



Creativity and Life's Challenges

By Don Treffinger

Another school year has come to an end (at least for a good many schools throughout the country). As I read about proms and commencement ceremonies in the newspaper this year, and had my first opportunity to speak to senior high graduates, I found myself reflecting on the differences between their life experiences and my own at a similar stage of my life several decades ago. The cost of a postage stamp back then was four cents. John F. Kennedy had just become the 35th President of the United States. We were concerned about “the Cold War,” and putting people into spacecraft was just beginning to move from science fiction into reality. One phrase seems best to describe the experience of life over the years separating my graduation ceremony from theirs: **constant, accelerating change**. Kathleen Norris, a contemporary American writer, described the challenge of life today in these terms: “Life is easier than you’d think; all that is necessary is to accept the impossible, do without the indispensable, and bear the intolerable.” More optimistically, we might consider the challenge in the form of a proposition: “Suppose, please, that graduation is not the point at which students have proven their competence, but

instead, the beginning of a long journey in which they will have to discover for themselves how good they can become.”

In many fields of inquiry, much of what we know today, we did not know four decades ago, and in the not-very-distant future, much of what we think we know now will be obsolete or irrelevant. Both the magnitude and the pace of change continue to accelerate—at a faster and faster pace, if recent trends continue. Today’s graduates have not yet learned the answers they will need for future success in any discipline or career path they decide to follow. Indeed, in a very real way, they cannot yet be certain even about what the *questions* will be. What do students need to be prepared for the long journey of discovering for themselves how good they can become?

To be certain, they will need **information**, including knowledge and expertise in some domain. But knowledge in itself—“knowing about” something—will be insufficient and transient. The “shelf life” of knowledge in this time of constant change—how long knowledge lasts before it is overcome by events or replaced by new, better, or different knowledge— is getting shorter

and shorter. So they will also need another kind of information and tools: “knowing how” to access, organize, modify, use, and construct information.

They will also need **discipline**, or what we call a “strong work ethic” —the skill and willingness to put in the long hours, to do the hard work, and to struggle with complex tasks. But discipline itself will also prove to be insufficient; dogged persistence in itself will not take them to their destination.

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Editorial

From Page One

Many other factors might be listed that will contribute to students' successful discovery and development of their strengths and talents. Let us consider three additional factors that may be among the most important for a contemporary young person's journey.

The first is **passion**. We must not hesitate or be afraid to fall in love with a challenge, and to pursue it relentlessly. Rather, let us embrace curiosity and excitement, learn to ask why, and to find out more about any area we genuinely love, being strong in our pursuit of what is truly important to us. Being "well rounded" is great if one's goal is to grow up to be a golf ball.

The second is **imagination**. Our creativity provides the tools we need to manage the change that is inevitable in life. It allows us to be flexible in searching for, acquiring, and using knowledge. It gives purpose and meaning to discipline. It adds joy and vision to passion. It enables us to ask new and better questions and find more powerful answers. Imagination gives us the ability to construct options for our future, not just to react to what happens to us.

The third is **judgment**. We know today that creativity is more than producing an endless flow of ideas and possibilities. Effective thinkers and problem solvers devote time and effort to generating options—using brainstorming and other tools to come up with exciting possibilities. However, they also know how to focus their thinking, and to apply sound judgment to choose and develop the possibilities that will help them move forward to their

goals. Effective creativity in action requires imagination and judgment in harmony.

Some people think of creativity only as the "wild, zany, crazy," free-flowing profusion of ideas. While generating ideas is one dimension of creativity in the person, our work suggests that we must also consider different styles of creativity (and recognize that "thinking better in the box" may often be as creative, important, and necessary as "thinking out of the box") and other sets of characteristics, including digging deeper into ideas, openness and courage to explore ideas, and listening to one's "inner voice."

Through opportunities to be involved in programs and projects that emphasize the depth and richness of creativity and talent development, today's students can already begin working on all of these elements: *information, discipline, passion, imagination, and judgment*. As educators, we have the exciting and rewarding challenge of giving our students what my colleagues in the business world would call a "global strategic advantage." There are symphonies, novels, and works of art to create. There are injustices to be set right, diseases to cure, products to invent, peace to bring to a world in pain, and an ever-growing array of challenges and problems for young people and adults to join in solving. We can provide the powerful tools that students will need for their journey, and as they prepare for whatever part of their journey comes next, we can help them to move forward with competence, with well-founded confidence, and with a strong sense of commitment and purpose. Howard Thurman, a 20th Century Theologian and Civil Rights Activist, once offered a prayer that might

be fitting and proper for us all to keep in mind:

...[T]each me to know that life is ever
On the side of the future.
Keep alive in me the forward look,
the high hope,
The onward surge.
Let me not be frozen
Either by the past or the present.

