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Influence of Covey Habit Training on Teams

Debra Landry Folse
University of South Alabama
Mobile, AL 36559

Herbert E. Longenecker
University of South Alabama
Mobile, AL 36559

Roy J. Daigle
University of South Alabama
Mobile, AL 36559

Abstract: Is there a way to provide simple guidelines for team communication that could easily be adopted by individuals? In his book, The Seven Habits of Highly Effective People, Stephen Covey suggests that applying his small collection of guidelines or "habits" will result in successful group interaction. A study was conducted to examine the influence of Covey-centered habit training on student teams involved in information systems projects. The study applied different treatments of Covey training to undergraduate and graduate student project teams at the beginning of their information systems project development. At the conclusion of the project development, a survey instrument was distributed to collect information about Covey knowledge, self-assessed perceptions of applying Covey habits for a team project, and self-assessed perceptions of competency in information systems development. The study results suggest that, while there may be no significant difference in Covey skill knowledge and self-assessed perceptions of competency in information systems development between the control group and the experimental group, there may be a significant difference in the self-assessed perceptions of mastery of Covey-centered independent and interdependent habits.

Keywords: teams, team projects, groups, group projects, information systems projects, team communication, Covey habits

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Debra Landry Folse
Herbert E. Longenecker
Roy J. Daigle
University of South Alabama
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ABSTRACT

Is there a way to provide simple guidelines for team communication that could easily be adopted by individuals? In his book, *The Seven Habits of Highly Effective People*, Stephen Covey suggests that applying his small collection of guidelines or "habits" will result in successful group interaction. A study was conducted to examine the influence of Covey-centered habit training on student teams involved in information systems projects. The study applied different treatments of Covey training to undergraduate and graduate student project teams at the beginning of their information systems project development. At the conclusion of the project development, a survey instrument was distributed to collect information about Covey knowledge, self-assessed perceptions of applying Covey habits for a team project, and self-assessed perceptions of competency in information systems development. The study results suggest that, while there may be no significant difference in Covey skill knowledge and self-assessed perceptions of competency in information systems development between the control group and the experimental group, there may be a significant difference in the self-assessed perceptions of mastery of Covey-centered independent and interdependent habits.

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1. INTRODUCTION

Learning and applying approaches that improve individual and interpersonal skills should facilitate processes that lead to project completion: team-communication, information sharing, problem-solving and activity-coordination. That seems to be the consensus of investigators who studied ways of improving the effectiveness of project teams. These prior studies indicate that better group solutions are associated with the ability of team members to blend their communication skills and problem-solving techniques to share information and coordinate activities necessary for project completion (Magney 1997; Slavin 1991; Wilson 1986).

One of the methods used to facilitate group-communication and group problem-solving skills is cooperative learning. Cooperative learning utilizes group activity to educate individuals and to promote group-communication skills and group decision-making (Magney 1997). These skills are vital in current organizational environments. (Drucker 1988). Group collaboration is important in decision-making, strategy formation, identification of objective targets and various task activities required for goal attainment and organizational success. Group collaboration contributes to performance, which contributes to success (Guzdial 1996). As group-communication skills improve, team members focus more clearly on the project or task to be accomplished. This shift improves the inter-workings of the group and fosters greater group commitment (Galegher 1990).

Successful outcomes of group-problem solving are dependent on the group's ability to share a common vision or alignment (Covey 1989) or a convergence (Rogers 1981).

A cooperative approach to problem-solving is a vital component in information system development. Prior studies recommend various methods of improving team problem-solving skills for project success in a computer information science curriculum (Daigle 1996, 1998, 1999a, 1999b). These studies used class assignments and projects to foster a cooperative approach to cultivating team problem-solving skills throughout the undergraduate curriculum. Is there a way to provide simple guidelines for team communication that could easily be adopted by individuals?

