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ANALYSIS OF "EFFECTIVE COMMUNICATION SKILL DEVELOPMENT" IN GRADUATE BUSINESS AND ENGINEERING EXPERIENTIAL EDUCATION

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INTRODUCTION

Four years ago Bradley University's graduate school initiated an interdisciplinary course in Organizational Behavior in a concentrated workshop format. The experiential learning design was based on the extensive experience of two of the co- authors, Drs. Eileen and Joseph Connolly, who as co-directors of the Communication Center #1, St. Louis, Missouri, have conducted similar workshops for a wide variety of organizations around the country. We believe the present course, which has evolved over the four-year period covered by this study, adds a significant new dimension to effective interdisciplinary graduate education in Organizational Behavior.

SCOPE OF RESEARCH STUDY

Data was obtained concerning the change in communication skills that have occurred since taking the course by asking the students who took the course, their spouses, and their coworkers, to describe the amount of change in those skills over the specified period of time. Students who had enrolled in, but had not yet taken the course, constituted a control group. The remainder were alumni who had taken the course over a period of up to four years prior to the administering of the questionnaire.

The basic ideas tested in the study are:

1. that the students learn practical communication skills in the graduate course;
2. and that these skills are retained after the course is completed.

The instrument used to test the change was the Communication Skill Scale (CSS) developed by W. Joseph Connolly [1]. This CSS questionnaire is used by the students both to develop their personal learning goals for the course and to monitor and assess their own individual behavior during the actual workshop sessions (see Attachment I for copy of CSS). In addition, the scale has been tested for reliability [1, p. 641. These two facts made it an excellent choice for the testing of the skills that have been learned and retained -- an evaluation step which is sometimes forgotten, but which we believe is crucial to the responsible development of any new course design.

The concentrated schedule, consisting of five evening sessions and three weekends, has proven so popular with our students (90% of whom work full-time) that we have offered the course twice a year since 1972. The eight workshops so far have had a combined total enrollment of *253* graduate students, all working for their master's degrees. Although the course is listed as a joint offering of the College of Engineering and Technology and the College of Business, the actual makeup of the classes has been even more heterogeneous, drawing students of widely different backgrounds and experience from the Colleges of Liberal Arts, Education, and the Peoria School of Medicine.

Occupationally, therefore, the population for this research study are experienced managers, engineers, teachers, and administrators from surrounding business, industrial, government, academic, and health care organizations. Geographically, they come from within a 100-mile radius of the Peoria, Illinois, metropolitan area since most of them are part-time students. Educationally, they have received their undergraduate degrees an average of about 8 - 10 years prior to going back for their master's.

We believe this group of graduate students, relatively mature and settled in both their family and job environments, represent an uniquely accessible population for continuing research on the effectiveness of this experiential learning design for graduate education in organizational behavior.

COURSE OBJECTIVES

The overall course objective is to develop the skills and knowledge to deal with human problems in organizations. Attention is given to problems of communication, leadership, decision making, team work, management of change, management of conflict, and power/authority relationships. The central focus of the course is the problem of learning these skills in practical ways that help the students perform their jobs more effectively, such as planning and conducting meetings, preparing an operational plan, or delivering a professional oral presentation. Case studies and the weekend experiential workshops are the principle methods of instruction. During the weekend workshops participants struggle with many of the issues of organizational behavior introduced in the first five evening sessions through case studies, readings, and group discussions. The course places a major share for learning and understanding on the student, requiring active participation in small group sessions In which the four instructors rotate as facilitators. The learning process includes:

1. Learning how to <u>professionally monitor</u>:
   -- one's selective listening patterns;
   -- one's way of giving advice, support, handling conflict;
   -- one's way of gaining or losing cooperation of supervisor, colleague, subordinate;
   -- one's way of setting and attaining team goals.

2. Learning how to professionally assess or critique:
   -- by developing more solid criteria for evaluating effective from non-effective behavior;
   -- by seeing new perspectives in the cooperation and competition process;
   -- by appreciating the strong points and weaknesses of alternate leadership styles (payoffs and prices built into various alternatives).
3. Learning how to actually improve:
   -- by understanding how to plan change;
   -- by developing strategies using the resources in yourself, others, and the environment for affecting change in one's behavior;
   -- by actually practicing the new individual or team behavior and testing its results.

The Communication Skills Scale (CSS), developed by Dr. W. Joseph Connolly [1], has been used consistently as one of the instruments in the learning design since the course was first offered in 1972. It is a five-point Likert-type scale for the measurement of communication behavioral patterns such as:

-- listening ability
-- initiative
-- clarity
-- flexibility in modifying views
-- hearing, evaluating, and responding to praise or negative criticism from others
-- etc.

