Teaching Kids Logic, Problem Solving, and Teamwork to Build a College Going Culture

Program
Future Problem Solving Program International (FPSPI) based in Melbourne, Florida

Technologies
- Internet for research
- E-mail for communication between coach and team members

Cost
$90 to $5,000, varying by state and program. Local competition fees vary by state, but usually start at $90 for a four-person team. Schools may incur additional costs by paying a teacher and coaches for the program (many do not). State and international competitions can add additional entry fees, as well as travel, lodging and meal costs. Costs may be covered by the school, parents, business sponsorships, or some combination.

Need
Students at Fairview South School in Skokie, Illinois, needed to go beyond standardized tests and develop writing, problem-solving, and critical thinking skills. Bernice Davis, then the gifted-reading teacher, introduced Future Problem Solving Program International as an after-school activity in 1990. Students in grades 5-8 participated. "I wanted something academic, but that would connect children to the real world," said Davis, who retired in 1999 and now serves as an FPSPI media coordinator.

Description
Students in grades 4-12 use the six-step model to solve complex social problems, which this year include space junk, child labor, and pandemics. The steps are:
- identify the problem
- select an underlying problem
- propose potential solutions
- generate and select criteria
- apply criteria to solutions
- develop an action plan

Internet research on topics is vital. There are three main competition categories: individual, teams of four, and scenario writing, in which students compose futuristic stories about the year's topics. There's also the noncompetitive version for the classroom, called action-based problem solving, as well as community-based problem solving, in which students apply the process to real problems in

their community. More information can be found at http://fpspi.org/SiteLink.html. More than 250,000 students each year compete in FPSPI bowls in nine countries, including Australia, Japan, New Zealand, and the United States.

Evolution
Fairview started the after-school program for gifted students in grades 7 and 8 and soon expanded it for grades 5 and 6. Students participated in qualifying bowls and advanced to both state and international competitions. Davis also introduced action-based problem solving in the classroom.

Results
The school had winning teams at the state level every year during Davis' tenure from 1990-99. Only two students of several dozen in gifted classes chose not to participate. Students' writing in the classroom improved, particularly in clarity and ability to make an argument. They became skilled online researchers. The program helped improve student confidence and teamwork. Overall, it helped build a college-going culture in the classroom. Students who participated used problem solving in Advanced Placement classes in high school and to earn scholarships for college. "It's something to hold onto, refer back to," Davis said of the process.

Problems and Solutions

- Fairview school officials were skeptical of adding another activity. Davis had many one-on-one discussions with the principal and superintendent. She never asked for a stipend to cut down on program costs. She presented quantifiable results each year with the students' performances at FPSPI bowls.
- Fairview found that it was a challenge to get kids motivated for FPSPI after a long day of school. Davis made sure to bring plenty of snacks and let kids work on scenarios on the floor and in the hall to create a more relaxed setting.

Secrets to Success

- **Get parents involved.** Many parents learned the six-step process and served as coaches. They were invested and willing to make the long trips for the state and international bowls. And they were vocal advocates to school officials to keep the program afloat.
- **Tailor it to your students through differentiated learning.** In the classroom, solve problems that are interesting to kids. Some schools introduce the noncompetitive program in first grade and do scenarios with familiar fairytales such as *Jack and the Beanstalk*. Davis has implemented the program with learning-disabled students in other schools with great success. She has found that the problem-solving steps help students

focus both in the classroom and in their everyday lives. Everyone encounters problems and FPSPI provides the tools to solve them.

- **Get the community involved.** Local governments, businesses, and organizations can help fund the program. A unique feature of the community problem-solving program is that students can give back and help solve problems in the community using the process. This give-and-take can foster strong relationships.
- **Warning**
  Teachers who implement FPSPI in the classroom still have to prepare students for standardized tests under No Child Left Behind and teach the district curriculum. Fitting in problem solving can be a challenge and there is increasing pressure in many districts to mold learning to standardized tests, as school funding can hinge on the results. However, many teachers found the benefits of teaching their students logic, problem solving, and teamwork important enough to differentiate their instruction to implement FSPSI.

Tip
Once you establish the program, have older students who have been through competitions act as mentors to younger students. This is one of the most effective ways to teach FPSPI concepts and presents new challenges for experienced problem-solvers.

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