Learning Methods Review

Best Practices and Research

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Variety is the spice of life

Adult learners are action-oriented and want to be able to apply what they learn directly to everyday situations. They tend to be highly motivated and typically want to know why and how new information is relevant to them. However, motivation can decline in learning environments that don’t convey to students that the new learning is relevant and useful.

Experiential, or active, learning is a successful approach in helping adult learners make connections with new information. You can facilitate this process in the classroom by using experiential learning techniques such as group discussions, hands-on demonstrations, case studies, and role plays along with more traditional classroom lectures.

The traditional lecture format is not always the best method for teaching students who want to apply their learning to real-life practice. Experiential learning encourages students to use critical thinking by helping them to analyze, process, and integrate new information into what they already know. With this approach, instructors act as facilitators to guide and support learners.

That being said, traditional classroom lectures, if well-structured and well-timed, can be an effective teaching tool. Through lectures, facilitators can clearly and succinctly transfer a lot of current knowledge from multiple sources. A lecture format also allows the facilitator to focus on key concepts and adapt information to the needs of the learner.

This paper summarizes current research regarding best practices associated with some common teaching methods. It will highlight best practices, tips and challenges associated with:

- Lecture
- Discussion
  - Small group discussion
  - Large group discussion
- Demonstration
  - Facilitator demonstration
  - Role play
  - Case study
Lecture
GOOD PRACTICES FOR LECTURING

**Break it up**

Breaking up the delivery of a lecture with short activities may help keep learners focused on the topic. Allowing brief breakout sessions during the lecture for small groups to discuss what they are hearing has been shown to help learners integrate and retain information. Students report that having lectures broken up with interactive learning tasks every 10 to 15 minutes can help them better understand lecture content and increase their level of interest in the presented material. Allowing students to step back and reflect on the lecture material as it is being presented can help them clarify and consolidate their learning.

**Sum it up at the start**

Other best practices for delivering lectures include providing a brief introduction that outlines the lecture’s content and goals. Optionally, you could begin a lecture with a specific question that the upcoming lecture will answer. Giving learners a “heads up” allows students to interpret and organize incoming information within a specific context. In either case, be clear about what the learner should focus on, using key words and phrases, and repeat these points throughout the lecture. Recapping in this way helps people stay focused on your message.

**Use signposts**

Using signpost language during your lecture (words like “first”, “next”, and “finally”) helps learners follow transitions between topics. Be mindful of your speech rate and pace, and use concrete language and real-life examples when appropriate to help connect people to abstract ideas. Providing written material beforehand that describes the lecture’s objectives, key concepts and questions to consider can be helpful, but allow learners time to read the material before the lecture so that you have their full attention when you
begin. At the end of your lecture, be sure to recap your main points and invite learners to ask questions.

**Avert death by PowerPoint**

We’ve all experienced the pain of sitting through poorly designed PowerPoint™ presentations. Common mistakes include providing too much/too small text and reading directly from the slides, which can bore, confuse and frustrate learners. Although widely used as a teaching tool, the effectiveness of PowerPoint has not been clearly established.

If using PowerPoint, keep things simple and incorporate it as a guide, rather than as the source, of your lecture. People tend to pay attention to what is presented on the slides rather than your words, so having key concepts re-stated on the slide as you speak can help re-inforce your points. PowerPoint is not a script for your lecture: don’t use full sentences on the slides or read directly from them. Instead, use a few key words that re-iterate your main talking points.

Slides are not useful at all if people can’t see them. Check your PowerPoint presentation before offering it to a group of learners. Are the text and/or images large enough to be seen from the back of the room? Is the lighting in the classroom too bright for people to see the slides? Confirming beforehand that your presentation actually reaches your audience is a good habit to get into.
Experiential learning methods
Much has been written about the value of group discussions in adult learning environments. Creating room for people to talk about what they are learning can help them integrate new knowledge, develop critical thinking, problem-solving, and communication skills. In group discussions, the facilitator’s role shifts from being the “sage on the stage” as in traditional lecture approaches to that of “guide on the side”. From this position, the facilitator helps guide conversations so that learners integrate new learning by exploring concepts with peers.

