

Faculty and Student Issues with Group Work: What is Problematic with College Group Assignments and Why?

Joanne P. LaBeouf, D.A.¹, John C. Griffith, Ph.D.² & Donna L. Roberts, Ph.D.³

Abstract

Embry-Riddle Aeronautical University researchers analyzed 811 (118 faculty and 693 student) comments to determine perceptions of group work in the academic setting. The biggest issue noted by both groups was allocation of grades for group members. Students perceived that all students received the same grade in a group project, regardless of effort. Most faculties did not share that perception, but noted difficulties in assigning group grades as well. Faculty and students described difficulties encountered by students when working on group projects in online or distance learning settings due to limited interaction and time zone differences and/or different work schedules. Faculty and students also encouraged faculty to closely monitor group projects and mentor students through group formation and goal setting. Recommendations include future research on age, gender, ethnic background relative to group projects, and case studies identifying best practices and identification on where group projects should be placed in a college curriculum.

Keywords: group work, student participation, online, distance learning, university.

1. Introduction

This study on group work builds from a previous study, *The Value of Academic Group Work: an Examination of Faculty and Student Perceptions* (LaBeouf, Griffith, & Schultz, 2014). In that study, approximately 2,600 full time and adjunct faculty members were surveyed. Seventy two full time and 253 adjunct faculties responded to the survey. The faculty response rate was approximately 13%. With regard to students, approximately 10,659 were surveyed yielding 1,589 responses for a rate of approximately 15%. Results indicated that most faculties believed that group work had academic value, practical work applications, and group grades accurately reflected individual contributions. Most faculties disagreed that all members of a group received the same grade regardless of effort.

The majority of students had a different view stating that group project grades were given to all students regardless of individual contributions and most students would not take a course specifically to gain experience in working in a group. Two interesting findings were that a majority of students believed academic group projects had applications for work and grading on group projects was fair. These findings were significant at $\alpha=0.05$ (Gay, Mills & Airasian, 2006). However, open response areas on the surveys were not critically analyzed. A recommendation from that study was to delve into the student data further regarding perceptions on these issues. This follow-on project analyzed comments from the open response area from over 118 faculty and 693 student responses to the surveys used in the previous study.

¹ Embry-Riddle Aeronautical University, 3392 Olympic Drive, Green Cove Springs FL 32043, USA. Phone (904) 513-9481

² Assistant Professor, Embry-Riddle Aeronautical University, 1114 SE 188th Ave, Vancouver WA 98683, USA. Phone (360) 831-3458

³ Associate Professor, Embry-Riddle Aeronautical University CMR 469 Box 292, APO AE 09227, USA. Phone 011-49-6302-609932

Respondent comments centered on student contribution to group grades, group assignments in online and EagleVision (video synchronous) learning environments, difficulty of student collaboration due to differing locations/time zones and whether or not academic group work prepares students for work situations.

2. Purpose

The purpose of this project is to fill a void in previous research regarding faculty and student perceptions of group work. Do faculty and students identify similar or different issues with the use of group projects in the academic setting and do these issues impact the learning process?

3. Significance

This qualitative research illuminates faculty and student perceptions on academic group work. This project used qualitative tools to look beyond the quantitative data presented in the 2014 study by LaBeouf et al. to try to explain why faculty and students hold these perceptions of group work. Faculty and students identified pros and cons of group work assignments and offered suggestions on how to make the process more meaningful. This study also examined the group work process in the traditional classroom environment along with the relatively new online, video synchronous learning and blended learning environments. The quantitative research project from which this study follows indicated what faculty and students thought about group work. The qualitative review of open area comments showed key issues faculty and students have with group projects in academic settings and why they felt these issues hindered the academic process.

4. Literature Review

The benefits of group work are well recognized throughout the educational literature. American psychologist and educational reformer John Dewey was an early proponent of project collaboration and group work, believing that it was the learning process that was the key element in education rather than just the resulting knowledge set (Quinn & Hughes, 2007). Since that time, various researchers (Lizzio & Wilson, 2006; Noonan, 2013) have concluded that group work is relevant and beneficial across academic and vocational settings.

