

Problem Solving Style: A New Approach to Understanding and Using Individual Differences

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As we have been working with new, more flexible, dynamic models of Creative Problem Solving (Isaksen, Dorval, & Treffinger, 2000; Treffinger, Isaksen, & Dorval, 2000), focusing on practical tools for managing change, we found rewarding new insights from recent work on personality and learning styles. Instead of asking “How creative is this person?,” we have learned to ask “How is this person creative? What are his or her strengths? How do people channel and direct their creative energies?”

As a result of more than a decade of research and development, we have concluded that problem solving style is a very important dimension of creative productivity. We define problem solving styles as *consistent individual differences in the ways people prefer to plan and carry out generating and focusing, in order to gain clarity, produce ideas, or prepare for action when solving problems or managing change* (Selby, Treffinger, & Isaksen, 2002; Selby, Treffinger, Isaksen, & Lauer, in press).

When creating, solving problems, and managing change, some people, working alone or in groups, seek to *improve* on ideas, products, processes, or services that already exist—polishing them, “adding new twists,” making them better, or extending their applications in new directions. Other people prefer to direct their efforts to breaking totally new ground— “going where no one has gone before.”

Our recent research and development efforts have now resulted in the publication of a new instrument that will help us gain a richer and deeper understanding of these differences, and in a broader sense, of the role that one's personal style preferences play in creativity and inventing. The instrument is *VIEW: An Assessment of Problem Solving StyleSM* (Selby, Treffinger, & Isaksen, 2002). In this article, we will describe VIEW and its principal dimensions.

The VIEW Instrument's Three Dimensions

VIEW represents and assesses three dimensions of style preferences that are unique and important in understanding and guiding the efforts of individuals and groups to manage their creative problem solving or inventive efforts effectively. These are: Orientation to Change, Manner of Processing, and Way of Deciding.

Orientation to Change

The first VIEW dimension provides an overall indication of the person's perceived preferences in two general styles for managing change and solving problems creatively. We identify this as Orientation to Change; its two contrasting preferences are the *Explorer* and the *Developer*. Although it is convenient to characterize each of these preferences using descriptors of people with extreme scores, most people share some preferences associated with each style. How a person emphasizes these approaches in her or his typical individual behavior across varying contexts and over a sustained period of time, and the consistency or clarity of our preferences, contribute to the location of the overall preference score along the Explorer—Developer continuum. As the person's behavior and preferences are clearer, more certain, and more consistent, the total

score moves away from the mean, toward either the Developer or Explorer style preference. If the style described by that score is accurate, the person will find that style description very natural and comfortable.

The Explorer style. Lower total scores on this VIEW dimension reflect the Explorer preference. In ordinary use, an “explorer” is an individual who thrives on venturing in uncharted directions or seeks to break new ground and follow possibilities wherever they might lead. Webster’s definition of explore includes, “to travel over new territory for adventure or discovery.” Explorers enjoy initiating a broad range of tasks, and thrive on new, ill-defined, and ambiguous situations and challenges. Explorers seek to create many unusual and original options that, if developed and refined, might provide the foundation for productive new directions (although they may prefer to leave the refining and developing to others as they move on to other new challenges). Explorers are good at seeing unusual possibilities, patterns, and relationships, which may be difficult for others to understand or embrace initially. They tend to “plunge” into a situation, feed on risk and uncertainty, and improvise their planning as the situation unfolds. They often find external plans, procedures, and structures confining and limiting to their imagination and energy.

The Developer style. Higher total scores on the Orientation to Change dimension reflect the Developer preference. In ordinary use, a “developer” is an individual who brings tasks (which might be ideas, problem statements, action plans, products, or programs) to fulfillment, who begins with the basic elements or ingredients and then organizes, synthesizes, refines, and enhances them, forming or shaping them into a more complete, functional, useful condition or outcome. Webster’s definitions of “develop” include “setting forth or making

clear by degrees or in detail.... to move from the original position... to one providing more opportunity for effective use,...[or] to come into being gradually.”

Developers are concerned with practical applications and the reality of the task, and they use their creative and critical thinking in ways that are clearly recognized by others as being helpful and valuable. Developers are good at finding workable possibilities and guiding them to successful implementation. They are often careful, methodical, and well-organized, and seek to minimize risk and uncertainty. They are comfortable with plans, details, and structures, and find those helpful in moving any task or project forward in an efficient, deliberate manner.

