TEAMWORK:

FACULTY AND STUDENT EXPERIENCES

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Peer Reviewed

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Abstract

Organizations continue to use work teams as a strategy for increasing productivity and worker flexibility; as a result business schools continue to incorporate teamwork and team projects into the curriculum. The current paper presents a review of the literature on the issues related to the use of student teams, primarily focusing on the effectiveness of the teaming experience within business schools. Preliminary findings from a faculty survey and a student intervention in an online learning environment highlights team formation and team engagement as potential factors influencing the teaming experience of business students. The results of faculty survey reported in this article show that a majority of faculty use the self-selection method for team formation and employ a form of peer evaluation of the teamwork. The results of the student intervention indicate that students who felt like they had some choices into their team formation were more likely to have a positive perception of their teaming experience. However, encouragement and coaching provided by the instructor did not have a significant impact. Implications and future directions for research are also discussed.

Teams are used extensively in undergraduate and graduate business classes to prepare students to be capable team players when they enter the workforce (Keller, 2001; Neufeld & Haggerty, 2001; Williams et al, 2006). A recent survey of business faculty from a regional southeastern university indicated that over 80% used teams in some form or fashion in their courses. But does the method of team formation matter? Do students select their teams or are they assigned to teams? Some have argued that rather than "team collaboration" what is often happening in student teams is this "integration by the stapler" (Saunders, 2008). That is, individual team members all take a piece of the project and work on it individually. Then one person (usually the team member who is good at organizing) combines the individual inputs, staples it together, and the team project is complete. With so much attention devoted to teams in today's business classrooms, the current paper examines the effectiveness of the teaming experience within the business classroom. Based on past research and current findings, our goal is to identify some optimal conditions for forming and using teams, and improve the teaming experience for both students and faculty.

First, given the many conceptualizations of teams, a review of the literature was performed to provide a standard definition of teams as well as a summary of the research conducted on teams. The benefits and importance of team formation and collaboration, the key issues of using student teams and the concerns of online teams were discussed. Second, results from a faculty survey

on the use of teams and a student team experiment based on data gathered from the survey is presented. The current paper was designed to provide some additional insight into the use of teams in the classroom: the experience of using teams from faculty perspective, the importance of the team formation process on the student's teaming experience, and the ability to improve the student's teaming experience by facilitating a greater degree of interaction among team members in an online environment. The article concludes with directions for future research.

Introduction

A team is defined as a group of people linked in a common purpose (Hughes, Ginnett, & Curphy, 2008). However a group in itself does not necessarily constitute a team. Compared to groups, teams have 1) stronger sense of identification, 2) common goals, 3) greater task interdependence, and often have 4) differentiated roles (Hackman, 1990). Teams are specialized groups and come in all shapes and sizes. There are cross-functional teams, project teams, self-managed teams, virtual teams, quality teams, short term teams, and long term teams. Teams also vary in their effectiveness. Typically effective teams have a clear mission and high performance standards as well as high levels of communication (Hallam & Campbell, 1996). Hackman (1990) has argued that a team is effective if: 1) the team's productive output meets expectations on quantity, quality, and timeliness; 2) the team process that occurs enhances the ability of the team members to collaborate and work together; and 3) the team experience enhances the growth and well-being of the individuals that make up the teams. So how do these concepts of team output, team process, and team experience translate to the classroom?

It is expected that a team environment in the classroom should encourage discussion of diverse viewpoints and provide students with the opportunity to learn to draw on other's complementary skills; teams should help students discover knowledge for themselves through interactions with one another. By encouraging students to work in teams, it is hoped that team structure provides social support and encouragement for individual efforts (Alavi, 1994, Maxwell, 2003). This article sets out to gain some insight into whether teams used in the classroom have these positive effects and benefits for the team members and team outcomes.

