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Four Decades of Creative Vision: Insights from an Evaluation of the Future Problem Solving Program International (FPSPI)

ABSTRACT

E. Paul Torrance, a pioneer in creative education, and his associates founded the Future Problem Solving Program (now FPSPI, or Future Problem Solving Program International) in the mid-1970s as a competitive, interscholastic program and as a curriculum project integrating creative problem-solving and future studies. Since its founding, the program has emerged to be international in scope, and has expanded to incorporate multiple components to engage students' creative strengths and talents in varied ways. This report presents highlights of an international evaluation of the program, the results of which support and sustain Torrance's creative vision for education.

The late E. Paul Torrance was a pioneer in the field of creativity; his legacy includes an extensive number of books and published articles (many of which appeared in the pages of this journal), the *Torrance Tests of Creative Thinking*, and the founding of the Future Problem Solving Program. Hébert, Cramond, Speirs-Neumeister, Millar, and Silvian (2002, p. 6) described the origins of Torrance's interest in research and development on creativity:

Torrance's interest in creativity can be traced back to 1937 when, as a counselor and high school teacher in rural Georgia, he was struggling with some difficult students. Torrance concluded that many of the students were sent to this boarding school by their families because of their off-beat ideas that were untolerated by their former teachers. Torrance noted that many of the most difficult students went on to become successful in politics, business, the military, education, the arts, science, and other fields. Sensing their creative potential, he perceived these students as more than problem children.

While conducting research on creativity at the University of Georgia, Torrance began to grow concerned about the overall decline of creativity in American society, as well as the lack of knowledge and concern for the future among young people,

and in 1974, while working with a group of high school students, he tried out an idea that he thought might address both creativity and concern for the future. Inspired by early work on the development of Creative Problem Solving (CPS), he decided to teach the process to his group of high school students to determine if they might learn to think more creatively by combining CPS with future problems (Hébert et al., 2002, pp. 22–24).

Torrance, Bruch, and Torrance (1976, p. 119) described their early efforts as creating “interscholastic creative problem-solving,” or “creative problem-solving bowls” (see also: Millar, 1995, pp. 134–139). Torrance and Torrance (1978) described the foundations for FPSPI this way: “In 1977–1978, the Future Problem-Solving Program, initiated in 1974, emerged as a national program of interscholastic competition and as a curriculum project in creative problem-solving and future studies” (p. 87). Torrance (1994) noted that FPS emerged from the fact that he and his wife, Pansy, “sensed a need for creatively gifted youngsters to develop richer images of the future and to expand their creativity” (p. 33).

From the beginning of the program, Torrance held that “students currently in differentiated programs for the gifted like to think about the future, and believe that there is much that they can do to change it, and to shape it. However, many are doubtful of the influence their actions will have, and believe that examples from the past are the best guides to the future” (1978, p. 75). Torrance’s views about the importance of expanding concepts of giftedness to include creativity, and about the important role of studies of the future in curriculum experiences for gifted and creative students, were also influenced by his own international experiences. In 1982, for example, Torrance described ten “lessons” about developing gifts and talents that he learned during a period of extended observation and study in Japanese schools; they are as follows:

- 1 National commitment to full potential (“full development of the creative potential of each person and the importance of the creativity of each individual”).
- 2 No ceiling on excellence.
- 3 Importance of the arts in the pre-school years.
- 4 Any child may be gifted and talented.
- 5 Materials for young children and their parents.
- 6 Training in group or team creativity.
- 7 Fantasy, persistence, and other creative characteristics.
- 8 Search for ideas from afar.
- 9 Self-directed learning.
- 10 The “long look”—images of the future.

Torrance (n.d., p. 3) described three elements as foundational to the FPS program: “(a) training in a disciplined, systematic creative problem solving procedure,

(b) research on problems of the future, and (c) teamwork skills.” Torrance, Williams, and Torrance (1977, p. 1) stated the rationale for the program as follows:

The most basic skill that can be taught in today’s schools is problem solving.... Because of the rapid worldwide changes, today’s children will live as adults in a world vastly different from today’s world. They will do work of kinds that do not exist today.... An obvious implication of all this is that successful future adaptations are going to call for a great deal of creative problem solving and ingenuity.”