This editorial is an adaptation of Don's "Graduation Address" at the Destination ImagiNation Global Finals in Knoxville, TN in May.

Grant Information Sources On the World Wide Web

The following websites may be useful to you in seeking funding for projects on creative learning, talent development, or style.

Fundsnet Online Services

A comprehensive website dedicated to providing nonprofit organizations, colleges, and Universities with information on financial resources available on the Internet.
www.fundsnet services.com/

eSchool News School Funding Center

Information on up-to-the-minute grant programs, funding sources, technology funding.
<http://www.eschoolnews.com/resources/funding/>

Philanthropy News Digest-K-12 Funding Opportunities

K-12 Funding opportunities with links to grantseeking for teachers, learning technology, and more.
<http://fdncenter.org/funders/>

Please Help Us to Improve the Center for Creative Learning Website

We are working on updating the design and contents of the Center for Creative Learning website (www.creativelearning.com). We'd appreciate your feedback and suggestions. Please take a few minutes to respond to these questions, and mail or fax (941.342.0064) your responses back to us, or send us an email message with your responses.

1. Have you visited the Center's website? Yes No What's a website?
 - 1b. If yes, how often? Once Occasionally Regularly
 - 1c. How does this compare to your visits to other websites?
 - I don't usually use the web
 - I visit the Center site more often than other sites
 - I visit the Center site about as often as other sites
 - I visit the Center site less often than other sites

2. Have you downloaded any of the PDF files? Yes No What's a PDF?
 - 2b. If yes, please tell us which ones

 - 2c. Were they helpful? Yes No

3. How would you rate the Center's website in these areas (1=low to 5=high)?
 - 3a. How attractive is it (appearance)? 1 — 2 — 3 — 4 — 5
 - 3b. How easy is it to "navigate" from one area to another? 1 — 2 — 3 — 4 — 5
 - 3c. To what extent does it contain information that is helpful to you? 1 — 2 — 3 — 4 — 5
 - 3d. How easy is it to find and obtain what you want? 1 — 2 — 3 — 4 — 5

4. What are the 3-5 things you like best about the site?

5. Rate each of the following possible feature in relation to their appeal to you (1=low to 5=high).
 - a. Member's only area with special resources 1 — 2 — 3 — 4 — 5
 - b. Creative Learning Today on-line (not PDF) 1 — 2 — 3 — 4 — 5
 - c. Shopping Cart to purchase items on line 1 — 2 — 3 — 4 — 5
 - d. Sample activities or exercises 1 — 2 — 3 — 4 — 5
 - e. New products available on-line (PDF) 1 — 2 — 3 — 4 — 5
 - f. Forum or chat-area 1 — 2 — 3 — 4 — 5
 - g. Stories or case studies 1 — 2 — 3 — 4 — 5
 - h. Searchable data base of instruments or articles 1 — 2 — 3 — 4 — 5
 - i. Moving graphic images 1 — 2 — 3 — 4 — 5
 - j. Sound or music 1 — 2 — 3 — 4 — 5
 - k. Video clips or photographs 1 — 2 — 3 — 4 — 5
 - l. Additional follow up on newsletter stories 1 — 2 — 3 — 4 — 5
 - m. Book or Test reviews 1 — 2 — 3 — 4 — 5

6. What changes or improvements would you suggest?

Personal Creativity Characteristics

Part 2 of 4

By Don Treffinger, Grover Young, Ed Selby, and Cindy Shepardson

Based on our thorough review of the literature on creativity and creative thinking we clustered our list of characteristics into four categories: Generating Ideas, Digging Deeper into Ideas, Openness and Courage to Explore Ideas, and Listening to One's "Inner Voice." These categories include cognitive characteristics, personality traits, and biographical events that influence one's level of creativity (how creative are you?) as well as one's style of creativity (in what way are you creative?). In this four-part series about personal creativity characteristics, we will discuss a different category of characteristics in each installment. We will also provide our list of indicators for each category and their supporting research citations. In the last issue of *Creative Learning Today*, we presented the Generating Ideas category. In this issue we will discuss the Digging Deeper into Ideas category.