**Large group discussion**

Large group discussions provide a good venue for brainstorming and working toward a group consensus. They can also help learners gain perspective on other people’s views and learning challenges, and help people situate themselves within the group. Large group discussions can also be helpful in setting the scene for breakout sessions by providing a launch point for more detailed discussion in small groups, where questions about the new learning can be raised and clarified, or brought back to the larger group for further discussion.

While large group discussions are an effective teaching method, they can also drift off topic, become overly influenced by dominant speakers, or discourage shy, introverted, or marginalized learners from participating. Research has shown that gender issues can impact learning in large group environments as well, with men sometimes controlling the conversation. Large group discussions also place high demands on the skill of the instructor to keep the flow going.

**Small group discussion**

Small group or pairs work can help learners build critical thinking skills and connect new learning to their existing knowledge through discussion and reflection with peers. Small group work has been shown to build people’s confidence and motivation in learning, and can help build a sense of mutual trust within
the learning environment. Learners may also grasp concepts more readily when learning is supported by peers.

**GOOD PRACTICES FOR FACILITATING GROUP DISCUSSIONS**

Provide clear instructions and expectations for the outcomes of group discussion. This is particularly important for small group work, where learners are working more independently and can stray off topic easily. Providing written guidelines or questions on a screen or whiteboard can help people stay focused, and checking in with small groups as they work lets the facilitator provide helpful feedback or clarify points. In large group discussions, summarizing key points verbally or in writing as the discussion unfolds can help orient learners.

**Facilitator demonstration**

Hands-on demonstrations, in which students get to observe and/or practice new learning, can be an effective method for teaching skills that require learning a sequence or set of physical actions. Observing and practicing new learning concepts allows learners to build their skills under the guidance of the facilitator, who can provide timely feedback and can help engage students who are less motivated by other teaching methods. Working closely with learners in this way can help the facilitator find out more about the students’ learning approaches, strengths and challenges, and can help support peer learning. Demonstration learning can build familiarity in working with task-specific equipment, documents or terminology.

**GOOD PRACTICES IN USING FACILITATOR DEMONSTRATION**

*Chunk it up*

Teaching by demonstration should include several steps: an initial introduction and verbal overview of the activity; a demonstration of the activity by the facilitator (this may be accompanied by a verbal description); allowing the learner to attempt the activity with support from the facilitator; and evaluation of the learning through facilitator feedback. This sequence can be repeated in part or in whole until the
learner demonstrates proficiency in performing the new task. Be mindful of potential physical limitations among learners, and address, where possible, any barriers that might impact their ability to participate.

**Assign Observer Roles**

One method of making demonstrations more active is to assign observer roles to the learners. Many of the skills facilitators demonstrate consist of a variety of things to watch for, for example, steps in a sequence, skills required, impact on someone or something, etc. By assigning individuals one or all of these factors to observe while the demonstration is taking place, the facilitator increases the level of learner involvement. Observer roles also provide a nice, easy segue into a small and/or large group discussion where learners share their observations with peers.
Role-play

Research suggests that knowledge transfer to learners may be enhanced when a natural learning environment is created. Role-playing is sometimes used for this reason to engage learners in realistic, problem-based activities. Role-playing lets students experiment with new learning and apply it to realistic situations, building problem-solving skills through interaction, discussion and reflection. Some research has linked role-playing activities with better learning retention outcomes than those achieved by learners taught with more traditional methods, greater creativity, insight and empathy for other people’s experiences, and greater self-directed learning.

CHALLENGES WITH ROLE-PLAYING

Facilitating a role-playing activity requires both skill and planning. An established sense of mutual familiarity and trust among learners should first be in place before attempting role-playing exercises; otherwise, people will likely resist taking part. Learners may be skeptical about the outcome of the activity, or be uncomfortable putting themselves “on stage” in front of others. A good role-playing activity takes time to plan properly, but when done well, can provide a level of learning not attainable through books or lectures. Participation in role-plays should always be optional. Learners who choose to sit on the sidelines can be engaged as observers and directed to watch for particular interactions or outcomes for subsequent discussion.