Benefits and Barriers of Using Teams

The concept of using teaming in business schools and the positive effect of collaborative learning has been studied (Keller, 2001; Ku, Tseng, & Akarasriworn, 2013; Neufeld, & Haggerty, 2001). Neufeld and Haggerty (2001) demonstrated through experimental design that teams outperformed individuals,

and improved the interpersonal competencies in information system courses. They also showed that team skills were positively related with team performance. Positive results were presented by Keller (2001) when he reported his experience in teaching adult professionals and how the team centered active learning promoted student success. Moreover, teaming can yield a high motivation level particularly among inferior group members (Weber & Hertel, 2007). More recent research also supports the finding that collaborative learning in online teams promotes engagement and success (Ku, Tseng, & Akarasriworn, 2013)

Despite the benefits of student teams, many professors have moved away from using teams because of instructor and student barriers (Saunders, 2008). A common faculty complaint is that there is insufficient time to cover course content as well as train students on how to work effectively within a team. As a result, students are often thrown together to work in teams with no guidance or faculty decide not to include team projects in the curriculum. When teams are used, the increasing variety and complexity of student schedules, often poses a challenge for coordinating team meetings and team effort on the project, even with the ability to work virtually. Students also complain about having slackers on their team. Slackers are those students who seem to hide in the background and do little to support the team efforts. Other students pick up the work and leave the students with a "bad taste" in their mouth when it comes to the teaming experience; after one bad teaming experience, some students often try to avoid classes with team projects in the future. In order to make the teaming process more effective for both faculty and students, the methods used for team formation might provide an area for improvement.

Team Formation

Taking a closer look at the process or system used for the formation of teams in the classroom provides several options that have been proposed. There is some support for student self-assignment of teams, with researchers claiming that students perform much better and are more satisfied if they participate in the team formation (Decker, 1995; Bacon, Stewart, & Silver, 1999; Taska, 2002). The impact of group self-selection vs. "assigned" membership on group performance, both on-line and in face-to-face environments, was explored by Spotts and Chelte (2005). They reported the online teams perceived themselves more cohesive with greater level of contribution. The self-selection process does not need to be left totally to the students without directions and coaching. Researchers present various methods of guiding the students through the self-selection process. Students may go through an application and hiring process to form their teams and by having a structured evaluation and firing process, students gain some insight into the employment process and the formed teams are more diverse and perform better with fewer complaints (McCloskey, 2004). Students may also be given the opportunity to get to know about each other's

interests, work style, and motivations through a simple exercise before the final selection process (Aller, Lyth & Mallak, 2008). A similar approach was also offered by Zych (2005) in which students are asked to first analyze a real world case in a randomly assigned group. This experience helps them realize that students with various skills are needed for the successful completion of the business project and that forming a team by choosing friends and acquaintances may not lead to successful outcomes. This approach also helps instructors to be proactive in using the information from the students' self-assessment to guide team formation.

Still others strongly refuse the idea of self-selection based on prior interaction, arguing that students are comfortable with the familiar and therefore will not be exposed to others who are different than them or think and respond in different ways (Keyton & Beck, 2008). Some suggest forming groups based on explicit objective criteria. These criteria could be based on personality type (McKay & Van Epps, 1997), ethnic background and gender (Taska, 2002), or a set of attributes (Hobson, Strupeck, Griffin, Szostek, & Rominger, 2014; Beheshtian-Ardekani & Mahmood, 1986; Mingers & O'Brien, 1995). These attributes can be math skills, work experience, writing skills, or background.

Technology has also been used to facilitate the task of team formation. One such approach, called Team Maker, uses a windows-based program that can integrate a number of team formation goals, including allowing the students to choose whom they would like to be in their team (Bacon, Stewart & Anderson 2001). Interestingly enough, nine years after this article was published, another article presented, a web-based software this time, by the same name; *Team Maker* (Layton, Loughry, Ohland & Ricco, 2010). The software has the same goal like the other one but they asserted that it is more user-friendly. They also suggested using it in combination with a peer evaluation system that they offer free for college professors; Comprehensive Assessment of Team-Members Effectiveness (CATME).

