



So Many Children Left Behind?

Editorial by Dr. Don Treffinger

For several years now, I have watched the effects of the “No Child Left Behind” legislation on opportunities for creative learning and talent development in the schools, and quietly said, “This, too, will pass; the pendulum will swing again, as eventually it always does.” As I continue to see its impact, in both direct and subtle ways, however, I believe the time has come to speak out. A quotation, usually attributed to Edmund Burke (an 18th Century British statesman), expresses the importance of not remaining silent. It seems to take various forms, but this version is common: “All that is necessary for the triumph of evil is for good men to do nothing.”

Some argue that NCLB has, at least, served as a catalyst for attention to be given to the needs of struggling students and to the need to recognize indifference or lack of insistence on quality education in too many schools. But the effects of the cure may turn out to be even more troublesome than the ailment it is intended to address. NCLB may be pressing us to look at inadequate answers to the wrong questions. Others argue that the flaw in NCLB is simply that it has been seriously under-funded. Based on my own professional experience and judgment, and the reading I have done of work by a number of col-

leagues whose thinking on these issues I respect, I believe the problems with NCLB are far deeper than insufficient funding. Simply put, my concern is that it is a bad law, representing bad educational policy and procedure.

What’s wrong with it? Here are 14 key concerns. Given *Creative Learning Today’s* scope and format, these will be rather starkly stated. Readers who are interested in elaborations of any of the points can refer to the recommended resources or contact me. (In addition, if any reader is motivated to prepare a response or different point of view, we’ll consider it for publication in a future issue.)

1. First, and arguably foremost, is its numbing preoccupation with standardized test scores, creating a thin veneer of “rigor” and high expectations that generally boils down to what some colleagues describe as “drill and kill” teaching. A student’s competence is more than his or her scores on a “bubble” test. A teacher’s effectiveness is more than the aggregate of his or her students’ test scores. A school’s quality is reflected in much more than the total set of test scores or an arbitrary “grade” based on those scores.

2. It is significantly out of alignment with real-world competencies for success. Take a look at the

Microsoft Competencies (about which see a separate article on page 3 of this issue), and then ask, “How many of these competencies are represented and assessed by typical high-stakes tests?” That will give you a richer picture of what NCLB misses.

NCLB contributes systematically to stifling creative inquiry and active problem solving; it turns the focus of educational goals (and instruction) away from helping students learn to manage change, question what they’re told (or read, or find on the Internet), challenge assumptions— or from

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stimulating them to engage in creative and critical inquiry. [Alas, this may fit in too well with an often anti-scientific, anti-intellectual, anti-thoughtfulness and reflection bias that seems to be creeping more and more into prominence at every level of society.]

3. It “stacks the deck” against equal opportunity and educational challenge for high-ability learners and for students with specific talents in many domains. As more and more effort and time goes to pounding away at basic, low-level content, high-ability learners and talented students get pushed more and more to the background (see www.nagc.org for more on this). It leaves application of knowledge to real-life situations—and the strengths and talents of kids and their teachers—behind in huge numbers.

4. NCLB relies inappropriately on a single measure or a single source of data to assess students (and schools). It leads us to accept the false assumption that what is easiest to measure is most important. Einstein once said, “Not everything that counts can be counted, and not everything that can be counted, counts.” NCLB leads people to confuse what they can easily measure with what is most important and valuable. It makes “knowing about” a value in itself, rather than knowing how to apply, use, or extend what you have learned.

5. NCLB is concerned with punishment and sanctions more than with diagnostic information and support (for students as well as for schools) or instructional improvement.

6. It assumes uniform set of curricular goals and outcomes and equal instructional opportunity and support for students to attain them. It sets expectations for rapid and expansive growth that

are unrealistic (and in some cases, statistically ill-founded). Every school cannot continue to improve every year. As performance rises above the mean, and starts to approach the ceiling of a measure, or sinks below the mean and starts to approach the “floor,” the statistical phenomenon of regression to the mean becomes an issue, for example.

7. It can be used as a vehicle to divert assistance (and students, and perhaps, qualified teachers) away from struggling schools rather than providing them the assistance they need to improve. In this way, the use of high-stakes tests, “school grades,” and other such “results” can become a thinly veiled rationale (especially when combined with efforts to use vouchers at non-public schools) for diverting public support to sectarian schools.

8. NCLB’s reliance on traditional standardized testing formats and procedures immerses us in assessments that can be significantly biased -- indicators largely of family background and socio-economic status— putting children from economically disadvantaged settings, geographically isolated settings, or culturally diverse backgrounds at peril of being “left behind.” Public policy can ignore decades of scientific controversy over fair and unbiased assessment only at the greatest of risks. Every student does not learn at the same rate, or in the same way, and is not prepared to demonstrate his or her competency in the same format, under the same time demands, or even in the same language.

9. NCLB appears to be driving curriculum and instruction to their lowest levels (recognition and recall) and deflecting teaching time and energy away from innovative, engaging, and challenging coursework. It can actually dis-

tract instructional improvement by redirecting teachers to short-term test preparation and drill. We see teachers, for example, “drilling” test prep early in the school year, because “the test” is driving the entire instructional agenda. [We have forgotten (or ignored) Carol Ann Tomlinson’s warning that “proficiency is not enough!”] The mindset, and the practices it engenders, appear to be turning “minimum competencies” into “maximum expectancies.”

10. There are no clear and consistent standards and procedures for determining accountability and progress (consider, for example, the discrepancies among states and between state and federal demands in many states). There is no “level playing field” about what the playing field should be.

11. Some writers have argued that NCLB may inadvertently promote falsification of data, “cheating,” or efforts to sidestep the rules— by educational administrators who are driven by stress created by arbitrary and punitive policies and procedures.

12. Others have argued that NCLB may actually encourage, rather than contribute to reversing, the drop-out problem (if schools become too eager to get rid of students whose presence in school may “hurt” their school’s scores).

13. It promotes an uncritical acceptance of traditional (and badly outdated) definitions of “basics.” The traditional “3 Rs” don’t tell the story of the “basic skills” that today’s students will need in order to be employable and competitive in the world of work and life in which they will need to survive.