GOOD PRACTICES WHEN USING ROLE-PLAY

Role-playing activities should have clearly defined learning goals and outcomes, be explained to learners at the beginning of the exercise, and followed by a group debrief at the end of the activity. Without understanding the purpose of the exercise, neither the student nor the facilitator will be able to assess whether the role-play achieved what it set out to do.

Using problem scenarios based on actual events (being mindful of maintaining privacy and generally steering clear of volatile issues) can be especially instructive. Real-life simulations can let people replay scenarios to come up with alternative solutions and discuss different problem solving strategies to apply in the future. It’s important to work with scenarios where solutions are likely to be discovered. “No-win” situations defeat the purpose of the exercise and can create frustration among learners. Finally, it’s helpful for facilitators and observers to take notes during role-plays (with some guidance on points to look for) to help enrich discussion afterwards.
**Case studies**

Using case studies (real-life or created stories or situations), can help build learners’ analytical and critical thinking skills in an applied context. Case studies are usually documented and circulated among students who are asked to review the material and answer specific questions about the case based on information provided in the lesson. Case studies are often incorporated into small or large group work. Working with case studies can be effective in environments where students are learning to apply theory or a set of principles in practice. Case studies can help learners expand their theoretical understanding while trying to resolve realistic problem scenarios.

**GOOD PRACTICES WHEN USING CASE STUDIES**

As for any teaching method, clear goals and outcomes for working with the case study need to be established and explained to learners, time given for students to review and reflect on the material, and space set aside to debrief on the findings in a small or large group setting. Providing a set of guiding questions that incorporate key learning points can help learners focus on using their new knowledge to analyze problems or situations contained in the case study. One study showed that students scored higher for critical thinking skills when case study work was presented as an unfolding story over multiple classes instead of as a single session activity.
A few other good practices

GIVE FEEDBACK AS IT’S NEEDED

Giving timely feedback on students’ learning progress can identify and address learning gaps early in the process—an important reason to return students’ graded assignments promptly and to allow time for debriefing on the outcomes. Studies have shown that the use of “clickers” or other classroom communication system technology can be useful. Technology of this type allows learners to anonymously submit answers to questions, and then collates and displays group results electronically for the class to see. This process lets learners check their learning progress and creates a quick feedback loop for the facilitator to fill in knowledge gaps.

THE CASE FOR TESTING

Some studies have found that frequent testing of students followed by quick and detailed feedback from the facilitator may improve knowledge retention. Pop quizzes or practice tests that are not assigned marks may help students recognize their learning gaps without impacting grades and provide more opportunity for facilitators to intervene than if testing is conducted only at the end of term. There is some research that suggests calling on students by name to answer questions can motivate students to come prepared to class although this strategy can be difficult for learners who lack confidence.

DISTRIBUTED PRACTICE

There is some evidence to suggest that distributed practice can help students retain information. Distributed practice means that material to be learned is presented more than once to learners. For example, key points from a previous class can be revisited at the beginning of the next class, or a topic taught in class may be later revisited in a text book. Distributing learning over time, either within a single class or over multiple classes, may be more useful than a single exposure to new learning.

ENCOURAGE NOTE TAKING

The way in which learners take notes during lectures has been shown to have an impact on learning retention. One study of note-taking methods among university students found a strong correlation between word count and the quality score subsequently assigned to the notes. Students who wrote more during lectures also tended to capture more relevant information and demonstrated better
understanding of key concepts. Simply stated, students who took more notes tended to take better notes. The researchers suggested that an absence of note-taking among students could flag potential learning (or teaching) issues.

