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TEACHING & LEARNING ACTIVITIES

Teaching:

Teaching involves a set of activities called teaching acts, teacher behaviors and a number of variables that form part of the teaching process. A theory of teaching must provide a framework for the proper planning, organization and control of the teaching tasks or teacher behaviors and manipulation of all the involved variables in order to realize the stipulated educational objectives effectively, it must help the teachers to bring about desirable behavioral change, in their students and actualize their potentialities to the maximum. Teaching must provide an answer for all questions relating to teaching for effective learning. Different teaching methods like lecture method, demonstration method, inductive–deductive method, heuristic method, problem solving method, project method, etc., are used for presentation of the subject matter to the students. Any method which teacher uses is always selected and directed to serve the purpose of presenting the subject material as effectively as possible. Models of teaching have been developed to help a teacher to improve his/her capacity to reach more children and create a richer and more attempts to create efficient systems by sequencing learning activities and shaping behavior by manipulating reinforcement. Advanced Methods of Teaching is such a bunch of information which helps both teacher as well as students to grab the required learning activities

Teaching is a complex social phenomenon. It is influenced by the social factors; the social and human factors are dynamic. Teaching is both an art as well as a science. Comparing to the practice of medicine, it is an art, as it needs talent and creativity. Like medicine, it is also a science as it involves as repertoire of techniques, and skills that can be systematically studied, described, and improved. A good teacher like a great doctor is one who adds creativity and inspiration to the basic repertoire. Teaching is a professional activity involving the teacher and the student and which results in the development of the student. Teaching is what a teacher does with his student for causing the latter to learn something. Teaching is a system of actions, which are varied in from and are related to content and pupil behavior in context with the prevailing physical and social condition. Teaching is highly dominated by the skill of communication. The flow of communication within the teaching elements like teacher or sources of teaching, student and the teaching activities make teaching a reality and a success. Teaching may have various forms like formal and informal, formational or informational, directional or instructional, teaching conditioning or indoctrination, telling, showing or doing, descriptive or remedial etc. Teaching is a specialized task and may be taken as a set of component skills for the realization of a specified set of instructional objectives. Teaching is amenable to scientific observation and analysis. What is going on in teaching, in a teacher can be observed, analyzed and assessed through teaching behavior, student-teacher interaction and the changes brought in the behavior of the Students. Such analysis and assessment may provide essential feedback for bringing desirable improvement in this process.

Relationship between Teaching and Learning:

Learning may be defined as a relatively permanent change in behavior (excluding the influence of growth, maturity or lesion). The teaching process is also related to realize the same objective as may be clear from the definition of teaching “activities that are designed and performed to produce change in student’s behavior” relates teaching process to realize the same objective. It can be concluded that teaching consists of all those activities or system of actions that are intended to produce learning. However, cause and effect relationship does not exist between teaching and learning. It is not essential for a teaching to be ended with some or other types of learning. Similarly, for learning it is not essential for a learning to be initiated or handled by some or the other type of teaching. Learning may also take place without involving the formalities of teaching process. Whenever a teacher teaches something to his class, his teaching intends to produce learning or bringing relatively permanent changes in the behavior of the students. But it is not guarantee that what he intends will be fully realized. It may be possible that the learning outcomes for the whole class or some particular students may be absolutely nil. Similarly, if one decides to learn something, it is not essential for a teacher or teaching formalities. It can be learnt through experience, self-study or self-learning. Teaching is an interactive process involving interaction between teachers and taught but learning may be purely one-sided activity needing no interaction.

Active Learning

Active learning is based on constructivism, a learning theory that asserts that learners construct their own understanding of a topic by building upon their prior knowledge. Implementing active learning therefore means shifting the focus of instruction away from knowledge transmission to learners' knowledge construction through the creation of guided tasks, interactions, assignments, and environments that cultivate deep, meaningful learning. A closely related theory—social constructivism—holds that active learning best takes place when the construction of knowledge occurs in collaboration with others.

So what counts as active learning? Active learning is "anything that involves students in doing things and thinking about the things they are doing" or active learning is defined as “anything course-related that all students in a class session are called upon to do other than simply watching, listening, and taking notes”

Active learning is related to other instructional methods that closely involve students in the knowledge constructions process, including:

- Student-centered learning, where the diverse learning needs of students, rather than the need to push through content, are at the center of the learning process.



