IMPROVING SOCIAL BEHAVIOR WITH PLATO IV

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ABSTRACT

The PLATO IV computer-based education system and some of the rationale and approach with respect to its evaluation are described briefly. PLATO IV will be evaluated in its application to the training of factors related to the optimization of social influence; specifically, that influence exerted between company commanders and recruits at recruit training commands. Current approaches to teaching social skills are inadequate to meet the needs for such skills. Computer-administered instruction offers a novel and potentially effective medium through which to improve, through training, the quality of social influence.

BACKGROUND

The main purpose of this project is to evaluate PLATO IV in training applications. PLATO IV is a computer-based education system developed under ARPA (Advanced Research Projects Agency) funding at the University of Illinois. It consists of a large number of instructor/student terminals linked by telephone to a central processor at Urbana, Illinois. The terminal consists of a plasma tube display surface, a random-access slide projection display facility, and a response keyboard. The student instructor can call up any one of a large pool of lessons in diverse subject matters stored at the central processor. New lessons can be readily composed by the instructor employing a special language called TUTOR. The PLATO system has been under development since about 1960. The Naval Training Equipment Center is scheduled to receive four PLATO IV terminals in October 1973. The remainder of this paper summarizes some of the rationale and plans for the evaluation of PLATO IV as applied to the training of factors related to the optimization of social influence.

The "optimization of social influence" is of fundamental importance to a wide range of human affairs. In fact, little of what we do in any area is totally independent of our ability to influence one another. It is not surprising to find, therefore, that considerable efforts are being made to make that influence more effective. Instruction, both formal and informal, is being directed at improving social influence in areas such as childcare, salesmanship, political diplomacy, psychotherapy, education, industrial and military leadership, as well as activities of a purely social nature.

However, in spite of the attempts to improve social skills, more people are becoming increasingly aware of and concerned about inadequacies in our social behavior. Further, social critics unequivocally attribute

a wide scope of human ills to our ineptness at influencing and being influenced by each other. These people point with dismay to our lack of ability to influence social phenomena toward desired ends and contrast this with our apparent wizardry in causing physical events to serve our will. The exhortation is clear that the very survival of the human species may depend on matters relating to the nature and effectiveness of our interpersonal relationships. In any event, it does appear that what is being done in the way of social instruction just is not sufficient to meet the need.

This criticism of our methods for dealing with social affairs is not just a recent phenomenon. About thirty years ago, Carl Rogers (1942) suggested that techniques for improved social interaction were available. Rogers attributed the failure to translate new discoveries in social techniques into effective working programs to a "cultural lag". Some of his comments on this subject are especially germane to the present project as follows:

"Military morale, like industrial morale, rests to an important degree on satisfactory adjustments and satisfying human relationships, and in this field counseling has proved itself useful. Thousands of draftees and recruits find themselves facing new situations which are difficult for them to meet -- new adjustments to authority, new social groupings, the necessity for revising vocational plans, and uncertainties regarding the future. Many of them can assimilate these problems, can create without aid a new orientation to their situation. But many are unable to do so and become the disgruntled, the neurotic, the malcontent, the inefficient members of the group. Their destructive influence on morale is costly. Counseling could do much to help such individuals face their difficulties, assimilate them, and find integrating purposes which they might wholeheartedly follow."

As Rogers suggests, social techniques might be used to help disturbed individuals adjust; however, more important than this, such techniques might be applied to prevent many people from becoming disturbed in the first place.

This failure to apply available techniques for effective social control, noted by Rogers over thirty years ago, is very much apparent today. For example, this same subject was addressed by B. F. Skinner in his recent controversial book "Beyond Freedom and Dignity" (1971). Instead of attributing the failure to a cultural lag, however, Skinner blames it on a misguided resistance in the general public to the use of any control for fear of losing freedom and dignity. According to Skinner, this general misconception regarding social control has led to efforts to hide control. This, in turn, has produced inferior modes of control rather than less control. In Skinner's words:

"A preference for methods which make control inconspicuous or allow it to be disguised has condemned those who are in a position to exert constructive countercontrol to the use of weak measures.

This could be a lethal cultural mutation. Our culture has produced the science and technology it needs to save itself. It has the wealth needed for effective action. It has, to a considerable extent, a concern for its own future. But if it continues to take freedom or dignity, rather than its own survival, as its principal value, then it is possible that some other culture will make a greater contribution to the future."

Thus, social analysts rue our failure to employ the technology available for social control. A better feeling for the nature of this failure may be gained by considering what happens in two major kinds of situations for which an individual might require training: one type of situation involves a person interacting with a machine (such situations, of course, are called man-machine interactions); the other type of situation involves a person interacting with other people (these are man-man interactions). The two situations, upon analysis, really are not so different. For one thing, success in both situations depends on one's ability to influence an object in a particular way. It is just that the object to be influenced is inanimate in one case and another person in the other case.

