Learnopoly Learning Activities

The following represent some common categories of active learning strategies. Try a few of them in your next training event, whether in the classroom or online.

Discussion

Use a discussion to engage learners to think more deeply about the learning content and its relevance to them.

Open discussions have few rules and seek to discover the ideas and experiences of learners.

Structured discussions meet targeted learning outcomes by having more guidelines. Rules can restrict the topics, tell when and how to make contributions, require responses to questions, stimulate debate, or force work toward a planned conclusion or decision.

Example: Divide learners into two groups and have one group represent meteorologists and the other represent public officials responsible in severe weather situations. Each group discusses what they need and can provide the other, then get back together to share their results to see how they match.

Case Study

Use one or more representative case studies to engage learners in practicing data utilization, interpretation, analysis, decision-making, and/or communication skills. Using multiple cases can help to reveal key variables in the situations learners will confront.

Example: After reviewing the ingredients of severe convection, present a series of cases of increasing difficulty and ask students to judge the likelihood that severe convection will result.

Individual Project

Use a project to help each learner integrate knowledge and skills, to develop critical thinking and communication skills, and to develop self-direction and discipline.

Projects might include research, report writing, data gathering and statistical analysis, trying a new technique, or creating a local application or case study.

Example: Ask learners to choose an aviation weather hazard that is particularly difficult to forecast in their area. Their task is to find published resources or other evidence to propose revisions to guidelines for local forecasters.

Simulation and Role Play

Use a simulation that calls for authentic decision-making in realistic conditions, including representative, but limited, data and limited time.

Simulation can be technology-rich and highly realistic, or it can be simple and imaginative.

Role-play is a form of simulation in which a group of learners pretend to be in a situation and take on the roles of people with differing needs, goals, and tasks in order to learn how to respond in such situations.

Example: Create a scenario in which the weather is changing rapidly from the issued forecast and could result in a frustrating and dangerous weather situation for aviation customers. Have learners take on the roles of forecaster, air traffic control, and neutral observer. They have to practice good communication skills at the same time they must analyze and update their forecasts. Then all learners debrief on what happened in the simulation.

Collaborative Decision Making

Learners collaborate in exploring complex problems by analyzing information, drawing conclusions, generating solutions and making decisions.

Provide guidance, but do not give the process a rigid structure. Allow room for creative freedom and evolving team dynamics.

Example: Have learners determine a list and sequence of data products to view to help them develop a forecast for one or more specific weather situations.

Practice Exercises and Problems

Use numerous small-scale problems to provide many opportunities to practice using knowledge and skills. Numerous problems can help learners internalize skills for rapid application. The exercises should emphasize varying situations or conditions and may be of increasing difficulty. They can include laboratory exercises, math problems, and other short practice exercises with objective answers.

Example: Present sets of 10 satellite products and for each set, ask learners weather which products indicate atmospheric dust, low level clouds, significant rainfall potential, etc. Provide feedback after each exercise set of 10.

Socratic Lesson

This specialized form of discussion is built around a series of questions that guide learning. The teacher may present information in the process, but learners make the primary contribution as they provide and critique answers. The teacher establishes a direction, but does not fully presume the outcome of the discussion.

A Socratic Lesson is more than few embedded questions within a lecture. The pervasive questions help learners systematically deepen their understanding by revealing their assumptions and alternative perspectives. The questions either reveal increasing levels of complexity of an issue or topic or they help to uncover fundamental principles and definitions. The choice of questions should be determined by the answers learners provide in previous questions.

Example: The teacher provides a series of example cases of atmospheric phenomena that illustrate a proposed conceptual model. Students must determine the defining characteristics of that conceptual model. The examples include some outlying examples that challenge the model or provide misleading cues. One outcome could be rejection of the model.

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