

The FUTURE PROBLEM SOLVING Program

by Katherine Hume



My first experience with the Future Problem Solving Program (FPSP) was in 1986. As the director of the newly formed Kentucky Association for Academic Competition, I was charged with the task of locating and organizing an interscholastic competition entitled "creative expression." The Kentucky Association of School Administrators, together with other education leaders, the Kentucky Department of Education, and the governor's office, organized a multifaceted statewide academic competition. The task force saw the need and value in offering activities that appealed to a wide variety of students, particularly the gifted. While not identifying the structure of the creative expression event, it was clear that the goal was to encourage creativity among the participants.

The Future Problem Solving Program was a perfect fit, offering creative problem-solving activities and competitions for students in grades 4-12. Not only does FPS encourage creativity, but it also provides several different opportunities to explore and develop creativity, allowing students to interact with other high-potential students of similar and diverse interests.

Dr. E. Paul Torrance, internationally renowned for his work in creativity and gifted education, developed the Future Problem Solving Program in 1974. Dr. Torrance designed a set of classroom activities to challenge young people to think more creatively about the future. FPSP teaches students how to think. Through FPS students examine their world in constructive ways and explore strategies for facing the future. In focusing on the future, FPSP encourages students to forecast alternative futures. Creativity is inspired as students generate new innovative ways to solve challenges and adapt to the future.

Millions of people every week, all over the world, attend sporting events, cheering on their favorite players and teams. Just as we provide opportunities for athletically gifted students, children with strengths and talents in other areas also need creative outlets. We can offer unique opportunities for children to exercise their minds as well

as their muscles, to experience the excitement of competition, and quite often to excel in a particular way. As a parent of two gifted children, the youngest of whom is now a senior in college, I was constantly on the lookout for activities they might enjoy, and that would both interest them and encourage their creative aptitude. It was not an easy task!

The goal of the Future Problem Solving Program is to help all students become effective problem solvers, as members of a group and as individuals. FPSP provides opportunities for competitive success and community accomplishments. Future Problem Solving actively involves students in engaging and enjoyable activities that teach and promote critical and creative thinking. The problem-solving process taught in FPSP is a valuable life skill that students will continue to use far beyond their competitive endeavors in FPSP.

Countless former FPSPers offer testimony as to how they continue to use their FPS training in college and graduate courses, as well as in business and industry. A coach recently shared a letter from a college freshman, who recounted how her psychology professor presented a 90-minute lecture on the value and need for effective problem-solving skills.

There are 41 Future Problem Solving Programs throughout the United States, Australia, and New Zealand. The FPSP Affiliate Programs are administered by an affiliate director who coordinates FPSP activities within a state or geographic area. In areas without an Affiliate Program, FPSP offers participation in the Open Division, administered by the FPSP International Office. Each year more than 250,000 students participate in FPSP interscholastic competitions.

The Future Problem Solving Program is open to all students in grades K-12 or equivalent school year levels. A school affiliation is not required to participate. Many gifted and talented programs incorporate FPSP into the curriculum. Other schools offer FPSP as an extracurricular activity. Problem-solving skills and responsible group membership are included on every school reform mandate, and FPSP is the perfect vehicle to accomplish both of these goals.

There are four components in the Future Problem Solving Program: Individual Problem Solving, Team Problem Solving, Scenario Writing, and Community Problem Solving. Students or teams participate in one of three divisions: junior division (for grades 4-6), middle division (for grades 7-9), and

senior division (for grades 10-12); these generally span ages 9-19.

TEAM PROBLEM SOLVING

Team Problem Solving is a competitive yearlong program for students in any of the three age divisions. Each year we present five topics for research and study, in which the students tackle social, scientific, political, economic, or technological issues. The FPSP topics for 2001, determined by students, include tourism, water, world population, habitats, and global independence.

In the Team Problem Solving component, students conduct research on the topic to gain background information and to understand how or why this topic is important for the future. The team then receives a future scene or imagined future. The future scene is a "What If..." situation and presents a glimpse of what might be happening in relation to the topic in 20 to 40 years. The four-person team applies its research as it moves through the six-step FPS process. Teams explore challenges as they refine their skills in both critical and creative thinking, select one problem area to address, produce unique solution ideas, develop criteria to evaluate their solution ideas, and develop an action plan to resolve their specific problem.

