Problem-Based Learning

Problem-Based Learning (PBL) is an instructional strategy where the learning is centered on a problem that the students have to solve. It differs from traditional instruction in that the problem is given to the students before instruction. PBL is generally associated with collaborative learning, because students are often put into groups where they work on the problem together.

The instructional reason for using problem-based learning is that it actively engages the student in the learning process. Problem solving is the highest level of intellectual skill, and in order to solve problems, students must seek out and learn the prerequisite concepts and rules.

A typical model for designing a PBL class is:

1) Divide the curriculum into 5 or 6 units, and determines what types of problems the students should be able to solve after that unit. Consider these the “objectives” for the unit.
2) Write a problem(s) for each of the units. In most cases PBL is based on “illstructured” problems – that is problems that may have multiple “correct” answers.
3) Determine what resources are available to the student to solve these problems. If information literacy is one of the objectives, plan with a librarian for a student orientation to electronic references.
4) Determine how you will have students present their answers (group reports, individual papers, BLOGS, WIKIS, etc.) and how you will grade student solutions to the problem (see resource on rubrics).
5) Determine how you will grade group participation, e.g., peer evaluation, and what percent that will count in the course grade.

Suggestions for conducting a PBL activity:

1) Prepare the students for a different class culture. Students should be informed of your instructional philosophy, how the class will be conducted, what they are expected to do, and how they will be graded.
2) Help the students work through the first problem, modeling how you might do it. This experience will be new for some students, and they will need a model. Be available as a resource.
3) Part of PBL is learning how to find relevant information. Help the students find the resources they need rather than giving them the answers.
4) Give the students class time to work as a group. There are many resources on how to construct effective collaborative learning groups (see the resource paper on Team-Based Learning).

5) After the groups report their solutions, provide feedback about the quality and completeness of their solution. Remember the thinking and rationale that went into the solution is as important as the solution itself.

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