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Searching Standards for Creative Connections

Editorial by Dr. Donald J. Treffinger

In a previous article in *Creative Learning Today* (Volume 12, #1), I proposed that it is important to sustain an explicit emphasis on process skills and tools in an environment that seems increasingly to be dominated by discussions of content standards. We must continue to be advocates for the productive thinking skills that will enable students to apply what they are learning to new, unfamiliar, complex, and open-ended challenges, and to be prepared for life in a world of constant change.

Since that article was published in early 2003, we have continued to work on ways to describe and illustrate ways to translate the goal of integrating content standards with process. Our three books, *Thinking with Standards, Preparing for Tomorrow,* are now available, with examples of activities at the elementary, middle, or secondary levels for Science, Social Studies, and Language. Even more recently, we assembled a chart to help educators identify common terms that appear in many states' content standards and their possible linkages to CPS tools, stages, and components.

The chart illustrates our view that, despite the commonly expressed concern that there is little or no provision for creativity in many states' content standards, positive "connections" are possible. Often, the challenge does not arise from the actual language of the standards themselves, but from the way people interpret and apply them.

Let's consider two examples. If the standard calls for students to "organize information" in order to understand a concept or modify their understanding, a teacher might ask the students to master some basic information, and then give them a set of categories with detailed directions on which pieces of information belong in each category. Such an approach deals with the standard in ways that emphasize memory and recall. Involving the students in generating possible items of information (initially, or to supplement a given list) by using the *Brainstorming tool,* and then to use the *Hits, Hot Spots, and Highlighting* focusing tools to form clusters or categories, the activity responds to the standard, but also challenges the students to use creative and critical thinking processes.

Similarly, many teachers have had the experience that their students "knew" some information— in the memorization and recall sense of knowing— but, when asked to use a more complex operation, such as comparing and contrasting, seemed to be unable to respond successfully. An example might be, "compare and contrast two modes of transportation." Instead of simply asking students to memorize a list of the important characteristics of different modes of transportation,

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Editorial—

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suppose the teacher began by using the generating tool, *Attribute Listing*. The students might list attributes of one mode of transportation. For transportation by boat, the list of attributes might include: "floats in the water, used on water, has a bench or seats, carries people or cargo, has some means of moving through the water (motor, sail, paddle…)." For automotive transportation, the list of attributes might include: "used on land, carries people or cargo, has an engine, has seats." Next, the challenge of comparing and contrasting is quite straightforward: comparing involves items that are common to both lists, and contrasting involves identifying items that are in one list, but would not be in the other list. The higher-level activity flows easily from the results of applying the generating tool.

We recommend that rather than devoting our energy to resisting the widespread focus on content standards, it will be much more productive for us to maintain our advocacy for creative learning by demonstrating effective ways to integrate high quality content expectations with effective applications of creative and critical thinking and CPS. We hope that the chart accompanying this article will help you to accomplish that goal. The CCL leadership team can also assist your schools in reviewing curricula and developing activities to link process and content standards or in providing professional development programs and resources on tools and standards.

Common Terms in Standards	CPS Links
Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing (and contrasting) to solve a variety of problems in real-life situations. Students make decisions or choices, informed judgments, justify positions.	• Definition of critical thinking • Guidelines for Focusing • Focusing Tools: [Hits and Hot Spots, ALoU Paired Comparison (PCA), Evaluation Matrix, Sequencing (SML)] • Focusing Phase of all CPS Stages • The CPS "Preparing for Action" Component
Students will identify concerns, issues, themes; define or identify problems; understand many sources of data; gather data Students organize information to develop or change their understanding of a concept	• The CPS "Understanding the Challenge" Component and Stages WIBAI/WIBNI; 5Ws and an H; IWWM… for problem statements • Accommodating style preferences • Generating Tools followed by Focusing Tools
Students use creative thinking skills to develop or invent novel, constructive ideas or products. Students synthesize, develop or create possibilities, look at different points of view or perspectives, articulate issues and ideas	• Definition of creative thinking • Guidelines for Generating • Generating Tools: (Brainstorming & Variations, Force-Fitting, Attribute Listing, SCAMPER, Morphological Matrix) • Generating Phase of all CPS Stages • The CPS "Generating Ideas" Component
Students use a decision-making process to make informed decisions among options.	• Focusing Tools • Focusing Phase of all CPS Stages • The CPS "Preparing for Action" component
Students use problem-solving processes to develop solutions to relatively complex problems. Apply concepts, skills, and processes to everyday experiences. Ability to use their learning in future educational, occupational, and personal endeavors.	• The CPS "Planning Your Approach" management component (Appraising Tasks and Designing Process) • Creative Learning Model (Foundations; Realistic Problems; Real Problems) • Program Applications: Destination ImagiNation®; Future Problem Solving & Community Problem Solving; Invention Conventions

Guidelines for Creative Learning: Beyond the Basics

Dr. Don Treffinger

Most readers of *Creative Learning Today* are, undoubtedly, familiar with the basic generating and focusing guidelines (Treffinger, Isaksen, & Dorval, 2000). Beyond knowing and teaching those guidelines, an interesting question might be: how do we know when they are actually being applied effectively in a problem-solving group? This article offers some real-life or natural examples of the guidelines in practice (or *not* being observed very effectively) and indicators that each of the guidelines is (or is *not*) actually being practiced in a group.