Under the guidance of a trained coach, students master the FPSP Six-Step Model:

1. **Identify Challenges.** The team generates 20 challenges or issues related to the future scene
2. **Select an Underlying Problem.** The team focuses on one problem area from their list of 20 to solve.
3. **Produce Solution Ideas.** The team generates 20 solution ideas to address their Underlying Problem
4. **Generate and Select Criteria.** The team creates criteria to evaluate the merit of their 10 best solution ideas.
5. **Apply Criteria to Solution Ideas.** The team evaluates their solution ideas using their criteria to rank order the possible solutions.

6. **Develop an Action Plan.** Based on their highest scoring solution idea, the team develops an action plan explaining how the solution will work and describing how the problem will be solved.

Students participating in competitive FPSP teams may complete three to five different topics during the course of the year. Students record their responses in a 13-page booklet. The first two topics are practice problems. Teachers or coaches are free to spend as much time as necessary on each of the steps. FPSP encourages coaches to introduce and apply a variety of generating and focusing tools, so the students have different options to stimulate creative possibilities and select innovative and effective solutions. Once a team completes a booklet, they submit their work for evaluation and scoring by certified evaluators. The evaluators score student work on specific criteria, and return it with feedback, including suggestions for improvement.

The third problem, or qualifying problem, is conducted according to competitive standards. Each team has two hours, working without the benefit, help, or presence of the coach, to complete a problem booklet. Evaluators score the qualifying problem booklets, and the top scoring teams in each division receive an invitation to participate in the affiliate program finals.

The first place team in each division advances to the FPSP International Conference where they have an opportunity to compete with approximately 180 teams of finalists from around the world. Invitations to the International Conference are also extended to open division teams based on their performance with a specific future scene. The International Conference features four days of stimulating competitive problem solving, cooperative educational seminars, and social activities. Each year more than 2,000 students and coaches attend the International Conference, which is held on the campus of a large university. The 2001 International Conference will be June 7-10, at the University of Georgia in Athens.

INDIVIDUAL PROBLEM SOLVING

Many affiliate programs offer individual problem solving. In this competitive activity, a student works independently, rather than as a member of a team. Students in this component follow an



abbreviated format of the problem-solving process and identify fewer challenges and solution ideas. The first place winner in each division in an affiliate program is invited to attend the International Conference and compete with other individual winners.

SCENARIO WRITING

Many students demonstrate giftedness—strengths, talents, or expertise—in the area of creative writing. Scenario Writing is especially intriguing and most appropriate for these students. Scenario Writing encourages students to develop and submit futuristic scenarios—word pictures of the future.

As the students gather information and integrate it into their scenarios, they experience personally the impact of applying what they have learned to their own understanding and view of the future. For the purposes of the Future Problem Solving Program, a scenario is a story that might take place as a logical outgrowth of actions or events that took place earlier. It is a prediction of the future and is written as though the future were the present. An FPSP scenario is a short story in which the writer uses character(s) and plot to develop one possible outcome of the future. We encourage students to

use the FPS problem-solving model to examine challenges, select a problem area or conflict, and produce a resolution or plan of action. A participant may submit one scenario per academic year for competitive evaluation. Competitive scenarios are set at least 20 years into the future. They have a recognizable relationship to one of the five Future Problem Solving Program topics for the current year.

Affiliate programs may submit their top scenarios in each age division to the worldwide Interna-



tional Scenario Writing Competition. Winners of the scenario writing competitions are invited to attend the annual International Conference, where these aspiring writers participate in an on-site, spontaneous writing competition based on the International Conference topic.

COMMUNITY PROBLEM SOLVING

Preparing students to face the opportunities and challenges of the world of tomorrow is a major goal of education today, and problem solving through community service addresses that goal in ways that challenge and stimulate students. Students in Community Problem Solving (CmPS) apply problem-solving skills to real-world problems. Students in each division determine an existing problem in their school, community, or state. The Projects represent a variety of categories, such as human services, health concerns, civic and cultural issues, and the environment.