14. NCLB is divisive rather than unifying — politically and educationally. Its proponents may well be deceiving the public and

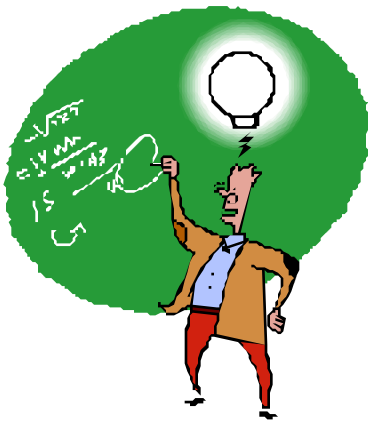
the business community as well. (The *appearance* of rigor and high expectations may be creating a “smokescreen” that sounds appealing to business and community leaders who do not take the time, or invest the effort, to examine it carefully and critically. Who would be opposed to “rigor” or “high standards” of quality? They are not likely to have probed those claims beyond the superficial rhetoric.) NCLB does nothing to help focus or direct the local, state, or national levels of conversation or constructive debate on core educational goals or lofty aspirations. It gives us a quick and appealing buzz word to which we can latch on and “bandwagon.”

Some Recommended Resources

ASCD Position Statements on High-Stakes Testing and the Achievement Gap. Locate this 2004 statement in the “Positions” area of the ASCD website (www.ascd.org).

Good Intentions, Bad Results: A Dozen Reasons Why The No Child Left Behind Act Is Failing Our Schools. By Dr. Robert J. Sternberg
Available at: <http://lists.asu.edu/cgi-bin/wa?A2=ind0411&L=aera-l&D=1&T=0&P=964>

Proficiency Is Not Enough, By Dr. Carol Ann Tomlinson
Education Week, November 6, 2002, Volume 22, Number 10, Page 36,38.
It is also reprinted on the National Association for Gifted Children website; see: <http://www.nagc.org/index.aspx?id=997>



Microsoft's Competencies for Education

The Microsoft Corporation defined a set of competencies (“functional and behavioral qualities” that one must possess in order to contribute to organizational success). They have subsequently

worked with an external consulting group to develop a parallel set of competencies that they propose are essential to help school districts to be successful in the 21st Century. They created a “Competency Wheel,” describing 37 competencies in six broad areas (individual excellence, organizational skills, courage, results, strategic skills, and operating skills). You may agree or disagree with the specific competencies they developed, or with their definitions of those competencies. We believe, however, that you will find them stimulating for your thinking about what effective educational leaders should believe, know, or be able to do to contribute to their school’s success and effectiveness. Many of the competencies relate directly to our primary areas of professional involvement: creative learning and problem solving, talent development, and style. You can find the “Competency Wheel” and download it as a PDF file, and you can also find quite a bit of additional descriptive material available relating to the Microsoft project at: <http://www.microsoft.com/education/competencies/default.aspx>.



Website Links Are Now “Live” in CLT

You may not realize it, but, if you are using the most recent version of Adobe’s Acrobat Reader, any website references (URL addresses) in this newsletter are “live” links. Assuming you are connected to the Internet, clicking on those links (even though they are not highlighted and underlined, as such links usually appear) will take you directly to the sites that are mentioned. You can test your version by simply passing your cursor over any of the addresses; if it changes to a “pointing finger” over the address, the link is working. If not, you can update your version of Reader for your computer’s operating system, by visiting www.adobe.com.

CLT Archives Now Available on the Web

You can now download PDF files of back issues of Creative Learning Today from the Center for Creative Learning website. Just go to the Creative Learning Today page at: <http://www.creativelearning.com/CLToday.htm> and click on the links for any back issues from Volume 11 (2002) through the first two issues of Volume 14 (2005-06). As a subscriber, you will always receive the current issues promptly, since only back issues that are at least six months (or two issues) old will be added to the archives.

The Choice to Promote Creativity in Students: Four Teachers Who Made It a Classroom Priority

By Dr. Cindy Shepardson

Despite our commitment to the importance of creativity in education, it is often the case that teachers have limited knowledge of creativity and how to provide for its development in the classroom. Students who express their creativity can be difficult to work with—which may also help to explain why creativity often is not encouraged by many teachers. Teachers who *do* select to facilitate the creative learning of their students may do so in a less than supportive school environment. However, there are teachers who both believe in the importance of creative development and who, actively and by choice, create classrooms where creativity is valued, explicitly developed, expressed, and celebrated. Since it seemed that there were so many deterrents to teaching for creativity, I wondered what was behind teachers' decisions to promote creative learning and their persistence in the face of the inhibiting factors. In this study I examined the beliefs of four teachers who deliberately chose to teach for creativity in their classrooms and who could document practices intended to facilitate such development on the part of their students. I focused on three major questions:

- (1) What is the “narrative landscape” of the teacher who deliberately promotes student creativity?
- (2) What beliefs are associated with a teacher's intent and practice of teaching for creativity?
- (3) To what experiences might these beliefs be attributed?

Using an explanatory narrative design (Polkinghorne, 1988) involved seeking to “construct a narrative account” that ties together and orders events so as to make apparent possible causes of those events. I worked with four teachers (Leeza [all names are pseudonyms], who taught third grade, Andrew, who taught in a multi-age school K-5, Dari, who ran an elementary gifted and talented program, and Keeley, who was a teacher educator in a small, rural college at the time of the study and previously taught elementary school and in special education programs). They all indicated that teaching for creativity was a deliberate choice they had made, and were able to provide specific examples of classroom practices that: valued and supported student creativity (skills, processes, work styles, or attitudes); created opportunities for student creativity in areas of their interest and across disciplines; and, supported a climate conducive to creative expression and productivity. Over the course of one semester, I gathered data from these teachers, using creativity autobiographies, journals, and stories collected for a 30-day sequence, videotaped classroom activities, and electronically supported conversations. From these data, I sought to identify issues, themes, clusters of key concepts that might form the basis of the “explanatory narratives” of the teachers' efforts to teach for creativity in their students.

Conclusions

My conclusions and recommendations are exploratory in nature; read them with the understanding that “narrative research does not produce conclusions of certainty”

(Polkinghorne, 1988, p. 175), but that it provides open-ended possibilities for continuing investigation. The following four general conclusions emerged from my analysis of the data.

1. Teachers for Creativity are Also Creative Teachers

Starko (2001) distinguished between teachers for creativity and creative teachers, based on who is being creative during a particular activity. Teaching for creativity focuses on promoting the creativity of students, whereby creative teaching focuses on the teacher's creativity. The participants in this study displayed qualities of both teachers for creativity and creative teachers. They displayed a sense of dissatisfaction with the status quo, were persistent in engaging in reflection and focusing on self-improvement, encouraged an environment of curiosity, modeled flexibility, fostered their own creativity as a precursor to fostering that of their students, and maintained a disposition toward originality and risk-taking.

