials and content presented by Speaker including all photographs and/or artwork depicted in

presentation slides or handouts do not infringe or violate any copyright, trademark, patent or intellectual property rights of any person or entity, nor do they promote or endorse any product, service, or device, which may or is at the time of the program not approved by any governing agency.

4. *Evidence-based Presentation.* Speaker agrees to base all evidence within the presentation as accepted in the literature by the healthcare professionals. Speaker agrees to reference all resources of content with presentational slides and handouts. Presentation at AzPA functions should be evidence-based; however, discussion of subjects with limited evidence can be valuable and are permitted. When evidence is limited, the presentation should provide the theory for the therapy/approach (why it is scientifically plausible), as well as both potential benefits and risks based on the limited evidence that is available and its comparison to currently accepted therapy/approaches.
5. *Materials.* Materials not meeting the needs of a given CE activity will be revised prior to use. Slides for all presentations in which AzPA provides CE credits are subject to review by the AzPA CE Committee. At the discretion of the CE Committee, revision of a presentation/presentation materials may be requested to comply with current standards for granting CE credits.
6. *No Sale or Promotion.* Speaker shall not sell or promote any particular product or service at any time during the session presentation. If Speaker desires to sell a self-authored book, Speaker shall first receive approval from AzPA upon such terms and conditions as may be agreed upon.²

HOW TO WRITE OBJECTIVES

Objectives for each CE activity define what the pharmacists and technicians should be able to do at the completion of each CE activity.¹

Objectives must be:

- ✓ Specific and measurable to address the identified educational need
- ✓ Should describe only one behavior or outcome
- ✓ Addressed by an active learning activity
- ✓ Covered by a learning assessment¹

Remember	Understanding	Applying	Analyzing	Evaluating	Creating
Define	Classify	Apply	Analyze	Assess	Assemble
List	Describe	Produce	Calculate	Criticize	Create
Recall	Discuss	Show	Differentiate	Evaluate	Develop
Repeat	Recognize	Use	Interpret	Support	Plan

Figure 1. Examples of Verbs to Use in Writing Objectives

An example of a good writing objective:

- ✓ Recall the four drugs in the new disease state.

This objective addresses one specific need and is measurable.

An example of a poor writing objective:

- ✗ Understand the four drugs used in the new disease state and common side effects.

This objective needs work because the term “understand” is not measurable and addresses two different topics, the four drugs and their side effects.

- ✓ If the objectives are for pharmacy technicians, they must be applicable to technicians.

BLOOM’S TAXONOMY OF LEARNING

✚ For more information on writing objectives, including additional verbs and Bloom’s Taxonomy of learning, reference Appendix A: “*Framework for CE Activity Types and Learning Objectives.*”

EDUCATIONAL MATERIALS

AzPA will provide a PowerPoint slide template. All presenters are required to use this template to create their presentation. Slides need to be submitted at least 30 days before the live (and/or virtual) presentation so that handouts can be provided to registrants.

Handouts of presentations are preloaded on to the learning web tool two weeks before the live event. This allows the audience access to learning information/

presentation content to audience. Changing your slides contributes to misunderstandings for our audience (the learners of the CE activity). Minor corrections in spelling and grammar are acceptable; however, any changes in the educational content of slides should be approved by the CE committee and the audience should be informed of the change at the time materials are presented.

- ✓ Slides must be received by the stated deadline.
- ✓ Slides must be on the official meeting slide template provided by AzPA.
- ✓ Avoid animations and slide transitions as these may obscure information on those slides when they are converted to PDFs for attendees to download. Or, consider uploading an additional handout version of your slides that will be readable for attendees.
- ✓ AzPA will work with the presenter to remove any materials deemed to reflect commercial bias prior to approval for presentation.
- ✓ The slides that are submitted to AzPA are considered final, and changes are strongly discouraged. Presenters should contact AzPA's CE department before the meeting if any changes are needed.
- ✓ Presentations may be recorded. This recording may be offered for sale following the meeting. Therefore, do not use any material (cartoons, reports, charts, etc.) in presentations where copyright permissions were not obtained.³
- ✓ All slides will be preloaded onto the laptop in the session room.
- ✓ The use of personal laptops is discouraged. AzPA's CE department must be contacted prior to the presentation. This assures that necessary equipment and personnel are available to help connect your personal equipment in a timely manner.

When a slide has a potential conflict of interest, we will notify the speaker.