Digging Deeper into Ideas

The digging deeper into ideas category includes some cognitive characteristics commonly referred to as convergent thinking or critical thinking. The characteristics in this category that we refer to as *Digging Deeper into Ideas* include: Analyzing, Synthesizing, Reorganizing or redefining, Evaluating, Seeing relationships, Desiring to resolve ambiguity or bringing order to disorder, and Preferring complexity or understanding complexity.

This category is based on the notion that creative productive thinking also depends on analyzing and focusing ideas. Choosing the most promising ideas to work

on and develop that will lead to a practical but novel outcome, involves sorting and evaluating or bringing promising ideas under the microscope for closer examination. It has been said that taming a wild idea is easier than thinking up a mediocre one. This kind of creative productive thinking involves building up ideas and not discarding them. We often refer to the characteristics associated with digging deeper into ideas as higher level thinking abilities. People exhibit these characteristics by looking beyond the obvious to perceive gaps, paradoxes, needs, or missing elements. You might observe them engaging in:

- Refining, developing, and strengthening intriguing possibilities.
- Setting priorities, sorting, arranging, and categorizing ideas.
- A constructive approach rather than a destructive approach to examining ideas.
- Focusing on how to strengthen or build up ideas by analyzing possibilities in balanced and forward thinking ways.

In other words, they are improvement motivated. Digging deeper into ideas allows them to decide, evaluate, choose, and develop promising options into creatively productive outcomes. As is true with generating ideas, even though some people excel in these mental operations naturally, through instruction and practice all people can develop and improve their ability to think at these so called "higher levels of thinking." The table on page five

presents a summary of the key characteristics related to digging deeper into ideas along with supporting citations from the research literature.

In the next issue of *CLT*, we will discuss the Openness and Courage to Explore Ideas category. Meanwhile, it is important to remember that creative thinking involves focusing ideas as well as generating ideas. We hope you will reflect on these questions:

- What opportunities do you provide for students to learn, practice, and apply the skills and processes involved in Digging Deeper into Ideas?
- In what ways do you encourage and reinforce the characteristics included in the Digging Deeper into Ideas category?
- What specific behaviors might you observe and document among your students that would help you to recognize and nurture those with high potential?
- In what ways and in which contexts do you dig deeper into ideas?

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Affirming the Power of CPS for Youth

(From Page 11)

and varied ways, just as we find when we study creativity in adults.

Since I've been working quite a bit with VIEW (our new problem solving style measure) in recent months, it may be true that I was "hyper-alert" to finding expressions of style in my observations. That acknowledged, it was certainly easy to observe many style preferences being expressed by the students, and by many of the adults with whom I talked or worked. The experienced reaffirmed that there are, indeed, many ways to define problems, many ways to work together in carrying out the team's challenges, many different kinds of solutions, and many ways to use our strengths and styles in presenting the results of our efforts. The programs provided opportunities for students to make creative contributions in their own best ways.

If you have an opportunity to visit, either or both of these programs in the year ahead—or better yet, to become actively involved in either of them—I recommend very highly that you do so. Your efforts will serve the students, but I can assure you that you will discover benefits that repay you many times over for your investment of effort and time.

To learn more about these programs, visit the Center website for links to their sites, or visit them directly at:

www.fpsp.org
www.destinationimagination.org

Key Characteristics and Indicators of Creativity: II. Digging Deeper into Ideas

Characteristics and Indicators	Citations
Analyzing	Dacey, 1989; Guilford, 1987; Sternberg, 2000
Synthesizing	Bloom, 1956; Dellas & Gaier, 1970; Guilford, 1987; Torrance, 1972
Reorganizing or redefining	Guilford, 1987; Koestler, (1964); Sternberg, 2000
Evaluating	Guilford, 1987; MacKinnon, 1978; Runco & Chand, 1994
Seeing relationships	Perkins, 1981; Starko, 1995; Torrance, 1962
Desiring to resolve ambiguity or bringing order to disorder	Guilford, 1987; Perkins, 1981; Starko, 1995; Stein, 1974
Preferring complexity or Understanding complexity	Amabile, 1983; Clark, 1983; Davis, 1998; Dellas & Gaier, 1970; Guilford, 1987; Perkins, 1981; Starko, 1995; Torrance, 1962