- Problem-based learning, where students are given a problem or scenario that requires students to formulate questions, analyze evidence, connect evidence to pre-existing theories, derive conclusions, and reflect on their learning.
- Experiential learning, where students learn by engaging in authentic learning activities, that is, ones that replicate situations or problems they might encounter in real life or in a work situation.

Active learning fosters understanding rather than memorization of facts; it encourages students to apply learning to different problems and contexts; it gives students more autonomy over their learning; and it helps students learn how to learn.

Alternatives to Lecturing

As long as class sizes continue to increase, it is likely that lecturing will be a dominant teaching method in university class rooms. However, there are many different activities that can be integrated into a lecture-based course to encourage the students to engage with the subject material, to facilitate interaction among the students and between the students and the professor, and to revitalize the course by providing a change of pace.

For brief descriptions of a number of easy-to-implement ideas provides more detailed descriptions of activities, including a number of relatively structured activities, along with their time requirements, special features, implementation procedures, and function in the course. The activities are:

- Questions
- Pro and con grid
- Debate
- Guided analysis
- Case study
- Field trip
- Role play
- One-minute paper
- Ungraded quiz



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Activity 1: Questions

Time requirements: Varies

Special features:

Questions are the simplest form of interactive teaching tool. They are useful in any discipline. They can help make students active learners and gauge their level of interest and comprehension.

Procedure

- Develop key questions before class. They will not occur to you on the spot.
- Decide when you are going to ask them. Thinking ahead also allows you to plan your time.
- Ask questions that can be answered, but favor open-ended questions over yes/no questions.
- Vary the form and level of the questions. Questions that have multiple correct answer or that rely only on general knowledge are good for encouraging participation. More complex questions can be used to gauge student knowledge.
- Ask only one question at a time or you will confuse the students.
- Pause between asking and accepting replies (pausing gives students a chance to think of an answer, and by not asking the first person who raises his/her hand, you encourage quieter students to participate).
- Acknowledge all answers – thank students for participating, repeat their comments so the class can hear and/or write them on the board. This supports continued participation.
- Keep the whole class involved in the question and answer exchange. Move around the room when trying to elicit participation. When responding to a student question or comment, split your attention so that you are focused on the class in general 75% of the time and the student commenter 25% of the time.

Function in the class:

Questions are integral to the success of discussion groups. They can also be the organizing principle behind a tutorial or lecture. During lectures, ask questions early on to stimulate interest and gauge students' level of knowledge; in the middle, to break the pace of the lecture; and/or at the end, to review main ideas and gather ideas for future classes.



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Activity 2: Pro and con grid

Time requirements: 15-20 minutes

Special features:

This technique helps students develop analytical and evaluative skills, and encourages them to go beyond initial reactions to complex issues. It can be used in any discipline: students can evaluate the pros and cons of a procedure, technique, conclusion, action of a fictional character, political decision, etc.

Procedure

- Divide students into small groups, if necessary.
- Specify how many pros and cons you would like each individual or group to develop.
- Allow five to ten minutes for discussion or silent thought.
- Ask for input: write pros on one side of the board and cons on the other side.
- Combine pros and cons that are very similar, and count the number of times they recur to show their perceived importance.

Function in the class:

Consider using the pros and cons as the basis for a debate or for a discussion/lecture structured around the evaluation of course material.



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Activity 3: Debate

Time requirements: 15-25 minutes

Special features:

Debates can be formal or informal: what follows is about informal debates (i.e., debating as a method of class discussion). See Bean (1996) for instructions for holding a formal debate – a much more complicated and lengthy process that can be a focal point for an entire segment of course material. A debate is a good way to encourage class participation in large groups without losing control, and they can work in any discipline. Instructors can plan debates beforehand, or they can emerge spontaneously from classroom material.