2. Teaching for Creativity is a Calling and is Intrinsically Motivated

Based on the work of Wrzesniewski, McCauley, Rozin and Schwartz (1997), who distinguished among jobs, careers, and callings, participants in this study saw their work as a calling. “People with callings find their work inseparable from their life...[and] for the fulfillment that doing the work brings to the individual” (Wrzesniewski, et al., p. 22). My study participants consistently expressed the inseparable nature of what they *do* and who they *are*. For them, teaching is an intrinsically motivated activity, involving interest and

enjoyment, feelings of autonomy, competence, task involvement, preference for complexity and challenge, and self-determination.

3. *Teaching for Creativity May Emerge from Some Tension or Disturbance*

Each participant shared some experience(s), from recollections as a child in school, or as an older student or teacher, that caused them frustration—enough to move them to change what they were doing and to look for alternative means of dealing with the situation more satisfactorily. Those tensions and frustrations seemed to propel them in the direction of teaching for creativity (Cf., Olszewski-Kubilius, 2000; Therivel, 1993).

4. *Beliefs of Teachers for Creativity Support Practices that are Humanistic, Constructivist, and Emancipatory*

The participants were more student-centered than teacher- or subject-centered in their approach to teaching. They placed high priorities on both the short-term and long-term academic, social, and emotional needs of their students, and sought to transfer much of the ownership for learning over to the students. They encouraged the students to engage in making independent decisions, and in doing so, participants portrayed themselves as *humanistic*, which Friedman, (1995) described as stressing both the importance of the individual and the creation of an atmosphere that meets students' needs. They were *constructivist*, characterized by Brooks and Brooks (1999) as encouraging and accepting student autonomy and initiative, allowing student responses to drive lessons and determine instructional strategies and content, encouraging inquiry by asking thoughtful, open-ended questions, engaging students in

experiences that might engender controversy, allowing wait time after posing questions, and nurturing students' curiosity. They were *emancipatory* (Fletcher, 2000; O'Loughlin, 1992), emphasizing student autonomy and authenticity. The participants recognized the pressure of helping students attain the mandated curriculum, and they took a difficult stand by placing students' needs, ideas, and interests first, and making creative thinking and the creative process priorities in their classrooms—as a means of teaching content. The participants emphasized creative and independent thinking as essential goals for their students, providing for student choice and giving students ownership over their own learning as much as possible. O'Loughlin (1992) stated that, "The most fundamental building block in a pedagogy of ownership is acknowledgement of the life experiences and voices of our students" (p. 338).

Implications

This study created a portrait of four teachers who made the decision to teach for creativity, and who continue to make their own learning and growth a priority in order to help their students. The stories, the findings, and the recommendations that resulted from them aim to make visible the challenges, processes, and struggles of teaching for creativity in a world of conformity, as well as highlighting the potential successes, celebrations and *aha's* inherent in its pursuit. What implications might we find for practitioners, school administrators, teacher educators, or researchers?

1. *Provide Creative Space*

In many ways, creativity has not only been seen as a low priority on school system's lists of curriculum mandates, but it is often

suffocated by good intentions to do what is best for students. Maybe this is because creativity is so easily undermined and that the climate that supports its development is one that must be deliberately fashioned by teachers for whom creativity becomes a priority. Creativity, to flourish and grow, needs some *creative space* (i.e., time, awareness, opportunity, acceptance and support) within individuals and within society and its institutions—beginning with our schools and teacher education programs.

Space within the school system. Schools and school systems often promote a culture of conformity that does not traditionally support teacher or student creativity. Those who are creative and who promote creativity in others often feel isolated and out of place. Teachers for creativity, being creative teachers and creative people themselves, need to find creative space in their schools. Today's overemphasis on, and overuse of, standardized teaching and assessment creates significant challenges in teaching for creativity. There is a need to allow for more student choice; allow students to think, rework, and refine their work; emphasize self-evaluation; and, provide opportunities for students to produce original, inventive, and creative work. Participants in this study promoted creativity in their students because of their personal courage and conviction. Consider how many other children could have this opportunity if schools provided creative space within their walls.

Space within the classroom. The participants involved in this study demonstrated that teaching for creativity within the constraints placed on them by their school systems and the standards movement was possible—that they could teach content and promote creativity simultaneously! To

support those teachers who may make the deliberate decision to teach for creativity at some time in the future, and for those already committed, I propose a Manifesto for Teachers, similar to Torrance's "Manifesto for Children" (see Torrance & Sisk, 1997), in support of teachers' efforts to provide students with the best opportunities to develop as creative people, creative learners, and creative producers.

Space within teacher preparation programs. None of the study participants revealed that teacher preparation programs taught or promoted creativity.

In fact, teacher education classes often modeled only traditional teaching methods and goals. Teacher preparation programs, at the very least, should discuss the characteristics of creative behavior and teach prospective teachers how to help their students use these behaviors for creative productivity.

2. *Complexity as a Classroom Preference*

Part of teaching for creativity, as revealed by study participants, was the encouragement and expectation of independent thinking

and decision making on the part of students, and enabling them to move out of their comfort zones. Students in participants' classrooms were challenged to find answers to problems and situations that arose and were not just provided with models or answers, but instead given time to think, create their own responses, and act on their own thinking.

3. *Valuing Teacher Stories in Educational Research*

Teachers' stories told in their own words "have [the] power to open up conversations at several levels: pedagogical, professional, and epistemological" (Frederick, 1990, p. 7). Teacher stories and narratives are an important means of gathering important data about teaching and learning. Participants in this study attested to their own growth as teachers over the course of participating in this study.

4. *Understand Creative Styles*

Reflections of study participants indicated that they were drawn or propelled to creativity and teaching for creativity by some of life's experiences. The question remains as to whether these particular teachers were actually drawn into teaching for creativity or they already had a natural inclination toward creativity and particular creativity style. It may be fruitful, for example, to conduct research in which we look specifically at preferred styles (e.g., Selby, Treffinger, Isaksen, & Lauer, 2004) of teachers for creativity. Are they developers or explorers as designated by VIEW? Studies of style differences might provide insights into ways to promote more widespread teaching for creativity in classrooms. If we can develop students' creativity, can we also develop the attitudes, desires, and skills to teach for creativity on the part of the nation's teachers?