After identifying and understanding the problem situation, teams use the

problem-solving process to generate ideas, develop an action plan, and then implement the plan. Community Problem Solving moves beyond developing a plan of action. It literally puts that plan into action. In effect, problem solving through community service bridges the gap between school and the real world. Community Problem Solving teams can be composed of as few as three or four students or as many as 100. The first place CmPS teams in Affiliate Programs and the Open Division are also invited to the International Conference, where we display the projects and interview the teams about their Community Problem Solving projects, recognizing the Grand Champions in each division as well as champions in each problem category. In addition, we hold a CmPS fair to allow the students to share their projects with the other International Conference participants.

Through Community Problem Solving students:

- Develop creative thinking
- Exercise critical and analytical thought
- Engage in research and evaluate information for truth, clarity, and worth
- Improve verbal and written communication skills
- Determine and use problem-solving tools
- Convert problem solving from the hypothetical to the practical
- Bridge the gap between school and community through involvement
- Increase awareness of and interest in the future
- Develop teamwork skills
- Develop self-confidence
- Implement a wide range of solutions, contributing to their community.

Let's look at two examples of award winning CmPS projects.

"The Return of the Mangroves" is a two-year project by a junior division team from Gemini Elementary School in Melbourne Beach, Florida. "The Return of the Mangroves" aimed at improving the health of the Indian River Lagoon through critical shoreline restoration of mangroves. The PAL (protectors of a lagoon) team increased community awareness of the importance of mangroves

to the health of the lagoon through a student-created puppet show, an original computer presentation to be used by schools or community groups, and through presentations at community activities such as Eco-Fest 99. The CmPS team tracked the planting, growth, and rate of success in the restoration areas. They noted an impressive 90% success rate in most areas. The project was featured on Nickelodeon's "Big Help" as well as on local TV shows and in the print media.

The members of Project S.E.N.I.O.R.S. (Supporting Elders' Needs in Our Rising Society), from Midlothian Middle School in Midlothian, Texas, worked to increase awareness of elders' needs in the community by focusing on the construction of a new senior citizen facility. Through grants, numerous fund-raising events, civic presentations, and letter-writing campaigns, these students raised community awareness as they secured funds for a new facility, all the while fostering relationships with the community's best, nonrenewable resource—its Senior Citizens.

Everyone is a winner in Community Problem Solving. The positive action of

students tackling major and minor projects provides a deep sense of accomplishment and involvement in the world around them. Students discover new talents and abilities through their community service projects. And, more importantly, they learn to be a part of that community.

Students readily testify as to the fun and excitement involved in FPS.

"By competing with the same group of four people for six years, my team members and I became close friends. My fondest memories from high school involve FPSP competitions and working collaboratively with my teammates. We are now spread across the country—one in Colorado, one in Oregon, one in North Carolina, one in Washington, D.C., and one in Minnesota—but we stay in close contact."

As parents, you can be involved in the Future Problem Solving Program in a number of ways. You can serve as the catalyst to organize or expand FPSP in your school. Talk to the principal and gifted teacher about Team Problem Solving, Community Problem Solving, or Scenario Writing. Volunteer to coach or to help a teacher coach. Above all,

encourage and support your child's participation in this outstanding program. A parent of twins in Connecticut who remains involved in FPS although her children are now in college told us: "My children's FPS coach was the first person who understood that my kids were different. She then advocated for them, encouraged them, challenged them, and kept me sane for ten years.

She helped me understand and appreciate the special attributes of the gifted and talented, which is the group served by our school's FPS program."

Just before my daughter graduated from college, I stumbled upon a unique pen and ink drawing with a very special verse. "We give our children two things...Roots that they might grow and Wings that they might fly." I think the phrase embodies the characteristics of the Future Problem Solving Program. FPS seeks to give students the problem solving roots so that they might think of new ways to fly. 🌱

Dr. Katherine Hume is Executive Director of the Future Problem Solving Program. For more information about FPSP, visit their website at www.fpsp.org.