

Cooperative Learning

Interacting with others cooperatively is an obviously needed skill in the present century. Work, communication, travel, and education all demand various forms of cooperation. The cooperative learning methodology found in schools since the 1980s is an invaluable tool in the age of standards-based education. As a method, cooperative learning is a carefully structured procedure in which students are held accountable for individual contribution to a group project.

Various designs teach that the group as a whole is stronger than the sum of its individual members. Positive interdependence is structured by having mutual goals, shared resources, and assigned roles.

Examples of skills taught through cooperative projects are joint planning, decision making, deferring judgment, consensus building, listening, formulating good questions, learning to ask for help or give assistance, giving and receiving directions, and sharing materials. All these skills are needed in the everyday work world.

Supplementing intellectual growth with both social and personal development pays long-term dividends in knowledge utilization. Group assignments, for instance, help students combine prior knowledge with new knowledge, and re-form knowledge based on new input.

The various common models of cooperative learning such as jigsaw, group investigation, think-pair-share, or teams-and-games allow individual student learning styles to be integrated into the classroom. Research by Slavin indicates that simply grouping the middle and the upper classes of students will produce achievement as high as that achieved by the upper-level students alone (Slavin 1991).

Interdisciplinary Learning

The explosion of knowledge, increased state mandates for specific information to be taught, concerns about curriculum relevancy, and the lack of meaningful connections among school subjects have produced an artificial curriculum in schools. Interdisciplinary learning can provide a context for standards-based instruction. Global interdependence and the interconnectedness of complex systems compel curriculum leaders to find some way to pull these disparate elements together.

Interdisciplinary learning, sometimes called integrated study, occurs when students explore knowledge as related to certain aspects of their environment. Cutting across traditional subject areas and organized around real-life themes, the curriculum is meaningfully associated with the broad goals of education. Such content-rich and skill-rich curricula develop a learner's power to create new models, systems, and structures. Interdisciplinary instruction prepares students for lifelong learning.

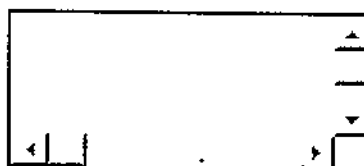
Problem-Based Learning

Schools are moving the curriculum toward the application of knowledge using problem-based learning (PBL). These curricula purposefully create scenarios and ill-structured problems based

on desired curriculum outcomes (skills, knowledge). The student is led to actively define the problem and construct potential solutions.

Effective problem solving is a goal of almost every standards-based document (SCANS, for example), and most district goal statements allude to the need for critical- thinking and problem-solving skills (California Frameworks in Math and Science).

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Producing effective problem solvers in the new information age is a primary goal of education.

Students working in PBL environments learn to define problems clearly, develop alternative hypotheses, access and evaluate data, alter hypotheses to accommodate new data, develop solutions that specifically fit problems, and so forth. The Internet is a perfect connector of the problem and the information that can serve as a solution. The imperfect problems, and the imperfect solutions developed by students using PBL, mirror the real world in which we live.

Mentoring

Mentoring programs come in all shapes and sizes, with the most common being a way of assisting poor learners in elementary and middle schools. Another is to have adults as work partners in a problem-based curriculum. Adult mentors can provide a time perspective to tasks as well as involve the community with the school and its students.

The world outside school operates much differently than that inside a school. Real-world problems and solutions are often moral dilemmas calling for choices and compromise. The real world is more technological than the school world and a lot more interdependent. Values often define choices in the real world, and such values are often the result of long-term experience.

Mentors who have undergone training are usually good listeners. They can dedicate time to helping students see relationships, and they serve as extensions of the student into the outside adult population. They are usually willing to share their life experiences and are sometimes open to learning new things themselves. Most mentors like young persons, and they are volunteering their most valuable commodity—time.

Service Learning

New on the scene is something called service learning, which in another time might have been called community work. Service work connects classroom learning to real-world experiences and makes students more aware of their surroundings. Research suggests that service learning can make a student more altruistic and caring. The development of interpersonal skills through service-learning projects cannot be overstated. Research suggests fewer disciplinary referrals, higher trust of adults, and a greater acceptance of cultural diversity (Billing, 2000).

There is significant evidence to suggest that students who participate in service-learning activities show gains on achievement tests in reading and basic skills and earn higher grade point averages. Schools using service learning on a regular basis report higher attendance and stronger student motivation. The impact on communities where service learning has become part of the curriculum is positive. In these environments, students are perceived as valued resources and contributing members of the community.

In summary, curriculum work in a standards-based era is not just about high-stakes testing. Knowledge acquisition or skill development alone is not adequate preparation for the rapidly changing world of the 21st century. Your author believes that the role of curriculum workers is to enliven state-mandated or national standards curriculum by working directly with teachers in the classroom. Accepting the notion of multiple intelligences; understanding learning styles; differentiating curriculum delivery; employing cooperative learning in classrooms; using interdisciplinary teaching,



can all direct standards toward utilization.

Curriculum Assessment

Given these many new approaches to “teaching and reaching” students, the concept of curriculum assessment has become important for the sake of accountability. Curriculum assessment, or curriculum-based assessment (CBA), means “measurement (observing and recording) of student performance as a basis for making instructional decisions.” Undergirding the concept of curriculum assessment is the idea that what is being taught should be what is tested—direct and repeated assessment of academic target behaviors.

In curriculum assessment, student responses are measured for speed and proficiency. From these data, proficiency or performance criteria are established to determine acceptable levels of student mastery. A checklist, or rubric, is developed by the teacher and is used to assess student work. Finally, these student results are used by the teacher to plan further instruction.

In the word of Grant Wiggins (*Understanding by Design*), “Teachers adopt a practice of beginning with what they want a student to do and then create assessments, lessons, units, and the curriculum accordingly.” Using such assessment, regardless of the instructional design, allows both teacher and student to communicate clearly on what is to be learned.

The most common type of student assessments are performance, projects, and portfolios. Performance assessments tend to be dominated by real tasks conducted by students or short-answer or extended answer exams based on that student work. Projects are designed to measure skills learned by the student. Portfolios are collections of student work, often selected by the student. The state of Vermont has adopted the portfolio approach statewide.

OLD ISSUES, NEW IMPEDIMENTS

Obviously, many choices face those who plan educational programs, wherever they might be, and these choices address major issues reflecting bedrock values. The scope of school programs, their purpose and organization, the focus of their delivery, and many other issues remain largely unanswered. Contrast the following list of questions compiled by Thomas Briggs in 1926 with those being asked today:

1. What are the desired ends of education? 2. What is the good life? 3. To what extent shall education modify the character and action of future citizens? 4. For what ends are the schools responsible? 5. What subject areas are most vital in attaining these ends? (p. 20)

Questions such as these encourage, as they always have, debate, inquiry, and experimentation in education. Curriculum has developed as a field of inquiry to study such issues and to translate what is learned into viable educational programs. In the new age of technology, it is vital that curriculum personnel continue in this role of questioner.

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