Other web-based tools were created to provide students with the help they need to have effective teams. The Team Learning Assistance (TLA) helps students at every step, starting from writing the group contract with roles and responsibilities to meeting management, conflict resolution, and giving and receiving peer evaluation (Deacon-Carr, Herman, Keldsen, Miller & Wakefield, 2002). For the online learning environment, Whatley (2004) presented software called Guardian Agent which is developed in LPA Prolog. The software can help the student teams in the four stages of planning, doing, completing and appraising the team's performance.

Choosing the right method of student team formation will still not guarantee the smooth sailing of the team during the semester; disagreement and frustrations will eventually emerge. No matter which method is used, faculty coaching is important to help students not to take the easy route of choosing their

friends thereby forming homogeneous group. Students need to be exposed to the effect of both homogeneity and heterogeneity in groups as well as its limitation and also enabled to work with a diverse group of their class mates (Nelson & Bass, 1994). There should be some contract that holds all team members accountable as well as outlined processes for performance, communication and interaction with team members.   The students can rotate responsibilities of advance preparation, editing and revising of the task (Wilson & Schullery, 2000) or write their own contract and create appropriate consequences for negative / positive behavior (Saunders 2008). Moreover, the use of peer evaluation early in the semester can also help in setting the expectations for the teams.

Team Collaboration in Online Classes

Besides team formation, team collaboration has been identified as a key success factor in team effectiveness. In particular, team collaboration in online learning seems especially challenging and has not been discussed widely in the literature. With online-teaching increasing across the nation, the use of teams in online classes has become an important issue to explore.

The literature review did not indicate that the online mode of teaching impede the benefit of learning in teams. However, the online environment may add more challenge and complexity, which makes it difficult to translate a successful face-to-face teaching strategy to an online environment.

A high level of planning, organization and supervision is required for instructors to ensure the flow of the communication and to compensate for the lack of face to face interaction in the online environment. Instructors may need to use an exercise that supports the development of technical, verbal and written competencies. The use of asynchronous communication and various forms of "fast" electronic exchange of information may also prove to be helpful in finishing the task (Clark & Gibb, 2006). Continuous communications need to be encouraged in online learning because it helps develop trust among the team members (Coppola, Hiltz &Rotter, 2004).   This can be achieved by giving students leadership role in guiding the discussion which could be rotated within the team (Rourke & Anderson, 2002). . Grinnell, Sauers, Appunn, & Mack (2012) showed how a functional online teams would have conscientious students who assume leadership functions which resulted in an effective team.   Similar to face to face teams, other factors that contribute to successful teamwork are members' accountability, familiarity with team members, commitment to quality work, and team cohesion (Tseng & Yeh, 2013). A student attitude survey shows that teamwork satisfaction is highly correlated to team dynamics, team acquaintance and instructor support   Students also favored their collaborative work in online courses when these factors existed (Ku, Tseng.& Akarasriworn, 2013).

Generally, extra measures need to be taken with online teams to assure teaming success (Hobson, Strupeck, Griffin, Szostek, & Rominger, 2014). Teaching faculty may coach the students in the process of team forming and help them develop a group agreement and group assessment tools. Creating special team-building activities for online classes contributes to the success of online teamwork (Staggers et al 2008). A well designed online team based exercise can also reassure team cohesiveness, reduce social loafing and encourage introverted students to be more influential in their groups (Dineen, 2005). Activities like this or similar proved to accomplish a high degree of success in online teaming (Shank, 2006).

Current Research

The importance of team formation including effective support mechanisms to promote the developing of teaming skills are issues that warrant further study and investigation. Therefore this study seeks (1) to identify the faculty perception of the actual use and importance of using teams, (2) to determine the impact of team formation method on student satisfaction, and (3) to determine the impact of faculty encouragement and coaching on student satisfaction of the teaming experience.

Faculty Perception
Method

As a starting point for this research, an anonymous web-based survey using multiple-choice format and open-ended questions when appropriate was administered to faculty. The participants were the faculty in the college of business within a large southeastern public regional university that offers undergraduate, masters, and doctoral programs.