The Manifesto for Teachers

- 1 Make efforts to get in touch with your own creativity and expressions—continue to practice and model creative behaviors.
- 2 Teach and apply process methods and tools that foster "deliberate creativity."
- 3 Find others who support your creative efforts and learn from each other—learn from mistakes as well as successes.
- 4 Persist in your desire for intellectual risk taking and your preference for maintaining an accommodation attitude—welcoming ideas that challenge your beliefs.
- 5 Take as much time as you need to do your best—seeking depth in your work.
- 6 Reflect, reflect, reflect and don't be afraid to let your critical consciousness guide you.
- 7 Free yourself from attitudes of conformity.
- 8 Teach and encourage your students to do all of these things as well.
- 9 Learn and grow with your students in community.

5. Study Creative Teachers as Teachers for Creativity

One of the conclusions, or stated likelihoods, suggested in this study was that teachers for creativity are creative teachers. The question remains as to whether the opposite is true. Are creative teachers also teachers for creativity? Are teachers who are concerned with their own creativity also teachers who focus on nurturing their students' creativity? Much remains to be learned about these relationships.

6. Impact on Students in Creative Settings if Subsequently Placed in Traditional Settings

Future research might investigate the impact upon students of moving from classrooms in which teachers promote creativity to more traditional classrooms. Will the students' creativity be resilient, or will the impact be confusing or conflict-producing?

References

Brooks, M. G., & Brooks, J. G. (1999). The courage to be constructivist. *Educational Leadership*, 57 (3), 18-24.

Fletcher, S. (2000). *Education and emancipation: Theory and practice in a new constellation*. New York: Teachers College Press.

Frederick, P. (1990, December). The power of story. *AAHE Bulletin*, 43 (4), 3+.

Friedman, I. A. (1995). Student behavior patterns contributing to teacher burnout [Electronic version]. *Journal of Educational Research*, 88 (5), 281-289.

O'Loughlin, M. (1992). Engaging teachers in emancipatory knowledge construction. *Journal of Teacher Education*, 43 (5), 336-346.

Olszewski-Kubilius, P. (2000). The transition from childhood giftedness to adult creative productiveness:

Psychological characteristics and social supports [Electronic version]. *Roeper Review*, 23 (2), 65+.

Polkinghorne, D. E. (1988). *Narrative knowing and the human sciences*. Albany, NY: State University of New York Press.

Selby, E. C., Treffinger, D. J., Isaksen, S. G., & Lauer, K. J. (2004). The conceptual foundation of VIEW: A tool for assessing problem solving style. *Journal of Creative Behavior*, 38 (4), 221-243.

Starko, A. J. (2001). *Creativity in the classroom: Schools of curious delight* (2nd ed.). Mahwah, NJ: Lawrence Erlbaum Associates.

Therivel, W. (1993). The challenged personality as a precondition for sustained creativity. *Creativity Research Journal*, 6 (4), 413-424.

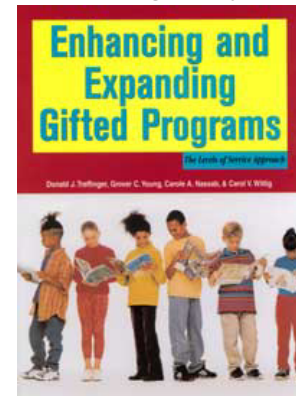
Torrance, E. P., & Sisk, D. A. (1997). *Gifted and talented in the regular classroom*. Buffalo, NY: Creative Education Foundation Press.

Wrzesniewski, A., McCauley, C., Rozin, P., & Schwartz, B. (1997). Jobs, careers, and callings: People's relations to their work. *Journal of Research in Personality*, 31, 21-33.

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Two Key Resources on Talent Development

If you are interested in planning, new programming for talent development, or in revising or updating an existing program, the Center offers two excellent publications to guide you.



Enhancing and Expanding Gifted Programs. This book provides a thorough overview and description of LoS— an innovative, field-tested approach to programming for talent development. Provides strategies for planning, implementation, and evaluation of programming, and an extensive list of resources to support effective programming. Paperback, 2004. Catalog #3037-26. **\$29.95**

Talent Development Handbook/ This extensive handbook presents a systematic six-stage process model to guide planning at the school or school district level. Practical, step-by-step guidelines for creating new programming, or for revising and updating existing programs. This book will help you to build and implement contemporary programming effectively and efficiently. Includes practical, reproducible planning forms and inventories; accompanied by a CD with Word, PDF, and PowerPoint resources. 200+pp., Looseleaf binder, 2004. Catalog #1040-26 **\$79.95**



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VIEW – The Singapore Experience

by Francis Lua

VIEW – An Assessment of Problem Solving Styles, was introduced to Singapore in mid-2005 with the intent of specific applications in the areas of Creative Problem Solving and Innovation, and organizational development, with focus on Teambuilding, Communication, and Conflict Management.

CPS and Innovation

Work in this area was done with teachers involved in Destination ImagiNation®, a creative problem solving program for students. VIEW was administered to these teachers to assist their appreciation of various styles of creativity especially when working with their student teams. Based on a total of 46 respondents, 36 respondents scored 72 and above in the Orientation to Change Dimension. The mean was 80.26, standard deviation 13.39 and range 54 to 115.

This skew of respondents towards the Developer style could be attributed to occupational influence, where the teaching profession for those involved with students between the ages of 8 to 15 in Singapore, typically attracts teachers who have a Developer preference. This can be associated with the fact that when teaching students of that level, it is the standard practice in Singapore that the teaching is well structured so that students will be able to grasp the fundamentals of a subject.

An observable validation of the preference for the Developer style came when participants were generating ideas and doing the “Rubbish Dump” (Create a device to transport rubbish from the front of a house to the back) exercise. Many of the ideas

contributed and devices drawn were either already existing or an incremental development of an existing idea or device. As for the couple of “out of this world” ideas that would probably not be immediately feasible or producible, there was an apparent resistance to them for being impractical.

This exercise led to a conversation on generating guidelines and the participants were then taught generating tools (such as SCAMPER and the Morphological Matrix). In using these tools to obtain a broader range of ideas, the applicability and advantage of using specific generating tools became apparent to the group when seeking out solutions that are increasingly creative and innovative. Additionally, the need for a balanced approach to a creative solution between the Explorer and Developer was recognized, and hence the relevance of the various strengths and risks of each style.

Through VIEW, the teachers were able to appreciate that when working with a Destination ImagiNation® Team, it was important not to “interfere” with the team’s solution as they may then be imposing their style on the students, who may lean towards the Explorer style. VIEW also managed to enable a couple of teachers to recognize the difference in the style of management within their school and what they were comfortable with. As such, the importance of “coping” became evident and they saw that they would either need to expose their school management to VIEW and seek ways to accommodate various styles within their school structure, or continue “coping.”