This comparison between these two training situations highlights a common shortcoming in training for man-man interactions. In the training for man-man interactions, it appears that stress is placed on teaching a person the mission; that is, he learns what he is supposed to try to get others to do; but, typically, very little is done to prepare the individual to know how to go about getting others to do it (whatever "it" may be). Thus, a company commander, for example, is taught that his job is to influence recruits such that they dress, march, drill, and, in general, act in accordance with military codes; but he is given little formal instruction on the subtleties of wielding such influence. There is little or no opportunity for a company commander to try out, in a training environment, different methods of issuing orders, resolving conflicts, etc.; to get feedback on the efficiency of each method; and to practice on the methods that best suit his goals. This training deficiency, I believe, is pretty nearly tantamount to requiring a person to take off in a helicopter, fly tricky maneuvers, and land without any assistance, with perhaps some prior experience in fixed-wing aircraft and some verbal description of the problems involved. The point is that without special training people are just about as ill-prepared to influence (or to be influenced by) other people as they are to influence (or to be influenced by) machines; and the damage that can result from poor performance is just about as great in man-man interactions as in those of man and machine. Thus, the argument is that behavior relating an individual to other people and groups is as critical to military goals and just as much in need of training as behavior relating him to a given task, machine, or process. This suggests a need for increased emphasis on training for man-man interactions.

Advancements have been made in the area of training for interpersonal relationships, ranging from laboratory training techniques such as role playing and sensitivity groups to actual simulation of real-life situations.

But, as discussed earlier, these new techniques generally are not applied; thus, instruction in social skills and the social skills themselves generally remain at a rudimentary, ineffective level. Further, some of the more advanced technologies used in other areas of training (e.g., computer-based instruction) have not even been tried in a social training context. For one reason or another, it seems that resources dedicated to training of social skills are not commensurate with those provided for training in other areas. The present project is an effort to utilize some of the most advanced techniques already demonstrated to be valuable for training interpersonal skills while testing the efficacy of providing a new twist to such training in the way of computer control of its implementation.

PROPOSED PROGRAM

The use of computers as a means of conducting training for man-machine interactions has become relatively commonplace; however, so far as I have been able to determine, this application has never been explored in training for man-man interactions. The introduction of computer-administered instruction to the training of factors related to social influence promises some significant advantages over previous social training programs. For one, the nonpunitive, nonthreatening, anonymous atmosphere of computer-administered instruction provides conditions conducive to practice and responding. This is especially relevant in view of the reluctance of people to engage freely in many of the emotionally charged activities often surrounding encounters between people. Secondly, the computer can provide individualized drill, practice, and instruction to students on specific skilled responses to social situations. In this mode, specific deficiencies of the student first can be identified and then corrected via branching sequences. Finally, the computer can be employed as a means to engage in convincing arguments with students so as to modify those attitudes and beliefs which underlie appropriate behavior. This could involve displaying incompatible responses made by a student at disparate points in time or relating a student's response with some actual state of affairs. These operations would create dissonance and consequent changes in attitudes, beliefs, and behavior.

Figure 1 shows that the primary purpose of this project -- to evaluate PLATO IV in training applications -- is approached along the two avenues discussed in the foregoing: one is that of skills training and the other involves attitude and belief training. (The subject population of company commanders was chosen mainly because of the criticality of social influence to successful operations.)

The theory underlying this training program is that in order for behavior change to occur (i.e., in order for company commanders and recruits to exhibit the behavior that distinguishes success from failure), new responses must be learned at the same time as new attitudes. This suggests that a learning experience dealing only with information and feeling or only with overt responses would not lead to appropriate behavior change.

For example, it would be unreasonable (according to the theory) to expect a company commander to adopt an approach to recruit training based on verbal praise and rewards if his attitude toward recruits is one of animosity and disdain. Similarly, a company commander will not necessarily be adept at employing a system based on rewards just because he likes recruits. He must learn the skills involved in using the correct reward at the correct time in the correct amount, etc.

Another way to characterize this project is to use a quote from McGregor (1960), a recognized authority in the area of management training and social motivation. He states: "...every managerial act rests on assumptions, generalizations, and hypotheses --- that is to say, on theory. Our assumptions are frequently implicit, sometimes quite unconscious, often conflicting; nevertheless, they determine our predictions that if we do a, b will occur. Theory and practice are inseparable". You might say that the purpose of the attitude and belief training, in part, is to ensure that for a given b, company commanders have appropriate a's. The skills training is intended to increase the probability that company commanders will be able to accomplish the a's, once the appropriate a - b connections are acquired.

