

THE EFFECT OF TEAM-LEADERSHIP MODES ON TEAM PERFORMANCE: A PRELIMINARY STUDY

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ABSTRACT

A quasi-experimental research study was conducted based on a 2004 ABSEL workshop on team leader selection. The study found that there was no statistically significant difference in the three team-leader modes (rotating, emerging and designated) and team project performance. The study also found that while most students (80%) felt that all students should have an opportunity to lead a group, only half felt it was not the responsibility of the business school to train them as leaders. The study discusses the implications of the results, particularly for instructors who use the team format.

2. to have the workshop participants “experience” various team-leader modes and to discuss their experiences,
3. to have the workshop participants assist in the partial design of a classroom experiment which could be conducted on the subject of team-leadership.

This paper focuses on the third objective of the 2004 ABSEL workshop. The authors designed and implemented an educational experiment using the some of the suggestions given at the 2004 team-leader workshop.

BACKGROUND

Books, articles, monographs and studies of all sorts abound in the area of both teams and leadership. Teams and teamwork have become an industry standard. Lawler and his colleagues, for example, citing a university of California study, found that 68% of Fortune 1000 companies used self-managing work teams (Lawler, Mohrman and Ledford, 1992).

Interesting, however, the subject of leadership on teams has received less treatment. There have been some studies on professional teams (sports and business) but few studies have been offered in the area of team-leadership in the

INTRODUCTION

At the 2004 annual ABSEL conference, a workshop was conducted on team-leadership (Markulis, et al. 2004). According to the workshop presenters, the workshop had several objectives:

1. to review the literature on team leadership as used in the classroom,

classroom, at least at the college level and/or in business schools. A highly touted book on teams, for example, covers many subjects relating to the development; structure and constructive use of student teams in the college classroom, but makes no mention of team-leadership (Michaelson, 2002). An issue addressed in the 2004 workshop was “What team-leader mode is the most appropriate one for students?” Based on the discussion at the workshop session, that meant “which mode leads to the best team performance?”

The workshop presenters had hypothesized that there were three fundamental team-leader modes,

- *Designated*
- *Rotating*
- *Emerging*

The presenters did not state that one was superior, or indicate that one better served some pedagogical objective better than another. The modes themselves were in part derived from a review of the literature and in part based on natural taxonomy. Taking these three basic modes as fairly discreet approaches to team leadership the authors devised an experiment where the three modes could be tested in a classroom setting.

The Designated Mode. The designated mode is where the team leader is assigned by the instructor, similar to what a manager may do with a work team. In this experiment, the instructor chose the team leader based on a volunteer from the group. If no one volunteered, she simply chose one. Since the instructor did not know the students from previous classes, the choice was usually random.

The Emerging mode. Emerging leaders are those with no formal authority or appointment, who are perceived by team mates as having substantially influenced the team (Schneider and Goktepe 1983, Taggar et al 1999). Emerging leaders best represent what the professional literature calls self-managing teams. No leader is assigned or appointed, but one or more emerge as the project moves forward.

The Rotating Mode. Finally, the rotating mode is where the instructor appoints each member to lead the team for a set period of time, after which the leader role rotates to another member. Some instructors may feel that it is only fair that all have an opportunity to lead a group. Erez, Lepine, and Elms, for example, found that when every member has the opportunity to experience the team leader’s responsibilities, s/he is likely to extend more efforts and greater cooperation towards goal achievement and ultimately feel higher levels of satisfaction (2002).

METHODOLOGY

A quasi-experimental design of team leadership using (Campbell & Stanley, 1963) was developed. The experiment used a *within subjects, post-test format*. The experiment took place at a medium sized university with undergraduates, most of whom were business majors. The authors located an instructor who taught three sections of an Organizational Behavior class. The instructor agreed to allow her classes to be used for the experiment, although she herself was not involved in the experiment per se (*control for instructor bias*). In each section, there were 6 student teams with between 5-6 students randomly selected for each team (for a total of 18 teams and 77 students). One can assume that the students chose their class section based on convenience or some criteria other than their knowledge that they would be assigned to a specific team-leader mode. There is no reason to assume that there was any bias in the course selection (*randomization*). The researchers acknowledge that the students in the classes may have interacted with each other in terms of discussing their team modes. Nonetheless, experimenters assume that there is no reason to believe that students were overly concerned about the team-leader modes and their interactions in this area were minimal and casual (*experimental control*).