In describing the emerging FPS program, Torrance and Torrance (1978) noted that “it became clear through the 1978 bowl that teams from small towns and rural areas have as good a chance for success as teams from affluent urban and suburban schools. The necessary ingredients are a few creative students, a good teacher, much study of future problems, and practice in problem solving” (p. 88).

From its modest origins in 1974, the Future Problem Solving program (now “Future Problem Solving Program International, Inc., or FPSPI) has grown into a worldwide program, serving tens of thousands of students annually. The Program now involves participants from 41 states in the United States, as well as from Japan, Korea, Singapore, Australia, and New Zealand internationally, five additional countries or regions preparing for full participation through a mentoring process, and several additional countries now preparing for participation (see Treffinger & Jackson, 2009, and Volk, 2007 for additional information).

THE PROGRAM TODAY

As FPSPI approaches its 40th Anniversary, it stands as a “living legacy” to the vision and creative energy of E. Paul and J. Pansy Torrance. It remains committed to its founders’ goal of providing engaging opportunities for young people to learn and apply creative problem-solving methods and tools to significant present and future topics and issues, from their local communities to a global context.

FPSPI PROGRAM GOALS

The program’s currently stated educational purposes are to “motivate and assist participants to:”

- 1 develop and use creative thinking skills.
- 2 learn about complex issues, which will shape the future.
- 3 develop an active interest in the future.
- 4 develop and use written and verbal communication skills.
- 5 learn and utilize problem-solving strategies.
- 6 develop and use teamwork skills.
- 7 develop and use research skills.
- 8 develop and use critical and analytical thinking skills.

PROGRAM COMPONENTS

FPSPi currently includes three major components (as described at: <http://www.fpspi.org/Components.html>), which were addressed in this evaluation; a fourth, non-competitive component, Action-based Problem Solving, was not included in the scope of the present evaluation project.

Global Issues Problem Solving

Under the guidance of a teacher or coaches, teams of four students in Grades 4–12 use the FPS six-step model to explore challenges and propose action plans to complex societal problems, such as fads, financial security, amateur sports, the Internet, and genetic engineering. Teams are divided into three divisions: Grades 4–6 (Junior); Grades 7–9 (Middle); Grades 10–12 (Senior). Teams complete two practice problems and one qualifying problem throughout the school year. Trained evaluators score student work and return it with feedback including suggestions for improvement. The top scoring teams on the qualifying problem are invited to Affiliate FPS Bowls held each spring. The winners of each respective Affiliate FPS Bowl advance to the FPSP International Conference in June. (An optional Individual GIPS competition is offered in some affiliate programs, in which a student works independently on each problem.)

Community Problem Solving

Students apply their problem-solving skills to real problems in their community. A community problem is a problem that exists within the school, local community, region, state, or nation. Implementation of the action plan is included in this component. Students move from hypothetical issues to real world, authentic concerns. The CmPS component is offered for teams, and some affiliates also offer an Individual CmPS competition as well for students who elect to work independently. The top team and individual Community Problem Solving projects are invited to the FPSP International Conference in June.

Scenario Writing

Individual students compose futuristic short stories (1,500 words or less) related to one of the current year's topics. The first place winner in each affiliate program is invited to the FPSP International Conference. In addition, each affiliate director may submit its top three essays to the International Scenario Writing Competition.

EVALUATION GOALS AND DESIGN

In 2010–2011, the Center for Creative Learning conducted an international evaluation of FPSPi. This report provides highlights of the results of that study; for a more extensive technical presentation of the design, results, and analyses of the evaluation, see Treffinger, Selby, and Crumel (2012). The project surveyed key stakeholders in the program to ascertain their views relating to three main topics: (a) the extent to which FPSPi meets its stated goals (i.e., does what it purports to do), (b) the

strengths of the program and areas in which improvement may be needed, and (c) the impact of the program on its participants.