Likewise, Sedgwich (2010) maintained that group work creates an environment where students have the opportunity to develop social skills – including the ability to clarify and mediate differences and construct new understandings - and to learn about themselves by interacting with others, all necessary facets of forming value systems.

Researchers concluded that group work contributes to encouraging interest in the topic, facilitating resourcefulness and interdependence in learning, and developing skills such as problem identification and analysis, the exploration of solutions, teamwork, interpersonal communication and project management (Payne, Monk-Turner, Smith, & Sumter, 2006; Quinn & Hughes, 2007). Furthermore, others (Michaelsen, Bauman Knight, & Fink, 2004; Saleh, 2011) argued that group work enhances motivation, depth of thought processing and level of achievement when compared to individual work.

4.1 Evaluation and Subjective Experience of Group Work

Historically, numerous researchers have reported that collaborative group work generally enhances retention and learner satisfaction (Beckman, 1990; Chickering & Gamson, 1991; Collier, 1980; Cooper & Associates, 1990; Goodsell, Maher, Tinto, & Associates, 1992; D. W. Johnson & Johnson, 1989; D. W. Johnson, Johnson, & Smith, 1991; Kohn, 1986; McKeachie, Pintrich, Lin, & Smith, 1986; Slavin, 1980, 1983; Whitman, 1988). Erikson (1987) and Elliott & Higgins (2005) concluded that students generally enjoy the collaborative process of group work and learning from their peers, while others report that students value the improved learning facilitated by group discussion and collaboration (Elliott & Higgins, 2005; Parr & Townsend, 2002). Qualifying that, Hansen (2006) found that students evaluated the group experience as positive if certain conditions were met, including active participation and inclusion of all group members, clear division of labor and meaningful relevance of task.

Other researchers found that students prefer to work independently, simply do not enjoy the process of working in groups and would actively choose to avoid if given the option (R. M. Felder, Felder, & Dietz, 2002; Gardner & Korth, 1998). Various research studies have uncovered significant interpersonal, motivational and socio-emotional challenges unique to the group work modality (Bosworth & Hamilton, 1994; Volet & Ang, 1998; Volet, 2001; Fenwick, 2002; Burdett, 2003; Wright & Lander, 2003).

Instructors as well as students cited difficulties in managing the group process. Among the most frequently noted disadvantages are the opinions that group work is more time consuming, logistically problematic and difficult to assess the relative levels of individual contribution (Quinn & Hughes, 2007). Additionally, Mello (1993) cited the increased potential for intergroup conflict as a major deterrent. Students also objected to the possibility of the underperformance of others in the group resulting in a negative impact on assessment of their individual performance (i.e., grades). Perhaps more significantly, Homan and Poel (1999) concluded that most dissatisfied students did not know how to work effectively in groups. Researchers also found high levels of dissatisfaction in online learners required to participate in group work with complaints focused on time and logistical barriers to collaboration as well as increased difficulty in ensuring participation of all members (Brindley & Walti, 2009; Fletcher, Tobias & Wisher, 2007; Piezon & Ferree, 2008; Wright and Lawson, 2005). Previous group experiences, the quality of guidance and instruction (Colbeck, Campbell, & Bjorklund, 2000), the method of group assessment (Lejk, Wyvill, & Farrow, 1996), and the system of group formation (Daly & Worrell, 1993; Feichtner & Davis, 1985) all contribute to determining how successful group work will be in generating positive learning experiences for students.

4.2 The Need for Group Work

Various researchers have acknowledged the role group work played in preparing students for their future work environments (Danielson & Berntsson, 2007; Spowart, 2006). Most notably, the Commission on the Future of Higher Education, created by U.S. Secretary of Education Margaret Spellings, charged that “Employers complain that many college graduates are not prepared for the workplace and lack the new set of skills necessary for successful employment and continuous career development” (Spellings, 2006, p. 13). More specifically, Peter J. Stokes urged that “The effort must be made to better align their educational offerings with the needs of employers – those organizations that ultimately employ the students passing through their institutions on the way to a better life” (2006, p. 5). Answering these challenges for the modern workplace undoubtedly includes providing students with opportunities to develop collaboration skills through group work projects. In order to meet the challenges of increased competition, globalization and workforce diversity, modern organizations are more frequently utilizing collaborative teams. Nearly 70% of Fortune 1000 businesses surveyed were structuring projects to include focused work teams to increase productivity, quality and efficiency (Chen & Barshes, 2000).