Community Problem Solvers Make a Difference in Their Community

By Ana Devine and Elissa Swick

[Editor's Note. This story was written by two members of a Community Problem Solving (CmPS) team, from Buddy Taylor Middle School in Palm Coast, Florida. We first learned about the students' ambitious project at the 2001 Florida FPSP State Bowl, and the team carried on its work and earned high honors at the 2002 State Bowl in Orlando in April. We asked them to describe this year's efforts in a brief article for this issue of CLT. Their coach, Ms. Diane Tomko, encouraged them to accept this new challenge, which we appreciate very much.]

We believe it warrants your attention for several reasons. First, it is another excellent example of young people who are making positive contributions to their community. Second, it demonstrates the powerful benefits that can come when students apply their creative learning and problem solving expertise to real life problems. The third reason will be of particular interest to readers who are interested in applying newer, more flexible approaches to CPS with young people. The CmPS structure allows students to have latitude in how they choose and apply problem solving stages (and, in our terms, process components) in their work. This project is an excellent example of a challenge that called on the students to emphasize the Preparing for Action component. Much of the work in understanding the challenge and generating ideas had already taken place in the previous year's efforts; this year, the team's task was to "make things happen." We believe, and we hope you agree, that they have done an excellent job in accomplishing that goal.]

Last year, the group S.W.I.N.G. (Students' Wishes for Its Next Generation) planned for a passive park in the Palm Coast area. We chose S.W.I.N.G. 2 as the name of



our team this year as a continuation of last year's hard work. The acronym has changed to Students Working for Its Next Generation to distinguish the change from wishes to working. Last year, the team was "wishing" and planning for their passive park, and this year the team is "working" towards the actual construction of the park.

This year we worked on finalizing plans for the park. Helping us was Mr. Bob Dickinson, a local Landscape Architect. Along with meeting with us each Wednesday to help with the completion of the plans, he helped us keep within the boundaries for the park set by the City of Palm Coast. We have completed the bubble diagram with assistance from Ms. Yvette Hartsfield, Recreation and Parks Director for Palm Coast. While the final preparation of plans was commencing, we contacted Mr. Chuck Lippi, at the Flagler County University of Florida

Horticulture Extension Office. We then obtained funds set aside by his office for land affected by the destructive forest fires of 1998. After our excursion to Austin Growers Nursery, we have compiled a plant list identifying certain plants, and where they would grow best in the park. We have contacted numerous irrigation companies and have received a donation of PVC pipe from Hughes Supply.

This autumn, the members of our Community Problem Solving team will begin planting the trees and plants of the park. We have already received copious offers from community members to help with the physical labor of creating the park. We will work hard towards actively involving the rest of the community in the implementation of the Bird of Paradise Neighborhood Park.

As we put our plan into action, we found that every time we stepped forward, we were greeted with an obstacle. Because of the city ordinances of Palm Coast, we had to adjust our preliminary plans numerous times, adding a parking lot, grouping benches, and changing the walkway material. We overcame this by meeting with Mrs. Hartsfield, who guided us and helped us correctly amend the bubble diagram. We then discovered that the approximate cost of our park would come to about \$140,000. We gained this funding through Mr. Chuck Lippi's fund, the Wildfire Replanting Project 2002 City of Palm Coast Resolution 2000 and City Council.

Through a recent meeting with Mr. Chuck Lippi, Ms. Yvette Hartsfield, and Ms. Karina Vodry, we have discovered that the final plans to the park must now be submitted to the architectural firm who will put the plans to scale and survey the land. This will take six to eight weeks. Then, the materials for the park must be put out to bid during the summer.

Our CmPS team anticipated the beginning phases of the creation of the park to commence this spring. Mr. Lippi had trees ready for planting, but because of the city regulations, we could not plant these because the final park plans were not yet approved. Due to these delays, we will not be able to break ground for the park until late summer. Though the construction will begin later in the year, we will not fail to continue with our efforts to complete the park.

