**BEST PRACTICES**

**MAKING THE FORMAL LECTURE MORE INTERACTIVE**

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**Background**

The didactic lecture continues to be used in the delivery of formal continuing medical education (CME) programs, as it is still perceived to be the most effective, efficient method of sharing information with large numbers of people. However, Davis et al. conducted a systematic review of 14 randomized controlled trials of a variety of CME activities, both passive and interactive, and found that the didactic lecture alone is not effective in changing behavior or healthcare outcomes. Additionally, a growing body of CME literature indicates that interactive continuing education sessions that include participatory activity can effect change in professional practice behavior, leading to an improvement in health care outcomes.

Based on research of the effectiveness of formal continuing medical education, CME providers are now encouraging presenters at CME events to give more interactive presentations. Barriers to interactive lecturing include the speaker’s fear of giving up control of the content, an inability to cover the material, and a fear of not knowing the answer to questions by the audience. Steinert and Snell published a descriptive paper that is extremely helpful for those who wish to embark on interactive lecturing. The paper outlines the evidence for interactive lecturing as well as the barriers, and describes in detail the most common interactive lecturing techniques.

An interesting study conducted by Stuart on the concentration level of medical students during 50-minute didactic lectures showed that concentration rose steadily for the first 15 minutes and then declined toward the end of the lecture. Based on this study, it was recommended that lectures be no longer than 30 minutes.

In addition to the randomized control studies that are of medical clinical value, there is a body of qualitative literature that emphasizes the importance of interactivity to the learner. For decades, most experts in adult education and adult learning have advocated the active participation of learners.

To summarize, adult education experts believe that no one directly teaches anyone anything significant; people learn what they want to learn. When ideas are imposed on people, we are training them. When an atmosphere is created in which people are free to explore their ideas in dialogue and interaction, we educate them.

The evidence clearly emphasizes the need for interactive lecturing in the health care environment. When done effectively, interactive lecturing can increase learning, influence change in practice, and have a positive effect on health care outcomes.

**Interactive Techniques**

What is “interactivity” in large group lecturing and how can this be applied to a formal presentation? Interactivity in a lecture format can include interaction with the faculty, between members of the audience, and with the learning material. Several teaching techniques that enhance interactivity in large group lecturing are described below.

1. QUESTIONING THE AUDIENCE

There are several “questioning methods” that are useful at different stages of a lecture. Five of these methods are the use of: rhetorical questions, surveys, straightforward questions, brainstorming, and quizzes.

Think of starting a lecture with a rhetorical question. These are questions where no answers are expected; one uses this technique to grab the audience’s attention. For example one might start a lecture on treatment-resistant depression by asking, “how many of you have sat in your office with a chronically depressed patient and felt almost as nihilistic about their prognosis as the patient?”

The use of a “survey” might be added next. This technique can be useful to identify audience, characteristics, interests, and beliefs. The speaker might ask, “How many of you have treated..."
treatment-resistant depressed patients?” The presenter would then ask for a show of hands. This question could be followed by “how many of you have more than 10 of these patients in your practice? More than 20?” This technique personalizes the topic and engages learners. Straightforward questions can be interspersed throughout the lecture. For example, using the treatment-resistant depression topic, “what approaches have you taken to treat these patients?” Once a few of the members of the audience have responded, the instructor can re-organize the audience responses and present his/her approach to this problem.

The underlying premise behind these types of questions is that you are acknowledging the audience’s considerable knowledge about any topic that you are teaching. Audiences enjoy and appreciate being acknowledged in this way. Your role as a presenter can flexibly switch at times from “the all knowing transmitter of knowledge” to the facilitator who engages in a dialogue with the audience and helps organize information gleaned from the audience.

A related questioning technique is called brainstorming. This process entails creating a list of answers by the audience to a question posed by the teacher. For example, using the above lecture on treatment-resistant depression, one might ask for a list of all treatment approaches. The teacher would then type a list generated by the audience (using PowerPoint). The teacher generates the list uncritically and without comment. After the list is completed, the lecturer can help the audience organize the points into categories or invite comments from the audience. Brainstorming at the end of grand rounds can help organize the key points of a lecture or rapidly generate a list of questions to trigger the question period.

