The Creativity and Problem Solving for Qualitative Situations

Florin FARCAŞ[1]

Abstract

Our concern in this paper is to show how the creativity ways help to problem solving, for qualitative situations. In our view it is necessary to design a set of principles that to increase an individual's effectiveness in reaching better decisions.

We also debate some aspects about human behavior and the matters of the problem solving process, as frustration, creativity, selection alternatives or "trial and error", etc.

Problem situations cause reactions ranging from frustrated behavior to creative. Problem solving behavior begins when the individual think in terms of what he can do to overcome obstacles and ceases such behavior as hostility, self-pity and rigidity.

Keywords *problem solving, creativity, behavior, goals, obstacles, alternative, opportunity*

JEL classification: M10, M12, M14

Introduction

All problem solving is not creative. Primitive problem solving takes the form of trial and error: reproductive problem solving transfers solutions from one problem situation to others, and creative problem solving builds spontaneous solutions by fragmenting and reorganizing past experience.

To be effective, a solution must have two ingredients: quality and acceptance A solution's quality refers to the extent to which it respects the objective facts while it's acceptance refers to the feelings of the persons who must execute the decision. High quality decisions that lack the support of those who must carry them out may fail, and high acceptance decisions that lack quality also may fail. That is why the leaders' roles are very important, as they have to be able not only to build up a strategic vision, but also to develop strategic mechanisms that will support creativity and innovation and achieving the expected results (Nastase, 2010). The ideal in problem solving would be to maximize both quality and acceptance.

However, the methods for protecting quality are in conflict with those for gaining acceptance. Must one objective be sacrificed to maximize the other? It appears that we are confronted with a dilemma.

[1] **Florin FARCAŞ**, The University "Aurel Vlaicu", Faculty of Economics, Arad

A method for resolving this dilemma is to classify problems according to the degree to which the effectiveness of their solutions depends upon quality and acceptance respectively. This classification would yield a type of problem that had quality as the major objective and acceptance as the minor objective. This type of problem would lend itself to objective problem solving where facts would play a predominant role in selecting a solution.

A second classification would yield a type of problem that had acceptance as a major objective in its solution while quality would be a minor objective. This type of problem would deal with feelings and should allow for the participation of those who were to execute the solution. Solutions that require the cooperation of others for their execution must utilize group participation.

1. The decision making principles and creativity

Our concern in this paper is with increasing an individual's creative potential and avoiding the pressure of conformity created by authority and group opinion. This pressures influence both the problem solving and the decision making processes. Often these terms are used interchangeably. However before we can up guide a process it is essential to classify it. Let us begin by making some basic distinctions.

Decision making includes two processes: problem solving and choice behavior. A problem exists when a person is blocked from reaching a good. Problem solving is the search for as invention of a solution. A solution is a method for getting around an obstacle. A choice on the other hand exists when a person is confronted with a situation in which there are two or more ways for reaching an objective. Behavior is blocked because one of the alternatives must be chosen before behavior can continue. Problem solving, thus becomes a searching or idea getting process, whereas choice behavior requests an examination and a selection from the alternatives and is therefore an idea evolution process.

The following principles are designed to increase an individual's effectiveness in reaching better decisions.

*Principle 1.*The ''idea getting" process should be separated from the "idea evaluation" process because the latter inhibits the former.

"Idea evaluation" involves the testing and comparison of solutions in the light of what is known their probability for succeeding and other practical considerations. It is the practical side of decision making and is the phase when judgment is passed on ideas. Idea getting requests a willingness to break away from past experience. It is this process that requests an escape from the bonds of learning and demands that we search for unusual approaches and entertain new and untried ideas.

Robert Ingersoll once said: 'Colleges polish the pebbles and dim the diamonds". This may be an overstatement, but it points up the dual aspect of learning. There are creative potentials that are inhibited by knowledge. Insofar as education teaches us what is known, it develops us and permit us to meet situations that have been previously met. In this way our problem solving is enhanced-our

knowledge can generalize and thus is polish. However in order to escape from the search into the past, now combinations of elements must be generated. The process of learning is to build associative bounds between elements of experience that are found and observed in conjunction with one other. Thus we learn names of things, we relate causes with effects and we compose and see likenesses and differences. Creativity, however requests the combination of elements and events that have never been experienced together-the generation of a new route from the starting point to the good ,made up of parts of old routes.