The instructor gave each team the same semester long team-based project. At the end of the semester, the instructor graded the semester long team projects for each team. On the last class day, the authors then asked each student to complete a short questionnaire on their team-related experiences during the semester (Appendix 1). The instructor provided to the authors the team grades and these--along with the survey results--were analyzed.

RESULTS

A major objective of the study was to determine if team-leader mode affected project performance. Table 1 indicates the grade distribution for the teams in each of the classes. Project grade was determined by the instructor of the course, who was not part of the original research project.

An ANOVA (team leader mode as factor, team grades as dependent variable) shows no statistically significant difference (see Table 2) among the three team-leader modes and project performance.

A second area of concern raised by the participants of the 2004 ABSEL workshop on team-leader modes was the issue of school’s (or instructor’s) responsibility to help

Table 1: Grade Distribution of Teams for Final Team-base Project

TEAM-LEADER MODE	TEAM 1	TEAM 2	TEAM 3	TEAM 4	TEAM 5	TEAM 6
Designated	87	88	93	85	90	84
Emerging	84	85	93	88	82	87
Rotating	87	85	93	90	80	87

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Table 2: ANOVA Results of the Team-leader mode on Team Performance
(Actual final grade)

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.010	2	.005	.040	.961
Within Groups	9.062	74	.122		
Total	9.072	76			

Table 3: Is it the responsibility of the Business School to train students to be leaders?

	Observed N	Expected N	Residual	Chi-Square (1 degree of freedom) = 2.922
Yes	46 (59.7%)	38.5 (50%)	7.5	
No	31 (40.3%)	38.5 (50%)	-7.5	
Total	77			

Table 4: Should everyone have had a chance to lead a group?

	Observed N	Expected N	Residual	Chi-square (1 degree of freedom) = 28.688
Yes, everyone	62 (80.5%)	38.5 (50%)	23.5	
No, only qualified people	15 (19.5%)	38.5 (50%)	-23.5	
Total	77			

The minimum expected cell frequency is 38.5.

“train” students to be leaders or offer the opportunity for students to serve in a leadership capacity. Several of the workshop participants felt that only students who “showed” leadership skills or desires should be given the opportunity to lead a group, while others believed that it was only “fair” to let all students have the opportunity, if for no other reason than they could experience what it would be like to serve in some leadership capacity.

All students participating in the team-leader mode research project were asked about these issues. (See Appendix A: survey questions 19 & 20). Nearly sixty percent (59.7%) of students’ believe that it is the responsibility of the business school to train them to be leaders (40.3% disagree with the statement in question 19), while 80% feel that all students should have a chance to lead. Tables 3 & 4 show the chi-square values for these results.

The chi-square test (with expected proportion = 50%) is insignificant, suggesting that students do not favor one answer to the other (see Table 3). Over eighty percent (80.5%) of the students feel that everyone should have had a chance to lead the group. The associated chi-square test (with expected proportion = 50%) shows that this belief is significantly held in the sample (see Table 4). There is no apparent linkage between leadership modes, and student responses to questions about the responsibility of business schools to train students to be leaders, and whether or not everyone should have a chance to lead a group (Q 19, 20 on

the survey); i.e., the chi-square test of association is insignificant. Similarly, cross-tabulation of responses to questions 19, and 20 show an insignificant linkage in the responses to these two questions. So, students feel strongly about the school’s responsibility to allow all students to lead a team, but they do not think the school has a responsibility to “train” them to be leaders.

Additional findings, particularly those on team dynamics, will be reported in a forthcoming article in the *Journal of Education in Business*.