Further research in the areas of style dominance in education and how it would influence student learning would be valuable. The contrast between how traditional school topics and topics relating to creativity and innovation are taught and its effectiveness, would be useful in determining the areas to be looked into when developing the education system to be in line with an increasing emphasis on change management and innovation.

Organizational Development

For commercial organizations, VIEW was seen as an appropriate tool in the areas of team building, communication, and conflict management. In this respect, the focus was in the differences in style when receiving and presenting information, with specific reference to managing change, processing information, and making decisions. Working with all three VIEW dimensions, participants were therefore primed towards effective communication and an appreciation and accommodation of diverse styles in creating successful teams.

With VIEW thus far administered to 62 participants from three different companies, it is interesting to note the spread of results that were obtained.

For the Orientation to Change Dimension, there was an obvious skew towards the Developer style, with 44 respondents scoring 72 and above on this scale, where the mode was tied at 76 and 86, and the mean was 77.81. The standard deviation for this sample was 12.14 and the range from 37 to 106.

In particular, the mean Orientation to Change score was 69 for one of the three companies (compared to 77.33 and 87.80 for the other two companies). This company had a range of scores from 52 - 86, with only two out of nine persons scoring above 80. This greatly impacted the style by which the workshop was conducted. For example, though a workshop schedule and clear structure was provided, the participants preferred to talk at more length and not necessarily in sequence for many of the topics. Illustrations were drawn from the workplace to elaborate all three VIEW dimensions, and additional suggestions offered for overcoming style differences. This can be contrasted to the other two companies who stuck closely to the provided schedule and were quick to stop with any brainstorming exercise.

For the Manner of Processing Dimension, the overall results for all three organizations indicated a skew towards the External style with a mean of 26.82. The standard deviation was 6.65 and the range of scores were from 15 to 47, with the modal score being 32. This was similar to the results obtained for the teachers involved in Destination ImagiNation®, where the mean score was 28.96, standard deviation 7.51, and range from 11 to 45.

Despite this skew of results, for all except one of the workshops that were conducted, the participants were typically more reserved in their comments and needed more effort to be coaxed into participating in the exercises. Interestingly, the group of participants that did not require much coaxing comprised of people from eight different countries from the three continents of North America, Europe, and Asia. Just based on this small sample size, I would hypothesize that despite having

similar Manner of Processing scores, there are observable differences in the behaviors that could be attributed to a difference in culture. A more in-depth validation of this hypothesis would prove valuable for organizations or facilitators to manage cultural differences.

Turning back to this culturally diverse group, though they generally preferred the External style, the social relativity of styles became quite apparent when the participants were grouped in style alike pairs or threes to discuss how they could overcome the style differences. Naturally, the Externals started their conversation without any hesitation and were talking at length about the topic. On the other hand, the Internals started by writing their thoughts before sharing them with the pair or group. This exercise created an impactful "ah-ha!" within the group as they realised the importance of actively accommodating different styles within their workplace.

Moving on to the Ways of Deciding Dimension, the overall results for the three organisations indicated a skew towards the Task Focused style with a mean of 37.65, standard deviation of 6.47 and range from 23 to 51. With only eight persons preferring the People Focused style, a large part of the discussion was centred around the work they did and the tangible application of the workshop to their work settings. For purposes of creating successful teams and managing conflict, checklists and questions were therefore provided to the participants to guide them to actively include the strengths of the opposite style in order to create balanced, holistic and effective plans that would garner a larger amount of buy-in.

Summary

In summary, the Singapore experiences with VIEW have been positive and the application of the instrument in various settings effective. In addition, the areas of style dominance within specific occupations and the impact of different cultures on the expression of styles are two areas that appear to be interesting grounds for further research.

Note. Francis Lua is a Partner with Entya Consulting, based in Singapore. He is also the Singapore Affiliate Director of Destination ImagiNation Inc.

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Problem-Solving Style, Teamwork, and Problem-Solving Performance

By Dr. Don Treffinger

During 2005-06, we conducted research on problem-solving style, teamwork, and problem-solving performance among students participating in the Future Problem Solving Program (www.fpssp.org), as we announced in a previous edition of *Creative Learning Today* (Volume 14, #1, p.3). The goal of the research was to examine experimentally the impact of team members' awareness of their personal problem-solving style preferences on their teamwork and problem-solving performance. In addition to knowing problem-solving methods and tools, successful teams must be able to collaborate effectively, share responsibilities, and build on the personal strengths of each team member as contributors to the group's efforts and accomplishments.

Problem Solving Style. The importance of problem-solving style for adults is well-documented (e.g., Selby, Treffinger, Isaksen, & Lauer, 2004), but it is also possible to assess problem-solving style with adolescents. We define problem-solving style as:

Consistent individual differences in the ways people prefer to plan and carry out generating and focusing activities, in order to gain clarity, produce ideas, and prepare for action. An individual's disposition towards change management and problem solving is influenced in part by mindset, willingness to engage in and respond to a situation as presented, and the attitudinal dimensions of one's personality. Preferences are natural leanings that support productivity. (Selby, Treffinger, Isaksen, & Lauer, 2004)

VIEW: An Assessment of Problem Solving Style (Selby, Treffinger, & Isaksen, 2002) assesses three

specific dimensions and six styles: Orientation to Change (Explorer-Developer), Manner of Processing (External-Internal), and Ways of Deciding (Person-Task). You can learn more about problem-solving style and download additional information about VIEW by visiting <http://viewstyle.net>.

Teamwork Skills. Treffinger and Purifico (2004) linked teamwork to effective problem-solving performance by groups. They described eight general factors that in building effective CPS teams, including: *Common Goals and Purpose, Shared Responsibility and Leadership, Program Expertise, Process Expertise, High Communication, Respect for People and Ideas, Focus on Important Results, and Managing Change.* (You can find more information about this book on-line at: http://www.shopdi.org/index.php?main_page=books_product_info&products_id=53).

Design of the Research Project

This research employed an experimental design, using teams that participated in FPSP in Florida during the 2005-2006 program year. The study was limited to Middle and Senior teams since VIEW is appropriate for use at those levels, or with adults, but not with younger students. Teams were randomly assigned to either the Experimental or Control groups. The final sample consisted of 22 Senior teams (10 experimental and 12 control), and 13 Middle teams (seven experimental and six control). All participating students completed an assessment of their perceptions of their own proficiency, and that of their teammates, on the eight teamwork skills, and a brief survey

on teamwork. We also gathered all teams' scores on two practice problems and a Qualifying Problem. These problems were scored by regular FPSP program evaluators, following their standard protocols, without knowledge of which teams were participating in this study, or whether any teams were in the Experimental or Control groups.

