

TEACHING STRATEGIES/METHODOLOGIES: Advantages, Disadvantages/Cautions, Keys to Success

Reference: Based largely on, adapted from, and added to the work of Wehrli, G., Nyquist, J.G. (2003). Creating an Educational Curriculum for Learners at Any Level. AABB Conference.

CLASSROOM TYPE SETTING			
Strategy/Methodology	Advantages	Disadvantages/Cautions	Keys to Success
<p>Brainstorming: A process for generating multiple ideas/options in which judgment is suspended until a maximum number of ideas has been generated. Following generation of ideas, options are typically analyzed, a best solution identified, and a plan of action developed.</p>	<ul style="list-style-type: none"> • Actively involves learners in higher levels of thinking • Promotes peer learning and creates synergy • Promotes critical thinking • Helps groups reach consensus 	<ul style="list-style-type: none"> • Requires that learners discipline their inputs to the discussion (generate ideas without making judgments) • May not be effective with large groups • Can lead to “group think” 	<ul style="list-style-type: none"> • Use to stimulate thinking, creativity, inquiry, and consensus • Do not use the method when there is only one or a few possible “correct” responses • Provide clear instructions for how the process works • Ensure that participants adhere to the rules
<p>Case-Based Small-Group Discussion: Small groups of 5-10 address case-based tasks, exchanging points of view while working through a problem-solving process. In Problem-Based Learning, the problem comes first and learners work through the problem through progressive disclosure by making hypotheses, exploring mechanisms, developing and researching learning issues, and applying new information to the case.</p>	<ul style="list-style-type: none"> • Actively involves participants and stimulates peer group learning • Helps participants explore pre-existing knowledge and build on what they know • Facilitates exchange of ideas and awareness of mutual concerns • Promotes development of critical thinking skills • Develops leadership, teamwork, communication, and collaboration skills • Promotes higher levels of thinking (application, synthesis, evaluation) versus simple memorization 	<ul style="list-style-type: none"> • Can potentially degenerate into off-task or social conversations • Can be a challenge to ensure participation by all, especially in larger groups • Can be frustrating for participants when they are at significantly different levels of knowledge and skill • Can be unpredictable in terms of outcomes • Increases potential for inter-personal conflicts • Can be time-consuming 	<ul style="list-style-type: none"> • Use carefully crafted cases that are prototypical of content objectives • Use trained faculty or student facilitators to effectively manage group dynamics • Help the group address conflict in constructive ways • Ensure seating arrangement that facilitates discussion • Create safe environment for learners to participate, ask questions, and make mistakes without sanctions • For groups meeting regularly over a period of time, establish ground rules
<p>Computer Simulation: In the medical context, used to teach specific examination, procedural, and data interpretation skills and the effects of drugs and interventions in a realistic situation without endangering patients. May use highly realistic computerized dummies.</p>	<ul style="list-style-type: none"> • Can portray realistic situations • Allows for focused learning that eliminates irrelevant aspects • Can be used when “real” experiences are not readily available or would endanger patients • Provides immediate feedback 	<ul style="list-style-type: none"> • Can be costly to buy and maintain computerized simulators • Limits number of people who can access the learning at the same time • Can create scheduling and logistics challenges 	<ul style="list-style-type: none"> • Choose learning objectives that involve hands-on experience and that are best learned first in a way other than through direct patient contact • Use faculty trained to teach using simulation to facilitate the experience and provide feedback