EVALUATION SAMPLE

The evaluation involved gathering data from 633 participating students, 220 coaches, 195 parents, 34 Affiliate Directors, and 48 “alumni” (former student participants in the program), drawing from 34 different affiliates, and included representation from both the United States and international participants in several countries. At the time at which they responded, the average age of student respondents was 13.6 ($SD = 1.9$), ranging from ages 9–18; the median and mode were both 14; 40% were males and 60% female. Approximately, 60% of the students reported having participated in the program for 2 years or longer. Among coaches, 88% were female, only 16% were first year coaches, and 50% reported having 5 years or more of coaching experience. Parental respondents were primarily females (83%), as were the alumni respondents (69%), and Affiliate Directors (85%). Given the program’s decentralized registration procedures, and variation among affiliates in those procedures at the time, it was not possible to ascertain the total size of the population from which a sample might be drawn (i.e., “the universe of program participants”).

Each group responded to a separate web-based survey that included overall program evaluation (e.g., the extent to which the program was successful in addressing its stated goals, and the component’s strength and areas needing improvement), specific questions regarding each of the three program components (Global Issues Problem Solving [GIPS], Community Problem Solving [CmPS], and Scenario Writing [SW] depending on their participation during the current year), and questions specific to their group (e.g., questions specifically addressing the coach’s role or the parent’s role). That is, participants viewed and responded to some questions that were common across all program components, and some that were worded specifically to relate to the program component or components (GIPS, CmPS, and/or SW) in which they reported participating. (e.g., participants in CmPS did not respond to questions about program activities such as Practice Problems or Qualifying Problems, as those were experienced only by participants in the GIPS component, and participants in SW, which is an individual component, were not asked questions regarding teamwork). Some participants were involved in more than one program component; in that case, they viewed and responded to questions for each relevant component, using a “branching” strategy in the web-based survey, based on their reported participation in the components.

EVALUATION RESULTS

The first comparison for each of the sample groups involved *overall satisfaction with the FPSPI program* this year, using a 1–4 scale (1 = “Low,” 2 = “Limited,” 3 = “Moderate,” and 4 = “High”), converted to a percentage of overall satisfaction (based on dividing each average by 4 and expressing as a percent). Table 1 presents the mean rating and percentage of satisfaction for each group. The means and percentages for each sample were greater than 3.0 and the overall satisfaction percent-

TABLE 1. Overall Satisfaction Ratings

Group	Average	As % of 4
Affiliate directors	3.76	94.0
Coaches	3.46	86.5
Parents (Self)	3.31	82.8
Parents (Student)	3.43	85.8
Students	3.34	83.5

ages ranged from 82.8% to 94.0%, indicating a moderate to high level of overall satisfaction with the program among all response groups. The following statement is indicative of the positive attitudes expressed by many adult respondents: “Being an FPS coach was the most rewarding volunteer work I’ve ever done. I had the opportunity to work with terrific students that gave me a positive outlook for the future.”

Responses to an open-ended question regarding what respondents would tell other people about the program were also positive, most frequently describing the program as “excellent” or “great” and recommending it to others (or highly recommending it), although *fun* was the most frequently given response from students. Respondents also noted the program’s strength in several areas: *teaching important life skills*, *developing advanced thinking skills*, and *developing problem-solving skills and creativity*, and students’ responses emphasized *challenging and involves hard work*.

