The Synectics Creative Problem Solving Method

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Background

Synectics is a proven, structured process for obtaining creative problem solutions.[1] Since the early 1960's, Synectics has been used particularly with groups to come up with novel solutions to difficult problems. Synectics is founded on thousands of hours of group process and group problem solving and decision making observations (Nolan, 1989). Key to its success is the avoidance of criticism, the freedom and encouragement to take risks and be absurd, and connection-making. Connection-making is one of the things I find most valuable about Synectics and similar approaches. Connections or associations between ideas and concepts are sought religiously. Since no one is criticized and all contributions are of value, all contributions are important, and the more, the better. Connections don't have to be immediate or apparent. In fact, the more distant or preposterous the better.

Because of its interactive nature, Synectics is very useful in team environments. Its problem focus within a high-involvement, mutually-supportive climate supports group problem-solving and decision-making, and promotes important communication skills development, thus, building cohesive, empowered teams. Its facilitated process provides method and framework important for groups and teams which have not, yet, found effective means to focus on and explore problems and make decisions in which they are confident. The Synectics process is immediately rewarding: in relatively short time, groups achieve results. This is particularly beneficial to teams as the process demands mutual understanding of problems and consequent decisions made about them. Having struggled with these issues together, commitment to decisions and their implementation is likely to be high.

Synectics also overcomes the tendency to come to closure on problem definition quickly, and to start solving the problem before it is fully understood. Synectics presumes that "confusion is a healthy path on the way to understanding." It is our individual responsibility to create relevance out of confusion and the unknown, "to make sense of it through guessing and testing." The guided, step-by-step process allows this. With some exceptions, Synectics is a group problem-solving method, involving three primary roles: a facilitator who guides the process and reinforces appropriate behaviors, but does not, generally, otherwise participate; a client, the person (or persons) who owns the problem; and the problem-solving group.

The Process

Step I. *Problem Definition* (The Task Headline). From the beginning of a Synectics session, you realize that this is a different approach to problem solving than that to which we are most familiar. The first step is to define the problem as a "How To...?" For example, instead of "I

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[1]Background for this paper comes from class notes, numerous experiences participating in and facilitating Synectics sessions, and a compilation of references obtained from various sources, including "bootlegged" Synectics materials. This paper was originally developed as an appendix to Frameworks for Problem Solving and Decision Making for my use in classes, seminars, and client support.

don't have time to grade all of these papers," the problem statement becomes, "How can I create enough time to get these papers graded?" Before rushing off to solve the problem, Synectics, then, has us provide a brief explanation of it, focusing of these four issues/questions:

- a brief background of the problem
- who owns the problem? (*why is it a problem for the client?*)
- what has already been thought of or tried?
- what is the ideal solution or outcome? (*how can the group help?*)

Step II. *Goal Wishing* (Springboards). The next step encourages free thought and helpful attitudes. The problem-solving group is asked to contribute wishes for the client. Wishes are ways participants would like to help the client and see his or her problem resolved. Wishes may be clearly appropriate and relevant, such as "I wish you could hire someone to help you grade papers." Or, they may be more abstract or fanciful, such as, "I wish your papers would fly out of the window." Wishing should continue until a number and variety of wishes have been listed. Sometimes the facilitator interjects wishes of her own. This is done if the group needs stimulus to wish more imaginatively and playfully. *Being quixotic is a serious business in Synectics.*

The objective of goal wishing is to generate creative, useful, and appealing suggestions for problem resolutions. They are not intended to be final solutions, themselves, but springboards into further creative thought and activity. Springboards are goals, wishes, ideas, metaphors, and alternative ways of looking at the problem. They are all legitimate and potentially valuable. They are most effective when they are wishful, provocative, or speculative.

Step III. *Selection.* The facilitator asks the client if there are one or two wishes she finds particularly interesting, and worth working on further. Wishes may be combined. The chosen wish is then listed.

Wishing allows the problem to be defined and redefined without effort. This undoubtedly affects the solution strategy. For example, a valid wish might be "I wish you had no papers to grade." Here the problem has been refined from *how to come up with time to grade papers?* to *how can requirements for papers be done away with?* (or, how else may grading be achieved?).