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<p>Demonstration: Performing an activity so that learners can observe how it is done in order to help prepare learner to transfer theory to practical application.</p>	<ul style="list-style-type: none"> • Helps people who learn well by modeling others. • Promotes self-confidence • Provides opportunity for targeted questions and answers. • Allows attention to be focused on specific details rather than general theories. 	<ul style="list-style-type: none"> • Is of limited value for people who do not learn best by observing others. • May not be appropriate for the different learning rates of the participants. • Requires that demonstrator have specialized expertise if highly technical tasks are involved. 	<ul style="list-style-type: none"> • Be able to do well what you want to demonstrate. • Carefully plan the demonstration. • Keep the demonstration simple and the explanation thorough enough to meet your objectives. • Augment the demonstration with other visual aids. • Give learners an opportunity to practice what has been demonstrated.
<p>Game: Used to bring competition, participation, drills, and feedback into the learning experience as a motivator and opportunity for application of principles.</p>	<ul style="list-style-type: none"> • Actively involves learners • Can add or regenerate motivation • Promotes team learning and collaborative skills • Provides a challenge that can lead to confidence in knowing and expressing the material • Provides feedback • Can create a “fun” learning environment 	<ul style="list-style-type: none"> • Can create in-group/out-group feelings • Can demotivate those who are not competitive by nature • Can create feelings of inadequacy in those not as skilled or forceful • Can discourage creativity if the format is very rigid and the focus is strongly on winning 	<ul style="list-style-type: none"> • Choose relevant games at an appropriate level that can be reasonably expected to achieve the learning objectives • Introduce the game and make the objectives clear • Give clear and thorough directions • Create a friendly versus cut-throat mentality; do not put down losers or allow others to do so • Do not take sides or show partiality • Keep a handle on things
<p>Independent Study: Designed to enhance and support other instructional activities. Learning activity is typically done entirely by the individual learner (or group of learners) using resource materials. May be done using computer/web-based technology.</p>	<ul style="list-style-type: none"> • Fosters independent learning skills • Allows learners to progress at their own rate • Enhances other learning experiences • Provides opportunity for learner to obtain prerequisite knowledge • Allows for flexible, individual schedules and self-pacing 	<ul style="list-style-type: none"> • May be disconnected from immediate objectives • May be difficult to identify/access appropriate materials • Computer-based materials are time-consuming and expensive to develop and may lack complexity needed for more advanced learners 	<ul style="list-style-type: none"> • Choose activities carefully to ensure relevance and connectivity • Provide guidance about resources and how to locate and access them
<p>Large Group Discussion/ Question & Answer: Employs the art of seeking information and stimulating thinking and elaboration at all levels of human reasoning to achieve a given objective</p>	<ul style="list-style-type: none"> • Puts the burden of learning on the student and increases learner involvement • Provides both learner and teacher immediate feedback • Is useful for guiding learners to higher levels of thinking and inquiry • Provides valuable clues about learner motivation and how to best facilitate learning • Helps students identify and build on pre-existing knowledge 	<ul style="list-style-type: none"> • Can be time-consuming • Relies on learner preparation and willingness to participate • Can lead to a dominant few controlling the floor to the exclusion of fuller participation • Cannot ensure full participation within a large group 	<ul style="list-style-type: none"> • Develop questions related to learning objectives designed to stimulate thinking and move learners to the next level • Use open-ended questions with more than one right answer that ask learners to think critically rather than recite facts • Have a clear question sequence • Develop group facilitation skills to manage the interactions, time, and process effectively, paying attention to both task and group interaction functions

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<p>Lecture/Presentation: Primarily didactic presentation of information, usually to a large group and often with the use of audiovisual aids to transmit information.</p>	<ul style="list-style-type: none"> • Can be an effective means of providing new information and clarifying existing information to a large heterogeneous group in a short period of time • Is useful for covering underlying concepts, principles, and systems • Can be a good means to set the stage and lay the necessary groundwork and parameters for a subsequent activity • May stimulate learner interest in future study • May be recorded for future use 	<ul style="list-style-type: none"> • Places the burden of promoting learning fully on the teacher, unless it is integrated with other techniques (is a passive versus learning activity) • Establishes a “tell me” mind-set in learners • May be presented at the teacher’s level of understanding rather than at the learners’ • Offers limited opportunities for assessment and feedback • Can become a crutch for teachers who do not really know the material thoroughly • Can lead to learner overload as it is common for teachers to include too much information in too short a time frame • Provides little opportunity for learner independent thinking • Can lead to boredom • Have very limited effectiveness in teaching anything other than knowledge 	<ul style="list-style-type: none"> • Identify which learning objectives are partially or fully best achieved by this method (generally those at the lower level of thinking, such as knowing or understanding as opposed to applying, synthesizing, or evaluating) • Avoid the temptation to overload; limit objectives to 3-5 for a 1 hour time frame • Develop a solid introduction, body, and closure • Develop concrete examples of major principles • Use sign posts (e.g., “there are three main points,” “this is a key finding,” “the most important thing to remember is,” “in conclusion,” etc.) and transitions • Summarize periodically and in the conclusion • Spice it up with analogies, stories, quotes, startling statistics, vivid language, etc. • Develop quality supporting audiovisual aids and know how to use them and any needed equipment; avoid overloading slides with information and talking to a screen rather than to learners • Be aware of and demonstrate effective presentational skills, including gestures, posture, tone of voice, talking with rather than at, making eye contact, avoiding distracting behaviors, etc. • Integrate lecture with other more interactive techniques in the session, varying the pace every 10-15 minutes to avoid exceeding attention spans • Manage time to allow for questions and then the planned conclusion