SUPPLEMENTAL EDUCATIONAL MATERIALS

If you have supplemental material to post for your presentation, these are due at the same time as the presentation slides, which is 30 days. Please contact AzPA's CE department for help additional questions.

Examples:

- ✓ A bibliography and resources attendees can use for further exploration of your topic.
- ✓ Any request for special set-ups, notify AzPA's CE department 30 days in advance of the presentation.
- ✓ PDFs of your session's PowerPoint™ slides will be made available to all attendees online two weeks before the meeting. However, if you still want to distribute paper handouts at your session, you are responsible for copying an appropriate number.
- ✓ AzPA does not provide copying services onsite, nor can AzPA print additional copies if the amount is insufficient.
- ✓ AzPA does not provide reimbursement for the printing of handouts.

OFFICE SUPPLIES

 AzPA generally cannot provide office supplies or references such as pencils, pens, post-it notes, index cards, scotch tape, dictionaries, textbooks, baskets, etc. If desired, the presenters may supply their own. AzPA will not reimburse any extra expenses incurred should you decide to provide such items.³

COMMERCIAL SUPPORT

"CE programs must offer an independent, equitable view of the topic and be free from commercial bias and promotion. To comply with ACE standards:

- ✓ AzPA will review presented materials and help the presenter modify as needed to comply with the standard.
- ✓ The materials that have been reviewed and approved by AzPA are the final versions to be presented and disseminated to attendees."³
- ✓ The provider must plan all CE activities independent of commercial interest. The educational content must be presented with full disclosure and equitable balance.
- ✓ Appropriate topics and learning activities must be distinguished from topics and learning activities which are promotional or appear to be intended for the purpose of endorsing either a specific commercial drug, device or other



Figure 2. Example of Disclosure

commercial product (as contrasted with the generic product/drug entity and its contents or the general therapeutic area it addresses), or a specific commercial service (as contrasted with the general service area and/or the aspects or problems of professional practice it addresses).

- ✓ An individual who refuses to disclose relevant financial relationships will be disqualified from being a planning committee member, a teacher, or an author of CE, and cannot have control of, or responsibility for, the development, management, presentation or evaluation of the CE activity.
- ✓ The Accreditation Council for Pharmacy Education (ACPE) defines “relevant financial relationships” as financial relationships in any amount occurring within the past 12 months that create a conflict of interest.
- ✓ “Educational materials that are part of a CE activity, such as slides, abstracts and handouts, cannot contain any advertising, corporate logo, trade name or a product-group message of an ACPE-defined commercial interest.”¹
- ✓ All commercial support associated with a CE activity must be given with the full knowledge and approval of the provider.
- ✓ For an individual with no relevant financial relationship(s) the learners must be informed that no relevant financial relationship(s) exist.

TIMING OF DISCLOSURE

“A provider must disclose the above information to learners prior to the beginning of the educational activity.”¹

GUIDELINES FOR ENSURING COMPLIANCE

- ✓ “Ensure that your presentation offers an independent, equitable, and free-from-commercial-bias view of the subject.
- ✓ Do not use commercial logos in presentation materials; use the AzPA-provided slide template.
- ✓ If you include a trade name, include all trade names by which the drug may be marketed (you may exclude international trade names) in your presentation materials.
- ✓ Do not use headers, footers, or logos on your slides with the name of your company.”³

SECTION 2: DELIVERY OF CE

WHEN YOU ARRIVE AT THE MEETING

All educational sessions, exhibits, and activities will be held at the primary meeting location unless otherwise specified.

- ✓ Pick up your badge and other materials at registration before going to your session room.
- ✓ Arrive at the room 15 minutes before the start of the presentation. Use this time to review the room, podium, microphone, etc.
- ✓ Business casual dress is suggested for attendees and presenters for all meeting sessions. Room temperatures in the location(s) may be difficult to regulate, so we suggest that you dress in layers to ensure your comfort at all times.

DELIVERY OF YOUR PRESENTATION

1. *Begin with a “grabber”*: Think of an attention-getting opening for your portion of the program. Some ideas for doing this include presenting an interesting or unusual fact, thought-provoking quote or cartoon related to your topic. A

personal experience illustrating the need for the information to be presented may work well.