Experimental Group. Team members in this group responded to VIEW in October, 2005, at the beginning of the FPS program year. The coaches of the Experimental group teams also responded to the VIEW assessment, received an explanation of their results, and attended an orientation presentation about the VIEW assessment. Each team member in the Experimental group received his or her personal VIEW results through a 12-page Individual Report. Coaches of Experimental teams also received information about the implications of VIEW results for their teams' working relationships, comments and suggestions about their teams' possible strengths, potential "blind spots" or areas of difficulty in working together, along with handout materials for students on the strengths and limitations of style preferences in relation to each FPS problem-solving stage.

Control Group. This group of teams received instructions indicating only that they were selected to participate in a "special research project on teamwork skills and FPS performance" (to minimize potential experimental or Hawthorne bias effects); they did not receive the VIEW assessment or the related experimental materials.

Results

Seventy-one students on teams in the Experimental groups responded to VIEW. As a group, their average scores for *Orientation to Change* ($x = 72.7$, $sd = 16.8$) were similar to the average score for our master data base ($N = 10,151$; $x = 74.6$, $sd = 15.8$).

For the *Manner of Processing* dimension, the FPS team members' scores ($x = 27.6$, $sd = 10.3$) were, on average lower and more variable than the average for our data base ($x = 30.1$, $sd = 9.2$). This difference was statistically significant ($t = 2.26$, $p < .05$). The scores ranged from 8 - 50 (compared with 8 - 56 in our master data base). For the *Ways of Deciding* dimension, the FPS team members' average score ($x = 36.7$, $sd = 8.8$) was slightly, but not significantly, greater than the mean for our data base ($x = 34.6$, $sd = 8.5$). The scores ranged from 8 - 56 (the maximum possible for this scale).

Problem-Solving Performance.

For the first practice problem, there was a significant difference ($F = 5.78$, $p < .02$) between the mean scores of the teams in the Experimental ($x = 77.4$) and Control ($x = 63.3$) conditions.

For the second practice problem, the mean score for the overall Experimental group ($x = 112.3$) slightly exceeded the mean score for the overall Control group ($x = 110.8$), but the difference was not statistically significant. Each team's booklet for the Qualifying Problem was evaluated by two evaluators, whose scores were combined into a single total score for the purposes of this analysis. Overall, on the Qualifying Problem, the groups' scores did not differ significantly ($p < .05$).

Teamwork Skills. For both the self-assessment of teamwork skill factors and the team members' assessment of their teammates'

skills in those factors, scores were very high for both groups, representing 79% or more of the maximum total scores for all eight skill areas. Team members also responded to a brief final survey in which we asked, "Since you started working on FPS this year, have the members of your team (including yourself) changed or grown in your ability to work together effectively?" More than 70% of the team members in both the Experimental (72.3%) and Control (78.0%) groups indicated that they "became a better team" during the year.

Students in the Experimental Group performed significantly better than students in the Control Group on the evaluations of their first practice problem.

Discussion

The VIEW results for the FPS team members were generally comparable to our master data base of more than 10,000 adolescents and adults worldwide for two of the three VIEW dimensions. The FPS teams differed slightly but significantly from our overall data base on the VIEW Manner of Processing dimension, demonstrating a greater preference, on average, for the External style of processing than has been observed in our data base. Students in the FPS teams included both Explorers and Developers in Orientation to Change styles, students who tended more often to prefer the External than the Internal Manner of Processing styles, and students who tended to prefer the Task-oriented, rather than the Person-oriented, Ways of Deciding styles.

It is not surprising that adolescents who are involved in the FPS regular booklet program demonstrate a style preference that, on average, reflects the External style of Manner of Processing. Participation in this FPS component calls for individuals to engage in group interaction as the work to under-

stand the challenge, define problems, generate possible solutions, evaluate alternative solutions, and formulate an action plan.

In recent years, however, FPSP has offered the option of individual competitions in both the regular booklet component and, more recently, in the Community Problem Solving program. These options may provide excellent opportunities for young people with a well-defined or strong Internal Manner of Processing style to become involved in FPSP in a reward-

ing and challenging way. It may also be important, however, to continue to study ways to engage students with both External and Internal processing preferences in team-based activities in meaningful way. Problem solving in teams is not restricted in engagement or importance only to individuals with External style preferences.

This may be equally important in the classroom setting. On the one hand, it is important to provide learning opportunities that are appropriate for the individual needs of students who are internal processors. In addition, however, we must also be able to clarify and support the contributions of team members with an Internal style preference as they work in small groups or teams (especially when they may often be working with many teammates who prefer the External style). In reviewing classroom activities, curriculum and instructional materials, and evaluation criteria and procedures, it is important to ensure that there is a "level playing field" that encourages, uses, and celebrates the contributions of students with both External and Internal Manner of Processing styles.

Style and Problem-Solving Performance (continued)

Problem-Solving Performance.

There was an initial significant difference, substantial in magnitude as well as statistically significant, favoring the Experimental group teams on the first Practice Problem. The difference was greater for Senior teams than for Middle teams. This provides experimental documentation that awareness of problem-solving styles is not merely “interesting and enjoyable” information for adolescents, consistent with their interest in self-understanding and their quest for individuality, but also beneficial in promoting effective problem-solving performance.

However, the initial effect was not sustained statistically in subsequent evaluations over a period of several months. It is possible that providing initial style feedback and handouts is not sufficient to support and sustain adolescents in working effectively as problem-solving teams over a sustained period of time, and that the students needed more opportunities to review the style implications and to examine ways to manage style diversity effectively over time. They may have been less able to manage their style diversity effectively in subsequent evaluations (in which more extensive and complex problem-solving skills were required for successful performance) without additional support. Providing both the coaches and the team members with additional explanation and guidance in using the results to strengthen teamwork and collaboration may be needed to sustain the initial impact of style information on the students’ behavior.

Early adolescence is a developmental period commonly marked by unevenness of development, considerable “swings” in mature or immature behavior, and the

strong emergence of peer pressures on attitudes and behavior. It may, therefore, be a time in which many peer and social relationships variables compound (and may confound) the effects and impact of style, talent, and problem-solving skills. Middle level students may need greater guidance and support than later adolescents in order to understand and process personal knowledge of style and its implications for problem solving and teamwork. This may also point to the need for the development of additional resources, especially directed to early adolescents, to help them understand style differences and to learn to use them effectively when working in groups.