Creativity Style Makes a Difference in Problem Solving

By John C. Houtz, Fordham University

Creativity styles are a new topic in creativity research. Rather than investigating *how much* creativity individuals can demonstrate, researchers have begun studying *how* people exhibit their creativity (Isaksen & Dorval, 1993; Selby, Treffinger, Isaksen, & Powers, 1993). Research on these issues has much to offer educators and advocates of creativity education, who have long debated the wisdom of trying to identify and develop the creative potentials of a relatively few highly gifted or talented children. What we may learn by looking at creativity styles—the ways in which individuals create, rather than at absolute amounts or levels of creative achievement—are principles and methods that may be applied to help all children improve their “everyday” creative problem-solving abilities.

Creativity styles, like other, more global information processing preferences or predispositions, have become important topics for research as cognitive psychologists recognized that there are, in fact, demonstrably different ways in which individuals interact with their environments and use information to solve problems (e.g., Sternberg, 1988, 1997; Sternberg & Grigorenko, 1997). A new instrument, *VIEW: An Assessment of Problem Solving Style* (Selby, Treffinger, Isaksen, & Lauer, 2002), defines creativity style in terms of one's orientation to change. For example, *VIEW* defines *explorers* as more likely to break away from the system, to view structure as limiting, to be more spontaneous, unconventional, individualistic, or emphasize originality, uniqueness, and

generating ideas. On the other hand, *developers* are individuals who are more likely to stay within the existing system, focus on gradual, incremental change, be more thorough and precise, emphasize attention to detail, planning and organization, and focusing rather than generating (Selby, et al., 2002).

Explorers and developers, therefore, might more likely initially choose different strategies in a problem-solving situation. For instance, explorers might be more likely to “jump right in” and quickly suggest ideas to try out in response to a student problem. Developers, on the other hand, might be more cautious and concerned with understanding the student's problem in more detail before suggesting an idea to try out. The purpose of the present research was to test this hypothesis.

Method

Participants

Twenty-nine graduate students enrolled in an initial teacher education program leading to elementary grade certification in an urban University participated in this study. All were working towards their Master's degrees, for admission to which program a minimum grade-point average of 3.00 was required. There were 23 women and 6 men, ranging in age from 22 to 48, with a mean age of 31.5.

Some students were beginning their program of studies and were merely observing in schools;

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Creativity Style

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others were completing two semesters of student teaching. Some students were coming from backgrounds or careers other than teaching. A few students had been teaching in private schools, but no one had accumulated more than two years of prior teaching experience. The participants were volunteers recruited from graduate classes in educational psychology and research methods.

Instruments and Materials

VIEW: An Assessment of Problem Solving Style. VIEW is a measure of creativity style. It does not assess how much creativity you have, but measures the ways in which you prefer to solve problems and manage change. The theory behind the development of VIEW is that everyone solves problems. Everyone has the potential to be creative, regardless of whether one is dealing with everyday issues or revolutionary and world-shattering ideas (Selby, et al, 2002). In dealing with problems, however, there are individuals who may prefer working within existing rules or structures. Such persons may be very interested in details and proceeding at a careful, deliberate, gradual pace. Solving problems within a system may make the system work better, enhance its value, and lead to many benefits. In VIEW, these individuals are described as preferring the *developer* style.

Other individuals may feel constrained and uncomfortable with the current organization and its strictures. These individuals may want to approach problems by ignoring rules completely rather than simply bending them. They prefer going off in new directions or breaking new

ground. If successful, these individuals and their ideas actually may change an old system dramatically or create a completely new system. In VIEW, these individuals are referred to demonstrating an explorer preference.

The “explorer —developer” designation refers to an individual’s orientation to change. VIEW also yields scores on two other dimensions. Individuals’ manner of processing information during problem solving can be characterized as *internal* or *external*. The third scoring dimension refers to individuals’ preferred way of making a decision: *person-focused* (“How will these ideas affect others?”) or *task-focused* (“What is necessary to get the job done?”).

Student Vignettes. Ten one-paragraph vignettes of students experiencing various school problems were assembled into a brief questionnaire. The cover sheet of the questionnaire asked participants to select from among five problem-solving steps or strategies, identifying the strategy they would choose to do first, then second, and then third to respond to each of the student vignettes. The student problems portrayed in the vignettes included such things as poor self-concept, hyperactivity, being a “loner,” anxiety, attention deficit, shyness, poor work habits, whining, fooling around, or defiance.