2. *Volume*: Your goal should be to speak loudly enough to be easily heard but not so loud as to make it uncomfortable for participants to listen.
3. *Pace*: If your pace is too fast, your material will be hard for learners to absorb. If it is too slow, their attention may wander.
4. *Pitch*: Listeners favor lower-pitched voices so keep this in mind and aim for the lower part of your range while remaining natural.
5. *Variety*: As you know, a monotone can induce boredom so strive for a range of vocal variety to keep learner interest.
6. *Clarity*: Enunciate clearly so participants can easily understand you.
7. *Try this*: Some time when you are alone (while driving for example), try reciting the alphabet in many different ways. Say some letters loud, some soft and all the variations in between. Say them fast and slow, high and low. While you may feel silly, this will acquaint you with your range of possibilities in using your voice during presentations.
8. *Avoid vocal fillers*: “Ah”, “um”, “you know”, “so”, “throat-clearing”, etc.
9. *End with a bang*: People remember best what they hear first and last. You’ve already done your “grabber” at the beginning. Make your ending count, too. Summarize the points you want your audience to leave with. Incorporate a way to make these points memorable, such as with an illustrated story, anecdote or picture.”³

PRESENTATION SKILLS SELF-ASSESSMENT

- ✦ Please reference Appendix B: “*Presentation Skills Self-Assessment*” for more resources.

TIPS FOR AN EFFECTIVE PRESENTATION

- ✦ Please reference Appendix C: “*Tips for Creating an Effective Presentation.*”

ACTIVE LEARNING STRATEGIES

- ✦ Please reference Appendix D: “*Active Learning Types, Strategies, & Tips.*”

SECTION 3: ASSESSMENT

ASSESSMENT QUESTIONS

Knowledge based CE activity: Must have questions constructed in a way to recall facts.

Application based CE activity: Must include case studies. This is to address the application of the principles learned.

Practice based CE activity: Must include formative and summative assessments. This is to demonstrate that the pharmacist and technicians achieved the objectives.¹

	Knowledge-based Activity	Application-based Activity
Assessment of Learning	Must include assessment questions structured to determine the recall of facts based on the learning objectives. Techniques can be informal such as audience response systems, color cards, or the raising of hands.	Must include case studies structured to address the application of the principles learned based on the learning objectives.
Assessment of Feedback	Feedback may include the correct response to questions. For incorrect responses, communicate that a question was answered incorrectly and provide a rationale for the correct response.	Feedback may include the correct evaluation of case studies. When responses are incorrect, explain the rationale for the correct response.

Figure 3. Assessment of Learning and Feedback³

“Learning assessment involves feedback to learners on how well they have answered questions or completed a learning exercise, such as a case study.”³

- ✓ Assessment of learning (ACPE Standard 9), speakers are required to submit 3-5 learning assessment questions (T/F or multiple choice with answer key) by the requested due date indicated on the speaker agreement.
- ✓ These questions should determine recall of facts, address application of the principles learned, and demonstrate that participants achieved the stated objectives.
- ✓ CE questions should correspond to learning objectives; typically a minimum of one question per learning objective is required.

HOW TO WRITE ASSESSMENT QUESTIONS

- ✦ Please reference Appendix E: *“Preparing Test Questions and Answers for CE Activities.”*

SECTION 4: EVALUATIONS

WHAT HAPPENS AFTER THE CE PRESENTATION

Evaluations take place after you give your CE. Registrants are given 30 days to complete the CE requirements to qualify for continuing education. After that, AzPA will summarize data and forward those reports to speakers for their reference.

SECTION 5: MISCELLANEOUS

COPYRIGHT AGREEMENT

Speaker represents and warrants that all materials and content including all photographs and/or artwork depicted in presentation slides or handouts: do not infringe or violate any copyright, trademark, patent or intellectual property rights of any person or entity, nor do they promote or endorse any product, service, or device, which may or is at the time of the program not approved by any governing agency.

Unconditional Use: Speaker hereby grants AzPA the right to use the Presentation and any corresponding Presentation materials as it sees fit and to make audio and or video recordings of the Presentation for future use and offering by AzPA.²

YOUR BIO

AzPA’s CE department requests a biography of no more than 150 words. This bio will be used for the learning web-tool listing of programs and the introduction of the presentation. Due dates for bio will be noted on speaker contract. Please include where you went to school, degrees, certifications, and practice site(s).