In other words, creativity requires the ability to fragment past experience to permit the formation of new spontaneous combinations. In contrast learning requires the ability to combine or connect elements that have been continuous to each other in our experience .Since these two abilities are basically different, they do not necessarily go together. One person may possess all unusual learning ability and be uncreative; another may be unusually creative but not be outstanding in learning ability. Both the abilities to learn and to fragment experience are necessary for good problem solving. However the second of these has been largely overlooked because of the fact that we put our emphasis on the study of learning. The acquisition of knowledge, such as college training, actually may give an individual a mental set that reduces his creativity in certain aspects, even though such knowledge is valuable in other ways. This is because the educated person may attempt to solve a problem by applying what he knows, and although this would be a successful approach on some occasions, it would not be a creative solution. This set prevents him from making up unique solutions and thereby developing a combination of parts that cannot be found in his past. Thus a potentially creative person (a diamond) might be dimmed (in Ingersoll's sense) by a knowledge of standard or known approaches to a problem.

Past learning, practical considerations and evaluation all tend to depress fights of imagination –the forward leap that is based on a hunch (insufficient evidence).Creative thinking is a radical rather than a conservative look at a problem situation and requires encouragement if it is to be nurtured. To demand proof a now ideas at the time of their inception is to discourage the creative process.

However, creative ideas and insane ideas sometimes are difficult on distinguish. Both represent a departure from a common and traditional ways of thinking, both are new and unique to the person. But there is also a difference. The creative idea has a basis in objective reality, even though the evidence to convince others is inadequate, in contrast, the product of the insane mind is made up of elements derived largely from internal stimulation, such as hallucinations and imagined events.

Principle 2.Success in problem solving requires that effort be directed toward overcoming surmountable obstacles.

If we think of a problem situation as one in which obstacles block us from reaching a good, it follows that some of these obstacles will be more readily overcome than others. As a matter of fact, a problem will be insoluble if attempts are made to reach a good over an insurmountable obstacle. This means that

decision maker attempts to overcome some obstacles might be doomed to failure. Success in problem solving therefore depends on locating obstacles that can more readily be overcome.

It is the common tendency to persist in following an initial approach to a problem. In other words, a particular obstacle is selected and pursued despite the fact that it cannot be overcome. Usually this obstacle is the most obvious or is one that previous experience has suggested. For example medical research that the inoculation of a serum to create immunity has been a successful approach for dealing with some diseases so it tends to be followed for others. In business it is not uncommon to approach new problems with approaches previously found successful. Yet difficult problems require new and unusual approaches; if they did not, they would not be difficult problems.

A common tendency that frequently leads to failure is associated with the attempt to solve a problem by locating a person or group that is at fault. For example, a solution to interactional problems that requires another nation to behave differently may meet with failure because the problem solvers cannot control the action they recommend. Lacking such control, when it is essential to the solution, represents an insurmountable obstacle. A solution that cannot be effectuated falls short of solving the problem and hence leads us only to the insurmountable obstacles.

Successful solutions must be workable.

Principle 3.Problem-mindedness should be increased while solution – mindedness is delayed.

By nature people progress too rapidly toward a solution. This is what is meant by solution-mindedness.

Experimental evidence supporting the value of delaying the searching of a solution and spending more time focusing on the problem is available. Common experience may be cited.

It is not uncommon to find that people, who disagree about solutions, later find that they have not even agreed on the problem. The first prerequisite to reaching agreement on a solution would seem to be one of reaching agreement on the problem. The reader also will recall that when he asks his friends for help on a problem, they offer suggestions before he has finished his statement of the problem.

Solutions can be up-graded by spending more time classifying the desired major objective, locating various obstacles that block its attainment and looking for unusual approaches. Most persons have a preference for certain solutions and are so anxious to use them that they over generalize their applications. Searching for differences and inhibiting generalization increase problem-mindedness and delay solution-mindedness.

Principle 4, Choice situation should be turned into problem situation. The characteristic of a choice situation is one of being confronted with two or more alternatives. As a consequence, behavior is blocked until one of the alternatives is selected. The characteristic of a problem situation on the other hand, is one of being confronted with an obstacle that prevents the reaching of a good. Behavior is

blocked until the obstacle can be removed or surmounted. Creative alternatives tend to be over –looked in choice situations because a choice is made between the obvious alternatives.

The fact that such alternatives exist, directs the energy toward making a choice and thus detracts from the search for additional alternatives.

Creative or unusual alternatives, not being among the obvious ones, are unlikely to characterize behavior, in choice situations because activity is directed toward a choice between existing alternatives. Something must be done to delay this choice until the possibility of additional alternatives is explored.