A more complete description of this instrument and how it was used to measure effective application of the students' learnings from the course to their home and work environments is contained in the Methodology section below. We hope that the results of this research into the actualization of positive changes in communication behavior will help focus attention on more effective ways to educate professionals in the field of organizational behavior and development. We believe it shows that in our learning design we have helped our alumni take the first small steps toward competency in interpersonal communication in line with Shostrom's brief definition of actualization as "the ability to send and receive messages honestly" [2, p. 30].

RESEARCH METHODOLOGY

To test the idea that learning had taken place the CSS was administered to twenty-four students who were going to take the course and the twenty-four alumni of the course who had most recently completed the course. These persons had been asked to judge the change in their skills over the last six months, which had been the approximate time since the last session of the course. Those two groups can be compared to provide evidence of the immediate learning that takes place in the workshops themselves.

The second idea to be tested was that the skills learned were learned in such a way that the student could continue to develop more skill long after the workshops ended. The test

of this idea was carried out by sending questionnaires to the other 205 students who had taken the course over a four-year period. They were asked to evaluate changes in their communication skills over the period since they had participated in the course.

In addition to asking the student to evaluate himself he was requested to (1) ask his or her spouse to fill in a copy of the questionnaire and (2) provide the name of a co-worker, and send a signed release to the researcher who then would send a copy of the questionnaire to that co-worker. All 253 subjects, including those who were in the control group, were asked to help obtain information from all three sources.

Unfortunately, the students who had taken the early sessions of the course did not respond in the numbers that were desired. To deal with this problem these students were contacted by phone, which appreciably increased the response rate. In most cases the problem was caused by the student's inability to find a suitable co-worker who had known him over such a long a period of time. Alternatively, they were asked to return the questionnaires for themselves and their spouse, skipping the co-worker dimension. This is what caused the increase in our response rate in self and spouse responses.

ANALYSIS OF THE DATA

Of the 253 students who were sent questionnaires 73 responded (see Table #1). They all provided a response from themselves; most also included questionnaires from their spouse and/or coworker. Each questionnaire was given a score based upon the sum of the responses for that questionnaire. This sum is a measure of the extent to which the subjects' skills have changed. A score of 14 - 35 means that on the average there was negative change. A score of 36 - 49 indicates no change, and a score of 50 - 70 shows positive change in communication skills.

Learning of Communication Skills

There are three ways to provide evidence that the course has a positive impact on the communication skills:

1. An analysis of the variance between the means of the different classes that provided responses to the questionnaires. As Table 2, A indicates, there is a significant variance between groups in the case of the responses by the students who took the course and their spouses. In the case of the co-worker there is insignificant variance.
2. A comparison of the means of the control group who had not experienced the class and the last group to take the course. This test is used because both groups were asked to judge change over the last six months. As Table 2, A shows, there is a significant difference between the subject and spouse responses in the control group and the group that most recently took the course. The responses of the co-worker are in the correct direction, but not significantly different.

3. A comparison between the control group and all the students who took the course. The data presented in Table 2, A illustrates that in all three cases the difference is in the right direction. These differences are significantly greater for the responses of the spouse and the co-worker, but the subjects themselves perceive the changes as less significant.

In general, we believe the analysis supports the idea that learning takes place in the course.

Retention of Communication Skills

As shown above, the tests of communication skills indicated a significant difference between the control group and all the alumni groups. To determine if the skills, once learned, were retained over an extended period of time (up to four years), we examined the alumni groups alone.

To test if differences exist among the alumni an analysis of the variance among these groups was made. This analysis of the answers to the CSS by these former students, their spouses, and their co-workers is summarized in Table 2, B. We believe the results indicate that there are no significant differences between these alumni groups, and so once the skills are learned, they are retained for a period of up to four years.

SUMMARY AND FUTURE PLANS

The students of a graduate course in Organizational Behavior at Bradley University have been given the opportunity to develop new interpersonal skills. To evaluate how effectively this is being accomplished the students of the course were surveyed in this research study. A version of the Communication Skills Scale used in the course measured the extent to which change in skills took place and persisted over time.

The evidence from the survey indicates that the course improves the students' skills and that these improvements persist for up to four years. These results indicate that the course is performing a useful function for the students.

The individual skills on the CSS may or may not be changed by the course. Analysis of these individual items is the first order of business in our continued research in this area. The authors feel the need to have follow-up longitudinal studies of the control group and future groups. In addition, efforts should be made to increase the response rates in order to strengthen the generalizability of the analysis. Finally, the authors plan to develop other devices to test the learning of some of the other skills that are involved in the course.

REFERENCES

1. Connolly, W. Joseph, Participation in a Communication Training Laboratory and Actualizing Changes in Church Leaders, (Unpublished Dissertation Presented to the Faculty of the Graduate School of Arts and Sciences United States International University, 1970).