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<p>Role Play: One or more participants adopt a specified role and try to behave in ways characteristics of a person in that role. In medical education, often revolves around a specified clinical scenario.</p>	<ul style="list-style-type: none"> • Actively involves participants • Adds variety, reality, and specificity to the learning experience • Develops problem-solving and verbal expression skills • Provides practice to build skills before real-world application and when “real” experiences are not readily available • Enables learners to experiment in a safe environment with behaviors which strike them as potentially useful and to identify behaviors which are not • Can provide an entirely new perspective on a situation and develop insights about feelings and relationships • Provides teacher immediate feedback about the learner’s understanding and ability to apply concepts • Improves the likelihood of transfer of learning from the classroom to the real world 	<ul style="list-style-type: none"> • Puts pressure on learner to perform, which can create embarrassment and even resistance • Depends heavily on learner’s imagination and willingness to participate • Can engender strong emotions related to past experiences, empathy, etc. • Can lack focus unless well-planned, orchestrated, and monitored • Can reinforce ineffective behaviors/strategies if performance is not observed by knowledgeable person who provides appropriate feedback • Can be unpredictable in terms of outcomes • Can be time-consuming 	<ul style="list-style-type: none"> • Establish a safe environment for learner to experiment and make mistakes without sanction • Use realistic situations that relate to learning objectives • Use only when learners have adequate knowledge and skills to perform what is requested • Provide clear directions and specific time limits • Observe performance (for multiple groups, rotate through them) • Conduct a feedback/debriefing session after the role plays
<p>Self-Awareness Exercise/Test: Provide insight into how the learner thinks, acts, reacts, or “scores” regarding a particular topic.</p>	<ul style="list-style-type: none"> • Provides personal relevance to the learner • Provides a change of pace that creates a high degree of interest • Can facilitate individual insights into the need to make personal improvements 	<ul style="list-style-type: none"> • Can reduce morale if participants don’t like what they learn about themselves • May create dead time while waiting for everyone in the group to finish • May create embarrassment and discomfort if learners do not know whether results must be shared and/or if learners are forced to share and compare 	<ul style="list-style-type: none"> • Choose instruments with demonstrated validity and reliability • Tie the concepts measured clearly to learning objectives • Provide adequate instructions and time for completion • Furnish an interpretation from which each learner can analyze his/her own results • Don’t force people to share their results • Avoid judgments and psychoanalyzing

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<p>Direct Patient Contact: Practicing patient care and communication skills, along with clinical problem-solving, through direct contact with patients.</p>	<ul style="list-style-type: none"> • Provides real-life setting and context • Provides learner with a variety of hands-on experiences • Can provide continuous feedback • Approach can be individualized to the learner • Promotes development of communication and problem-solving skills 	<ul style="list-style-type: none"> • May not include experience with all skills identified in objectives • Requires direct observation by faculty for optimal use • Requires prior student and preceptor preparation and training • Relies heavily on the skills of the preceptor 	<ul style="list-style-type: none"> • Ensure learners are prepared for time spent on their own with patients (have prerequisite knowledge and basic skills) • Integrate patient interactions with the educational process • Train preceptors

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<p>One-to-One, Precepting: Instruction is provided by direct personal interaction between teacher and learner, and may involve giving information, demonstrating, questioning, problem-solving, directing learner’s work, observing and assessing learner’s performance, and providing feedback. In medical education, case presentation is often a part of this process. Ward/bedside rounds involve a similar process involving a group of learners, often at different levels, in an inpatient setting.</p>	<ul style="list-style-type: none"> • Actively involves learner in a natural work environment • Allows for an individualized approach tailored to specific needs of the learner • Provides opportunity for role modeling, demonstration, and observation of appropriate professional habits and attitudes • Provides practice to build skills and problem-solving in real situations with expert supervision, guidance, and the opportunity for continuous feedback • Can foster teamwork and cooperation • Promotes development of verbal communication skills 	<ul style="list-style-type: none"> • Relies heavily on the preceptor being a good role model and having effective teaching, questioning, and feedback skills • Can be hampered by personality conflicts • Can be time-consuming 	<ul style="list-style-type: none"> • Get training to precept and provide constructive feedback • Orient learner(s) and make behavioral and learning expectations and objectives clear • Demonstrate and role model what you are teaching • Identify the level of the learner(s); diagnose learner needs and tailor approach appropriately • Take advantage of the “teachable moment” • Ask open-ended questions to elicit learner’s thoughts and plans, assess understanding, and stimulate/ challenge learners • Provide ongoing constructive feedback • Help the learner apply new ideas and skills • Encourage independent inquiry and self-study
<p>Role Modeling: Intentional teaching strategy in which learners listen to and observe role model performing regular duties of the profession and/or “thinking out loud.” Used to introduce learners to clinical skills and problem solving and help them develop appropriate ethical behaviors, habits, and attitudes.</p>	<ul style="list-style-type: none"> • Can be subtle but powerful learning • Tends to generate high learner interest • Doesn’t require additional planning on part of role model 	<ul style="list-style-type: none"> • Relies on learner identifying with the model • Role model who does not effectively represent desired behaviors can send the wrong message 	<ul style="list-style-type: none"> • Be aware that this occurs unconsciously as well as intentionally and consider what is being communicated • Connect learning to objectives • Make thinking visible to the learner during the learning experience
<p>Standardized Patients: Use of actors trained to portray a specific patient role in a consistent and accurate manner to act as a “real” patient would, react differentially depending on behavior of the health professional in training, and to assess learners and provide appropriate feedback</p>	<ul style="list-style-type: none"> • Can closely imitate reality • Provide opportunity for focused learning • Can be used when “real” experiences are not available or would be potentially harmful to the patient • Can provide standardized stimulus for learning and assessment • Can provide opportunity for feedback to the learner from the “patient” perspective 	<ul style="list-style-type: none"> • Is costly and time-consuming to hire and train standardized patients • Using standardized patients can be logistically complex and require considerable support 	<ul style="list-style-type: none"> • Develop standardized training for standardized patients • Monitor the quality of standardized patient portrayals and feedback