5. Methodology

5.1 Design

This study was descriptive and cross-sectional. The researchers attempted to characterize the perceptions of Embry-Riddle Aeronautical University (ERAU) Worldwide Campus instructors and students with regard to group work by examining free comment areas of completed surveys (Sekaran & Bougie, 2013; LaBeouf, Griffith, & Schultz, 2014).

5.1.1 Population and Sampling

Approximately 2,600 full time and adjunct faculty members were surveyed. Seventy two full time and 253 adjunct faculties responded to the survey for a faculty response rate of 13%. Approximately 10,659 students were surveyed yielding 1,589 responses for a rate of approximately 15%. Of those who completed surveys, a total of 811 (118 faculty and 693 students) commented in open response areas examined in this study.

5.2 Methodology

Two similarly worded surveys, approved by the university Institutional Review Board, were sent to Worldwide Campus faculty and students. The surveys asked questions regarding individual faculty and student experience with group work in all Embry-Riddle learning modalities. Surveys were distributed electronically.

5.3 Validity and Reliability

The surveys were reviewed by Embry-Riddle Aeronautical University's Office of Institutional Research. The final version of the survey incorporated suggestions from the review process. The 811 open area comments were evaluated using software specifically designed to identify significant trends in the free response data (Gay, Mills, Airasian, 2006).

5.4 Treatment of the Data

Open area comments from 118 faculty and 693 students were analyzed with *NVivo 10* software to identify significant trends. Comments were examined one at a time. The first time a major theme was noted, it became a new category. In this way, common themes and new categories were allowed to emerge. Themes that were repeated in subsequent comments were added to the appropriate categories. Some comments or portions of comments were coded into two or more categories (Gay, Mills & Airasian, 2006).

6. Results

Analysis of open-ended faculty and student comments (n=811) yielded recurring themes which were categorized separately for faculty, undergraduate, and graduate students. The primary purpose of this study was to see if faculty and students identified similar issues with group assignments and why they felt those issues impacted learning. It was interesting to note that overall, the most commented on topics were quite similar between faculty, undergraduate students and graduate students as shown in Table 1.

Table 1: Comparison of Top Six Comment Areas between Faculty, Graduate and Undergraduate Students

Rank	Faculty (n= 118)	Students	
		Graduate (n=271)	Undergraduate (n=422)
1	Grades	Grades	Grades
2	Dislike Group work	Dislike Group work	Not Effective in Online
3	Guidance	Not Effective in Online	Dislike Group Work
4	Online (difficulties)	Time Zones	Time Zones
5	Preparation for Work	Beneficial (Collaboration)	Instructor Guidance
6	Beneficial (Collaboration)	Suggestions	Does not prepare for Work

Note. Taken from open area comments from surveys. An individual's comment could have discussed more than one topic area.

The highest ranked issue for faculty and students alike was awarding grades to each member of a group. Faculty and graduate students ranked a general dislike for group work assignments particularly for online classes second. The difficulty collaborating across time zones were also ranked highly by faculty and students.

6.1 Faculty Themes on Group Work

Three hundred thirty faculty members responded to the survey and of those, 118 made comments in the free response area of the survey. Eleven major themes and one sub-theme were identified. These major themes are identified in Table 2.

Table 2: Faculty Themes in Open Response Areas

Theme	Total
Students not contributing to group grade	42
Dislike group work	20
Guidance for group work	19
Group work not effective in online classes	17
Helps prepare for real life experiences	15
Group work is beneficial	14
No academic value	1
Individual grading	1
Group work and Eaglevision	1
Course developer issues	1
Always have students work in groups	1

Note. 118 open area comments reviewed from Faculty Survey.

Six major themes stood out. They were: student contribution to group grade, dislike for group work in classroom settings, guidance for group work, group work in online environments, group work helps prepare students for real life experiences and group work is beneficial.

6.1.1 Student Contribution to Group Work

The most commonly talked about theme (42 comments) was student contributions to the group grade. The main point in the majority of these comments in this area was that a small number of students in the group did the majority of the work, a few students did little to none of the work, and it was difficult for the instructor to identify those students who did little or no work toward the group project.