It is also possible that style diversity was more important to the student teams in some aspects of their work in the program than in others. For example, the teams may have found it easier, and more effective, to build on and manage their style diversity when they were engaging in early exploration of the problem, or in generating possible solutions, than when they were called on to focus their thinking, reach closure, and summarize their work in written form for formal evaluation. Style diversity may be equally important across many kinds of tasks, but these youthful problem solving teams may have needed additional support in using that information effectively.

Teamwork Skills. The results for the Teamwork Skills assessments also raised interesting questions. For example, the overall level of perceived teamwork skills (individually and in perceptions of teammates’ skills) was unusually high on the pre-test results, with scores of 79% or more on all the teamwork factors for both the Experimental and Control groups. Given the very high scores for both groups on the pre-test, approaching the maximum possible

scores on the instrument, there may be issues relating to possible ceiling effects or regression to the mean in relation to the post-test results. Once again, the scores from both groups exceeded 80% of the possible scores for all teamwork dimensions and the total score on the post-test results.

It is possible, of course, that the results reflected a population of young people with exceptional teamwork skills. This is questionable, however, based on general knowledge of the maturity and knowledge of typical 12-17 year-old students, feedback we have received from educators and coaches in other settings, and the broad variability among the teams in their scores on the problem-solving performance variables. Another possible interpretation might be that the team members had unrealistic confidence in factors that may not have been based on comprehension and ability to apply actual teamwork skills (i.e., they “didn’t know what they didn’t know”). This would support the idea that teams, especially teams of young adolescents, need extensive support and guidance in understanding ways to use their strengths and their differences constructively when working together. (Since the Teamwork Skills Inventory was a research edition, still in its preliminary research edition, we should also note that the high score levels may also reflect the need to investigate modifications of the instrument itself.)

Conclusions

This research project yielded several conclusions regarding problem-solving style, teamwork, and problem-solving performance. These included:

1. The problem-solving style profile of students in the project were not significantly different from our overall results for more

than 10,000 subjects worldwide (adolescent and adult) in relation to Orientation to Change and Ways of Deciding. This supports the view that problem-solving styles occur among adolescents in ways that are similar to their occurrence and distribution in the larger population. The construct of problem-solving style, as defined by the VIEW theory and measure, is consistent for students with that construct in the larger population. FPS students did appear to demonstrate a greater incidence of preference for the External Manner of Processing than occurs in the broader population. This affirms steps FPSP has already taken to provide alternative program options for individuals (especially those who may have a well-defined Internal Manner of Processing style). It also suggests that further inquiry may be warranted into the role and contributions of students with Internal style preferences in team activities in other settings.

2. The study provided evidence to support the positive impact of style awareness on students' problem-solving performance. Providing teams with basic awareness of their style preferences and the relationship of style to problem solving, especially at the Middle Level, may be insufficient, however, in order to enhance teamwork and problem-solving performance over a sustained time. Style feedback may need to be enhanced by (a.) guided discussion on the nature of personal strengths, talents, and styles and their specific contributions to group (or individual) problem-solving skills and (b.) structured opportunities for teams to use their style variability effectively over time throughout the program year. Knowledge of style preferences may also provide valuable insights into effective instructional programming for students with differing styles (such as External and Internal processing preferences).

3. Programs such as FPSP, in which there is explicit emphasis on teamwork and collaboration, are effective in meeting those goals, as reported by participating students. This result supports the effectiveness of the program in relation to one of its important goals. It may be important, however, to provide specific instruction and support in teamwork and collaborative skills and their relation to personal styles and talents, to help students understand, appraise, and manage diversity and team relationships. Particularly at the Middle level, students may need instruction and support in managing collaborative behavior and in separating it from social relationships, peer pressures, friendship concerns, and other developmental issues.

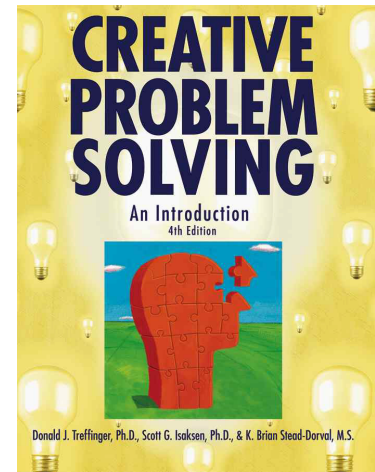
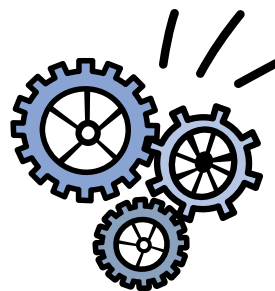
Note. This research was supported by a research grant from the Future Problem Solving Program, which we acknowledge with appreciation.

References Cited

Selby, E. C. Treffinger, D. J., & Isaksen, S. G. (2002). VIEW: An Assessment of Problem Solving Style. Sarasota, FL: Center for Creative Learning.

Selby, E. C. Treffinger, D. J., Isaksen, S. G., & Lauer, K. (2004a). Defining and assessing problem solving style: Design and development of a new tool. *Journal of Creative Behavior*, 38 (4), 221-243.

Treffinger, D. J., & Purifico, S. B. (2004). *Successful Creative Problem Solving Teams*. Glassboro, NJ: Destination ImagiNation, Inc



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The Prudential Spirit of Community Awards honor young people in grades 5 through 12 who have demonstrated exemplary voluntary service to their communities. The program was created in 1995 and is sponsored by Prudential Financial (<http://prudential.com/>) in partnership with the National Association of Secondary School Principals (<http://www.principals.org/>). Schools and officially designated organizations may select one middle level and one high school Local Honoree for every 1,000 students (or portion thereof). Local Honorees are judged at the state level, with 102 State Honorees from the 50 United States and the District of Columbia to be named in February 2007. Each State Honoree will receive \$1,000 and an all-expenses-paid trip to Washington, D.C., (May 5-8, 2007) with a parent or guardian. While in Washington, ten National Honorees will be chosen. Each of the ten National Honorees receives an additional \$5,000, a gold medallion, and a crystal trophy for his or her school. Officially designated local organizations are Girl Scout councils, county 4-H organizations, American Red Cross Chapters, YMCAs, and member Volunteer Centers of the Points of Light Foundation & Volunteer Center National Network. Student applications are due back to schools or organizations by October 31, 2006. Visit the NASSP Website (www.principals.org) for complete program information and an application form.