Generating Guidelines

We'll begin by examining the Generating Guidelines. Overall, what are some indications that these guidelines are being followed? Some indicators to look for include:

- Positive feelings and affect among participants
- High level of energy and enthusiasm
- "Loose/tight" setting: humor, enjoyment along with "on task" productivity, hard work
- Quantity of options; many possibilities evident, including both common and uncommon options
- "Stretch"— new, varied, and imaginative options are evident and under active exploration
- Eagerness to communicate and share ideas
- Pride in effort ("Look at these great possibilities")
- Some options generated are ready to implement, while others will require additional refinement and development

We can look more closely at each of the four generating guidelines.

Defer Judgment

Natural Examples

\+ Pose a question and many options flow freely and openly.
– State an option and others immediately attack it or "pounce" on it

Indications that this Guideline…
IS being followed:

- Spirit of openness and invitation to thinking prevails
- Easy, steady flow of ideas (sometimes very rapid)
- On task, high involvement; people "bursting" with options
- People present and share options without hesitation

Or IS NOT being followed:

- Emphasis on quick closure ("Let's get this over with…") or frustration ("Do we really have to do this?")
- Sense of tension, tightness, resistance, or even hostility among people
- Much extended discussion, wandering off task; argument or even conflict
- Extended "speech-making"
- Reluctant, guarded contributions

Seek Quantity

Natural Examples

\+ Defining a task or challenge that is open-ended and invites many options or responses
– Posing a question for which few choices are evident, or a certain "preferred" choice is apparent

Indications that this Guideline…
IS being followed:

- Ideas written "all over the place!" — many sheets or charts of possibilities
- Written options stated concisely (as "headlines" or "telegrams")
- Quick pace (although there may be quiet times to "catch your breath")
- High level of energy, enthusiasm
- Groups of 5-7 might produce as many as 8-12 options per minute

Or IS NOT being followed:

- Slow pace, hesitance to share options
- "Like pulling teeth" to get contributions
- Little or no energy or enthusiasm can be observed among group members
- Withdrawal or negative body language
- Short list of options (e.g., 5-10 possibilities after 10 minutes)
- Questioning or criticizing the task
- Pronouncement— "I'll save us time by giving the right answer now."

Freewheel

Natural Examples

+ A situation in which someone's "wild or silly" idea leads to a major breakthrough
– A situation in which any unusual ideas are scorned or ridiculed, and people are attacked.

Indications that this Guideline… IS being followed:

- Laughter, good humor— people are enjoying the session
- Many unusual, wild, silly ideas pop up freely and openly
- Playfulness combined with on task productivity
- Lots of "stretching," people discussing imaginative possibilities, "what if…" or "just suppose…" thinking
- Spontaneity prevails

Or IS NOT being followed:

- Hesitance, self-apologizing ("This is probably a really dumb idea, but…")
- Speech-making or attempting to force the group to "be serious" or "stop being frivolous"
- Stern emphasis on what "obviously" should be done or will not work
- Offering only options that are safe, comfortable, close to current practice
- Few possibilities, even fewer that are novel or imaginative

Seek Combinations

Natural Examples

+ One option leads to another; people are excited when one person's idea leads to others
– People guard their own options; accuse others of "stealing" their ideas or grabbing credit.

Indications that this Guideline… IS being followed:

- People model active listening and attentiveness to others' contributions
- Rephrasing, acknowledging others' ideas and intent
- Explicit discussion of "linking" one option with another or "making connections among options"
- People mention piggy-backing or hitch-hiking and seek chances to do it
- Comments such as, "That reminds me of…" or "That triggers another idea…"

IS NOT being followed:

- Each person stays in his or her own train of thought, disregarding others' contributions
- Person persists in proposing the same option repeatedly, "can't let it go"
- Statements such as, "My idea is better than that because…"
- Expresses distrust of others or accuses others of trying to steal ideas or credit
- Treats options as personal possessions ("Now, *my idea* about this is…")

Focusing Guidelines

Next, let's turn to the same questions in relation to the Focusing Guidelines. Again, we will begin with some general indicators that these guidelines are being followed. These are:

- Sense of "digging in" to make options work
- Commitment to success and the hard work needed to attain it
- Sense of commitment and enthusiasm
- Clear, shared purpose, vision, goals
- Excitement about novel options, perspectives
- Sense of powerful direction and possibilities
- Knowing what needs to be done and how to do it
- Constructive outlook, eagerness to get started
- Sense of mutual contribution ("We're all in this together.")

Considering each of the four guidelines also allows us to look at both positive and negative examples and indicators.

Use Affirmative Judgment

Natural Examples

+ You share an option and others are positive, excited, or encouraging.
– You share an option and others attack it or put it down.

Indications that this Guideline…
IS being followed:
- Focus on strengths, improving an option or making it better
- Considering how to make an option work, or how to make it succeed
- Identify positives and potentials, limitations as "how to" questions
- Seeking ways to refine, strengthen options
- "Yes, and…"

Or IS NOT being followed:
- "Idea-slaughtering" occurs often
- Hearing the same old "idea killers" being used to put down new ideas
- Focus on what's wrong with an option or why it won't work or should not be tried
- Defending "pet ideas" against others
- "Yes, but…"

Be Deliberate

Natural Examples

+ "Let's be sure we're thinking this through…"
– "We're in a hurry; let's just grab one and go with it…

Indications that this Guideline…
IS being followed:
- Respect intuition and informed hunches when appropriate
- Knowing what kind of focusing is needed and how to do it
- Getting preferences and criteria out on the table for review and sharing
- Emphasis on clarity and communication about options
- Sense of informed participation prevails

Or IS NOT being followed:
- No explicit criteria stated for choices, or relying primarily on subjective choices
- People unwilling or unable to explain or justify their positions or choices
- Power struggles, politicking, and arbitrary decisions imposed by few
- May be conflict, controversy, or "win- lose" attitudes
- Hidden agendas prevalent

Consider Novelty

Natural Examples

+ Creating an option or action that leads to a new process, product, relationship, or action
– Everyone leaves a meeting with the sense that nothing new was accomplished.