Teaming and Covey Principles
Stephen Covey has described a set of seven independent and interdependent "habits" that he believes provide guidance to individuals for becoming a more effective member of a team (Covey 1989). Covey defines his use of the word "habit" as "the intersection of knowledge, skill, and desire" (Covey 1989). He classifies the first three habits as "habits of independence": *Be Proactive*, *Begin with the End in Mind*, and *Put First Things First*. He classifies the next three habits as "habits of interdependence": *Think Win-Win, Seek First to Understand… then to be Understood*, and *Synergize*. The seventh habit, *Sharpen the Saw*, recommends a commitment to a balanced approach to life and to a renewal of knowledge, skills, and motivation. Covey believes that an individual must first develop the habits of independence before being capable of developing interdependent relationships. Covey theorizes that an individual who practices these seven habits will improve the team approach experience for himself and others (Covey 1989).

Although some investigators have explored the relationship of Covey ideas to systems development, (Haimes 1996; Longenecker 1995), no empirical research or other supporting research documentation was found at the time of this study to support the position that independent and interdependent habits, as proposed by Covey, could provide guidance for a person to be more effective both as an individual and as a member in a group setting. To understand the influence of Covey-centered independent and interdependent habits, three research questions were posed for this study:

1) Is there a relationship between the intensity of Covey-habits training given to team members and their knowledge of Covey-habits?

2) Is there a relationship between the intensity of Covey-habits training given to team members and their self-assessed perceptions of applying the Covey-habits?

3) Is there a relationship between the intensity of Covey-habits training given to team members and their self-assessed perceptions of competency in information systems development?

2. METHODOLOGY

An exploratory study was conducted to examine the effectiveness of Covey habits training on student teams involved in information systems development. Different intensities of Covey habits training were administered to undergraduate and graduate student project teams at the beginning of their information systems project development.

Research Subjects
Two groups of students were used in the experiment. The first group, the control group, consisted of thirteen undergraduate students distributed among three student teams in Senior Design I and II. Each team completed a complex project in system development but the projects were independently developed, i.e. no inter-team communication was required of the teams.

The second group, the experimental group, consisted of nineteen graduate students distributed among four teams in a graduate analysis and design sequence. The experimental teams worked collaboratively on the same complex project: there were three functional teams and one steering team (See Figure 1). This intra- and inter-team communication was an important component of the project development methodology.
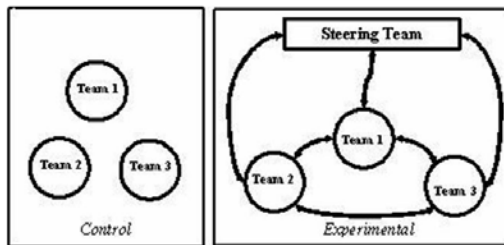
Figure 1: Inter-team and Intra-team Communication Requirements

Treatment

Two different Covey-habit training intensities were administered. The Covey training for the control group (undergraduate students) was minimal. A two-hour lecture on Covey independent and interdependent habits and the relationship of these habits to teaming and information systems development was given to a group of undergraduates at the beginning of the Senior Design I. The different teams worked independently of each other and a standard methodology, the Waterfall Model, was used by each of the teams.

The Covey training for the experimental group (graduate students) was much more intense. Graduate student teams listened to four-and-a-half hours of Covey Institute tapes, participated in an additional 6 hours of Covey team building activities, and used a development methodology that required communication among the teams as well as within each team (See Figure 1). The development methodology used by the experiment group includes team activities that utilized and strengthened the principles of independent and interdependent habits introduced in the habits training session. The Re-engineering Activities for Project and IS Development (RAPID) Methodology (Longenecker 1997) used in this study is an eight step life cycle development procedure for information systems development that seeks to achieve participant satisfaction through continuous verification and validation exercises. RAPID was designed to meet the needs of the IS'97 Curriculum Model (Couger 1997) and it allows for both vertical and horizontal iteration throughout the development process.