Results of Faculty Survey

The survey was emailed to 119 full-time faculty and 60 part-time faculty (n=192), and 73 responses were received (41% response rate). We need to mention that the response rate is low because the survey was sent to the formal university email system which is not frequently used by the part-time faculty.

Table 1 (below) summarizes the results of the faculty survey response regarding the use of teams in their courses; the table provides the number of respondents for each category and the percent that those respondents represent of the applicable number of respondents. In terms of the use of teams, 81% of the faculty responding to the survey utilize teams in their courses. For those faculty utilizing teams, 88% indicated that this was to provide students with the opportunity to learn how to work on teams; 63% indicated that it was part of their philosophy of teaching; and 60% indicated that they were teaching course sections where the specific Assurance of Learning (AOL) objectives for that

course were to help students learn how to perform more effectively in teams. Among the faculty not using teams, 67% indicated that their reason for not doing so was that the use of teams was not appropriate for their course content. Other reasons for not using teams included not having previously considered using teams; having had a bad experience with teams; and having large class sections (i.e., having more than 80 students in a class section).

Table 1 – Summary of Faculty Survey on use of Teams in Courses

Question	Answers	N	%
Do you use Teams in your class?	Yes	59	81%
	No	14	19%
	Total	73	100%
Why do you use teams?	Opportunity for students to learn teaming skills	50	88%
	Teaching Philosophy	36	63%
	Course Learning Objective	34	60%
	Total	57 *	100%**
Why don't you use teams?	Not appropriate for course	8	67%
	Other	4	33%
	Total	12	100%

*Of the 73 respondents, 59 said that they used teams. Of the 59 that said they used teams, only 57 provided reasons as to why they did. **The percentages shown are inferential statistics of the proportion of the sample that provided reasons.*

Teams were used across a wide range of subjects representing each of the offered business majors as well as for all levels of courses, from the sophomore level up to the graduate level. The survey results identified 69 specific courses utilizing teams from the over 200 courses being offered in that academic year. The survey results also illustrated that teams are being utilized across multiple modes of delivery: 88% of respondents were using teams in face-to-face courses; 47% were using teams for online courses; and 26% were using teams for hybrid courses (courses that are taught with both significant face-to-face and online components).

Teams are also utilized for developing a wide range of deliverables. For those faculty responding to the survey: 80% had teams develop and deliver presentations; 73% had teams develop papers; 53% had teams prepare case analyses; 33% had teams prepare weekly deliverables; and another 25% had teams prepare a range of other varied deliverables. Team grades for deliverables typically constitute from 20 to 50% of each student's final grade.

In terms of team formation, 84% of the respondents had students self-select to form their teams, with the remaining methods in order of frequency of use including: random assignment; diversity of demographics and fields of study; with GPA and personality types being the least frequently utilized method. These findings support the survey results published by Decker (1995). The vast majority of teams, or 83%, are formed for the duration of the semester, while other teams were formed within the semester for specific class deliverables. Additionally, roughly half of the responding faculty does not allow adjustments in team memberships once the teams are formed. Of the other half, the two most cited reasons for adjusting team memberships are due to either 1) students dropping the course and thus adversely affecting team sizes; or 2) as determined by the team charters or organizational agreements. With respect to the "loafer" or "free-rider" problem, 67% of those surveyed allow the team to "fire the loafer;" 18% assign a grade penalty to the loafer; while the remainder make no explicit provision for this issue.

Ninety-seven percent of the respondents indicated that they had students evaluate their teammates. More than half, 55%, required these evaluations at the end of the semester, while the remainder required these evaluations at various points throughout the semester. Of those requiring peer evaluations, 75% use these to determine an adjustment to the student's grade and 23% used these for anonymous developmental feedback. Others cited other reasons for requiring these peer evaluations that have been stressed in the literature (Deacon-Carr, Herman, Keldsen, Miller & Wakefield, 2002), such as developing their students' skills in providing feedback.