PROGRAM GOALS AND OUTCOMES

Affiliate directors (ADs), coaches, and students also responded to questions that dealt specifically with the program’s goals and outcomes in relation to each of three components of FPSPI (Global Issues Problem Solving [GIPS], Community Problem Solving [CmPS], and Scenario Writing [SW]). The items included: developing teamwork and collaboration (working together, cooperating with each other); developing leadership skills; enhancing the skills of preparing and delivering materials and/or presentations that communicate ideas effectively; showing evidence that team members are able to apply FPS skills in other situations; developing the skills needed to manage time effectively; fostering creative thinking (the ability to generate many, varied, and unusual options); fostering critical thinking (the ability to sort and sift information or to focus one’s thinking); developing research and inquiry skills (the ability to gather information from many and varied sources); using a deliberate process for Creative Problem Solving methods and tools; developing skills in listening and following directions; learning about complex issues that will shape the future; and developing an active interest in the future. The Scenario Writing component’s questions varied slightly (e.g., including writing skills, and omitting teamwork and collaboration). Responses to these items indicated that all three components of the FPSPI program were rated above average or higher in relation to all 12 goals and outcome statements. Table 2 summarizes the five highest rated goals for each program component.

TABLE 2. Highest Rated Goal Attainment By Program Component

Global Issues Problem Solving	Community Problem Solving	Scenario Writing
Complex issues shaping the future	Teamwork and collaboration	Active interest in the future
Teamwork and collaboration	Leadership skills	Complex issues shaping the future
Active interest in the future	Presentation/communication of ideas	Presentation and communication of ideas
Learning a creative problem-solving process	Applying skills in other situations	Expanding and enhancing writing skills
Fostering creative thinking	Making a difference in shaping the future	Thinking and researching futuristically

SURVEY RESPONSES FROM SEPARATE GROUPS

This section provides highlights of the evaluation responses from the key stakeholder groups: Affiliate Directors, coaches, students, parents, and program alumni.

Affiliate Directors

Affiliate Directors reported that their work offered them a variety of personal benefits, most frequently: enjoy watching students grow as creative individuals, learning to think more creatively themselves, applying their FPS experience in other settings, appreciating students' ability to overcome difficulties, and discovering "the amazing things" that students can accomplish. Their concerns revolved primarily around managing many and varied responsibilities and time demands, building awareness and interest, and stimulating program growth.

Coaches

Coaches reported that they derive great satisfaction from watching their students learn and grow creatively and academically. They expressed high expectations for their students and faith in their potential. Overall, the coaches responding to this survey felt that FPSPI is quite successful in meeting its goals for all three program components (GIPS, CmPS, SW). Challenges reported by coaches included the amount of time involved, problems connected with funding, and keeping students prepared and motivated. Coaches also identified the need for expanding the use of technology across several program areas for enhanced training, especially for new coaches.

Students

The students reported positive feedback regarding the program and confirmed that each of the program components met the program's purported goals and

objectives. In addition, the students indicated that they had gained other important lifetime skills. One student wrote, for example, that the program “really highlights issues that we could be dealing with in the future.... students in the program now are going to be the leaders for when the scenarios are set so it’s really thought provoking knowing that these are some of the possibilities that lay ahead of us that we’re going to have to deal with.” Several students pointed out that the program met their need to be intellectually challenged. While the students noted the program’s overall strengths, they also cited a number of areas for improvement. Their responses highlighted that the effectiveness of the program often hinged on competent, well-trained, committed coaches.

Parents

The parents who responded were moderately positive in their view of the FPSPI program, as well as in their perceptions of their youngsters’ satisfaction with the program. The parents generally recognized the same areas of strength in the program as were identified by ADs, coaches, and students. Several important opportunities and areas of concern arose from the parents’ responses, including: expanding and enhancing parent communication and opportunities for involvement; expanding publicity and awareness of the program (and program expansion); training and effectiveness of teachers and coaches; role of FPS in the school curriculum; and some concerns for topic appropriateness and relevance (particularly for younger students).

Alumni

While the alumni reported that their overall experience with the program was positive, they identified several areas for possible improvement. The major areas of concern had to do with improving the quality and helpfulness of evaluation feedback, ways to improve the program website, and making more effective use of technology. They reported that they had established lasting friendships, acquired important life-long skills, and were able to apply those skills with confidence in both academic and work settings.