An example bio:

Dr. Jane Smith is the Director of Pharmacy at the Mayo Clinic in Scottsdale, Arizona. She received her Doctor of Pharmacy degree from the University of Arizona, College of Pharmacy in Tucson, Arizona. She is a board certified oncology pharmacist (BCOP). Dr. Smith precepts PharmD students from multiple colleges and is a fellow of the American Society of Health-System Pharmacists.

PROFESSIONAL HEADSHOT



AzPA's CE department request a headshot in *jpg* format. This headshot will be used the for learning web-tool listing of programs and the on-site program of the meeting. Due dates for picture will be noted on the speaker contract.

HONORARIUM AND EXPENSES

Honorarium and expense reimbursement depends on the type of programming and sponsorship. Waiver of meeting registration is typically available for speakers presenting a general or breakout session at the spring, annual, or fall meeting. Please contact the CE committee member who recruited you or AzPA's CE department if you have questions related to this.

REFERENCES

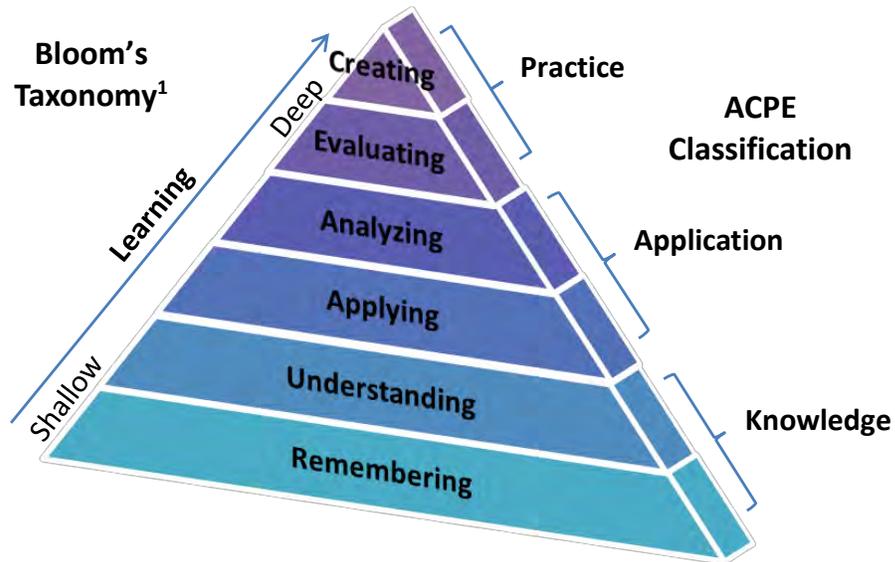
1. Accreditation Standards for Continuing Pharmacy Education.
https://www.acpe-accredit.org/pdf/CPE_Standards_Final.pdf
2. ASHP Program Chair & Presenter Handbook 2019.
<https://www.ashp.org/-/media/assets/meetings-events/docs/LC17-Presenter-Handbook.ashx>