Indications that this Guideline…
IS being followed:
- Investing time and energy in searching deliberately for new or original options
- Awareness of previous ideas and assumptions and willingness to hold them aside or re-examine them
- Tolerance for ambiguity, acceptance of options that are intriguing but will need refinement and development
- Deliberate consideration of unusual options to explore playfully

Or IS NOT being followed:
- Judging options to be inadequate with- out providing opportunities for their development
- People choose safe, familiar options and overlook or reject other possibilities
- Frustration may occur ("We wasted time and didn't come up with anything good")
- Choosing only the options that are close to what already exists or has been done

Stay on Course

Natural Examples

+ Purposes and goals guide and direct choices and action.
– Expressing confusion or frustration about goals, or pursuing individual perceptions of goals not shared by others.

Indications that this Guideline…
IS being followed:
- Clear sense of vision, purpose, goals, shared and understood by group members
- Group members remind each other to keep on track in constructive ways
- Promising options are "tested" against the goals and purposes
- Action planning identifies important and explicit links between options and purposes or goals.

Or IS NOT being followed:
- Choosing options that are initially appealing, without realizing that they do not relate the goals/purposes
- Purposes or goals of session not stated clearly, or disregarded after the first few minutes of a session
- Group members may express confusion, uncertainty, or disagreement about purposes and goals (or relevance of options to varying perceptions of goals)

The "What is Your Style?" Exercise: Using VIEW to Explore Individual Problem Solving Style

By Dr. Edwin C. Selby

In the two-plus years since the publication of VIEW: *An Assessment of Problem Solving Style* , I have used the instrument in my courses at Fordham University. It has proven itself useful in my *Psychology of Child Development and Learning* class, leading to discussions of style, individual differences, and differentiated instruction. In my *Introduction to Research* course, we discuss the development of a psychometric measure; I provide feedback on individual problem solving style results, and then we use the class's VIEW scores as the basis for instruction in basic statistical analysis as applied to Educational Psychology.

My usual group feedback session would include the foundations of VIEW, followed by a description of the characteristics associated with those whose styles are well defined on VIEW's three dimensions *(Orientation to Change, Manor of Processing*, and *Ways of Deciding;* Selby, Treffinger, Isaksen & Lauer, 2004). This discussion includes the benefits and risks of each style, and implications for those whose preferences are more moderate. After discussing each dimension, (and before anyone has seen his or her actual results) the class members record on paper their personal estimate of their style by marking a point along a line between the two styles for each dimension. For example, on the *Orientation to Change* dimension students would draw a line between Explorer and Developer and mark where they thought their score might fall. This would help later in debriefing, when we would discuss how well their VIEW scores matched their own self perceptions.

This was a simple and useful course exercise, and it also seemed to provide an opportunity for some informal feedback on VIEW's face validity. However, I was unable to collect that feedback in any meaningful way (since the informal drawings varied widely), and more importantly, the discussion that followed was usually limited to a show of hands and a few brief comments based on their very general impressions.
As a result, I decided to try a different approach in this semester's new courses. After discussing with my class the characteristics, benefits, and risks of each style on the *Orientation to Change* dimension, I handed out the form in the figure accompanying this article, and asked my students to mark where they felt they belonged on the continuum between *Explorer* and *Developer*. I also asked them to write *a short example that described their style.* We repeated the same sequence of steps for each of the other two VIEW dimensions. Next, I handed out the individual VIEW feedback forms, asked the students to read over the materials, and to compare their scores with their informal assessment of their style and their examples on the "What is Your Style?" form.

The resulting conversation was much richer than I had experienced using my earlier approach. Class members had an opportunity to compare their scores with their own written examples. As usual, the overall response was that individual VIEW scores captured the general direction of each individual's preferences. More importantly the more informal response form allowed some individuals to question their understanding of the characteristics described by each dimension. Other students were able to examine more closely their own style preferences and the implications of their preferences for managing change and problem solving.

The most promising aspect of this exercise for me, however, was the statistical information it provided, and the possibility of using the informal measure to contribute to our documentation of VIEW's face validity. On each dimension, therefore, I divided the scale for their own self-assessment marks into 15 segments. Working with my *Introduction to Research* students, we arrived at a correlation between the class's VIEW scores and their response on the exercise page. The correlation for *Orientation to Change* was .80, while the correlations for *Manner of Processing* and *Way of Deciding* were -.66 and .66. (I had deliberately reversed the scoring direction for the *Manner of Processing* dimension on the self-assessment, hoping that I would be able to demonstrate a negative correlation to my students.)

Addressing the question, "Do our VIEW scores tend toward indicating the same style preference suggested on the exercise form?" On the *Orientation to Change* dimension 12 out of the 13 respondents had VIEW scores that were in the same direction as the exercise. The written statement of the one student whose VIEW and exercise scores differed indicated a moderate Explorer preference on the inventory, while the exercise indicated a moderate Developer preference. This student's example statement began with the phrase: "I have some aspects of an

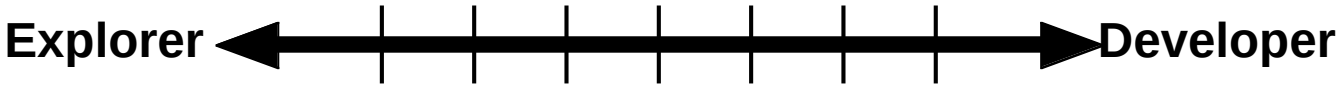
explorer at times I feel that I am on the edge with new ideas…."