Faculty discussed student reluctance to identify a person in their work group as doing poor or no work in saying that "...most people don't want to criticize their peers negatively or willingly. If the atmosphere is right in the class, they may offer positive suggestions to each other." Another faculty member commented, "I do not use group grades only individual grades within the group. Students do not like group grades and find it unfair on workload contribution when group grades are used."

Several faculty members indicated that they tried to give individual grades by watching posts on the learning management system to ensure all students were participating. Some faculty members also stated they would not give group work in an academic setting because of student contribution and assessment issues.

6.1.2 Dislike Group Work

The second highest number of comments (20) was statements against the idea of a group work in the classroom setting. The rationale included the ideas that group work in a classroom setting did not accurately duplicate group work in work environments and that it was difficult to assess who actually did the work (and by exception, who did not do the work) on the group assignments. The phrases "social loafer" and "slacker" were used in several entries.

6.1.3 Guidance for Group Work

Nineteen faculty members made suggestions on how to improve perceived issues with group work. Suggestions including staggered due dates for group projects (not just one deadline at the end of class), inclusion of non-negotiable terms for grading, attendance and participation in the group as part of the individual grade, and use of more selectivity on the types of courses that include group projects. Five faculty members stated that the instructor should assign roles or closely monitor assignments distributed within teams. Three faculty members stated that group projects were a good idea for management classes but questioned the value of group work in other lower level undergraduate courses. One faculty member suggested that group grades should be 70% for the project and 30% on peer reviews of individual contributions.

6.1.4 Group Work in Online Environments

Faculty comments clearly identified the online learning environment as a challenging learning mode for group work. Issues that emerged were difficulty in collaboration across time zones, working with different schedules of group members, lack of structure to group work assignments and difficulty for faculty in assessing whether or not members were contributing equitably to projects.

6.1.5 Group Work Helps Prepare Students for Real Life Experiences

The 15 comments in this area focused on the realism of working across time zones with dispersed teams. The terms "leadership," group work experience as a "skill" and "business" were often mentioned.

6.1.6 Group Work is Beneficial

Fourteen faculty members discussed the perceived benefits of group work. Comments centered on development of collaboration, coordination, leadership and followership skills. One faculty member summarized by stating:

.... While individual skill development is important, the ability to leverage the strengths and weaknesses of individuals in a group setting to contribute towards a collective initiative is an invaluable skill for students in the 21st century classroom.

6.2. Undergraduate Themes on Group Work

Nine hundred seventeen undergraduate students responded to the survey and of those, 422 made comments in the free response area of the survey. For student responses, 14 themes were identified in Table 3.

Table 3: Undergraduate Student Themes in Open Response Areas

Theme	Total
Students not contributing to group grade	168
Group work is not effective in online environment	102
Dislike group work	96
Collaboration difficult due to different time zones and work schedules	83
Instructor guidance-oversight ensuring all group members participate	40
Does not reflect work environment	31
Group work is beneficial	27
EV Home classes and group work	26
In-class preferences	26
Group work helps prepare students for real life experiences	22
Group work is not needed due to student experience	8
End project is not well coordinated by all members	4
Assigning group work should be up to the instructor, not designed in the course	1

Note. 422 open area comments reviewed from undergraduate student survey responses.

Five major themes stood out: Students not contributing to group grades, group work not effective in online environment, dislike of group work, collaboration difficult due to different time zones and work schedules and suggestions for instructors ensuring all students participate.

6.2.1 Students Not Contributing to Group Grades

By far, this was the most commented on theme for undergraduate students (168). Most of the comments were very similar to: "I like group work as long as the group participates and then the group can be graded equally. However, when students refuse to participate the grading should be adjusted accordingly." Most comments centered on the issue of one or two people in the group doing most of the work but credit going to the entire group regardless of individual efforts. The biggest issue was non-contributors receiving the same grade as students who did most of the work. The phrases "social loafing," "lazy" and "slacker" were noted in the comments to describe those who were perceived as not doing the work, but benefiting from the overall group grade. Most of the students who commented expressed the idea that in most instances, no attempt was made to give both an individual grade and group grade on group projects. This was seen as favoring students who did little work and benefited from the efforts of highly motivated students. Many students stated they knew they were doing most of the work in the group but wanted to ensure they would get a good grade, despite a lack of effort from some of their teammates. A handful of students stated faculty did include an individual grade for all students within groups either by peer assessment or other means. Several students commented that some students were reluctant to identify group members who were not actively engaged due to peer pressure or other reasons. Late contributions by some team members were discarded altogether due to the quality of the input or lack of time to incorporate it into the final project.