APPENDIX A: FRAMEWORK FOR CE ACTIVITY AND LEARNING OBJECTIVES

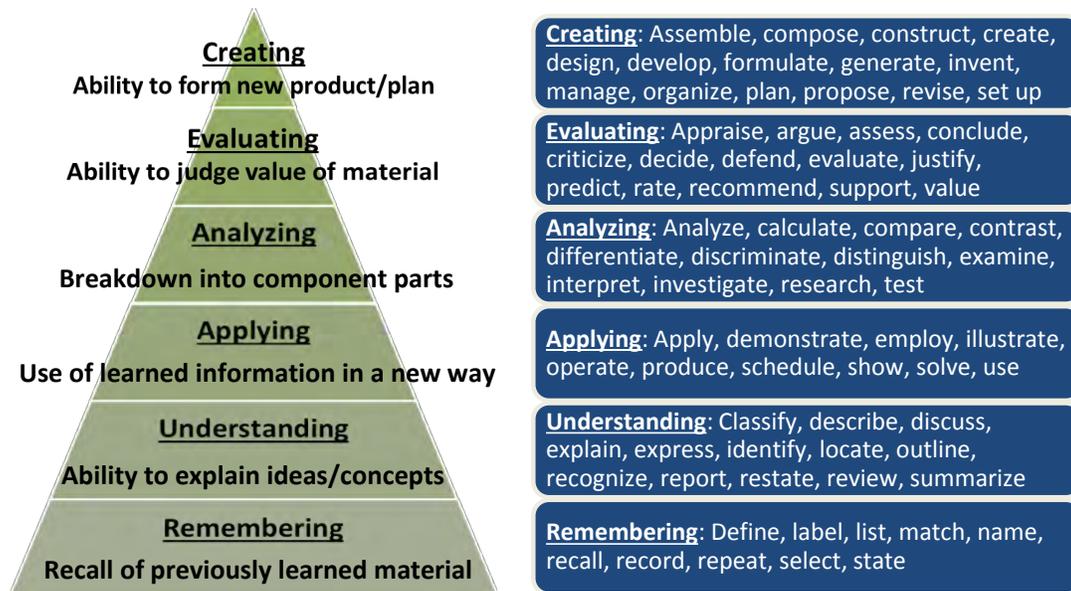


Framework for CPE Activity Types and Learning Objectives

Relative to taxonomies of learning, ACPE CPE activity types fall along a continuum of learning, starting at Knowledge, moving through Application, and ending with Practice. Learning across this continuum will generally progress from being more cognitive, theoretical and shallow with Knowledge-based activities to becoming more practical, applied and deep with Application- and Practice-based activities, including additional elements from psychomotor and affective domains that emphasize the systematic application of content, skills and attitudes to real-life practice.



Suggested Verbs for CPE Activities by Domain



¹Anderson, L.W., David R. Krathwol, D.R., et al. (2001). *A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives*. Boston, MA: Allyn and Bacon.

APPENDIX B: PRESENTATION-SKILLS SELF ASSESSMENT



Presenter Resources

Presentation Skills Self-Assessment

Directions: Rate your agreement with the following statements according to the following scale:
 1 Strong disagree (SD), 2 = Disagree (D), 3 = Neutral (N), 4 = Agree (A), 5 = Strongly Agree (SA)

Statement	SD	D	N	A	SA	
I effectively establish rapport with my audience.	1	2	3	4	5	NA
I make eye contact with audience members.	1	2	3	4	5	NA
My presentation openings are attention-getting.	1	2	3	4	5	NA
I know how to make the importance of my presentation clear to the audience in my opening.	1	2	3	4	5	NA
I effectively use vocal variety when I speak to an audience.	1	2	3	4	5	NA
I use an effective range of vocal pitch (high/low) when speaking.	1	2	3	4	5	NA
I use an effective range of volume (loud/soft) when speaking.	1	2	3	4	5	NA
I use an effective rate of speed (fast/slow; use of pauses) when speaking.	1	2	3	4	5	NA
I use an effective range of vocal pitch (high/low) when speaking.	1	2	3	4	5	NA
I use an effective range of volume (loud/soft) when speaking.	1	2	3	4	5	NA
I use an effective rate of speed (fast/slow; use of pauses) when speaking.	1	2	3	4	5	NA
I enunciate clearly when presenting.	1	2	3	4	5	NA
I make effective use of gestures when appropriate.	1	2	3	4	5	NA
I make effective use of visual aids and props when appropriate.	1	2	3	4	5	NA
I am able to avoid distracting behaviors when I present.	1	2	3	4	5	NA
I know how to create and deliver an effective closing to my presentation.	1	2	3	4	5	NA
I know how to make my presentations interesting.	1	2	3	4	5	NA

My strong points as a presenter	Areas I would like to improve

APPENDIX C: TIPS FOR CREATING AN EFFECTIVE PRESENTATION



TIPS FOR CREATING AN EFFECTIVE PRESENTATION

Your slides should serve rather than control you. You're an excellent presenter; even so, PowerPoint™ can hijack your presentation. You don't want that to happen. With that in mind, here are a few ideas to liberate you to give your best presentation ever.

- **Minimize the number of slides.**
To maintain a clear message and keep your audience attentive and interested; keep the number of slides in your presentation to a minimum.
- **Choose a font style that your audience can read from a distance.**
Choosing the right font style, such as Helvetica or Arial, helps to get your message across. Avoid narrow fonts, such as Arial Narrow, and avoid fonts that include fancy edges, such as Times.
- **Choose a font size that your audience can read from a distance.**
Your point size should be LARGE. In a large conference room, the size of your words – depending on the font – should be from 36 to 44 points! **Never use less than 24 points** regardless of the font type.
- **Keep your text simple by using bullet points or short sentences.**
 - Use bullets or short sentences, and try to keep each to one line; that is, without text wrapping.
 - You want your audience to listen to you present your information, rather than read the screen.
 - Some projectors crop slides at the edges, so long sentences may be cropped.
 - You can remove articles such as "a" and "the" to help reduce the word count on a line.
- **Use art to help convey your message.**
Use graphics to help tell your story. Don't overwhelm your audience by adding too many graphics to a slide, however.
- **Make labels for charts and graphs understandable.**
Use only enough text to make label elements in a chart or graph comprehensible.
- **Use high contrast between background color and text color.**
Themes automatically set the contrast between a light background with dark colored text or dark background with light colored text.