On the *Manner of Processing Dimension,* two exercise responses were in a different direction than indicated by VIEW score. Two more exercise responses were marked directly on the theoretical mean. In each of these cases the VIEW scores were in the *moderate* range and the written examples also indicated a degree of moderation. One respondent wrote: "Sometimes I feel ready to share with a wide range of people, at other times I keep it to myself till ready."

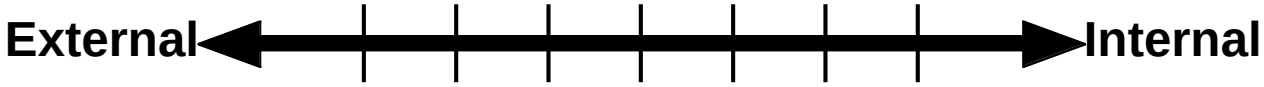
The *Ways of Deciding* dimension showed a similar level of disagreement, with two exercises responses differing in direction form the VIEW scores and one marked at the mean. Two of these again indicated moderate VIEW scores and moderately worded personal statements. One response read in part: "It depends on the situation at hand." However, a third student had a VIEW score indicating a preference for Task, but a well-defined prefer-

Name: _____

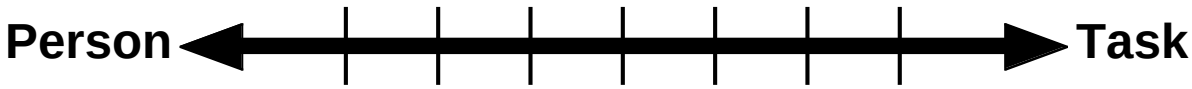
What is your style?



Give an example that describes your style.



Give an example that describes your style.



Give an example that describes your style.

ence for People on the exercise, accompanied by an example statement that read: "I avoid conflict until it is necessary."

These data presented the class with interesting implications in relation to research, and they also provided a useful foundation for further discussion about style. Which results were "correct?" Was it the VIEW scores, the exercise ratings, the example statements, all of the above, or some variation? As with many questions of this type the short answer in a very confusing "yes, all of these." The long answer is a bit more complicated. We are confident, based on our early studies (Selby et al., 2004), that VIEW scores are a reliable and valid way of assessing an individual's preferences when managing change and/or solving problems whether alone or with a group. As we gather more data, our confidence grows. But is that what we mean by "correct?" Perhaps the term means that the results seem accurate, "fit" the person in a comfortable way, and are worthy of trust, for example. Judging assessment data on those criteria may be more complex, and more qualitative, than might be supported by traditional quantitative analyses.
Future evidence gathered by more formal use of the exercise described in this article may provide further support for VIEW's face validity. Other studies may extend our understanding of its useful applications. However, no psychological assessment, by itself, will ever be totally accurate for all individuals in all circumstances. We can expect some individuals in any group to see themselves differently than described by their assessment scores. That is why feedback discussions are an important part of the assessment process.

While the "What is Your Style?" exercise has no research data to support it, it does provide individuals an opportunity to explore their preferences after hearing a presentation of each of VIEW's three dimensions, and before they see their own scores. This can set those scores into a less abstract frame for the participant. Follow-up questions for those whose scores differ from their more informal responses might address: frame of mind during the assessment and feedback sessions; understanding of the instructions; understanding of the feedback material; and clarity of self-perception.

This exercise can contribute to building an understanding that can be as accurate as any psychometric scope presentation (if not of greater personal meaning and value). In the end, informed self-analysis should be one of the major goals of the VIEW feedback session, exploring such points as:

- "How do I really prefer to manage change and solve problems?"
- "How do I react to novelty, structure and authority?"
- "How am I most effective when processing information?"
- "When am I most comfortable including others and proceeding to action?"
- "What are my priorities when making decisions?"
- "What are the implications of my style when working alone or with others?"
- "What are the implications of the group's style for making our combined efforts more effective?"

In the final analysis, it is careful, reflective, self-perception that provides a wise and valuable understanding of style and its implications— in ways that are richer and more powerful than looking strictly or mechanically at specific numerical scores.

Reference

Selby, E. Treffinger, D., Isaksen, S. and Lauer, K. (2004). *Technical Manual - VIEW: An assessment of problem solving style.* Sarasota, F. Center for Creative learning, Inc.

Exercises, Stories, Case Studies Wanted!

Do you have a great training or instructional activity or exercise, a story to tell (see, for example, the story format that we've used in *Creative Approaches to Problem Solving* or in *Expanding and Enhancing Gifted Programs),* or a case study of creative learning, CPS, talent development, or learning style? We need to hear from you! Creative Learning Today welcomes contributions. We offer you an opportunity to share successful practices and experiences with other professionals, to see your ideas in print, and to establish a foundation for networking with colleagues who share your interests. Sharing and exchanging good ideas among our readers is one of the major goals of this publication, but we can't do it without your participation. Simply email us an inquiry, if you'd like suggestions about its appropriateness or about ways to develop it for publication. Or, attach a Word document with the draft of your material, and we'll work with you to prepare it for a future issue. (Send email to don@creativelearning.com, please.) We accept contributions at any time, and we usually publish material within one or two issues of its final approval. Your contributions are also very important to us for establishing and maintaining a timely publication schedule!