The five problem-solving strategies were: 1) Find out more about the student’s background and past behavior; 2) Come up with a precise definition or label for the student’s problem; 3) Generate possible actions you can take to deal with this student; 4) Figure out the criteria you can use to choose the right response to the student’s problem; and 5) Identify individuals who may help you

with your own efforts. These strategies were based on Creative Problem Solving (Treffinger, Isaksen, & Dorval, 2000). The strategies were selected to represent three components of CPS. Strategies 1 and 2 were selected to represent “Understanding the Challenge,” which describes individuals’ efforts to learn about the problem, develop background and information that might be relevant to the problem, and define the exact nature or requirements of the problem. Strategy 3 represented “Generating Ideas,” which describes individuals’ efforts to construct possible hypotheses and ideas to solve the problem. Strategies 4 and 5 represented “Preparing for Action,” which describe individuals’ efforts to select the best ideas or those more likely to be useful, to gain support for them, and to plan how to implement or carry out their ideas.

Scoring and Analysis

VIEW was administered and scored by a certified VIEW user. Participants received scores for Orientation to Change, Manner of Processing, and Ways of Deciding. Scores below 72, 32, and 32 signified explorer type, external, and people-focus styles, respectively, whereas scores above those numbers signified developer, internal, and task-focus styles.

For strategy selection, I summed the number of times each strategy was selected for first, second, and third choices for each participant, across all ten vignettes. In addition, totals for strategies 1 and 2 were combined, as were totals for strategies 4 and 5. Thus, a 2x3 contingency table was constructed with explorers vs. developers (or externals vs. internals, or people focus vs. task focus) as rows and the three CPS components (as represented by their

respective strategies) as columns. Frequencies of strategies chosen were the entries in the table, and the data were analyzed using Chi-square.

Results

For Orientation to Change, the chi-square was statistically significant (Chi-square = 7.41, $df = 2$, $p < .05$). Explorers selected strategy 3 (Generating Ideas) as their first choice more often than would be expected by chance, while developers selected strategies 1 and 2 (Understanding the Challenge) as their first choice more often than would be expected by chance.

There was no statistical significance for the analysis of second and third choices for Orientation to Change. For Manner of Processing, internals selected strategies 1 and 2 as first choices (Understanding the Challenge) less often than was expected by chance, while externals chose strategies 1 and 2 more often (Chi-square = 5.50, $df = 2$, $p < .10$).

Discussion and Implications

The results support the original hypothesis. Explorers did, indeed, appear to “jump right in” and choose to generate ideas as their first choice for responding to students’ problems. Developers, on the other hand, chose to find out more about students’ backgrounds or develop a more precise definition of a student’s problem. The results concerning Manner of Processing and Ways of Deciding were less clear, since the chi-square analyses were not statistically significant at the .05 level.

There is the possibility that externals, being more interested in, attuned to, or in need of information from other people, have chosen to learn more about a

student’s problem before suggesting solution ideas. Conversely, internals, more sensitive to their own instincts, ideas, or intuitions about a problem, have chosen strategies designed to better understand the problem less often than chance would predict. Interestingly, the data revealed that both internals and externals suggested ideas exactly as often as expected by chance.

In relation to Preparing for Action strategies, internals appeared more interested and externals less interested than was expected by chance. Once ideas are selected, internals may now feel the need for action and verification, while externals might still be somewhat hesitant to proceed without additional forms of support or validation. Some evidence to support this interpretation also came from the results for the Ways of Deciding score, as task-focused individuals selected Understanding and Action strategies more often than was expected by chance (although not significant at the .05 level). Those CPS components are likely to provide specific information that will lead to resolving the student’s particular problem (that is, details that will lead to winnowing out poor ideas in favor of better, more appropriate ones).

More research is needed, of course. Participants in this study were teachers-in-training, with varied backgrounds and experiences. The sample contained more developers, externals, and people-focused subjects (by a 2 to 1 ratio) than explorers, internals, or task-focused individuals, perhaps because of the nature of those who want to be teachers. The problems they were presented dealt with students in classroom activities. Creativity style research certainly needs replication and extension to other careers and problem types.

To conclude from Sternberg and Grigorenko (1997), “cognitive styles are very much in style.” If further study confirms real differences in processing as a result of style, the implications for creativity education and training are significant. In addition to traditional cognitive problem solving skill-building, individuals can be assisted in developing their own awareness of styles, then cultivating those styles, developing appropriate and effective skills for dealing with problems.