The survey concluded by asking the respondents to reflect and comment on both the positives and negatives associated with utilizing teams in the learning experience. Considering the positives, clearly the most frequently cited reason was the student's development of a real-world skill that will benefit their future careers. Other positive outcomes that were noted included enhancing student engagement; improving student learning and achieving better outcomes for the project deliverables – such as business plans. As to the negative effects of team utilization, the most predominate issue cited was that students can have a bad experience which would not be encountered with individual only deliverables; it was noted, however, that students can learn valuable lessons from these negative experiences. Finally, many of the comments suggested that often team

deliverables are clearly developed individually by team members without coordination or integration.

The next step of the study incorporated some of what was learned from the faculty survey into an experiment within a management course that utilized teams.

Students Perception

In addition to the survey of faculty perceptions of the use of teams in business courses, the authors conducted an experiment with students to test the impact of various course design options on the students' perceptions of the effectiveness of their teaming experience.

Team formation: The majority of faculty let students self select. Is this the "right" method of student team formation? Is there a possible benefit of this method? Does it improve satisfaction with the team? As mentioned earlier, some support self-selection (Taska, 2002; McCloskey, 2004; Zych, 2005; Aller et al 2008) while others strongly refuse the idea of self-selection (Keyton & Beck, 2008). The authors suggest that by allowing students to select their teams, the students are given a choice about how their team will be organized. Having a choice, autonomy, is a basic psychological need that motivates individuals (Deci & Ryan, 2002). If the need for autonomy is satisfied, it enables optimal functioning and growth and is expected to lead to positive outcomes such as increased performance and satisfaction (Deci & Ryan, 2002). Thus, in terms of team formation, the following was hypothesized:

> H1 – The degree to which students feel they have input into teammate selection is positively related to their perception of the effectiveness of their teaming experience.

Team Collaboration: Often the teams used in the classroom are merely groups of students who all have a piece of the final product, everyone does his/her own separate work, and then the work is combined at the end. While the end product from such a team might be satisfactory (meets requirements of assignment), often those involved in such a team don't experience the feeling of working on a team. That is, there has been "integration by the stapler" but little else to unite the team. Building trust among team members is critical for a successful teaming experience, but trust takes time and effort (Williams et al, 2006). One cannot assume that trust develops naturally as part of being thrown together on a team. All team members need ongoing opportunities to express his/her thoughts regarding the team's purpose, process and performance.

According to Maxwell (2003), the two most important factors for sustaining a collaborative team environment are openness and supportiveness. By being open and supportive of eachother, teammates are able to trust one another. To achieve a sense of openness and supportiveness, there needs to be an opportunity for team interaction and communication (Coppola, Hiltz &Rotter,

2004).   Effective teams have teammates who are talking and listening to each other and also have leaders that provide support and feedback on how to effectively work together. Scott and Pollock (2006) offered more team effectivenes measures; productivity is enhanced as a result of the increased levels of interaction, project experience is enjoyed by team members and the final product produced by the team achieves the desired goal.   Thus, in terms of team collaboration, it was hypothesized that:

> H2 – Increasing the meaningful interaction between teammates and supporting this collaboration with supportive coaching and encouragement is positively related to the students' perception of the effectiveness of their teamming experience.

Methods for Student Teaming Experiment

Participants

The sample for the student experiment (n=69) were two sections of an online management course in which working in teams was a key component. Each section covered the same content and had the same course requirements. Both sections had students form into teams of 5 to 6 students at the beginning of the semester.   Students were allowed to mutually agree to team memberships and form their own team. Students who failed to join a team however were assigned to a team.