Learning Styles, Creative Learning, and Talent Development

By Dr. Don Treffinger

"Every parent knows that each child is different from every other. It is unusual to be able to rear two children in the same way; what works for one, rarely does for another."
Dunn, Dunn, & Treffinger (1992)

My personal interest in learning styles began nearly three decades ago, when I first became aware of work by Rita and Ken Dunn in classroom settings and of the extensive body of theory and research on the Myers-Briggs Type Indicator (MBTI®) with adults. At the time, many of us in educational psychology (and our colleagues in other educational studies disciplines) were keenly interested in individualizing instruction. My journey into those areas has taken many turns over the years, and has included a detour or two along the way, too. Nonetheless, the core learnings along the way have continued to influence my thinking and research on instruction, creativity, and talent development. The individualized instruction movement has also evolved in many interesting ways. Its influences can be observed in many constructivist approaches to instruction. Our contemporary focus on differentiation, represented, for example by the work of Carol Tomlinson and her colleagues, also reflects an extension and enhancement of many principles and practices that were components of earlier individualization studies and projects.

One of the fundamental principles that continue to influence our current efforts in talent development and creative learning is reflected in the quotation at the beginning of this article. I believe it is an outstanding example of common wisdom that has also been supported by scientific inquiry (which, of course, does not always happen): *every learner is unique.* I believe this simple statement could warrant consideration as the core value of everyone in education: *every learner is unique.* Some might consider it a platitude, or (in the phrase coined by one colleague) a "blinding glimpse of the obvious." Alas, a close look at education in action—from the primary grades through graduate school— suggests that it is fare from obvious in the realm of everyday practice. Too often, we *do* much less than we *know.* Instruction that recognizes, respects, and responds to students' learning-style preferences remains one of the most powerful ways to translate that fundamental principle into effective practice.

In this article, I will briefly summarize some of the key benefits of taking learning styles into account in instruction, offer several cautions, and describe implications of research on learning styles for creative learning and talent development.

Benefits of Knowing and Applying Learning Styles

Understanding learning styles helps educators (and learners) in a variety of ways. It's much too easy to say, "All children can learn," for, as usual the "devil is in the details." When I was a student in teacher education courses (just after the dinosaurs disappeared), professors were fond of telling us how important it was to respond to individual differences. When we asked them how to do that, they usually discovered that it was time for them to be at another important meeting. It wasn't enough for us to know that students don't all learn the same way, and that they all bring different strengths, interests, experiences, and needs to every learning situation. We were eager to know what we were supposed to do about it. Today, there are sound and practical ways to respond to those questions. Learning style offers useful data through which it educators can differentiate instruction, or design and manage group environments effectively.

The benefits of knowing and applying learning styles information include helping us to…

- Focus on students' strengths, not just on weaknesses or limitations
- Recognize, understand, and nurture students' personal talents and interests
- Share and apply a common language and tools for collaboration and teamwork
- Build confidence and positive attitudes toward learning
- Guide students in enhancing their personal productivity
- Increase the effectiveness of groups
- Help individuals learn to discover and express their own creativity, and personalize their use of "mental tools"
- Enable students to recognize, appreciate, and use their own strengths and the strengths and talents of others
- Provide data for students to use in becoming partners in teaching and learning, as they move towards independence and self-direction
- Enable individuals and groups to manage change effectively (including both "thinking out of the box" and "thinking better inside the box").

Some Cautions

It is also important, however, to recognize several cautions or

"watch outs" in applying learning styles. These include:

- Styles are "value neutral;" there is no "one best" way to be. We must be careful to avoid the misunderstanding that some styles are "better" or "more creative" than others. Instead, we can help students to use their style to understand how to be at their best.
- Learning style speaks to individual differences, and is not a way of "homogenizing" groups. Getting information about students' style preferences will not be very helpful unless we also know and apply appropriate ways to respond in ways that are appropriate for different preferences.
- Style is concerned with how we prefer to learn or work, not with content (what we learn or do). Instruction in any content area can be designed and delivered in style-appropriated and differentiated ways.
- Style describes ways we can be productive naturally and comfortably; it is not a prescription of what we cannot do. People can function in varied ways, including ways that differ from their preferences, when necessary.
- Our style preferences may be influenced by experience with appropriate, effective instruction. Sometimes students believe that they can't learn in certain ways because they have never had an opportunity to use certain methods or materials appropriately; their concern may be about method rather than style.
- It can be puzzling to sort out:
  -how or what I typically prefer
  -how/what I prefer, at my peak
  -how/what I think I ought to prefer
  -how/what I wish I preferred.
- Various style approaches give insights into different aspects of a person's preferences; they are not all the same. It is important to choose well-designed and well-researched style models, and to choose an approach that provides support for instructional planning and response, not just labels for students.

Implications for Instruction, Creative Learning, and Talent Development

Our knowledge of style and its benefits leads to several general implications for designing and carrying out instruction effectively. Selby and Treffinger (2003) recently reviewed research on the relationships among learning style, giftedness, and creativity.

We found that certain differences in style preferences appeared consistently in studies of high-ability, high-achieving students. They frequently preferred quiet, low structure, bright light, and learning alone unless with others who are their similarly achieving peers. High-ability students also preferred formal rather than informal settings, and learning in many ways when learning new and difficult material. Dunn (1998) reviewed many studies with high-ability students and described those students as perceptually strong, more persistent, more flexible, and internally controlled. There have been mixed results in relation other learning style variables. Several studies reported that gifted students preferred formal design, while at least one study supported the opposite conclusion. Similarly, several studies found a preference for mobility, while another did not. There were also mixed findings relating to sound, light, time of day, auditory and visual preferences, and temperature. The mixed and inconsistent findings may result from variations in sample sizes, age, context, definition of giftedness (which often varied considerably among studies), or methodological differences among the studies reviewed. In addition, however, style preferences may differ in relation to talent and interest domains. Dunn (1993) reported, for example, that students with strengths in a certain talent domain demonstrated, across cultures, similar preferences, and differed significantly from students with strengths in different talent areas in their own or other cultures. Not all students identified as gifted or creative will share the same characteristics or style preferences.