Synectics encourages us to get away from the problem. It assumes that the material for creative solutions is out there somewhere (or within us) and available to us, if we can just stop focusing on the problem, per se, or on the quickest, best solutions that first come to mind. It stresses that there are many right answers and that optimum solutions build on the partial answers, incomplete thoughts, and approximations provided by all participants. Therefore, we don't have to waste creative energy by defending our individual positions. Synectics allows positions to change. In fact, its power comes, in part, from having problem-solvers look at the situation from different positions and perspectives. Sometimes all it takes to solve a problem is to see it through someone else's eyes. You might be asked to *be* the problem, itself, and see the world from its perspective!

Synectics makes play out of work. The play is in generating incredible, unorthodox ideas and solutions. It is liberating to have permission to express yourself and build on others' ideas without censure. The work comes later. The power of creative thinking comes from understanding and struggling with making the absurd possible, the unheard of acceptable, the unfathomable concrete.

Excursions (Structured Side Trips). One way Synectics seeks to draw attention from the problem is through *excursion.* An excursion is an adventure, a trip to a world far removed from the one to which the problem belongs and to which we are firmly grounded. Other worlds offer much material we can use for problem solving. It works like this:

The problem-solving group is asked to forget the problem and concentrate on some aspect of the wish selected earlier as one the client wants to further explore. Say it was *I wish the papers would fly out of the window.* Within the wish are aspects or concepts of interest which may prove helpful later on (again, they serve as *springboards).* In our example, *flight* is one on those. *Window* is another. *Papers disappearing* is, yet, another. All offer interesting potential for more examination and seeing the problem (and, thus, solution) differently. Each could potentially be of as much value as the others. Two concepts may be chosen. Let's select both flight and window. Why not? There's no right or wrong in Synectics.

To go on the excursion we next need to select a world to visit (experience may be the better word): The trip is in the mind, but we try to imagine as much as possible what it would be like to truly be there. Worlds can be anything: medicine, space, undersea; architecture, restaurants, dancing. The facilitator, having selected a world to visit,[2] has the problem-solving group and client envision the world and themselves in it, and assemble impressions, sights, sounds, and so on. They are instructed to find examples of the concepts and aspects determined earlier from the chosen world. In our instance, we will enjoy an excursion undersea to look for examples of flight and/or windows.

Not to cut short your creativity, but undersea I see a window – a porthole – in a submersible. I see vast numbers of multicolored fish in flight, as one; I see eyes peering from a dark, mysterious window – a cavern opening – in a spectacular coral array; I see a diver in wetsuit, gliding gracefully through the depths, as if flying weightlessly. I see this as a window of opportunity to experience the color and glory of the sea floor, and so on. In Synectics terminology, these examples are called *irrelevancies.*

Unfortunately, like most trips, this one must end. The group is asked to refocus on the original problem, and to use one of the examples to suggest an idea for problem resolution. This activity is referred to as *force fitting.* Sought are concrete suggestions, not ideas, applications of the irrelevancies produced during the excursion to the problem. These applications are known as *connections.*

Connections may still be incomplete or seem unlikely, but are still encouraged. Any of the previous examples may be used to draw from. For example, *all fish travelling as one* might suggest the class do one collective assignment, working together, not independently. Both submarines and divers suggest weight and buoyancy: maybe papers should have less or no weight; perhaps the need for them can go up and down depending on needs of the class. The eyes in the cavern suggest some, as of yet, unidentified support (a grad assistant?; a co-instructor?). (If you think this is creative and (or) weird, you should see what a group of unbridled problem-solvers can come up with!)

By the end of the excursion, a list of creative ideas should exist which are based on the idea the client initially found particularly appealing in terms of her problem. The client is asked to

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[2] The "world" to experience during the excursion should be the furthest possible from the real world in which the problem resides. For example, an inanimate problem such as speeding data flow and decreasing interruptions might best be solved through considering something more animate, as in the undersea example provided in this section. Though, in this case, race car driving might provide a lucrative analogy.

select one or two of the connections she believes to possess the most potential. In our case, my inclination as client was towards finding alternative ways to handle papers and the objectives they are to meet.

Step IV. *Itemized Response.* After most suggestions have been exhausted, the client is asked to select one or two of them to pursue further. The selected suggestion is listed, and the facilitator informs the group that an *open-minded* evaluation of the idea is to be conducted. During this phase, both benefits and concerns about the suggestion are generated. The problem-solving group and the client provide what they see as advantages to the suggestion. Then, they provide their concerns, phrased as *how to's.* From what may be a number of concerns the client selects one or two that might be the most troublesome. The group collectively explores how the concerns may be overcome. This phase, alone, may call for creative problem-solving.