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Reaffirming the Power of Creativity and Creative Problem Solving for Children and Youth

By Don Treffinger

Within a three-week period this Spring, I had the fascinating and enjoyable opportunity to attend and participate in the Global or International “finals” of two programs for students with which we have been associated for several years: Destination ImagiNation® and the Future Problem Solving Program.

The Destination ImagiNation® Global Finals (“d2k.2”) were held from May 22-26, in Knoxville, TN on the campus of the University of Tennessee. Although I had to explain to a few of our local campus guides that I wasn’t from “enemy territory,” as Gainesville, Florida is known here during football season, the university’s hospitality was excellent as thousands of young people and their families and friends took over the town for several days. The Future Problem Solving Program’s 2002 International Conference was held from June 5-9, in Storrs, CT on the campus of the University of Connecticut. Once again, as FPSP descended on this New England university town, a spirit of excitement and energy was pervasive. Although the events differed in several ways, each reflecting the uniqueness of its sponsoring organization, there were also a number of commonalities. This article will focus on those common elements and experiences, because they defined for me the critical lessons to take away and to consider in relation to our mission and work at the Center.

Lesson #1. Despite what we often read or hear in the mass media, many thousands of young people throughout the world are actively involved in expressing and

applying their creativity in constructive ways.

It is difficult for me to find words that will do justice to the sense of renewal and vitality that came from observing and interacting with young people who were enthusiastic and committed to applying productive thinking in positive ways. There was some media coverage at both events, but to my dismay, less than would certainly had been present to cover some unpleasant or negative event. It would have been impossible for anyone to visit either of these events without being entirely caught up in the positive spirit and excitement that was everywhere. The teams of young people, from children in the elementary grades to young adults at the senior high school or college levels, conveyed the spirit of creativity and problem solving with them everywhere—in the competition areas, the staging areas and the “common areas” where friendships formed that crossed many boundaries, in the dining rooms, the buses, and (I’m certain) in the dorms (although I wasn’t brave enough to venture there myself). The young participants were alive and vigorous, clearly thriving on their creative challenges and their many possible solutions. I found myself thinking, time and time again, “if the future of our world will be in the hands of these people, in their adulthood, there is reason for hope.” Programs such as these may be our strongest future antidote to the hatred and violence that seems so often to surround us throughout the world today.

Lesson #2. Young people, when provided with an energizing

challenge, can and do apply their creativity in very powerful and impressive ways, and are able to do so with admirable independence or autonomy.

The quality and variety of ideas and solutions were amazing, across the many different kinds of problems and challenges posed by the programs. In Knoxville, I had the opportunity to observe student teams sharing the results of months of creative effort on several different kinds of challenges: technical, artistic, theatrical performances, and improvisation. The ingenuity, imagination, and originality displayed by students of all ages was impressive (and kept me thinking, “I’m happy that I didn’t have to compete with this group!”). In Storrs, I had a different, and more focused opportunity: serving as an evaluator of one set of Community Problem Solving projects (such as the project described elsewhere in this issue of CLT). Late one evening (very late, truth be told), all the evaluators for the junior, middle, and senior divisions joined in a walking tour of the exhibits of all the teams’ displays of their problems and results. The experience was powerful, moving some of the group to tears, and all of us to applause on several occasions, even though there was no one else but our group left in the building. The young people identified significant problems in their community, devoted countless hours to devising solutions, and genuinely made a difference—in their local community, through a state, and in some cases, even crossing strife-weary international borders. In both locations, I talked with students—not with the adults who guided

them—and learned first hand how powerful the tools for creativity and CPS can be in the hands of committed, capable young people. No one could possibly share these experiences without emerging with profound respect for the capabilities of today's youth.

Lesson #3. Creativity in action is not just “for fun,” but it can be a very enjoyable and stimulating experience.

(Observing in these programs)... it was clearly possible to identify characteristics, skills, and applications of tools and strategies, and to recognize the enthusiasm when students began to tell you something about which they were competent, confident, and even passionate.

From my description of the intensity and commitment of the team members in both programs, you might form an impression of a roomful of quiet, withdrawn, scholarly, or even brooding “junior recluses.” How wrong that would be! Both campuses were genuinely electric with energy and excitement. These students were enjoying their visit (for many, the first time and/or the farthest distance ever from home), they were buzzing with conversation and activity, actively engaged in a variety of recreational and “mixer” activities. They were also eager to talk with each other about problems, solutions, their teams’ efforts and results, and the creative performances of others they were able to observe. They had fun, and at the same time, they were immersed in the common goals and challenges that brought them together. It was an atmosphere we would love to capture in many adult conferences!