Our own studies comparing learning style preferences with individual style of problem solving (Selby et al., 2002) indicate that individual problem solving style is not related to ability level. Problem solving style preferences for *Orientation to Change* (Explorer or Developer), *Manner of Processing* (Internal or External), and *Ways of Deciding* (Person or Task), are also related significantly to several dimensions of learning style. These data suggest that considerable caution must be exercised in generalizing about giftedness or creativity as unitary constructs. Comparing Milgram's (1990) findings with those of Selby et al. (2002), persistence is a trait associated with high-ability students, as well as those who prefer a Developer style when solving problems or managing change. Explorers, on the other hand—who seem just as capable in problem solving as Developers— do not display this preference to the same degree. Similarly, Developers are more authority-motivated while Explorers are more self-motivated. High-ability learners often prefer working in a formal rather than informal environment, and low rather than high structure; however, this finding may vary when

problem-solving style is considered. Developers prefer formal design and high structure, while Explores prefer more flexibility and low structure. Students with the Explorer problem-solving style and learners identified as gifted prefer low structure and flexibility. However, as creative problem solving style preferences move toward the Developer style, individuals appear to prefer less flexibility and more structure. Developers seem to know how to deal with structure and use it as a tool in successful problem solving, often at a high level, while Explorers often find structure constraining and confining, although they are also capable of high-level performance and accomplishments. Learning alone, a commonly reported preference among high ability learners, appears to be preferred by problem solvers with an Internal processing preference, while those with an External style prefer working with groups (especially groups of peers). Many high-ability students express a preference for quiet and bright light; bright light is preferred by Task-oriented problem solvers, but not by Person-oriented problem solvers.

In summary, after examining research with students identified as gifted or of high ability, we found a set of style preferences that differentiates this group from those not so identified. However, the data also suggested that style preferences can vary widely within and across talent domains, cultural contexts, and specific tasks in which they may be engaged. In general, however, we can identify several general implications for instruction. These are:

- Nurture is more powerful than selection.
- Creative productivity arises from sources other than just one's abilities or personal traits.
- Explore and apply varied teaching methods.
- Guide students toward self-understanding and self-direction.
- Provide for varied modes of active involvement.
- Encourage depth of involvement, commitment, or passion based on the person's unique nature and interests.
- Recognize stylistic differences in learning and using many thinking tools and methods.
- Remember that your style of teaching, leading, or facilitating is not the same as that of every member of your group or class.

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Call for Research: New Opportunities

During 2005, the Center is interested in expanding its research initiatives in several areas. Specific areas in which we are interested in collaborative projects include:

• **Applications and impact of style-based instruction.** Does providing teachers (or students themselves), from the middle level through the university level, with information about VIEW style preferences have a measurable impact on the students' performance on problem-solving tasks or on measures of academic achievement?

• **Validation and application research with VIEW.** We invite researchers to submit proposals for structured research that will extend our understanding of the validity of the VIEW instrument or document effective applications in new settings or for varied purposes. A specific "Call for Research" is available; you may download it from the Problem Solving Style page on the Center's website.

• **Field-testing and validation of new creativity assessment resources.** As reported in previous editions of Creative Learning Today, we have been working on a variety of new resources to assess students' creativity characteristics and skills. We are seeking data. Research opportunities in this area include developing a master database that includes data from multiple age and ability levels across a variety of geographic locations and demographic variables, as well as reliability and validation studies.

• **Impact of instruction in CPS tools on student achievement.**

Continued on Page 13

Talent Development: Indiana's Levels of Service Project

With support from the Indiana Department of Education, we are now in the second year of a statewide project in which we are implementing the Levels of Service (LoS) approach to talent development; we first reported about this project in *CLT*, 12 #2.

The project has now expanded to 17 sites in its second year. Eight sites are now in their second year of work with us, and nine new sites joined the project in June, 2004. The participating districts range from small, rural settings to large, urban and suburban areas, and the implementation ranges from pilot work in one building to district-wide involvement. The nine new teams beginning their first year in the project will meet with us three times during the 2004-05 year. These teams will receive a variety of books and professional resources to support LoS implementation, several days of training and networking, and one day of on-site consultation and support from a member of the CCL team (which includes Don Treffinger, Grover Young, and Ed Selby).

As the first year's pilot groups enter their second year in the project, we are providing continuing opportunities for the teams to network with each other, to meet with our team, and to receive additional on-site support. We have also offered an overview program on LoS for administrators and other key leaders from the participating districts, in order to broaden the base of awareness and information about LoS and the project.

This project presents us with a unique opportunity. Although we have been working with the LoS framework in a number of individual districts for more than two decades, and conducted some training and materials development on a statewide basis in prior years, the Indiana project is our most extensive, multi-district, structured implementation program. It provides a unique opportunity to document the effectiveness and impact of the LoS approach, and to learn more about a variety of factors that may influence successful implementation over time. Each participating team is reporting regularly (to us and to each other) on its activities and progress, and plans for more formal documentation and implementation are in process. Contact the Center for Creative Learning if you would like to know more about this innovative project.

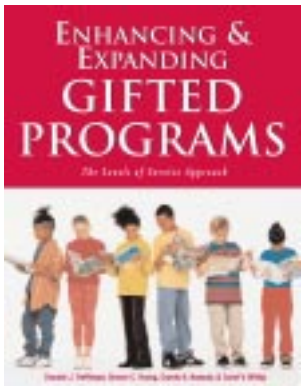
Talent Development Planning Handbook Now Available

Our new *Talent Development Planning Handbook for the Levels of Service Approach* is now available. The handbook is a loose-leaf notebook with more than 200 pages of practical material for designing and implementing LoS programming. It also includes a CD (for either Mac or Windows platforms) containing a variety of resources in PDF, Word, and PowerPoint formats

You can purchase the handbook separately, or you can order a special package in which you can obtain the handbook *and* our new textbook, *Enhancing and Expanding Gifted Programs: the Levels of Service Approach* as a set and at a specially discounted price.