2. Shostrom, E. L., Man, The Manipulator, (New York: Bantam Books, Inc., 1968).

TABLE 1

SUMMARY OF RESPONSES

Period of Time	Students		Spouses		Co-Workers		Size of Class
	Means	No.	Means	No.	Means	No.	
Control	46.73	19	46.69	16	48.93	14	24
6 Months	54.00	12	52.08	12	51.50	10	24
1 Year	52.67	6	51.50	4	56.67	3	28
1½ Years	55.75	8	54.82	11	49.63	8	30
2½ Years	52.44	9	50.64	11	55.00	1	37
3 Years	55.00	2	46.00	1	48.00	2	28
3½ Years	53.71	7	54.14	7	54.00	1	39
4 Years	52.30	10	54.38	13	48.00	4	53
TOTALS	51.70	73	51.60	75	50.33	43	253

TABLE 2

ANALYSIS OF MEANS

A. Learning of Communication Skills

	Students	Spouses	Co-Workers
Analysis of Variance			
F	5.810	2.430	1.508
p	.000	.028	.196
df	7, 65	7, 67	7, 35
T Test Control to 6 Months			
Control Group			
Mean	96.47	46.69	48.93
n	19	16	14
6 Month Group			
Mean	54.00	52.08	51.50
n	12	12	10
t	4.964	2.693	1.198
p	.000	.012	.245
df	24	25	20
T Test Control to All Alumni			
All Alumni Groups			
Mean	53.54	52.93	51.00
n	54	59	29
t	1.042	5.545	7.271
p	.314	.000	.000
df	15	24	27

B. Retention of Communication Skills

Analysis of Variance			
F	.647	.842	1.713
p	.644	.545	.165
df	6, 47	6, 52	6, 22

ATTACHMENT I

THE COMMUNICATION SKILLS SCALE

INSTRUCTIONS: Please indicate whether or not you have observed any change in the communication of the person being rated over the period of _____ to the present. Read each question carefully and check only one answer per question.

Please do not skip any questions.

1. Have you observed any change in his WILLINGNESS TO LISTEN?
   much less-( ) slightly less-( ) no change-( )
   slightly more-( ) much more-( )

2. Have you noticed any change in his ability to UNDERSTAND THE FEELINGS OF OTHERS?
   much less-( ) slightly less-( ) no change-( )
   slightly more-( ) much more-( )

3. Have you noticed any change in his FLEXIBILITY IN MODIFYING HIS VIEWS after listening to other viewpoints?
   much less-( ) slightly less-( ) no change-( )
   slightly more-( ) much more-( )

4. Have you noticed any change in his capacity to hear, evaluate, and respond to CRITICISM AND NEGATIVE FEELINGS from others?
   much less-( ) slightly less-( ) no change-( ) slightly more-( ) much more-( )

5. Have you noticed any change in his capacity to hear, evaluate, and respond to PRAISE AND POSITIVE FEELINGS from others?
   much less-( ) slightly less-( ) no change-( ) slightly more-( ) much more-( )

6. Have you noticed any change in his INITIATIVE in expressing his views and feelings?
   much less-( ) slightly less-( ) no change-( )
   slightly more-( ) much more-( )

7. Have you noticed any change in his SPONTANEITY in expressing his thoughts and feelings at the moment of their occurrence?
   much less-( ) slightly less-( ) no change-( ) slightly more-( ) much more-( )

8. Have you observed any change in the CLARITY with which he expresses himself?
   much less-( ) slightly less-( ) no change-( )
   slightly more-( ) much more-( )

9. Have you observed any change in his WILLINGNESS TO SHARE ON A DEEP INTERPERSONAL LEVEL?
   much less-( ) slightly less-( ) no change-( )
   slightly more-( ) much more-( )

10. Have you noticed any change in his DIRECTNESS, HONESTY, AND OPENNESS in communicating?
    much less-( ) slightly less-( ) no change-( )
    slightly more-( ) much more-( )

11. Have you noticed any change in his CAPACITY TO DEAL WITH PROBLEM-SOLVING AND CONFLICT SITUATIONS?
    much less-( ) slightly less-( ) no change-( )
    slightly more-( ) much more-( )

12. Have you noticed any change in his NON-VERBAL communication behavior?
    a) EYE CONTACT?
       much less-( ) slightly less-( ) no change-( )
       slightly more-( )much more-( )
    b) VOCAL EXPRESSIVENESS?
       much less-( ) slightly less-( ) no change-( )
       slightly more-( ) much more-( )
    c) GESTURING?
       much less-( ) slightly less-( ) no change-( )
       slightly more-( )much more-( )