In both sections of the course, teams were responsible for several team deliverables including weekly discussions and a case. The treatment used in this experiment was designed to promote increased meaningful interaction by teammates that included opportunities to provide feedback, additional time to interact, as well as encouragement and coaching from the instructor to motivate all team members to engage with their teams. The treatment group (section 01) (n=36) received coaching and encouragement regarding team collaboration through messages on the discussion boards posted by the instructor. Additionally, Case 1 was broken down into smaller deliverable sets (2 questions per week) for the treatment group and the teams were responsible for turning in the two questions for feedback from the instructor. The teams were then to use this feedback to work together to improve the final Case project (all six questions). Additionally team members in the treatment group were asked to use self-reflection on their own performance and assess the team process throughout the week; they were also asked to recommend improvements for the next week. By engaging the teams in the treatment group early and frequently and providing them an opportunity to assess one another during the process, we hoped to encourage the openness and supportiveness that has been found in successful teams (Maxwell, 2003).

The control group (section 02) (n=33) did not receive coaching and encouragement regarding collaboration from the instructor. Additionally, Case 1 was assigned to each team in its entirety with a final deadline for the team to submit their complete response to the same six questions that had been assigned to the treatment group.   The control group was given the opportunity for feedback from the instructor prior to the final due date. However, only two of the seven teams in the control group did so.

Variables for Student Teaming Experiment

Dependent Variable. The dependent variable for this experiment is the reflective construct Team Experience based on an existing six-item five-point Likert scale designed to measure team functioning and team performance (Sargent & Sue-Chan, 2003). A sample item was, "I enjoyed working with my team for this class." To test the reliability of this six-item instrument for capturing a single latent construct we calculated the Cronbach's alpha for our sample; it had a value of 0.927 that confirmed the reliability of this instrument since it exceeded the recommended minimum threshold value of 0.70 (Hair, Black, Babin, & Anderson, 2010, p. 127).

Independent Variables. The independent variable to test H1 is Team Formation Input and is an existing single-item five-point Likert scale designed to assess the student's perception of their degree of input into the team formation process (Sargent & Sue-Chan, 2003). The question for this variable was, "I had input into my team formation for this class."   The independent variable to test H2 is the dummy variable Treatment Manipulation that has a value of one for the treatment group and a value of zero for the control group.

Control Variables.   We used two control variables in this analysis. The first control variable for this experiment was the gender of the student (male = 1 and female = 0). The second control variable was each student's self-reported Grade Point Average (GPA).

Table 2 (below) provides the descriptive statistics (the means and the standard devations) and the correlations for our sample. The only variable that is significantly correlated with the dependent variable Positive Team Experience is Team Formation Input ($p < 0.001$). Team Formation Input is also positively correlated with Gender ($p < 0.05$). Our sample size was n=69.

Table 2 – Descriptive Statistics and Correlations

#		1	2	3	4	5
	Mean	4.01	0.35	3.17	4.03	0.52
	Std. Deviation	0.86	0.48	0.45	1.06	0.50
				Correlations		
1	Team Experience (1=Low, 5=High)	1.00				
2	Gender (Male=1, Female=0)	0.19	1.00			
3	Grade Point Average (A=4, F=0)	-0.01	-0.09	1.00		
4	Team Formation Input (1=Low, 5=High)	0.38 ***	0.21 *	0.08	1.00	
5	Treatment Manipulation (1=Yes, 0=No)	0.04	-0.09	0.10	-0.11	1.00

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ (two-tailed tests)
n=69

Results of Student Teaming Experiment

Table 3 (below) provides the results of the Hierarchical Linear Regression. Model 1 reflects the results for the control variables alone. Overall the R-squared is 0.037 (explaining only 3.7% of the variance for Team Experience) and is not significant. None of the coefficients for the control variables are significant. Finally, there is no issue of multicollinearity since the maximum variance inflation (VIF) score of 1.009 is well below the maximum allowable threshold of 10 (Hair, Black, Babin, & Anderson, 2010, p. 205).