**ORGANIZE YOUR MATERIAL**

The human mind seeks organization and structure and the opportunity to connect new information with previous knowledge. For this reason, it’s important for facilitators to present their material in an orderly and logical manner, which can help lighten the cognitive load on learners. Some simple practices for helping learners integrate new knowledge include:

| **Emphasizing** | …the most important points as they are delivered. Many facilitators make a habit of stating and re-iterating their three key points |
| **Signaling** | …the learner about what to take note of by verbally emphasizing key words, using markers or pointers |
| **Classifying** | …new information by category, concept or components, or linking new information to a central, unifying idea |
| **Connecting** | …new learning to existing knowledge: indicating how the new information fits into what the learner already knows |
| **Structuring** | …information as part of a flow, for example, in the context of cause and effect, or as a narrative |
| **Chunking** | …information into smaller, more workable units, or “chunks” |
| **Recirculating** | …information by repeatedly exposing learners to the same material |
| **Enlivening** | …the classroom by making learning enjoyable: research into consumer behavior shows that people are more likely to remember something they enjoy |
## Summary of Advantages, Disadvantages and Tips

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<th>Learning Method</th>
<th>Advantages</th>
<th>Disadvantages</th>
<th>Tips</th>
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<tbody>
<tr>
<td>Lecture</td>
<td>• Conveys the same information to many learners at the same time.</td>
<td>• Unlike reading or watching a video, the learner has very little control over rate of delivery, volume, content covered, etc.</td>
<td>• Organize the content for learners.</td>
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<td></td>
<td>• Can be very interesting if delivered well.</td>
<td>• Can be difficult for learners to sustain their undivided attention on even an interesting lecture for more than 20 minutes.</td>
<td>• Insert brief ‘think-pair-shares’* every 15 or 20 minutes to refresh learner attention span.</td>
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<td>• Can provide an important opportunity for lecturer to explain difficult concepts.</td>
<td>• The effectiveness relies heavily on the skills of the lecturer.</td>
<td>• After high density parts of a lecture, incorporate brief opportunities for learners to think about what has been delivered and record notes before proceeding.</td>
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<td>• Allows an observant lecturer to pick up on audience cues and modify their lecture to suit audience needs.</td>
<td>• Lecturing requires a high degree of skill and effort.</td>
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<td></td>
<td>• Learners can read faster than they can listen to a lecture.</td>
<td>• Learners can read faster than they can listen to a lecture.</td>
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*Think-pair-share: a discussion that starts with 30 seconds of individual reflection time followed by a two minute chat with a partner regarding the initial question followed by a sharing in the large group.
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<tr>
<td>Large Group Discussion</td>
<td>• Gives learners a chance to express their views and ask questions.</td>
<td>• Requires a high degree of facilitation skill.</td>
<td>• Invite learners to think about the question for at least 3 seconds before opening up the large group discussion.</td>
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<td>• Allows learners to learn from each other.</td>
<td>• Some participants may say a lot and others may withdraw making participation somewhat one-sided.</td>
<td>• Another option is to precede the large group discussion with a ‘think-pair-share’.</td>
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<td>• Can help learners get to know each other better thereby strengthening the learning community.</td>
<td>• Does not offer a significant variation from lecture as the facilitator is still in control of the learning activity.</td>
<td>• Consider using alternative discussion methods: invite learners to record their responses on a piece of paper and toss in a hat for facilitator or others to read; round robin, etc.</td>
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<td></td>
<td>• Allows common challenging large group dynamics to surface (disengagement by some, over-participation by others, off-topic or confusing statements by some, etc.)</td>
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## Small Group Discussion

