Chapter 10
Synectics as a Modern Method of Solving Creative Problems

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ABSTRACT

An important need in the conditions of modern education is the development and application of innovative technologies in the teaching of students. Nowadays it has become very important to be a creative person. The formation and development of creative personality requires the coverage of the entire period of human life. One of the directions of the educational organization should be the development of creative thinking of students. Since creative thinking is important to society, it is necessary to develop strategies that are conducive to its development. Various strategies such as creative problem solving, lateral thinking, and synectics have been devised to facilitate growth in thinking and creativity. This study investigated the effect of one of those techniques, synectics, and its effect on schoolchildren.

INTRODUCTION

Synectics is an interesting approach to the development of creativity designed by William J.J. Gordon and his associates (1961). Gordon's initial work with synectics procedures was to develop "creativity groups" within industrial organizations, groups of people trained to work together to function as problem solvers or product developers. In recent years, Gordon has adapted synectics for use with school children and materials containing many of the synectics activities are now being published. The main element in synectics is the use of analogies. In synectics exercises, students "play" with analogies until they relax and begin to enjoy making more and more metaphorical comparisons (Gunter, Estes, & Mintz, 2007). Then they use analogies to attack problems or ideas.

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Ordinarily, when we are confronted with a task or a problem to be solved or a piece of writing to be produced, we consciously become logical. We prepare to write by making an outline of the points to be made. We analyze the elements of a problem and try to think it through. We use our existing storehouse of words and phrases to set down our ideas; we use our storehouse of learned solutions to face a problem. For most problems and tasks of expressing ourselves our logic works well enough. What do we do when our old solutions or ways of expressing ourselves are not sufficient to do the job? That is when we use synectics. It is designed to lead us into a slightly illogical world, to give us the opportunity to invent new ways of seeing things, expressing ourselves and approaching problems.

For example, school officials struggle with the problem of how to deal with absenteeism. When a student repeatedly fails to come to school, what do they do? Frequently, they turn to punishment, which is mostly suspension. That is logical, isn't it? To choose a severe punishment to match what is regarded as a severe infraction? The trouble with the solution is that it imposes on the student as a penalty exactly the same condition that the student has chosen. Synectics is used to help us develop fresh ways of thinking about the student, the student's motives, the nature of penalties, our goals, and the nature of the problem. We have to deliberately avoid what appears to be logical thought because it leads us to an inadequate conception of the problem and, thus, an absurd (if logical) solution.

BACKGROUND

This section presents historical information about the development of the synectics strategy. It documents the development and study of the production of creative ideas by synectics founder, Gordon, and associate Poze. It also presents information on the work of Gordon's former colleague, Prince. Examples from history demonstrating the productive benefits of analogical thinking necessary for synectics are also provided.

Alexander (1965) discussed the varied background of Gordon, the originator of synectics. Gordon received education at the universities of California and Pennsylvania as well as Harvard and Boston Universities. He studied physics, history, biochemistry, psychology, and philosophy and tried numerous occupations. These include horse handling, pig raising, teaching, writing, inventing and schooner sailing. Gordon drove an ambulance during World War II and worked with the Harvard Underwater Sound Laboratory in the development of an acoustic torpedo. He was intrigued by the higher than average productivity of a certain team of people working on this problem and managed an assignment to that group. In an attempt to find the key to productive innovation, Gordon recorded their team work sessions as well as his own ideas and thoughts as he worked privately on inventions. Gordon formed an operating group for Arthur D. Little, Inc. in 1952, which was responsible for producing inventions and became a model of creativity and innovation.

Gordon purposefully solicited people with varied backgrounds to comprise the group. It was "composed of a physicist with interest in psychology; an electromechanical engineer; an anthropologist with interest in electronics; a graphic artist with the added background of industrial engineering; and a sculptor with some background in chemistry" (Gordon, 1961). The group's work sessions were also recorded and scrutiny of these helped provide insight into the process of innovation.

Gordon read and studied creativity and formulated his own theory on the subject, during the war and throughout this work with Arthur D. Little. This was largely derived from the information gleaned from listening to many hours of tape recording sessions of groups attempting to solve a problem or invent a