The handbook is $79.95 alone, and the textbook is $29.95; the combined set is $90.00 (all prices plus shipping). Additional discounts are available for quantity purchases, such as for use in book study groups or for planning committees or G/T task forces.

Training Note. If you are interested in investigating the LoS approach for implementation in your setting, we hope you will consider sending a leadership team to our 2005 Summer Professional Development Institute in Sarasota, described in more detail elsewhere in the issue. More information is also available on our website.



Research Opportunities

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Will efforts to integrate generating and focusing tools with content standards have measurable impact on students' academic achievement? This question might involve data collection in varied content areas and across K-12 grade levels.

• **Impact of student- and adult-led instruction in CPS.** As we complete work on our new CPS Kit (a comprehensive program that guides students in grades 5+ in learning and applying CPS Version 6.1™), we are seeking evidence of the impact of the program, used independently by students (independently or in groups) or used with the guidance of an adult (teacher, coach, etc.). Studies might examine several different dependent variables (e.g., attitudes, impact on creative thinking, performance on problem-solving tasks, or evaluations of projects and products). Research in this area might involve a variety of models (from case studies to experimental inquiry) to examine a variety of qualitative and quantitative outcomes.

We would be interested in hearing from readers with interests as prospective participants (school- or organization-based professionals who would be interested in arranging for subjects to participate in research studies), or who are interested in serving as investigators for research studies. Contact the Center if you are interested either role for any of these research areas. We also welcome inquiries about other studies relating to creative learning, CPS, or style; the topics in the above list are intended as examples of research that would be of interest, rather than as a complete menu of possibilities.

New Funding Opportunities

As a continuing effort to stimulate interest in funded projects to support new initiatives on CPS, talent development, or style, we try to provide readers with information about new grant opportunities. If you are interested in working with us on a proposal for an innovative project to submit to any of these sources, please contact us!

Youth Service Grants
Youth Service America funds the DisneyHand Minnie Grant to help youth, ages 5-14, teachers and organizations implement service projects for National Youth Service Day, April 15-17. The program offers $500 grants to engage youths in projects responding to community needs. Applicants must develop a service project focused on a specific need in their communities. The deadline is December 20., 2004 For more information: http://ysa.org/awards/award_grant.cfm

Sony USA Corporate Philanthropy
Supporting Education in Communities
Sony USA Corporate Philanthropy program has several giving categories: arts education, arts and culture, health and human services, civic and community outreach, education and volunteerism. Under their program, Sony in America, they believe in investing in the education of the nation's children. The program, Sony Electronics, focuses much of its philanthropic energies on educational programs. The company is a long-time supporter of students involved in engineering, math and science and they have given electronics products to many schools. The deadline is open; grants generally range from $1,000 to $100,000. Nonprofit 501(c)3 organizations are eligible to apply. Contact**:** Sony USA Foundation, Attn: Communications and Corporate Affairs, Dept., 550 Madison Avenue, 33rd Floor, New York, NY 10022-3211, (212) 833-6800. You may visit the website at http://www.sony.com/SCA/philanthropy.shtml.

The McKenzie Foundation
The McKenzie Foundation, which supports various nonprofit organizations, is concentrating on early childhood development, education, arts and culture. Grants are given on a rolling basis, and support projects that enrich learning for all ages. Proposals should include a description of the project, the approximate starting date and duration. You must partner with a local foundation to be eligible for this grant. For more information go to: www.mckenziefoundation.us/guidelines.php

7-Eleven: Slurpees, Big Gulps, and grants
7-Eleven has gained a solid reputation for its community outreach programs. A number of different institutions benefit from 7-Eleven funding. The company gives to pre-selected organizations in the following areas: Education, Multi-cultural Understanding, Crime Prevention, and Hunger. Organizations that have 501(c)(3) status, **public schools** and libraries, and communities where 7-Eleven stores operate. Open deadlines; grants are usually $1,000 to $2,500. For more information: http://www.7-eleven.com/about/outreachprograms.asp

ANNOUNCEMENT

China – U.S. Conference On Education Integrating Multiple Intelligences, Creativity, & Problem Solving

This conference will be held July 19-22, 2005, in Beijing, Peoples' Republic of China. **The Conference program strands include:**
Building Collaboration will focus on ways to work together in mutually supportive relationships and emphasize dialogue that provides learners with opportunities to increase understanding of content, culture, and one another.
Unleashing Creativity will focus on creative problem solving processes and explore the benefits of creative and critical thinking approaches.
Shifting Learning Environments will focus on the practical means and methods of organizing and managing innovative teaching and learning.
Cultivating Change will focus on how educational leadership, professional development and teacher education can be transformed to create future-focused, dynamic, and innovative education systems.

The steering committee includes Dr. Jim Cross, representing the Center for Creative Learning, Rusty McCarty (Destination ImagiNation, Inc)., and a number of leaders of other national programs and organizations. CCL Core Team member, Dr. Pat Schoonover, will be one of the featured presenters at the Conference.

Seven Reasons to Attend

The conference sponsors stated seven reasons for attending this conference. These are:

* Attend paired U.S./Chinese presentations on key topics!
* Participate in interactive dialogue following presentations!
* Share your expertise!
* Visit schools and universities!
* Meet leaders from across China!
* Develop institutional partnerships!
* Expand your international network!