The discovery or creation of solutions is inherent in the nature of problem-solving. This means that the problem solver should approach each choice-situation as one is which the possibility of additional alternatives exists. When he does this, he is turning a choice situation into a problem situation.

Only after other alternatives are found or invented should the process of making a choice be undertaken.

Principle 5. Problem situation should be turned into choice situation because problem situation block behavior, the natural reaction for people is to act on the first solution that is obtained. The objective in problem situations is to remove or get around an obstacle. As a consequence, the discovery of the first successful possibility tends to terminate the search. The fact that one solution is found does not preclude the possibility that these may be others, yet people frequently behave as though this were the case.

If the person accepts the first solution as a possibility, he may then see if he can find another solution. If a second and even more solutions are obtained, the problem situation will have been turned into a choice situation. The opportunity to make a choice must necessarily improve the final decision because a choice between alternatives is permitted and the better one can win.

Turning problem-situations into choice situations thus has two advantages:

1. It leads to more unusual situations, which would tend to be the more creative; and

2. It permits the opportunity to select the best of the alternatives.

Decision making requires both choice behavior and problem solving behavior. To identify decision-making either with choice behavior or with problem solving is to restrict its function. Both activities go on decision making and since the two processes differ, it is desirable to make capital of the difference and thereby up-grade each.

Principle 6. Disagreement can lead either hard feelings or to innovation, depending on how it is introduced. Two strong forces make for conformity: fear of the leader unfavorable judgment and fear of unfavorable responses from the group to which one belongs. These factors unfortunately operate only too frequently in group discussion so that the leader must be prepared to deal with both of them. Experimental evidence in support of this conclusion is to be found in several of our recent studies.

Almost everyone has learned that he can get into more trouble by disagreeing with his boss then by agreeing with him. This is this kind of learning

that develops ”yes-man”. In most organizations, conferees need a great deal of encouragement to feel free to disagree with the boss. This does not mean that disagreeing is a virtue. Rather the subordinate must feel free to disagree if he is to contribute the best of his thinking. The leader takes the first steps in reducing conformity by withholding judgment, entertaining criticism, and trying to understand strange ideas.

The dangers of disagreeing with the majority members of one’s own group or with society in general or with society in general are less readily learned. The disaster and the innovator sometimes find themselves popular and sometimes unpopular. For this reason any hard feelings created by disagreement are not too apparent. However, an additional factor also operates. This is the security gained in’ going along with the onward”. When people are unsure of themselves they are particularly prone to follow the group opinion rather then risk a deviant opinion. Conformity to group standards becomes unfortunate when it inhibits free expression or when the group rejects the person who innovates without examining or understanding his contributions. A majority does not have to prove or justify itself because it does not have to change minds, but a minority can be laughed down and hence is desired the opportunity to prove itself. Original ideas are new so the original person frequently finds himself in the minority. This means that he may not only be a lonely person, but will have to justify many of his views.

When one person disagrees with another, the latter is inclined to feel that he has been attacked. As a consequence he feels hurt, defends himself, or becomes angry and counter-attacks. Such emotional reactions lead to interpersonal conflict and this type of interaction tends to worsen. As a result, some people avoid hurting others.” Good” group members therefore tend to be sensitive to group opinion and become careful in expressing their views. As a matter of fact, they may find that the easiest way to be careful is to avoid disagreeing. People who go along with other participants by conforming may be good group members, but they also become poor problem solvers. Members cannot learn from one another by agreeing. They can avoid generating hard feelings but eventually they may become based.

We therefore are confronted with the fact that because disagreeing with others frequently leads to injured pride and interpersonal conflict, it is considered to be poor manners. In attempts to avoid trouble; people learn to refrain from disagreeing and hence move toward conformity. However, this alternative also is undesirable. The resolution of this dilemma is not only to prevent the suppression of disagreement but to encourage a respect for disagreement and thereby turn into a stimulant for new ideas.

An individual who is creative either needs the protection of trained supervisors who can protect him or he must learn to disagree without creating resentment. He must not degrade popular ideas and persons who held them. Instead, he must try to teach others to play with new ideas and to entertain them as more possibilities. This is not an easy matter but the innovator must learn that the acceptance of new ideas is a matter of feeling rather than logic.

2. Instead of conclusions

Creativity on its own is only a beginning .Human beings are relentlessly creative. Having ideas is relatively easy –having good ideas is slightly more difficult-but the real challenge lies in carrying ideas through into some practical result. The crucial issue then, is that creativity must have some tangible outcome-in products, in services, in a new structure or strategy, or more diffusely in a pervasive shift in a corporate culture.(David Waller and Jane Henry-*Managing Innovation* ,Sage Publications London 1994,p.3).