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A grant opportunity for high school math teachers in grades 9-12 who are members of NCTM and who are interested in creating curricular materials connecting their discipline to other areas is sponsored by the National Council of Teachers of Mathematics (NCTM) and supported by the Theoni Pappas Fund. Applicants may receive grants of up to \$3,000. The deadline for applications is November 3, 2006. For more information, visit: <http://www.nctm.org/about/met/pappas.htm>

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Cognitive Aspects of Behavioral Tendencies in Dimensions of Temperament and Problem Solving Style

By Joanna Sokolowska, Fordham University

Temperament and problem solving styles are two concepts that have been researched extensively by psychologists and educators, although questions remain whether there is a joint impact on the way individuals perceive and process information.

Temperamental differences in behavior are evident from the earliest days, weeks, and months (Chess & Thomas, 1977) with characteristics such as emotionality, activity, and sociability (Buss & Plomin, 1975) being identified in newborn babies and consistently present throughout adulthood. Temperament, often viewed as hereditary in origin (Alport, 1961), is also defined as involving characteristics of an individual that withstand the trial of time, remaining stable regardless of changes associated with age, environment, or experiences of a person (LeSenne, 1945). As such, temperament delineates individual behavioral tendencies and dispositions when exposed to different situations, which often pose dilemmas and lead to problem solving.

Recent work on problem-solving has addressed the varied approaches individuals may employ in dealing with complex, open-ended challenges, or the development of problem solving style—the consistent differences individuals display to gain clarity and prepare for action when dealing with new ideas, change, and complex, open-ended challenges (Selby, Treffinger, Isaksen, & Lauer, 2004).

Problem solving styles are anchored not only in the mindset and openness to situations pre-

sented at hand but also in dimensions of individual differences as displayed in temperament. There are similarities in a way the two concepts are defined, where the level of spontaneous behavior (activity, functioning) does relate to the openness to novelty (orientation to change), or preference of being surrounded by people with more external ways of processing ideas. Thus, the purpose of this study was to explore possible associations of behavioral tendencies as defined by temperamental and cognitive preferences reflected in problem solving style to further enhance understanding of the cognitive processes within the framework of individual differences.

Participants for this study included 61 graduate psychology students (80.3% female, 57.4% White, 52.5% Ph.D. candidates) with an average age 27.4. Information was derived from: (1) *VIEW: An Assessment of Problem Solving Style*, (2) *Mucchielli-Verdier Temperament Questionnaire (MVTQ)*, as well (3) a demographic survey referring to the race/ethnicity, gender, age, and academic status of the participants.

The results showed that Developers who tend to problem-solve within given structures, also tend to delay immediate processing of own experience, while Explorers who assimilate their own experiences quickly, prefer working with no set boundaries ($r=.37$, $p<.01$). Specifically, Developers, who solve problems better when given instructions and guidance, also take time to ponder on given information and analyze the situation at hand. Conversely, Explorers, who show a preference to challenge given structures and

definitions that may confine their way of approaching the solutions, also deal quickly with the situations at hand.

Additionally, those who display an Internal Manner of Processing who prefer working alone, also tend to process information in quiet settings, while more External individuals seeking collaboration with others tend to process ideas externally ($r=.29$, $p<.05$). Particularly, students who are secluding themselves from distractions and setting out the time for reflection, also show a lesser need to be surrounded by many people. However, those students with External inclinations of processing information who seek input from others before reaching any conclusion are also more outgoing and prefer extensive collaboration with others.

Taken together, the findings indicate that certain dimensions of temperament are related in consistent ways to certain problem solving preferences of individuals. The results, although preliminary, have shown that there is a common ground between dimensions of temperament and our cognitive processing as reflected in problem-solving style. Knowing one's own preferences in dealing with people and situations as reflected in temperament helps one to recognize and capitalize on her or his own strengths, as well as to challenge certain weaknesses or limitations. Similarly, knowing one's own tendencies in choices made when dealing with more abstract challenges, as reflected in problem solving, can lead to more effective learning.

Continued on Page 16

Temperament and Style (from page 15)

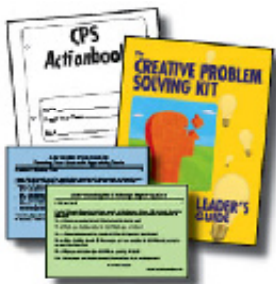
Moreover, an instructor's awareness of the specific style preferences displayed by students in a classroom can influence how educators design and deliver their curriculum. Such knowledge can be a very powerful tool that can enhance students' learning interest and potential successful achievement. Furthermore, early recognition of temperamental and cognitive preferences among younger students may enhance their study habits with the proper guidance of educators. It may lead to a greater enjoyment and interest in learning for students who think "outside of the box" and often outside of the structured curriculum, as well as for students who "think better inside the box," but may not have perceived themselves as creative. Problem solving skills, as any other domain expertise, may be developed and enhanced through learning, rather than through superior abilities (Anderson, 1981), which suggests that when problem solving styles are addressed and accommodated, the process of learning and application of problem solving within given temperament style can only benefit and augment cognitive progress.

References

- Allport, G. W. (1961). *Pattern and growth in personality*. New York: Holt, Rinehart, & Winston.
- Anderson, J. R. (1981). *Cognitive skills and their acquisition*. Hillsdale, NJ: Erlbaum.
- Buss, A. H., & Plomin, R. (1975). *A temperament theory of personality development*. New York: Wiley-Interscience.
- Chess, S., & Thomas, A. (1977). *Temperament: Theory and practice*. New York: Brunner/Mazel.
- Le Senne, R. (1945). *Traité de caractérologie*. Paris: Presses Universitaires de France.
- Selby, E. C., Treffinger, D. J., Isaksen, S. G., & Lauer, K. J. (2004). Defining and assessing Problem-Solving Style: Design and Development of a New Tool. *Journal of Creative Behavior*, 38(4), 221-243.

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Editor: Dr. Don Treffinger

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VIEW Inventory: Advanced Training Program

VIEW: An Assessment of Problem Solving Style, is now being used by educational organizations and businesses worldwide. On-line editions are now available in Dutch, English, French, Chinese, and Korean, and a Japanese edition is being tested. VIEW can be used effectively with adolescents (ages 12 and older) through adults. If you are interested in adding VIEW to your repertoire of professional tools, visit our Problem Solving Style page at <http://www.creativelearning.com/Problem-solving.htm> to learn more. Our next Advanced Training Program for new VIEW users will be September 21-22, 2006 in Sarasota. Contact don@creativelearning.com for more information