Model 2 reflects the results for the control and independent varibles combined. Overall the R-Squared is 0.167 (explaining 16.7% of the variance in Team Experience) and is significant ($p < 0.05$). The change in R-Squared (representing the change in explanatory power by adding the independent variables for our hypotheses) is 0.130 and is significant ($p < 0.01$). The coefficient for Team Formation Input (associated with H1 and indicating the degree to which students felt they had input into the team formation process) is both positive and significant ($p < 0.01$). The coefficient for Treatment Manipulation (associated with H2 and indicating the presence or absence of the treatment manipulation) is not significant. Again there is no issue of multicollinearity since the maximum VIF

score of 1.070 is well below the maximum allowable threshold of 10 (Hair, Black, Babin, & Anderson, 2010, p. 205).

Table 3 – Hierarchical Linear Regression

	Model 1 CVs Only	Model 2 CVs + IVs
Constant	3.821 ***	2.856 ***
Control Variables		
Gender	0.345	0.213
Grade Point Average	0.022	-0.065
Independent Variables		
Team Formation Input		0.299 **
Treatment Manipulation		0.157
R^2	0.037	0.167 *
Change in R^2	0.037	0.130 **
Max VIF	1.009	1.070

Dependent Variable = Team Experience
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ (two-tailed tests)
n=69

The results of the student team experiment support one of the two proposed hypotheses. H1 that proposed students who feel they have input into the team formation process are more likely to have a positive perception of their teaming experience is supported ($p < 0.01$). However H2 that proposed that increasing and encouraging meaningful interaction between teammates will improve the student's perception of the teaming experience is not supported (*n.s.*).

It should be noted however that the small sample size (n=69) is only conducive to finding relationships with large effect sizes. The required sample size to detect a relationship with a large effect size with Power = 0.80 and α = 0.01 for four independent variables is n=55; detecting a medium effect size relationship requires n=118 and detecting a small effect size relationship requires n = 841 (Cohen, 1992, p. 158). Thus our sample was not large enough to detect a medium or small effect size relationship in support of H2 should such a relationship exist.

Discussion

Faculty Perception

The published research that deals with faculty perception on using student teams is limited. So, one of the goals of this research was to explore faculty perceptions. The survey shows a wide use of teams across all business disciplines and modes of delivery; face-to-face, online, and hybrid courses. That is not surprising since the benefits of using teams is well supported by the literature ((Alavi, 1994; Keller, 2001; Weber & Hertel, 2007). The teams are used for a portion of the semester to collaborate on an assignment or for a full semester project.

Faculty tend to empower students to deal with loafers and to evaluate their peers (Colwell & Jenks, 2004). Some faculty cited other reasons for requiring these peer evaluations, including developing students' skills in providing feedback which is stressed in the literatures (Deacon-Carr, Herman, Keldsen, Miller & Wakefield, 2002). The most popular method of team formation was the "self-selection" method which has a good support from the literature (Decker, 1995; Taska, 2002) and is easier to use in large classes. The faculty who used student teams believed the experience which students gain will help them in their future career (Keller, 2001) because students learned how to interact and listen to each other and even compromise when needed.

There were some faculty who did not use teams in the class because they were overwhelmed by time commitment or bad experience which was cited by Saunders (2008) as barriers to use of teams. Other negative comments were from faculty who complained about the quality of deliverables submitted by teams; documents lack integration and don't appear to be a consistent deliverable.   So in the student experiment it was important to test their satisfaction with the self-selection method and the faculty coaching at the early stage of the project.

Student Perception

The online environment was chosen because of its importance to todays business eduaction. Many universities across the country are adding online classes to their offerings. The goal was to better understand what factors impact student satisfaction with the online team experience. The results indicate that students who felt like they had some choices into their team formation were more likely to have a positive perception of their teaming experience. However, encouragement and coaching provided by the instructor did not have a significant impact.