6.2.2 Group Work not Effective in Online Environments (96 comments)

An overarching idea was that students took online classes because they needed flexibility in completing college and group work undermined this idea in several ways. First, group work requires collaboration which is affected by the schedule of each individual as a group. Trying to schedule time with group members in an online setting was problematic. The second issue was that asynchronous communication through e-mail or a learning management system still required students to wait for responses from each other and this lag in communication made the process of getting group work done longer and more complicated.

A third issue cited was that without seeing group members in class on a weekly basis, some group members experienced less pressure to turn in their portions of assignments in on time or to interact until the deadline for the assignment was near.

6.2.2.1 Related Topic: Difficulty in Collaboration due to Different Time Zones and Work Schedules (83 comments).

One student discussed the difficulty of being based in Hawaii, yet attempting to communicate with team members in Afghanistan and the continental United States. Several students commented that since all group members saw a “name on the screen of other group members” that it was easier to delay in responding or engaging in “social loafing.” Four students added that because collaboration was difficult and some students did not effectively contribute to the group, the quality of the group project suffered. Twenty-six students argued that in-class group work was far superior to online or distance learning group work because of the personal interaction students have in classroom settings.

6.2.3 Dislike Group Work (92 comments)

The rationale of most students included issues discussed above, as well as students not contributing to group work, undeserving students getting credit, and difficulty in scheduling meetings or organizing timelines for task completion; however, other issues arose as well. Thirty-one students stated that group work did not simulate a work environment due to the lack of repercussions in an academic environment compared to a real work setting. Other students cited their experience in industry and the military indicating that they experienced group work every day in their occupations and did not need to have it a part of a class, especially with little accountability for non-contributing classmates.

6.2.4 Instructor Guidance-Oversight (40 comments)

Undergraduate student comments centered around the idea that when giving grades on a group project, part of the grade should be based on individual effort and part on the group project itself. In most cases, this individual portion of the group grade for each student was based on peer reviews and students seemed to like this idea. Another suggestion mentioned by several students was that group projects should have an individual and group component graded by the instructor for each member.

6.3 Graduate Student Themes on Group Work

Six hundred seventy graduate students responded to the survey and of those, 271 made comments in the free response area of the survey. For graduate student responses, 13 major themes were identified in Table 4.

Table 4: Graduate Student Themes in Open Response Areas

Theme	Total
Students not contributing to group effort (grade)	97
Dislike group work	59
Group work is not effective in online environment	56
Collaboration difficult due to different time zones and work schedules	52
Group work is beneficial	33
Suggestions for improvement	31
Group work does not reflect work environment	23
In-class preference	19
Group work helps prepare students for real life experiences	16
End project is not well coordinated by all members	13
Group work is not needed due to student experience	10

Note. 271 open area comments reviewed from graduate student survey responses.

When reviewing comments from graduate students, six themes emerged: students not contributing to group grades, dislike for group work, group work not effective in online environments, collaboration difficulties due to time zones and work schedules, group work was beneficial and suggestions for improvement.

6.3.1 Student Contributions to Group Work

As was the case with undergraduate students, the most highly discussed theme was equality of effort and grades based on individual and group effort. Ninety-seven graduate students, approximately one third of all who commented, saw this issue as a major detriment to their group work learning experience. One student commented: "... all members of a group get the same grade regardless of effort." Several students commented that they preferred classes where instructors combined individual grades as well as the group project grade to be factored in for each individual team member's grade on a group project. This was seen as some protection against teammates who did not contribute to the group project or who contributed very little.

6.3.2 Dislike for Group Work (59 Comments)

Graduate student comments that directly discussed a dislike of group work were included in this category. Reasons were similar to comments expressed by undergraduate students, but more graduate students with this view argued their experience of working in group in their professional lives made this classroom experience unnecessary. Several students called group work a waste of time and discussed difficulties in working with group members who contributed little if at all, and difficulties in coordinating group projects.