Check the spelling and grammar.

To earn and maintain the respect of your audience, always check the spelling and grammar in your presentation.

APPENDIX D: ACTIVE LEARNING TYPES, STRATEGIES & TIPS



ACTIVE LEARNING TYPES, STRATEGIES & TIPS

ACTIVE LEARNING

The responsibility of the presenters is to ensure that they understand what active learning is, and have incorporated active learning strategies into their session. Active learning strategies engage the audience in the activity and should be appropriate for your session type as outlined below.

NOTE: ALL CE PROGRAMS MUST INCLUDE AN ACTIVE LEARNING STRATEGY AND LEARNING ASSESSMENT FOR EACH LEARNING OBJECTIVE IN COMPLIANCE WITH THE ACPE STANDARDS.

ACTIVITY TYPES

CE activities at ASHP meetings are knowledge-based or application-based. **Knowledge-based** sessions are designed primarily for acquiring factual knowledge; **application-based** sessions primarily apply the information learned in the time allotted.

ACTIVE LEARNING STRATEGIES

Below are ideas on how to incorporate active learning into your session. This list should serve as a guide and is not meant to be comprehensive.

Active Learning Strategy	Knowledge-Based Activity	Application-Based Activity
Polling questions	✓	✓
Games and quizzes to practice recall	✓	✓
Demonstration		✓
Example with practice		✓
Interactive case study		✓
Interactive scenario		✓
Role play		✓
Simulation		✓
Think-pair-share	✓	✓
Think-write-share	✓	✓
Application exercises		✓
Practice exercises		✓

Below are some strategies that you may choose to incorporate into your session. Note that this list is not exhaustive.

APPENDIX D: ACTIVE LEARNING TYPES, STRATEGIES & TIPS



SELF-ASSESSMENT QUESTIONS

Present questions for attendees to reflect on what has been taught, to self-assess their learning. Develop one question and answer for each learning objective.

Consider:

- Questions must be multiple-choice or true/false format.
- Questions must be simple, clearly stated, and relate only to the educational objective for which they were designed.
- Pose the question in the affirmative; avoid the use of negative statements such as "not" and "except" because they often confuse the learner.
- Answer choices should be specific and distinct, and not overlap with the other answers.

Avoid using the same or similar words in both the question and the correct answer as this may clue the learner to the correct answers.

POLLING QUESTIONS

Have attendees vote anonymously on what they perceive as the best explanation or answer to a question, followed by opportunities to discuss their ideas with peers, and then to vote again leads to greater learning of the material. It is important to have attendees discuss why they think their explanation is the most accurate and also why the other explanations proposed are not accurate. It is also important that the presenter looks at the polling results and listens to the reasoning of the attendees in order to determine what further explanations and summary might need to be made in the presentation. There are various tools that can be used for polling, including ARS, hand-raising, or color cards.

DEMONSTRATION

Interactive demonstrations can be used to demonstrate the application of a concept. Attendees should be involved in the demonstration, and be required to reflect and analyze the process. For example, you can have attendees predict the outcome of the demonstrations individually, and then have them discuss it in groups, or with the whole room. Demonstrations are valuable because they increase attendee understanding of concepts, while also increasing attendee enjoyment of the session.

INTERACTIVE SCENARIOS AND CASE STUDIES

Provide attendees with an example of a concept/theory/issue/topic being covered in the session. They discuss and analyze the scenario/case, applying the information covered in a presentation to some situation they may encounter in practice. Attendees can briefly present their findings to other small groups or to the whole group or simply record ideas on a flipchart so that presenter can draw questions and synthesis from the material.

APPENDIX D: ACTIVE LEARNING TYPES, STRATEGIES & TIPS



ROLE-PLAY

Attendees are given a situation and a role to play of a character in the situation. Without practice, they act out the events in the situation. Role-play may be used for the purpose of situation analysis or to provide feedback to the attendees about their own behavior. Some examples of role-play include counseling patients, conducting medication history interviews, and patients care skills.