Conference Schedule

The conference Opening Ceremony will be held on the morning of July 19, with Concurrent Strand Topics in the afternoon, and an open reception in the evening. Concurrent strand presentations will continue on July 20, with a visit to the Peking Opera in the evening. July 21 will feature visits to universities, schools, and programs Concurrent Strands and Summary Reports from each of the Strands will occur on July 22, with a closing ceremony and a Peking Duck Farewell Banquet in the evening.

Conference and travel packages, with pre- and post-conference tour options, are also available).

For More Information Contact:

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The National Center for Teaching Thinking Announces Two Theory-into-Practice Seminars On Thinking-Based Learning

I. Developing a Thinking-Based Curriculum
February 14-19, 2005
II. Assessing Students' Critical Thinking Abilities
February 22-26, 2005

These programs, led by Dr. Robert Swartz, will be held at the National Center for Teaching Thinking, Newton, MA (USA). These seminars are designed for school and district administrators, curriculum directors, lead teachers, Department/Ministry of Education staff, and curriculum and assessment specialists, worldwide. Their goals are for the participants to develop effective ways of infusing thinking skill instruction into the standard content areas of their curricula, and to construct reliable techniques to assess the quality of student thinking in these contexts. Relevant research and effective practice on thinking instruction and assessment developed over the past 20 years will be studied in order to meet these goals. The seminars can be taken individually or in sequence. Each will be limited to 25 participants. The cost is $599 per seminar. Graduate credit is available at additional cost. For additional information, contact the National Center for Teaching Thinking, 815 Washington Street, Suite 8, Newtonville, MA 02460, USA). **For additional information** please consult the NCTT website (www.nctt.net) call their office at 617-965-4604, or email them at info@nctt.net.

CCL Announces: Summer 2005 Professional Development Institutes

The Center for Creative Learning will offer two new professional development Institutes in Sarasota this summer. These programs will focus on new developments and directions in the areas of talent development and Creative Problem Solving (CPS). The programs will be offered successively, enabling participants to attend either or both programs with a single trip.

The first Institute will focus on CPS in Education. It will begin at 9:00 AM. on Wednesday, July 13, and close at Noon. on Friday, July 15. This program will provide you with information about all the latest developments in our work on creative learning and CPS, applications for teaching and learning, and a special set of print and CD-based resources. The program will also provide opportunities for networking with other participants and sharing successful practices from many settings.

The second Institute, "Talent Development: The Levels of Service Approach," will begin at 9:00 AM. on Monday, July 18, and conclude at Noon on Wednesday, July 20. This program will provide you with our newest information and resources on theory, research, and implementation of the LoS approach. You'll receive print and CD-based resources, and practical support for implementing LoS programming at the school, district, or statewide levels.

For additional information about these Institutes, please visit our website, where you can read all the details and download a complete brochure in PDF format.

VIEW Advanced User Training Programs Plus: First VIEW Users' Networking Conference

The current schedule of VIEW Advanced User Training Programs includes several program opportunities in Sarasota and internationally in the coming year. The current schedule is:

Sarasota, Florida: February 1-2 and May 5-6, 2005
Oxford, UK: December 13-14, 2004
Brussels Belgium: March 10-11, 2005

For additional information, visit the Problem Solving Styles page on our website. You can also download a PDF file containing complete program and registration information. Remember that you can become a registered VIEW user without attending this program, but there are many benefits of attending (including discounted costs for accessing and using the VIEW Inventory).

We will also offer our first VIEW Users' Networking Conference in Sarasota from February 3-5, 2005. This program is open to all registered VIEW Users, and will provide a variety of updates by the VIEW authors and developers, reports of new research results, new user-support resources and suggestions, and opportunities for networking with other experienced VIEW users. This program will provide a variety of new insights and opportunities for all VIEW users. And the special bonus, of course: "Sunny Sarasota" in February!

Visit the CCL Website for Many New Updates

If you haven't visited the CCL Website (www.creativelearning.com) recently, we suggest that you pay us a visit. We have updated most pages and added a number of new items and free downloads. The CPS and Talent Development bibliographies have been updated, too. We would appreciate your support in two ways: first, tell your friends and colleagues about our website and encourage them to visit; second, send us your feedback and suggestions for features or information to add.

CCL Leadership Team Offers Professional Development Opportunities

Did you know that several members of the Center for Creative Learning leadership team are available for in-service or professional development workshops, consultation, and presentations at your site?

We can arrange programs for many audiences, including teachers, counselors, curriculum specialists, administrators, school board members, or parents. We can also work with education or training professionals in museums, science centers, arts organizations, church leadership programs, or other organizations. Our experienced team members can provide quality leadership for your staff development needs in several areas, including:

- Basic Tools for Creative and Critical Thinking
- Creative Problem Solving
- Understanding Yourself and Others: Problem Solving Styles
- Talent Development: the Levels of Service Approach
- Self-Directed Learning
- Recognizing and Assessing Creative Characteristics
- Leadership and Team-building
- Linking Process and Content Standards for Differentiation
- Talent Development Program Design, Restructuring, or Evaluation

We can arrange half-day or full-day programs, or we can work closely with you to design and deliver multiple-day seminars and "training the trainer" programs. Please contact us by mail, phone, or email to discuss your needs for the coming year and ways we might help you to meet them.

Our Sentiments, Exactly. Thanks for Your Continuing Patience!

Purpose and Subscriptions

Editor: Dr. Don Treffinger
Purpose: To share new ideas and practical strategies for productive thinking, and talent development, and learning style; information about and reviews of new resources; and opportunities for networking among our readers.

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