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PREPARING STUDENTS TO BE EFFECTIVE INFORMATION TECHNOLOGY PROJECT MANAGERS: CAN MORE FOCUS ON DIALOGUE AND COMMUNICATION PROCESSES HELP?

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Abstract

The overall importance of dialogue and communication processes to scientific and technical problem solving is already well established in communication and project management literature (e.g., Bohm, 1999; Isaacs, 1999; Schwalbe, 1999; Kerzner, 1998). However, very little of this literature has been specifically applied to the fast-growing field of Information Technology/Information Systems (IT/IS) project management and to the pedagogical issues surrounding the teaching of students how to be more effective in working together as a team to solve IT/IS systems development problems. Many of the articles and books that address the subject have focused on some of the more obvious needs for better listening skills, more effective written and oral communication skills, techniques for helping to get your point across, etc. These are important but there is also a need for a more in depth look at the problem by applying some of the more ideological concepts related to "dialogue" introduced by Bohm and Isaacs. The following excerpt from Isaacs (1999) gives us a better understanding of the concept:

 "Dialogue is a shared inquiry, a way of thinking and reflecting together. It is not something you do *to* another person. It is something you do *with* people. The roots of the word *dialogue* come from the Greek words *dia* and *logos*. *Dia* means "through" and logos translates to "word" or "meaning". In the most ancient meaning of the word *logos* meant "to gather together", and suggested an intimate awareness of the relationship among things in the natural world. Dialogue is a conversation in which people think together in relationship. Thinking together implies that you no longer take your own position as final. You relax your grip on certainty and listen to the possibilities that result simply from being in a relationship with others-possibilities that might not otherwise have occurred."

Can the application of some of the concepts of dialogue help in the IT/IS systems development environment? Can students be taught to effectively use these concepts? Are there other important communication concepts that are unique to the IT/IS development environment that need to be considered? These are some of the questions that are addressed in this study.

The IT/IS project environment can create unique communication demands on development project team members not only because of the uncertainty and complexity of IT/IS systems development but also because of the broad diversity and different skill sets of the system development team members. An IT/IS project team almost always includes a diverse group of individuals including IT technical professionals, business subject matter experts and representatives from the End-User

groups. All of these groups have an important role to play in the development process and for the project to be successful good communication is essential.

Based on our literature search to date, no scale that measures the scope and character of communication factors specific to IT/IS projects or student instructional needs in IT/IS project management is in widespread use. So the authors set out to create a scale that would reveal important perceived communication factors in this environment, and also to try to answer the following questions:

(1) How can dialogue and better communication skills impact the understanding of IT/IS development project issues and the quality and efficiency of group/team work?

(2) How aware in particular are IT/IS students, of human communication processes as they struggle to solve complex technical problems in a group setting?

(3) How effective are group/team IS project management projects in developing better communication and team work skills? What are pre-project versus post-project student attitudes about dialogue and communication, and how can understanding these attitudes help increase the instructional quality of IT/IS systems development project management?

(4) Can using team projects in a project management class lead to students actually "thinking together (Isaacs, 1999)" as opposed to thinking individually within the group problem-solving context?

(5) What communication factors emerge as significant contributors to the quality of system development problem solving in IT/IS, and what do these factors suggest about the need for communication/dialogue instruction in IT/IS education? What formal communication content should be included in IT/IS project management courses and curriculum to increase IT/IS project management effectiveness?

The above questions driving this research are far from simple. Our research methodology at this point is not broad enough to address all of the important issues that have been raised. During this phase of our research we have focused on student attitudes and understanding of communication/ dialogue issues as related to their team work on a class IT/IS project. As a follow-on phase to this research we plan to do some case studies and/or survey companies that have significant experience in IT/IS project development to further evaluate the significant communication factors that contribute to the quality of system development projects.

For this first phase we developed a survey communication questionnaire (88 items) that was administered before and after the completion of a group IT/IS project for a senior level IS project management class. At this point we have collected data from 60 students. In between the pre and post test the students were exposed in class to some of the important issues related to effective communication and its importance to successful project work. The pre-test and post-test scales used in the survey were virtually identical, with only changes of present versus past tense of each of the 88 items.

Preliminarily, the survey has revealed:

(a) The student perceived importance of communication generally to IT/IS project management education and IT/IS project success;

(b) The perceived quality of student communication, both their own and that of other group members;

(c) A relationship between perceived quality of dialogue, group communication and the perceived effectiveness of their IT/IS project work.

Currently, more thorough data analysis is being completed to derive a measurement scale. We are using factor analysis on our survey items to see if one or more dominant factors immerge and to see if we can reduce the number of scale items. The results of this analysis will be presented at the conference, along with some practical pedagogical implications of the study.

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