SIMULATION

In this strategy, attendees assume the role of a person whose job they are learning about. Attendees are given realistic on-the-job assignments with little prior instruction and learn by doing.

GAMES

Games and simulations are closely related, and there are mixed varieties: simulation games, non-simulation games, and non-game simulations. Games are activities in which there are winners and losers, definite sets of rules for "moves," and frequent use of props or other paraphernalia. Some examples include Jeopardy, Clue, crossword puzzles, or bingo.

QUIZZES

Quizzes are short self-tests given to attendees. Answers are provided to the attendees after completing the quiz.

THINK-PAIR-SHARE

Have attendees turn to someone near them to summarize what they're learning, to answer a question posed during the presentation, or to consider how and why and when they might apply a concept. This works well with pre-planned questions and with ideas that emerge during a larger group discussion. The objectives are to engage attendees with the material on an individual level, in pairs, and finally as a large group. The activity can help to organize prior knowledge; brainstorm questions; or summarize, apply, or integrate new information.

The procedure is as follows:

- 1) Attendees reflect on (and perhaps jot notes) for one minute in response to a question.
- 2) They pair up with someone sitting near them and share responses/thoughts verbally for two minutes, or they may choose to work together to create a synthesis of ideas or come to a consensus.
- 3) The presenter asks for volunteers to give thirty-second summaries of ideas.

APPENDIX D: ACTIVE LEARNING TYPES, STRATEGIES & TIPS



THINK-WRITE-SHARE

The format for this strategy is identical to the think-pair-share, except that attendees process the question asked of them by writing about it rather than reflecting. After a brief time to note their thoughts, each attendee turns to a partner to discuss. The activity closes with the presenter asking for volunteers to summarize their responses. As with the think-pair-share, the presenter may choose to skip the summary portion of the exercise depending on circumstances.

APPLICATION EXERCISE

These provide an opportunity for the attendees to practice skills. This could include labeling, rank ordering, multiple choice, problem-solving or true/false and completion. Exercises must be completed in a set time period and the presenter provides and discusses the correct answers.

PRACTICE EXERCISE

Attendees are given a problem or situation to solve in a 5 to 10-minute period of time. All directions and rules are printed in a visual and explained by the presenter.

ASSESSMENT OF LEARNING AND FEEDBACK

Learning assessment involves feedback to learners on how well they have answered questions or completed a learning exercise, such as a case study.

	Knowledge-based Activity	Application-based Activity
Assessment of Learning	Must include assessment questions structured to determine the recall of facts based on the learning objectives. Techniques can be informal such as audience response systems, color cards, or hand raising.	Must include case studies or practiced skills structured to address application of the principles learned based on the learning objectives.
Assessment of Feedback	Feedback may include the correct response to questions. For incorrect responses, communicate that a question was answered incorrectly and provide rationale for the correct response.	Feedback may include the correct evaluation of case studies. When responses are incorrect, explain the rationale for the correct response.

APPENDIX D: ACTIVE LEARNING TYPES, STRATEGIES & TIPS



TIPS FOR ACTIVE LEARNING

- Don't try to do too much. Active learning takes time.
- Choose activities that will help the attendees learn the material and/or master important skills. Don't choose activities just for the sake of doing something active.
- When attendees are working in small groups, walk around, listen to the attendees, ask questions, and guide them in the right direction.
 - If you notice that attendees are struggling with a particular issue, gather everyone's attention to add a clarifying comment or work through an example problem. You don't want a lot of attendees to struggle for too much time, as this becomes discouraging.
- Make sure to give all of the necessary instructions before distributing materials and telling attendees to break into groups or find a partner. Otherwise, the attendees start talking to find a partner, or start looking at the materials, and it is hard to regain their attention to give the directions.
- Write down the instructions for any activity – on a slide or in a handout. In case someone wasn't paying attention briefly, or in case there are multiple steps to the instructions, it is much easier if the attendees have written instructions to refer to.
- It can be nice to randomize attendees so that they work with a variety of people and you mix up attendees from different backgrounds. You can do this in a variety of ways – birthdays, random numbers, etc.
- You may wish to assign reporters for group work.
- Include time to debrief the activity. A variety of approaches can be successful, and may vary depending on the subject matter.
 - The instructor might ask attendees to share answers. For quantitative work, attendees might write on flipcharts.
 - The presenter might present a PowerPoint™ slide that explains possible answers.
- How do you ensure that all attendees in a group know what is going on? Below are a few suggestions:
 - Let the attendees know in advance that each member of the group may be responsible for sharing their answers or thought process with the room. You could designate who this person will be (e.g., the person whose last name is first in the alphabet, or who has the next birthday).
 - You could rearrange the attendees and have attendees teach each other about what they just discussed, so each attendee needs to be responsible for understanding the material.
 - Ask a follow-up question that each attendee responds to individually. This could be a self-assessment question or poll.