Lesson #4. The results of students’ involvement in creativity

and CPS can be observed, assessed, and appreciated in authentic ways that are much more effective than listings of test scores.

The work of the judges or appraisers was often very challenging, since these “final” events brought together teams that, in many cases, had already emerged through several other rounds of competition. Many of the students’ efforts were extraordinarily

strong in relation to a variety of creativity, presentation, or research criteria. Yet, as we observed the students’ products or presentations, audience members and evaluators alike could see the students’ creativity in design, through development, and in results in ways much stronger than could have been obtained from asking test questions, grading tests, or calculating percentages of correct responses. As I talked with participants, at all age levels—informally in one setting, or in structured interviews in another—it was clearly possible to identify characteristics, skills, and applications of tools and strategies, and to recognize the enthusiasm when students began to tell you something about which they were competent, confident, and even passionate.

Lesson #5. Working on solving problems creatively creates a sense of community and involvement that brings people together, cutting across and transcending age, gender, and cultures.

In both settings, I observed and spoke with young people from all parts of the U. S. and from several other countries, and I was also often able to observe them in interaction with each other. Sometimes language differences created challenges, but it was fascinating to see those barriers being overcome, and to watch common interests and themes emerge. Over the course of both events, from opening events to impressive closing ceremonies, it was easy to sense a growing spirit of community. Creativity and shared efforts to solve problems in new ways can be a genuine force to bring people together—a lesson very important in a world in which we seem so often to focus more on experiences that separate or divide us.

Lesson #6. Competitive experiences can provide opportunities to celebrate the creative efforts of many people, and in varied ways, and so can rise above “winning” and “losing” in the narrow sense.

Every team would have wanted, no doubt, “to win” in some formal way in their competitive category, and of course, there were only a certain number of trophies and awards to be distributed. In both programs, however, there was also another kind of lesson being taught—sometimes explicitly, from adult leaders, but just as much, if not more so, from the students’ interactions with, and respect for, each other. This was evident in a talent show, in awards ceremonies, in observing groups sharing ideas or trading pins, hats, or other memorabilia, through which students demonstrated mutual respect and support.

Lesson #7. Young people express and apply their creativity in many

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Invention at Play Exhibit at Smithsonian

What kinds of toys did inventors play with as children? Is the quality and quantity of children's play changing? How do new technologies affect children at play? What's the connection between the things you played with as a child and your creativity today? These questions and more will be explored in *Invention at Play*, an interactive exhibition developed by the Lemelson Center at the Smithsonian's National Museum of American History (NMAH) in conjunction with the Science Museum of Minnesota. The exhibition will open at NMAH **July 19, 2002**. Combining artifacts from the NMAH collections and interactive experiences, visitors will have opportunities to learn how play fosters creative talents among children as well as adults, experience their own playful and inventive abilities and understand how children's play parallels processes used by inventors. Through photos and stories, visitors will learn about inventors and innovators who have used playful techniques in their work including: Stephanie Kwolek, the chemist who invented Kevlar (a strong and lightweight substance used in bullet-proof vests and cable, among other things); Newman Darby, inventor of the sailboard; and Alexander Graham Bell, inventor of the telephone. Experimental playthings and historic and contemporary toys and games will allow visitors to explore the connection between the objects visitors played with as children and their creativity today.

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VIEW User Qualification programs are being hosted by the Creative Problem Solving Group, Inc., in Williamsville, New York, and by the Center for Creative Learning in Sarasota, Florida. The cost for VIEW User Qualification is the same at either the Buffalo or Sarasota sites; contact either organization for specifics.

The next scheduled program in Buffalo will be August 7-8, 2002, and the next scheduled program in Sarasota will be September 26-27, 2002. The Center for Creative Learning will also offer custom VIEW User Qualification Programs in Sarasota for individuals or groups, by appointment, on any mutually convenient dates, or for groups of four or more at other locations upon request. For more information about programs in Buffalo, contact the Creative Problem Solving Group, Inc. (716-689-2176 or cpsb@cpsb.com). For information about Sarasota or custom-planned programs, contact the Center for Creative Learning (941-342-9928 or cclofc@gte.net).

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