Manner of Processing

The second dimension of VIEW, Manner of Processing, describes the person’s preference for working *externally* (i.e., with other people throughout the process) or *internally* (i.e., thinking and working alone before sharing ideas with others) when managing change and solving problems.

External. Scores below the mean indicate a preference for an “External” style of processing. Individuals who exhibit a well-developed preference for this style draw their energy from interaction with others, discussing possibilities, and building from the ideas of others. They prefer physical engagement with the environment. When learning new and difficult material those with an External style preference clarify their ideas and understandings through discussion. They find the input of authorities helpful as part of their active discussion. They are not bothered by noise in the study area, approach learning in several ways, and often find that physical mobility enhances their learning, thinking, and problem

solving. When solving problems, they seek a great deal of input from others before reaching closure. “Externals” tend to be seen by others as good team members and often appear full of energy. Preferring action to reflection, they may appear to rush into things before others are ready to proceed.

Internal. Scores above the mean reflect a preference for an “Internal” style of processing. Those with a well-developed Internal style look first reflectively to their own inner resources and draw energy from their reflection. They prefer to consider ideas on their own before sharing them with others. They embark on action only after giving it careful consideration. People with an Internal preference emphasize quiet reflection and processing information at their own pace. They tend to become engrossed in inner events, ideas, and concepts. They prefer learning privately, working at least initially without the help of peers or authority figures. They may seem quiet and might be perceived by others as pensive or withdrawn.

Deciding

The third dimension of VIEW describes the major emphasis the person gives to *people* (i.e., maintaining harmony and interpersonal relationships) or to *tasks* (i.e., emphasizing logical, rational, and appropriate decisions) when making decisions during problem solving or when managing change.

People. Individuals with scores below the mean tend to focus on the People style as their primary emphasis when deciding. They consider first the impact of choices and decisions on people’s feelings and support, and on the need for harmony and positive relationships. They prefer to be emotionally involved when setting priorities. They are often seen as warm, friendly and

caring. They are often quick to become aware of, and to respond to, the needs of others. They seek solutions or decisions that all concerned can “buy into.”

Task. Scores above the mean indicate a focus on the Task style. Those with this focus tend to look first at choices and decisions that are logical, sensible and can be justified objectively. They prefer making judgments that are impersonal, based on well-reasoned conclusions. Individuals with a Task style of decision making seek mastery of content or information to help them arrive at the “best solution” or response, or at a solution they can readily defend or justify. They may stress the need for staying cool and free from emotion, while seeking clarity, precision, and logical order.

Supporting Psychometric Data

The current edition of *VIEW* is based on data collected from 3,676 subjects ranging in age from 13 to 82, who responded to *VIEW* in the English language.

Descriptive Data. The mean age of the sample is 41.3 years (sd= 10.52; range= 13-82), and the median age is 41, based on 2,267 subjects; 1,409 subjects declined to state their age. The sample includes 1,389 males and 2,251 females (36 subjects declined to state their gender). For this sample, the table on the following page summarizes several important descriptive statistics for each of *VIEW*'s three dimensions: Orientation to Change (OC), Manner of Processing (P), and Way of Deciding (D). The sample size for all rows in the table is N= 3,676.

Statistic	OC	P	D
Mean	73.80	30.59	33.47
Std. Deviation	16.68	9.28	8.57
Range	18-126	8-56	8-56

Intercorrelations Among VIEW's Dimensions. The three VIEW dimensions, Orientation to Change (OC), Manner of Processing (P), and Ways of Deciding (D) are largely independent of each other, as reflected in intercorrelations among them. The OC dimension correlates 0.109 with P and .184 with D. The P and D dimensions correlate .163 with each other. Although these correlations are statistically significant ($p < .01$), their magnitude indicates that there is very little shared variance between any two of the dimensions.

Reliability of VIEW. We examined the internal consistency of VIEW's three dimensions using Cronbach's coefficient Alpha. The coefficient Alpha results for the current sample were .88 (Orientation to Change; OC), .85 (Manner of Processing; P), and .84 (Way of Deciding; D). These results indicate strong support for the internal consistency of VIEW. The two-month test-retest correlations for the three VIEW dimensions are .83 (OC), .85 (P), and .75 (D; all $n = 48$, $p < .01$). Given the customary standard that test-retest correlations are adequate if $r \geq .60$ and excellent if $r \geq .7$, VIEW demonstrates very high stability.