DISCUSSION

A major objective of this study was to determine if team-leader mode *ipso facto* affected project performance. Based on the results of this study, it is clear that there is no difference. Of course, this study needs to be replicated elsewhere to see if this finding is upheld in different settings with more diverse student teams. That being said, it is an important finding in that it encourages instructors who use teams to think clearly about how to organize and structure their teams. Is there a specific pedagogical purpose which the instructor has for the team (teleological or process or both?) and the team project? If team-leader mode does not affect the team’s project performance, instructors must consider other relevant variables, like homogeneity, size, experience, task-type and many other variables spelled out in the literature. Instructors must also determine what

interventions they may want to provide to the teams. For example, if the instructor wants to teach the team about team dynamics or processes, s/he may want to manage the team carefully and intervene when necessary.

On a related observation, it is interesting to note that many organizations seem to be moving toward the self-managing team format (Manz and Sims 1987, Taggar, Hackett and Saha 1999, Wolff, Pescosolido, and Druskat 2002, Seers, Petty, and Cashman 1995, O'Brien and Buono 1999, Seers et al 1995). Given this, instructors may want to consider how best to equip students for this eventuality. It would almost seem like the emerging mode would be best. One might hypothesize that this mode may have produced better team performance had the instructor in our experiment "intervened" with training, counseling etc. However, given the nature of this limited experiment, we asked the instructor not to intervene or manage any of the modes, unless a very serious problem arose. One major shortfall in the classroom is the range of skills among the students. Often work teams are selected precisely because members possess a special or unique skill from which the entire team project can benefit. In most undergraduate classes though, there is considerable homogeneity, particularly in terms of student experiences (this may not be true in masters level courses). So, using the emerging mode may present a real challenge to instructors.

LIMITATIONS & FUTURE RESEACH

One limitation of the study is the university in which the experiment was conducted. The student population of the university is fairly homogeneous and therefore, the authors of this study encourage other researchers to try and replicate this study in more diverse undergraduate settings. A second limitation of the study is the use of the project team grades to measure team performance. One could argue that there are many factors which make up team performance. The authors also are seeking ways to refine the measurement of team projects. The grades in Table 1 probably are indicative of what happens to the grading of most team-based projects, i.e., there is not a lot of grade discrimination among the team grades. Also, the authors are not sure if the instructor modified the grades for each individual on the team based on peer evaluations. Finally, there are the team-leader modes themselves and the ability to tightly control their implementation over the course of a semester. No one can be sure the students actually used the modes in a careful, consistent and reliable way throughout the semester.

In terms of the team-leader modes, the authors are presently engaged in a research project to ascertain what team-leader modes business school instructors are currently using—if any—in their classes as well as to solicit their views on the a range of questions and issues regarding the team-leader mode concept.

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APPENDIX A

Survey (of team leader modes)

Team Number _____ (to determine which team leader mode the student team was assigned to use)

Using the scale below, write the appropriate number next to the questions 1-18.

1=Never 2=Almost Never 3=Rarely 4=Sometimes
5=Frequently 6=Most of the time 7=Always

- _____ 1. Our group worked on all the parts of the project as a team.
- _____ 2. In general, all group members contributed to the project.
- _____ 3. There was a balance of workload among team members.
- _____ 4. Our team meetings were well organized.
- _____ 5. There was conflict in our group.
- _____ 6. Our meetings had written agendas.
- _____ 7. There was a clear leader present at our group meetings.
- _____ 8. There was good communication among our team members.
- _____ 9. The leader/facilitator of our group positively affected team communication.
- _____ 10. Group members were accountable for how they performed.
- _____ 11. Our group had penalties and/or rewards for member contributions/behaviors.
- _____ 12. Our team leader/facilitator was effective.
- _____ 13. Our team was highly cooperative.
- _____ 14. Team members provided constructive feedback.
- _____ 15. Communication was open and honest.
- _____ 16. Our team leader/facilitator contributed to positive group dynamics.
- _____ 17. Our team leader/facilitator contributed to positive group performance.
- _____ 18. Our group had a high level of tension.

Circle the best answer for questions

- 19. Is it the responsibility of the School of Business to train students to be leaders?
A. Yes. B. No.
- 20. Do you feel everyone should have a chance to lead a group?
A. Yes, everyone should. B. No, only qualified people should.