The treatment in this experiment was centered around one deliverable in this course, Case 1, but this was not the only team deliverable in this course. There were other weekly team deliverables required in this course beyond Case

1 for both the control and treatement groups. Therefore the difference between the degree and frequency of the course design prompted team interactions may not have been as great between the control and treatment groups as originally intended.   Since this an elective management course it is also possible that the students had already been exposed to online teaming experiences in prior and concurrent business courses so that the treatment in this single course did not alter their perception of their teaming experience. Walther (1996) suggested that in the online environment teams can adjust to the new setting and achieve high performance and satisfacion and that may be the case for the control group. Building trust with the group was identified by many researchers as an important factor of high satisfaction within the team (Coppola, Hiltz &Rotter, 2004; Williams et al, 2006). Tseng and Yeh (2013) found that familiarity with members is one of the important factors in building trust. Ku, Tseng & Akarasriworn (2013) showed that team acquaintance and instructor support have high correlation to team satisfaction. Drawing these points to the current research explains the lack of support of the positive effect of coaching and encouragement in this experiment. The students of the control groups may have been in the same teams before (reson they self-select each other) and the extra coaching and support doesn't increase their satisfaction.

These finding suggests the importance of early team communication in virtual environment. Allowing time at the beginning of course for exchanging information between students and hence self-selection of teams based on familiarity and common understanding may facilitate the team collaboration herafter.   One can't deny that the use of Learning Management Sytem (LMS) tools are an underlying important facilitator of communication. However, the role of the instructor in coaching and encouraging should not be ignored.

Limitations and Future Research

The purpose of this study was to gain some insight into the use of teams in the classroom to better inform research on this topic going forward. Thus, these are preliminary findings based on the small sample size and it is not without limitations. As explained earlier, the student sample size was not large enough to detect small or medium size relationships in support of instructor coaching and encouraging, should such a relationship exist.

That we only analyzed data taken from two classes of the same course and in one field of study "Leadership and Teaming" is also a limitation of this study. To be able to generalize the findings, we need to test various classes with various fields of study to eliminate any bias. That also can help us to determine if the meaningful interaction between teammates really had an impact on student perceptions. We limited our research to the use of student teams in management courses; however within business courses are there courses that are more appropriate to the use of teams and others that will not benefit at all from the experience? Using the same methodology of team formation and similar

measurements but in different courses (quantitative vs. qualitative) may help us in finding an answer.

Another area that needs to be explored and tested is the use of technology in teams. The outcome of using specialized software packages like TLA (Deacon-Carr, Herman, Keldsen, Miller & Wakefield, 2002), Guardian Angel (Whately 2004) and Team Maker (Layton, Loughry, Ohland & Ricco, 2010) have not been widely tested. That may be the future way of utilizing student teams. Finally, there have not been formal measurements of the success of student teams. Most of the published research is based on surveying students and faculty, and thus is self-reporting data. Clearly, there is a need to establish measurements of the benefits or the effectiveness of the use of teams in the classroom that would provide guidelines to help educators employ student teams in their courses. Measurements should be linked to the learning objectives of the course and the project/ case assigned to the student teams.

Conclusion

Since student teams are here to stay and online classes are increasing, student teams in online classes become more important and finding ways to improve the use of teams in online settings is important. Much of the research that has been done on virtual teams in business environments (Furst, Blackburn, & Rosen, 1999) should provide a starting point for teams in the online academic environment. Additionally, specific to the virtual teams in the classroom, there are several online communication tools (e.g. Wimba, Google voice, Skype) and social media tools (Facebook, Twitter, Youtube) that instructors use to facilitate interaction among students. What are the impact of such tools on team perception and performance? These tools should also be tested.

Teams are used extensively in business classes as a way to prepare for the teaming environment students will face once they enter the business world. But it is possible that students are suffering from "teaming overload," and not very effective teaming. Understanding how both faculty and students view the team process and how and if they achieve the learning objectives by developing final team deliverables are important questions to address given the use of teams in academic settings. According to our research there is support for the use of teams and there are certain factors that can impact the realized benefits of the use of teams. Additional research on teams can provide insight into what can help more groups start to act like teams rather than just groups and the benefits of teaming can be realized.

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Note: The photograph of men in a tug of war is from the Library of Congress, Prints and Photographs Division, LC-USW3-042596-C, Lot 1805.