INTRODUCTION

Decision-makers in government and industry may find themselves inadequately prepared in trying to cope with complicated, ill-structured issues. Attempts to gather information regarding the complex relationships among the participating individuals, political entities, principles and policies involved may be unsystematic, with no stopping rule for ending the formulation process. The incident process provides an opportunity for learning to structure problems through effective inquiry.

The incident process is intended to develop problem-solving skills through a procedure in which knowledge about the problem is revealed only by an active process of inquiry. Unlike typical case methodology, the student is not initially provided with nearly enough information to adequately address the problem. Often, the case will be initiated by a single question or statement. The case unfolds only as participants ask relevant questions. Though this method was developed by Paul Pigors in his teaching at M.I.T. during the 1950s, our review of the literature covering the past ten years found no references to Pigor’s work on this or to the process itself.

For several years, the lead author of this paper has used the incident process in conducting seminars in industry settings and in teaching business and law classes. It is hoped that through demonstration of this method, teachers, facilitators, and training personnel will be exposed to a potentially beneficial and engaging process.

POTENTIAL POSITIVE OUTCOMES

The inquiry method holds considerable promise, yet poses some rather unique demands on the instructor. Through questioning, students develop an appreciation of why they need to know certain information. The questions asked reflect the schemas that students have developed regarding the issue. Students are not automatically cued to particular perspectives, data, or analyses, and different frameworks developed in “shaping” a problem may be more evident. The method may be quite useful in “non-traditional” classrooms, where there is a diversity of age level and work experience among participants. The less experienced students can observe how experience shapes the type of questions asked. A significant increase in questioning skills is often evident after 3 or 4 incident “cases”.

This method involves increased activity on both the part of the student and the instructor. Developing an understanding of the problem involves an active social process, drawing upon communication and listening skills. Of course, the instructor is not allowed to be passive, as the same “case” may unfold in different ways for different classes.

It can be argued that the incident process is congruent with the development of expert systems, as such systems entail uncovering the most critical questions that enhance diagnostic capabilities. Asking the right questions, and knowing why they are the right questions is consistent with this process. This teaching methodology is also amenable to distance learning.

TEACHING METHODOLOGY

Because students are unlikely to have been exposed to this approach, it is important that they be provided with some initial guidelines and expectations. Below, a possible introduction to the process is provided: “We are going to solve a
problem today, but not by reading a case. When you’ve analyzed cases have you always had every bit of information that you wanted? Have you ever wished you had more? Now, you will get every bit of information that you want on this case, but you will have to ask for it. If you don’t ask for it you won’t get it. Ask any question that you think might help. Initially, I will not even ask you to justify why you need to know that information. Don’t worry about the questions being silly, because they may have some bearing on the case. At this point, the only thing that would be bad is if you don’t ask questions. If, at any point while asking questions, someone says that they think they have a solution, we can stop and examine the solution. If it is not satisfactory, then we can see if there is any more information that might help us.”

The instructor then provides the initial question or statement. Questions that have been used have included. “Should the police department have hired Betty?” or “What disciplinary action should be taken against Bob?”. Students are encouraged to ask questions to develop their understanding of the case and its context. Often, they find that asking simple “yes or no” questions does not provide the level of information that they need. The inquiry process continues until a satisfactory solution is reached. Just as students may need to be encouraged to begin the process, some classes may need to be encouraged to bring the process to a close. At some point one must stop questioning and make a decision. Over time, students begin to be able to assess the marginal utility of further inquiry.

Experience with this process has led to the development of methods for evaluation and to methods for dealing with larger classes. These issues, as well as elaboration regarding implementation, are provided in the demonstration.