ACTIVE LEARNING

Attendees remember...

10% of what they **hear**,
25% of what they **see**, and
90% of what they **hear and do!**

APPENDIX E: FRAMEWORK FOR CE ACTIVITY AND LEARNING OBJECTIVES



Preparing Test Questions and Answers for CE Activities

Requirements

- Ensure that each objective is assessed by at least 1 question.
- Questions are simple, clearly stated, and measure *only* the educational objective for which they were designed.
- Questions should be written either in multiple-choice or true/false format. In general, no more than 20% of the questions should be true/false.
- Multiple choice questions should have four options, and options should be specific and distinct. Avoid using “all of the above” and language like “b and c are both correct.”
- Assess the important, take-home concepts of the educational activity.

General Guidelines for Item Construction

- Ensure that each question is similar in terms of grammatical construction, length, and complexity.
- Answer choices should be uniform in length and style and grammatically consistent with the question.
- Avoid using the same or similar words in both the question and the correct answer as this may clue the participant to the correct answer.
- Write options that are grammatically consistent and logically compatible with the question stem; list them in logical or alphabetical order.
- Write distractors (the incorrect answers) that are plausible and the same relative length as the correct answer.
- Avoid using vague terms such as *usually* and *frequently*.
- Pose the question in the affirmative; avoid the use of negative statements such as "not" and "except" because they are often confusing.

Avoid the following

- ✓ **Grammatical cues**—one or more incorrect answers don’t follow grammatically from the question stem.
- ✓ **Long correct answer**—correct answer is longer, more specific, or more complete than other options.
- ✓ **Word repeats**—a word or phrase is included in the question stem and in the correct answer.
- ✓ **The easy way out**— “None of the above” or “all of the above” used as an option.

APPENDIX E: FRAMEWORK FOR CE ACTIVITY AND LEARNING OBJECTIVES



Preparing Test Questions and Answers for CE Activities

Examples (from knowledge-based activities)

Which of the following is a potential advantage of vernakalant compared with other antiarrhythmic agents currently available?

- a. More atrial specific, resulting in less proarrhythmic effects.*
- b. Better efficacy in maintaining sinus rhythm.
- c. Faster onset of action.
- d. Effective in both atrial fibrillation and flutter.

For which of the following indications is botulinum toxin considered “probably ineffective” by the American Academy of Neurology?

- a. Drooling.
- b. Low back pain.
- c. Hemifacial spasm.
- d. Chronic tension headache.*

Examples (from application-based activities)

SP is a 69-year-old man with a history of systolic heart failure (ejection fraction = 25%) who has a recurrence of atrial fibrillation despite being on amiodarone for the past year. The physician would like to discontinue the amiodarone and try another antiarrhythmic in this patient (serum creatinine [SCr] = 0.8 mg/dL). Which of the following antiarrhythmics would be MOST appropriate to use in this patient?

- a. Dofetilide.*
- b. Dronedarone.
- c. Flecainide.
- d. Propafenone.

The committee at ABC Hospital gets administration approval to begin drafting a subcutaneous insulin protocol and order set for use in noncritically ill patients. Which of the following recommendations about the transition from intravenous to subcutaneous insulin therapy in hospitalized patients would be appropriate to include in the protocol?

- a. Treatment with intravenous and subcutaneous insulin should not overlap because of the long half-life of intravenous insulin and risk of hypoglycemia.
- b. Treatment with intravenous and subcutaneous insulin should overlap because of the short half-life of intravenous insulin and risk of hyperglycemic escape.*
- c. Treatment with subcutaneous insulin should not be initiated until the patient is able to consume food.
- d. Long-acting subcutaneous insulin analogs should be used with meals when the ability to consume food is uncertain.