Procedure

- Describe the background context, and explain why you are having a debate.
- Consider establishing ground rules for the discussion (ex. Disagreements are welcome, name calling and interruptions are not).
- Decide on the two (or more) sides to the debate.
- Physically group the class according to points of view: either assign students a point of view depending on where they sit, or ask people who want to argue each point of view to move to sit together.
- Invite someone from one side to begin the debate by stating his/her point of view.
- Invite someone from the other side to state the opposite point of view.
- Open the floor to comments that question or expand on the issues that were raised.
- For large groups, you may want to have speakers raise their hands while you moderate, but for small groups, anyone can speak up.
- The debate will probably start slowly at first, but the intensity should pick up as the students become more comfortable with the new style of in-class interaction.
- You, as moderator, can ask provocative questions, but don't express judgment on any point of view or students will hesitate to bring out new ideas for fear of being embarrassed.
- After 10 to 15 minutes of debating, end the debate.

Function in the class:

Use ideas and conflicts from the debate to lead into your presentation of course material.



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Activity 4: Guided analysis

Time requirements: 30-50 minutes

Special features:

This technique helps students develop their analytical skills in any field by observing your analytical skills in action.

Procedure

- Select a document (a short review, section of computer programming, poem, proof, chart, abstract from an article, news item, etc.) to analyze as an example.
- Make enough copies of a similar document to distribute to all class members or to small groups (depending on your preference).
- Perform an analysis of your document in front of the class, making clear the procedure you use to reach your assertions, and using visual aids and supplementary material as necessary.
- Give students five to ten minutes to analyze their document: the conclusions they reach will be their own, but they will have learned rigour and analytical skills from you.
- Depending on class size, have students (or representatives from small groups) present their analysis, and respond to each one.

Function in the class:

An entire 50-minute tutorial or lecture can be structured around this exercise. Consider leading into the exercise with a mini-lecture on the type of document you and your students will be analyzing.



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Activity 5: Case study

Time requirements: 20-50 minutes

Special features:

The case-study method was pioneered at the Harvard law and business schools. Business and law cases tend to be very detailed and long, and take several classes to analyze, but instructors can apply a simplified case-study method (described below) for teaching in many disciplines. Applying theory to an instance as described by some source material can demonstrate the applicability of the course material beyond the classroom. A good case study:

- Presents students with a situation they can relate to from their own life experience.
- Includes realistic information. Examples can include scripts of exchanges that took place between key parties, news articles about situations of interest, background information about the organization of interest, etc.
- Has a conflict that students can resolve.
- Procedure
- Get source material (short story, news articles, account of a decision or procedure, video, role-play script, etc.) to use as the basis for the case study.
- Provide students with a focus or framework to use in doing their analysis.
- Give students time to analyze the case individually or in groups, and to write down their analysis.
- Begin a discussion of students' analyses.
- Act as a mediator of the discussion. Do not offer your own opinion except to provide guidance on the process (remind students of the framework if discussion becomes unfocused).
- After analysis has been completed, show how the case study illustrates application of theoretical or background concepts in course material.

Function in the class:

Use a case study to lead into a discussion or lecture of course material, showing its relevance by referring back to the case study.



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Activity 6: Field trip

Time requirements: At least 50 minutes; preferably a couple of hours

Special features:

A field trip can be especially interesting for students and instructors, and it facilitates some types of learning that cannot take place in a classroom. A field trip to a professional institution can show students where their studies may lead them. A field trip for the purpose of gathering data can give students practice with research techniques and show them the relevance of course material to the outside world. Some courses or departments require field trips which you will have to lead. In other courses, you might be able to consider short field trips during your discussion groups or tutorials to locations on or near campus. For example:

- For an engineering course, consider arranging a tour of one of Waterloo's lab facilities
- For a sociology course, consider sending students to observe the working conditions of various jobs on the Waterloo campus.
- If leaving the classroom is not feasible, consider using media such as videos or computer simulations as "virtual" field trips.

Procedure

- Prepare for time constraints, bad weather, and other misfortunes.
- Look at past course outlines or notes to gather ideas for where to go.
- Communicate a clear "mission" of the field trip to the students.
- Research shows that students learn more from field trips in which they are not simply observers: encourage students to participate in their surroundings by giving an assignment that must be accomplished using data from the field or notes from a visit.
- Taking effective field notes and identifying the key points of a field trip can be hard: consider giving students a worksheet allowing them to do a self-guided tour – include questions to be answered.
- During the class before the field trip, have a preparatory session: discuss practical matters (dress, safety, equipment to bring) and the academic background to the field trip.
- Very important: allow enough time for debriefing (discussing and processing data obtained on the field trip) as soon as possible afterwards.