Dr. Irving Taylor, when he taught psychology at the Pratt Institute, claimed there were five levels of creative activity. First, what he calls *expressive creativity*. This involves independent expression. Originality skills and quality are unimportant. Spontaneous drawings by children are examples. Second is *productive creativity*. Here a level of proficiency is reached, though the individual's work may not differ from the work of others. When people move from the *expressive* to the *productive* level, claims Dr. Taylor, they tend to restrict and control free play. They develop techniques for producing finished work. So that is creative but not imaginative.

Inventive creativity is thought to be the next level. This is when we are in creative with materials, techniques and methods. We have to be flexible in seeing new and unusual relationships between previously separate parts. Important characteristics are invention and discovery.

Dr. Taylor calls the next *lever innovative*. This comes when someone really understands a basic principle and is able to develop it. Few can do this. Jung following Freud might be an example. We have to dig deep into principles to understand them that well.

The highest form of creativity according to this psychologist is *emergentive creative*:" In rare instances an entirely new principle or assumption, around which new schools flourish emerges at a most fundamental and abstract level". Picasso and Einstein were such men.

In practice, the levels that concern us most are the third and sometimes the fourth. It might be good to dwell on the creative process a moment. If we know how it works we are in a better position to encourage in ourselves and others. First, psychologists say, raw material is gathered for the idea. It comes from the world around us, perceptions received consciously and unconsciously. Creative people glean experience from anywhere. This "raw material" also comes, of course from specific information fed in to solve a specific problem. Often creative people not only devour experience, they see it with a naiveté that surprises people. Every day is new. We have seen this innocence. It is to be prized. Non-creative people pigeon-holes experience into stereotypes. We must do this to live, evidently, but said recently, are for pigeons, not people. If we pigeon-hole, only a small part of what we see and hear enters the subconscious mind. Most is blocked because it is preconceived.

The creative act is to link there experiences in a new way. The essence of creativity is to organize things differently. One lesson is that if output depends on

input, we should be out and about and make sure our designated "creative" people are out and about too. Sitting at a drawing board has its limitations.

The next stage in the creative process according to psychologists, is "incubation". All these experiences flow freely in the creative mind without being stereotyped. They "bump into each other and react on one other" From these interactions, parts start to fit together in new relationships. This phase goes on all the time.

Creative people will say how they wrestle with a problem for days, getting nowhere. Then a clear solution emerges. That stage is called "illumination". It may flash in the mind at any time. Archimedes and "Eureka". Charles Darwin could point to the exact bond of the road where, out in his pony trap his theory of evolution fall into place. But this flash of inspiration seldom happens except after stays of apparently fruitless effort.

The final stage is "*execution*". Translating an idea into reality is often painfully hard. One thing is clear: somewhere in the creative process comes the need for great and undisturbed concentration: This can lead to odd behavior. Schiller liked the smell of rotten apples in his desk. Stephen Spender smoked heavily and drank endless cups of coffee. Others play music to focus all distractions into one they don't hear. When creative people are in the grips of a problem, time vanishes. Hours go by as in a moment.

Too much conforming to rules doesn't help. That's one reason why "skunk works" as a good idea. Farther thing we've learnt is the need to generate lots of ideas. If you don't, people will polish and polish their first idea, without seeing it there is a better one to be had. Finally, and this is born out by the theory about the left and right sides of the brain, it is very important not too soon. Analytical thought and creative thought are different activities. One destroys the other. (James Pilditch: *Winning Ways. Mercury Business Books*, Devision of WH Allen& Co Plc London 1989)

References

1. Crosby, P., (1978) *Quality is Freud: The Art of Making Quality Certain*, Mc Graw –Hill, Maidenhead
2. Edwards, B., (1988) *Design for Corporate Culture*, NEDO
3. Nastase, M., (2010)**,** *Developing a Strategic Leadership Approach within the Organizations*, Revista de Management Comparat Internațional / Review of International Comparative Management, Volume 11, Issue 3,pag. 454 - 460 July
4. Ohnax, R., (1982) *The Mind of the strategist: Art of Japanese Business*. Mc Graw –Hill New York.
5. Peters, T.S., and Waterman, R.N., (1982) *In Search of Excellence, Harper* Sc Raw, New York

Copyright of Review of International Comparative Management / Revista de Management Comparat International is the property of Academy of Economic Studies Bucharest and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.