PROGRAM STRENGTHS, IMPACT, AND RECOMMENDATIONS

Strengths

The evaluation data documented broad and strong overall satisfaction with the FPSPI program; FPSPI serves important purposes effectively for its participants. Respondents reported that the program’s goals, rules, and procedures are clear, easy to understand, and fair. Affiliate Directors, coaches, students, and alumni noted the value in traveling to and competing at regional, affiliate, and international levels. Overall evaluations of the programs’ future scene problems were all positive. In relation to technology, the responses of all groups acknowledged that the program has begun taking action to expand and enhance applications of technology in a variety of ways and emphasized the importance and value of future efforts in those areas. The program’s strengths might best be summed up in the statement of one student

who had participated in FPS for more than 5 years: “FPS is a problem-solving program consisting of six key steps: identifying challenges, selecting a main problem, generating solutions, creating criteria, evaluating solutions, and developing a plan of action. It encourages creative and global thinking, and enforces key techniques for problem solving that are essential to everyday life. As a competitive program, it drives you to constantly learn and progress; as an international program, it broadens your perspective of the world as well as allowing you to meet people from various states and nations.”

Program Impact

The ADs, coaches, parents, and alumni all provided evidence indicating positive impact of the program. Many adults addressed the value and personal satisfaction of observing students’ growth and accomplishments and their pride in the outstanding efforts of the participating students. They appreciated the ways that FPSPI responds to varied student strengths and talents, the importance and value of providing international or cross-cultural and travel experiences, opportunities for young people to learn and apply a structured process for problem solving, challenging young people to develop a global and futuristic outlook. The data revealed that in many ways, the program’s benefits extend well beyond the stated program goals. Among the extended benefits, respondents emphasized a variety of life skills including: time management, self-direction, self-management, leadership, socialization skills, the use of technology, the challenging breadth of academic experience, and (particularly among those involved in CmPS) community service. The persistence of the program’s impact over time was highlighted by one Affiliate Director’s observation that, “I still have students I coached 10 years ago coming back to thank me for involving them in FPS and telling me that they use the process all the time.” A response from one of the program alumni, echoed by several other similar comments, noted: “I currently work in Public Policy, which requires me to think about the impact of particular scenarios, identify problems, and develop possible solutions that address those issues. Essentially, I use the FPS process on a daily basis to address modern day issues.”

Recommendations

The evaluation also offered a number of recommendations for continuous improvement to help a strong program become even stronger. Future efforts may help clarify the factors that influence students’ differential responses to the program’s main components (i.e., which students find each program component most challenging and appealing) and their implications for participants. The recommendations also included specific suggestions for further study to: clarify the unique elements and contributions of each program component; expand awareness and external support; investigate potential tensions between required and voluntary student participation; expand training and mentoring opportunities for coaches and other program volunteers; examine and strengthen the role and uses of technology; develop a systematic approach to build and maintain relationships with parents; and

maintain and expand relationships with past student participants (“alumni”). These themes are currently being addressed through the FPSPI Strategic Plan.

SUMMARY: SUPPORTING AND SUSTAINING TORRANCE’S CREATIVE VISION

The results of this evaluation also supported and sustained the creative vision of its founder, E. Paul Torrance. His early belief in the power of creativity and CPS as a set of tools for young people has been affirmed and extended, as we continue to discover new ways to recognize and nurture creativity (e.g., Isaksen, Dorval, & Treffinger, 2011; Isaksen & Treffinger, 2004; Treffinger, 2010). His commitment to nurturing students’ gifts and talents also continues to be sustained and enhanced in the program’s provisions for talent development (e.g., Treffinger, 2011). Through nearly four decades, FPSPI has grown significantly from a small pilot study in one Georgia high school, testing the viability of a scholar’s inspiration for providing for the development of creative gifts and talents in young people, to a global program serving several thousand children and youth every year. Torrance’s original goal of linking concern for the future with a structured approach to learning and applying Creative Problem Solving is as important and fundamental to education today as it was in 1974. In many ways, Torrance’s creative vision foreshadowed today’s concerns about “21st Century Skills.”

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