Function in the class:

Generally, an entire class will be spent on a field trip. Classes before and afterwards can be used to prepare for and process the trip. A field trip can provide a good focus for a segment of course material.



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Activity 7: Role-play

Time requirements: 20-30 minutes

Special features:

Role-plays can be used to allow students to experiment with different styles of interaction, practice new communication techniques or explore complex issues. They are generally used in classes dealing with social issues (social sciences, management sciences, etc.) or communication strategies (interviewing techniques, conflict management, etc.). If possible, participate in a role-play yourself before trying one in class. Essentially, a role-play is a form of interactive case study where the experience of participating in the role-play is the basis for further discussion.

Procedure

- Get scenarios and characters for role-plays from news stories, history books, generic business situations, or by writing them yourself from scratch.
- Explain why you are using a role-play to cover course material.
- Describe the background context or setting to the role-play.
- Give roles to “players”: hand them a card with a brief description of the character they’re playing, their point of view, characteristics, etc.
- For groups with more students than possible roles, you can either assign “observer” tasks to non-players (e.g., taking notes on a particular player), or assign identical roles to subgroups of students (e.g., one student can play a city council member, and a sub-group of four or five students can play a homeowners’ coalition).
- Ask for volunteers for certain roles or observers: you may use this as one way to allot bonus points to students.
- Allow a few minutes for students to prepare for their roles.
- After 10-15 minutes, end the role-play.

Function in the class:

Debrief and discuss the role-play. Use players’ perceptions and observers’ notes to lead into discussion of course material. Pay special attention to conflicts, ambiguities, etc.



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Activity 8: One-minute paper

Time requirements: 3-5 minutes

Special features:

The one-minute paper and the ungraded quiz that follows are both examples of ungraded, written, in-class activities (see Davis, 1993 p. 209-212 for more options). These activities are a flexible way to acquire candid feedback on the course material and your presentation style. The one-minute paper can be done especially quickly and it shows students that they can write quickly and spontaneously, and enhances general writing ability.

Procedure:

- Give a prompt for the paper such as “what was the most important concept of this lecture?” or “what was the muddiest point of this lecture?”
- Give students one or two minutes to think about the topic without writing anything.
- Give students a short period of time (1 minute?) to write as much as they can.
- Collect papers (depending on the class atmosphere and the types of questions used, you may ask students to put their names on them but generally these ungraded assignments are left anonymous to encourage open responses to the questions.)

Function in the class:

Assign one-minute papers at the end of a class to gauge comprehension, provide general writing practice, and give students an incentive to absorb and comprehend course material. Consider using the content of one-minute papers to plan content of upcoming classes: when students see that the instructor responds to their concerns, confusions, and questions in future classes, they will be motivated to participate.



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Activity 9: Ungraded quiz

Time requirements: 5-10 minutes

Special features:

An ungraded quiz encourages students to pay attention during lectures by presenting them with a short-term, non-threatening learning objective. It can be done very quickly, and provides you with a source of candid feedback on students' knowledge level.

Procedure:

- Write question(s) on the board, overhead, or handout
- Give students five to ten minutes to respond on a blank sheet of paper (depending on the atmosphere in the class, you may keep the quiz anonymous or ask students to put their names on papers)
- Collect papers and report on responses next time the class meets
- One variation: Prepare multiple-choice answer options and present each one in turn, asking for a show of hands
- Another variation: Before (or instead of) collecting quiz papers, have students exchange and "grade" each other's quiz papers based on the answers you present. This grading is to allow students to provide the students with timely feedback so that they can gauge their understanding and should not be used as a formal assessment.

Function in the class:

Use ungraded quizzes at the beginning of a lecture to determine the level of knowledge, or at the end of a lecture as a review and incentive for students to retain and comprehend information. Alternatively, use an ungraded quiz at the end of a lecture to gauge how successful you have been in teaching the material.



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