As client, I like both the ideas of having a collective project or assignment and the buoyancy one, having the assignment change with the needs of the class. Both suggestions have potential; both have good points and bad. The advantages are listed as positives (pluses (+)) and the concerns as *how to's.* Possible concerns, in this case, include:

- how to assess individual performance from one collective project?, and
- how to maintain standards across time and classes if assignments depend on the needs of a given class?

Step V. *Overcoming Concerns.* The client is asked to identify the concerns which are most troublesome. Both the client and the group discuss how they might be overcome. This process, called *detail optimization,* is repeated until the client feels confident that most concerns have been adequately dealt with. This round should result in a solution to the original problem.

Step VI. *Next Steps.* At the completion of Step V, there should be a suggestion whose troublesome aspects have been dealt with. Some work may be required, still, to *operationalize* (Hays, a.; Hays, c.) the suggestion. That is, clearly defining the solution, which translates into developing concrete strategies and sub-objectives for achieving it, and describing definitively the final end-state. The final outcomes or consequences meet definitive criteria when they specify such issues as:

- what the solution will look like (exactly)
- what it'll do and be capable of
- when it will arrive, be ready, be implemented, etc.
- who will use it, benefit from it
- how things will be affected because of the solution or change
- how the solution will be evaluated (against what criteria, when, and so on)

It is unwise to allow the client to depart without ascertaining her level of satisfaction with the solution provided during the Synectics session. She should not only be happy with the solution, but have a firm understanding of the next steps she must take in implementing the solution.

It may also be the case that contingency plans need be worked out, should strategies or sub-objectives designed not be achieving the solution implementation or should the solution prove

ineffectual or problematic. Some opportunity to reevaluate and reconvene should be provided to deal with these issues should they arise.
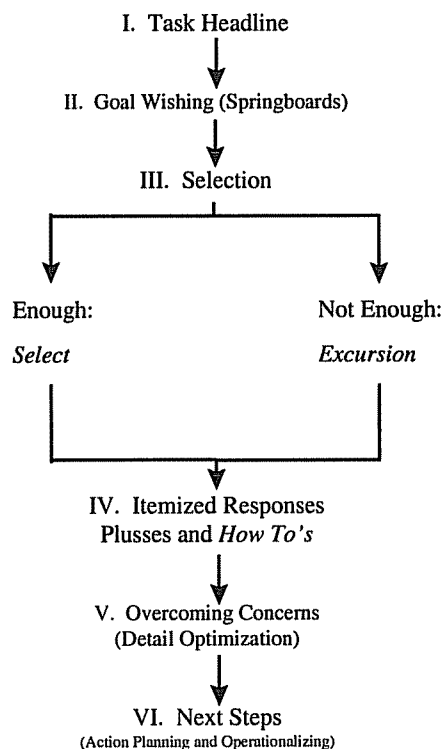
Concluding Remarks

In conclusion, Synectics is a group creative problem-solving method. While the steps can be enacted by individuals, Synectics is best a group process, based on the belief that the *group* is greater than any of its individual members. The whole notion of connection-making and building on others' ideas relies on group participation.

Synectics is based on an understanding of human psychology and the dynamics of social interaction. It accepts that individuals -- as a rule -- don't deal well with confusion and tension. They like to come to closure quickly and have correct answers. These are typical states in problem situations and group interaction. Synectics deals with these tendencies by providing a structure for and reinforcing confusion, and channeling tension into productive energy. It attempts to capture the energy of confusion through use of metaphor and other devices to encourage connection-making, and to provide a climate within which connection-making and risk-taking are possible. Synectics provides a stricture and censure-free environment in which its participants feel safe and validated.

I believe in Synectics. It's fun and productive. It strives to organize disorder and make the irrelevant relevant. It kind of makes sense of the nonsense of our lives.

Synectics Creative Problem Solving Method

I. Task Headline

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II. Goal Wishing (Springboards)

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III. Selection

Enough: Not Enough:

Select   *Excursion*

IV. Itemized Responses
Plusses and *How To's*

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V. Overcoming Concerns
(Detail Optimization)

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VI. Next Steps
(Action Planning and Operationalizing)

Process Flow Chart

References

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