Figure 1 also shows that after behavior and attitude training is accomplished the various components merge for evaluative purposes. Experimental training-effectiveness evaluations will answer questions such as: How much is recruit training improved by the special computer-administered instruction? How much does the attitude training of company commanders add to the skills training program?

The experimental evaluation will examine differences in the behavior of company commanders before vs. after the PLATO IV training program as compared with similar measures taken on a control group of company commanders who do not receive this special training. Similarly, before and after measures will be taken on the recruits who are under the control of the company commanders in the two experimental groups. With these measures, one will be able to determine the effects of changes (if any) in company commander behavior on recruit behavior.

Further work would involve modifications and tests made on the training program to develop the best package for recruit training, and developing and testing similar training programs for other situations in which interpersonal influence plays a major role.

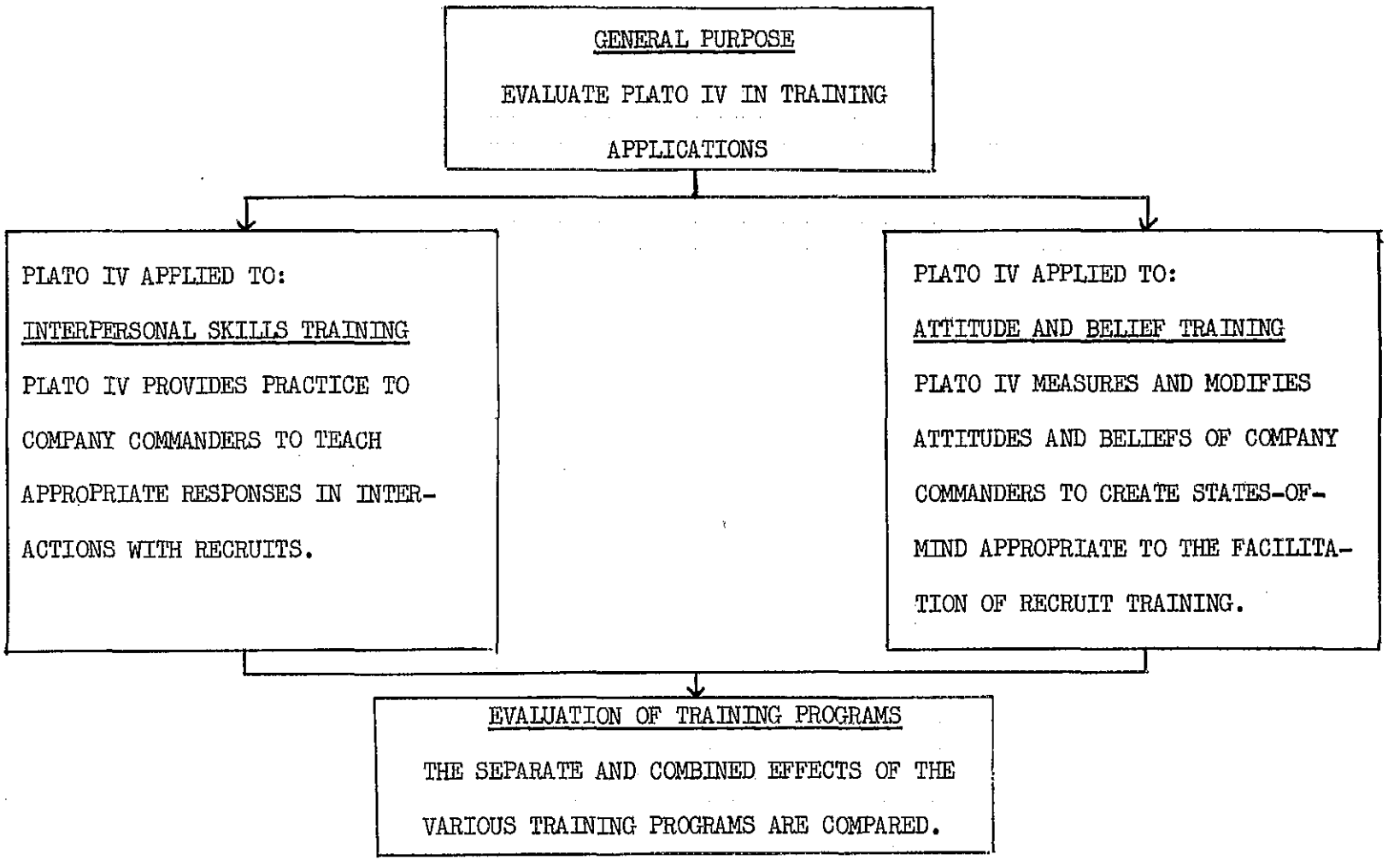

Figure 1. Proposed Program

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