Quizzes (using multiple choice or short answer questions) before or after the lecture can help focus the audience on the key learning points and provide feedback on how well key issues have been learned. Allowing a few minutes to review the right and wrong answers at the end of a lecture is a nice way to finish the presentation before the question period. A playful addition to using multiple-choice questions is to make five color-coded cards attached at the bottom for each audience member (each of the five colors represents one of the choices in a standard multiple choice question). Audiences are then asked to vote by holding up the appropriate color signifying their choice (a, b, c, d, or e). The audience then is able to see how their peers “voted” and the teacher receives immediate feedback on the audience’s level of knowledge. A more sophisticated version of this can be achieved with an audience response system.

2. BREAKING THE AUDIENCE UP INTO SMALLER GROUPS

This technique can promote the discussion of ideas and problem solving during a lecture. This can be done in a variety of ways. Using the example discussed earlier, the lecturer might ask the audience to first write down the strategies that they have used to treat resistant depression. After two minutes of reflection, the audience members can turn to their neighbor (pair) and share their ideas with them. After three minutes, the lecturer asks two or more of these pairs to share their discussion with the audience and then asks others for any other ideas that might not have been mentioned. This teaching technique is called write-pair-share and can be useful for large and small group teaching. A variation of this technique involves forming small groups within a lecture of 6-8 members of the audience. Three to four people sitting in one row turn around to face 3-4 people sitting in the row behind them. This last step can be used by itself or can be used as an “add on” to the write-pair-share. This is sometimes called “pyramiding”. The latter can be useful when some consensus of opinion from the group is desired. Although using small groups within a large group takes time, these techniques can help focus the discussion around key issues and can be very engaging midway through a lecture.

3. ENGAGING THE AUDIENCE THROUGH CLINICAL CASES

This time-honored teaching method helps engage learners to solve clinical problems that are imbedded in the case. During a lecture, the audience can be asked to “work through” a case. The lecturer can stop the case presentation at different points, asking the audience for input as the case unfolds. The lecturer can use straightforward questions that ask individuals to respond or alternatively use the write-pair-share technique or both interchangeably. A related case-method teaching technique is to assign parts of the audience a different perspective of a case or problem. A part of the audience has to present the arguments related to that perspective whether they agree with it or not. For example, during a recent lecture on ethical issues related to involuntary placement of a geriatric outpatient, the lecturer divided the audience into four groups representing the key “players” in the decision-making process. The four groups included the patient’s perspective, the caregiver,
society’s and the long-term institution’s point of view. The lecturer brainstormed a list of relevant issues to be considered from each group, reorganized them, and during a didactic presentation that followed, incorporated the audience ideas into her presentation.

4. SIMULATIONS AND ROLE-PLAYS

These are very effective techniques that help focus attention and increase the clinical relevance of a “case”. The highest rated psychiatry grand rounds at my teaching hospital was a simulation of the review board process. An actual review board chairman and two legal aid lawyers participated. The “patient” was role-played by the hospital department chief and members of the multidisciplinary team played the members of the family. The simulation was successful because the actors took their roles very seriously. The rounds moderator acted as the discussant summarizing the critical issues for discussion in the last 15 minutes of the rounds.

5. WRITTEN MATERIALS

Written materials can help summarize key learning points, and they take pressure off the presenter to cover all of the material. Handouts can include a copy of the PowerPoint slides, additional relevant reading material, and references. Alternatively, the hard copy of the PowerPoint slides can be deliberately incomplete; this requires the attention and concentration of the audience to fill in the blanks. Another novel use of relevant reading material is to have the audience read a page of succinct material during the rounds (a period of silent reflection). Following this a “write-pair-share” exercise can generate discussion of the key learning points from the written material.

Summary

Interactive lecturing can enhance learning, attention and concentration and make the learning experience exciting and energetic. From the lecturer’s point of view, changing from standard lectures to interactive lecturing is not a simple process. Most teachers will need to see interactive teaching techniques demonstrated or be “coached” before they feel comfortable changing their teaching style. Here is a brief guide to help you get started with your interactive lecturing career.

1. Interactive lectures take longer to prepare. An observed rehearsal is recommended.

2. Choose one interactive technique that seems most doable and try it out. Ask a trusted colleague for feedback.

3. Eventually, try and use three interactive lecture techniques per presentation.

4. If you use interactive lecturing, you will need to cut down the amount of your “material”. Build your lectures around three or four key points.

5. You can learn to be an interactive lecturer. Once you learn a few techniques, you will never go back to monologues.

References