Survey Instrument

The survey instrument consisted of three parts: a Covey knowledge inventory, a self-assessment of Covey-skill application, and a self-assessment of Information Systems development knowledge. The fact-based dimensions are exam type questions covering items on life cycle development and the 7 habits. The behavior-based dimensions are bounded Likert-type questions. These questions were constructed to align closely to Covey principles.

3. RESULTS

A t-test for independent samples was performed on the survey data for each of Covey-habit knowledge, perception of applying Covey habit, and perception of information system development knowledge. The results are shown in Table 1. The results did not show a significant difference in Covey knowledge and in information system development knowledge between the two groups. However, there was significant difference found in the perception of applying Covey behaviors of the experimental group as compared to the control group.

Factor Table	Mean Experimental	Mean Control	Mean Difference	P_t	Significance
Covey Habit Knowledge Responses	7.66	7.35	0.31	0.13	--
Covey Habit Applying Responses	7.15	6.48	0.68	0.04	**
IS Development Knowledge Responses	7.39	7.10	0.29	0.18	--

Table 1: Means and p-values – Covey Knowledge, Behavior, and IS Competence

4. DISCUSSION

The original study viewed both the independent and the interdependent habits as one component. Although the results from the original study showed a significant difference in self-assessed perceptions of Covey habits, we did an additional level of analysis by separating independent and interdependent habit responses. Table 2 shows t-tests results for responses associated with the combined habits, with the independent habits (Habits 1, 2, and 3) and with the interdependent habits (Habits 4, 5, and 6). As indicated in Table 2, for p=0.05 no significant difference in control and experimental groups' responses for the independent habits is observed; however,

there is a significant difference in the experiment and control groups' responses to interdependent habits. Thus the significance observed of Covey-Habit Applying Responses between the control and experimental group in Table 1 is strongly influenced by the interdependence application responses. It might be conjectured that the strength of this influence is a result of either the use of additional Covey team building activities or the use of a development methodology, which required both inter-team and intra-team communication throughout the project (like RAPID) or a combination of the two approaches.

Factor Table	Mean Experimental	Mean Control	Mean Difference	P_t	Significance
All Covey Applying Responses	7.15	6.48	0.68	0.04	**
Covey Applying Responses Independent Habits (Habits 1, 2, & 3)	7.23	6.83	0.41	0.17	--
Covey Applying Responses Interdependent Habits (Habits 4, 5, & 6)	7.11	6.08	1.03	0.007	**

Table 2: Means and p-values – Covey Behaviors

There is some concern that the student groups were not at the same academic level—that the graduate students might have some advantage over the undergraduates. However, in our opinion, for our students, any advantage is in favor of the undergraduates. Our undergraduates have a minimum of three-and-a-half years of problem-solving and a broad range of teaming experiences through the undergraduate computing curriculum as well as speech, small group communications, and technical writing courses. Our graduate students come from diverse academic backgrounds— the prescribed courses preparatory to the graduate program emphasized the development of computing skills (cultivating the habits of independence) and Information Systems environment context knowledge; very little time is available for teaming experiences. Thus our graduate students have much less formal academic teaming experiences than do our undergraduates. That there were no significant differences in Covey-habit knowledge and Information Systems knowledge suggests that the graduate students were as knowledgeable in these areas as the undergraduates. That there was

a significant difference in self-assessed perceptions of applying Covey habits suggests that the graduate students were more knowledgeable in this area than the undergraduates.

5. CONCLUSIONS

We believe that the original question is answered by the study: Covey-habit training provides simple guidelines for team communications that could easily be adopted by individuals. The advice we would provide for someone responsible for providing guidance to team members is determined by the guidance goal.

* If the goal is to acquire Covey-habit knowledge, the two-hour presentation provides a simple approach to providing individuals with guidelines for team communication. This seems to be a natural conclusion since there was no significant difference found in Covey-habit knowledge between the control group and the experimental group.