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| Small Group         | • Gives those who don't like to share in large group discussion a good alternative.  
• Encourages expression of a wider variety of views and communication styles.  
• Gives learners a chance to get to know each other in more depth.  
• Is more learner-active than lecture and large group discussion.  
• Gives the learners a nice break from lecture and serves as an energizer, thereby refreshing attention spans. | • Some learners may not participate.  
• Negative group dynamics may prevent learners from achieving the goals of the discussion.  
• Members may not stay on task or take the discussion seriously. | • Facilitator should not use small group discussion as an opportunity to do other work.  
• Small groups can vary in size from a minimum of 2 to a maximum of 7.  
• Consider whether and how reporting back from small group work will happen. If there are many small groups, consider time-saving ways of reporting back (i.e. ‘team-to-team’ debrief, timed report backs, ‘one item from the top of the list’ report backs, etc.).  
• Consider using variations on small group discussion themes such as carousel (See video demo in Learning Outcome #2), World Cafe.  
• Small group discussions can be very brief (2 - 5 minutes) and participants can be invited to stand instead of sit (addressing participant energy issues). |
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<td>Facilitator Demonstration</td>
<td>• Can be interesting for learners.</td>
<td>• If the facilitator explains everything they’re doing while they’re doing it, a demonstration can become a lecture.</td>
<td>• Demonstrating how how not to do something can be equally interesting and effective as demonstrating how to do something.</td>
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<td>• Can effectively illustrate the skills required to perform a complex task.</td>
<td>• If learners cannot see the demonstration, they will miss out on important pieces of content.</td>
<td>• Assign observer roles and invite observers to share those observations in small and/or large group (See Video demonstration in Learning Outcome #2).</td>
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<td>• Can take a long time and, therefore, learner attention/interest may wane.</td>
<td>• Avoid explaining what you are doing while you are doing it as this makes the demonstration quite passive for learners.</td>
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<td>• Invite learners to gather around you while conducting the demonstration even if it means asking learners to stand or rearrange their chairs.</td>
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<td>• Break the demonstration into chunks if it exceeds the 20 minute mark and give participants a chance to share their observations before moving on.</td>
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<td>• Give learners the power to ‘freeze time’ at any point in the demo to ask questions or discuss what is happening.</td>
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### Role Play

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<tr>
<td>• Can closely recreate the real world within the classroom setting.</td>
<td>• Some learners report that they don’t like role play.</td>
<td>• Remind learners of the value of role play and why it is being used as a learning method.</td>
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<td>• Gives learners a chance to practice an important skill set.</td>
<td>• Some participants don’t take them seriously and, as a result, ‘ham it up’ and make the exercise unrealistic.</td>
<td>• Teach participants how to be good ‘role players’.</td>
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<td>• Learners who value hands-on learning activities report a preference for role play.</td>
<td>• Sometimes the role play isn’t debriefed thoroughly and important learning opportunities are missed.</td>
<td>• Include observers who can observe the role player and teach the observer how to evaluate the role player’s performance and how to give constructive feedback.</td>
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<tr>
<td>• They offer an interesting alternative to lecture and large group discussion.</td>
<td>• If not well written, role plays can come across as unrealistic.</td>
<td>• For the most part, don’t ask learners to role play in front of the entire group. This can be quite threatening and, if the learner doesn’t do well, it can be publicly humiliating.</td>
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<td>• Generally done in trios with an observer, a person practicing and another individual acting as client, co-workers, employee, etc.</td>
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<td>• Consider using a Tag Team Role Play (see video demonstration in Learning Outcome #2) as a way of teaching learners how role plays work.</td>
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<td>• Observer roles, if assigned, provide another good opportunity for skill development.</td>
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<td>• Invite learners to write role plays.</td>
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<td>• Monitor the role plays closely and offer multiple opportunities for participants to succeed.</td>
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## Case Study

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<td>• Appeals to learners who like to think about things before they have to respond (unlike role play which ask learners to respond to a situation as it unfolds).</td>
<td>• Sometimes the case study isn’t debriefed thoroughly and important learning opportunities are missed.</td>
<td>• Encourage learners to consult the facilitator or make up necessary details in order to address the issue presented in the case study.</td>
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<td>• Gives learners a chance to practice an important skill set.</td>
<td>• If not well written, case studies can come across as unrealistic.</td>
<td>• The facilitator should be observing groups closely to answer any questions they may have.</td>
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<td>• Can closely mirror real life within the classroom setting.</td>
<td>• Case studies can’t provide every possible detail so it may leave group members arguing about the scenario.</td>
<td>• Consider using a ‘team-to-team’ debrief which gives small groups to share their strategy with one other small group in order to receive feedback. Small groups can then incorporate that feedback if they choose before sharing their work with the facilitator or large group.</td>
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<td>• Can be done by individuals, pairs or small groups.</td>
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<td>• Limit the size of groups to 5.</td>
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<td>• Provide learners with the criteria that will be used to evaluate their work before they begin working on the case.</td>
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<td>• Consider inviting learners to write the case studies based on research or interviews they conduct with people in their field of study.</td>
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</table>
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