The Validity of VIEW. The primary initial evidence regarding VIEW's validity has been our investigation of the factor structure of the instrument. We have conducted factor analytic studies of the instrument on the current normative data set ($N = 3,676$), using a Principal Components Analysis to extract the factor structure, and a Varimax procedure with Kaiser normalization as the rotation method. The rotated factor structure indicates that VIEW's 34 items can be accurately described in a three-factor model, and the items for each of the three dimensions do load ($r > .30$) on the anticipated factor and do not load at the same level on the other two factors. We have also found that the three VIEW dimensions correlate in expected patterns with other related instruments,

including Kirton's KAI, the Myers-Briggs Type Indicator (MBTI®), and the Dunn and Dunn Learning Style Inventory. The detailed results of the factor analysis, and other quantitative validity evidence, are presented in Selby, Treffinger, Isaksen, & Lauer (2004; In Press). Since the instrument has only been available for research use for slightly more than one year, we consider the evidence to be promising that VIEW measures what it purports to measure; additional validation research is now being conducted by the authors and several other independent researchers.

Implications of VIEW for Instruction and Training

VIEW is a practical and useful tool for anyone who wishes to understand his or her own approach to change, problem solving, or inventing. VIEW is easy to administer, score, and interpret.

The results provided by the VIEW assessment can help individuals to recognize, describe, and appreciate their own problem-solving style preferences. Teachers or counselors can also use VIEW to guide individuals in formulating personal creative strengths profiles, and understanding how to apply their personal talents as fully as possible. We believe it is more important for individuals to learn how to optimize their appreciation and use of their own creative strengths than to attempt to "mold" their behavior to represent an unnatural and inappropriate stereotype of "the creative person." We believe that, in truth, there are many valid ways to be creative, not just one. Individuals can use their VIEW results, then, to test their reported or perceived preferences against their typical behavior or performance on a daily basis in varied situations, in order to affirm or modify an understanding of their strengths or

weaknesses in terms of problem-solving style. Their VIEW results can help them to grow in understanding of their unique style preferences. With this knowledge, individuals can identify ways to be at their personal best, and they can determine how, or under what conditions, they may benefit from the strengths of others. Through training they can use that knowledge and awareness to support and enhance their creative problem-solving behavior, and to use their knowledge to customize or personalize their selection and use of creative problem-solving methods and tools, either working alone or with a group or team. VIEW also has implications for people who are working in, studying, or facilitating problem solving or change management with groups. It provides a common language or vocabulary for understanding and appreciating style similarities and differences constructively among the members of any group.

We have applied VIEW effectively in businesses, schools, educational organizations, and religious groups, with both adolescents and adults, for team-building and leadership development. As part of a training program, the data provided by VIEW have also proven valuable in helping teams and individuals develop more effective problem solving and change management strategies. When feedback is offered to students in school settings, the data provided by VIEW can be useful in helping teachers in creativity instruction, and in developing Creative Problem Solving teams. VIEW can also be used to enhance and support organizational efforts addressing strategic change, guiding change and innovation, or other deliberate change management initiatives. Project management teams can use VIEW to enhance communication and build effective collaboration among team members. VIEW also offers many opportunities for researchers. These include correlational studies with instruments representing

the theories that formed the foundation for VIEW's development, studies of the efficacy of VIEW in enhancing creative productivity for both teams and individuals, and the effectiveness of VIEW as a tool for building and maintaining supportive climates for creativity and innovation.

In summary, *VIEW: An assessment of problem solving style* is a new instrument for assessing problem-solving style. It is the result of several years of research and development. Recent studies indicate that it is both reliable and valid for the assessment of an individual's style of problem solving and change management. It has applications for research and in settings where individuals would gain, as a result of a better understanding of their problem-solving style. To learn more about VIEW, please contact us by mail at the Center for Creative Learning, P. O. Box 14100, Sarasota, Florida 34278, by phone (941.342.9928), by fax (941.342.0064), or by email (info@creativelearning.com). You can download additional information about VIEW at our website, which is (<http://www.creativelearning.com>).

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