* If the goal is to foster Covey-habits application, a more extensive approach may be necessary. The study did not have as a goal discriminating among the influences of the Covey-training components for the experimental group: the four-and-a-half hours of Covey Institute tapes, the additional 6 hours of Covey team building activities, and the chosen methodology, RAPID. However, from the additional post-study analysis of the data, it appears that the inter-team and intra-team experiences had a very real and significant impact on Covey-habits application. Therefore, without further experimentation, we would recommend either additional Covey team building activities OR the use of a development methodology that imposes inter-team and intra-team communication (as does RAPID) OR a combination of the two.

6. RECOMMENDATIONS FOR IMPROVEMENTS AND FUTURE STUDY

Survey Instrument
The survey instrument could not be validated prior to the study. An educational researcher, who has extensive Covey knowledge and who is an authority on

Information Systems curriculum development, prepared the Covey-Habit knowledge and the Information Systems knowledge components as content examinations. Since the time of the study, the Covey Institute has released its 7 Habits 360^0 Profile survey for research purposes.

Moreover Information Systems educators and ICCP examiners from across the United States are currently engaged in a collaborative project to revise the ICCP examination using the IS Model Curriculum (Reynolds 2003). We suggest a revised study that would use the 7 Habits 360^0 Profile survey and the revised and the validated ICCP examination.

Sampling
It would seem reasonable to prepare an experimental design that would have graduate and undergraduate students distributed in both control and experimental groups. This would provide an opportunity to test the original hypothesis among students with similar and different academic preparation.

Treatment
Another question that might be explored is related to the post-study analysis. It appears that the experimental group experiences had an influence on their perceptions of applying interdependent habit: was it the additional 6 hours of Covey team building activities or the use of a development methodology that requires inter-team and intra-team communication.

Variables
The original study did not consider a separation of the independent and interdependent habit responses. The post-study analysis suggests an additional hypothesis that could be examined in future studies.

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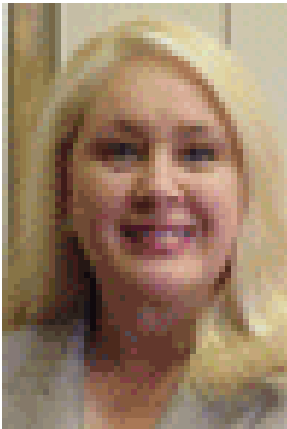
Debra Landry Folse is an instructor in the Department of Marketing and E-Commerce at the University of South Alabama in Mobile. She holds a BA degree in Marketing and an MBA from Southeastern Louisiana University, and a Master of Science Degree in Computer and Information Sciences from University of South Alabama. Currently Ms. Folse teaches Information Systems and Technology, Marketing Principles, and Current Issues in E-Commerce. Some of her research interests include team communication/coordination in information system development, user satisfaction with information systems, and E-Commerce trends and issues.

Herbert E. Longenecker, Jr. is a Professor of Computer and Information Sciences (CIS) at the School of CIS, University of South Alabama in Mobile. He teaches mainly advanced graduate classes in information systems analysis, design and implementation. Dr. Longenecker is the distinguished "Educator of the Year" for the Association of Information Technology Professionals, co-chair for the national Model Curriculum for Information Systems of the AITP, AIS, and ACM organizations, and co-leader and founder of the Center for Computing Education Research that is sponsored by the Education Foundation of the Institute for the Certification of Computing Professionals (ICCP) in developing the "core" certification exam based on exit skill requirements of the Model Curriculum for Information Systems. His research interests are in highly effective enterprise information systems development. He is responsible for the development of many functioning information systems. He has more than 100 publications in journals and national society proceedings. Dr. Longenecker received his Ph.D. from Rockefeller University in 1970.

Roy J. Daigle is a Professor of Computer and Information Sciences (CIS) in the School of CIS at the University of South Alabama. He is also the Coordinator of Information Systems and the Director of CIS Graduate studies. His primary teaching responsibility is the CIS Research Methods course. His research interests include curriculum development, effective project teams, and database theory. He received the Ph.D. in Mathematics from the University of Georgia.