6.3.3 Group Work not Effective in Online Environments (56 Comments)

The issue of not knowing or being able to select group members and being geographically separated from group members was seen as a major issue with completing group work in online settings.

6.3.4 Collaboration Difficulties: Different Time Zones and Work Schedules (52 Comments)

This theme was cited far more often by graduate students than undergraduate students who made comments at the end of the survey. The two issues of coordinating on group work projects across time zones and working with different group members' schedules were seen as a major difficulty for completing group projects. The issue of some team members giving needed input just hours prior to the deadline for the group project was mentioned several times. A majority of the students indicated this difficulty was exacerbated in courses delivered in an online format.

6.3.5 Group Work is Beneficial (33 Comments)

Some graduate students stressed the positive aspects of group work. Comments such as: "Collaboration, brain storming, sharing the wealth, and learning everyone's knowledge has been a great experience for me" were common. A few students pointed out that some of the shortcomings of group work such as unequal performance among team members and communication across timelines helped them develop effective skills for working with low performers and in decentralized organizations. Additionally, 16 graduate students stated that group work prepares students for real life experiences for similar reasons.

6.3.6. Suggestions for Improvement (31 Comments)

Suggestions on how to improve student experiences with group work included more oversight by faculty, not just having one group grade for all members regardless of contribution, using peer evaluation forms to assist faculty in assigning grades for group work, and setting up groups by geography or time zone. One comment also suggested that course developers should refine the requirements for group work to clarify instructions to faculty and ultimately to students. Another student argued:

"Simple and short group projects within the class time may be a better solution considering that the main objective group projects is the human interaction, organization of the group and project task allocation, etc. Group projects do not have to be long detailed, work intensive projects to accomplish this."

7. Discussion

The issue that received the most comments for faculty and students was the difficulty in evaluating individual student contribution when assigning grades. Several faculty comments indicated that students were reluctant to identify peers who were not doing their fair share making peer reviews suspect when assigning group grades. One student comment, however, indicated his peer review was sent directly to the instructor assuring that others in the group were not privy to the review. The difference between the instructor's concern and the student experience could be attributed to the use of a peer review form with a confidential submission option in the student's class.

The largest number of student comments were that all students did not contribute equally when working on group projects, but seemed to get the same grade. This finding correlates with the LaBeouf et al. (2014) study which identified a significant difference in perception between faculty and students on grading ($p=.000$). Faculty tended to state that grades for group members accurately reflect individual student performance. Students tended to believe that all members received the same grade, regardless of their contribution. Ironically, 66% of 1,587 students in that study indicated that grading for the group project was fair ($p=000$).

The online environment stood out as a learning environment with collaboration problems, some of which were that it was more difficult to assign, monitor and grade group work effectively. Issues cited were time zone differences, different work schedules of group members and lack of structure in group work assignments for online learners. A large number of faculty and students suggested more faculty mentoring and oversight to ensure group work directions were clearly stated and that all students in a group were also evaluated on their individual efforts toward a group project. Several graduate students also suggested making group projects smaller in scope (due to shorter term lengths of 9 weeks for courses) to be accomplished during class time. Many students argued that they already had experience working with groups that did not need to be reinforced in the academic setting. Several faculty members and students argued the opposite viewpoint by stating that group work, even with its shortcomings, simulates the work environment and that it is important for students to learn how to make up for shortcomings of team members.

8. Conclusions

Group work in academia is driven by two forces. The first is the perceived requirement by industry that graduates know how to work on group projects. The second is the idea that ideas born through collaboration tend to be better than ideas from single individuals (Bennis, 1997). The comments made by students and faculty in this study show that faculty and students have different perceptions on group work even over the same issues.

Problems noted included more issues with online courses and working with students from different time zones. Additional suggestions from both faculty and students were that faculty should mentor students on the group process and monitor students' progression through group projects. It should be noted that Embry-Riddle Aeronautical University Worldwide conducts courses in 9 week terms (instead of "traditional" 16 week terms) which limits the amount of time students have to go through the "form, storm, norm and preform" process. Many universities have similar term structures. Another challenge for course designers is to develop criteria to determine which courses group work will most benefit students, since it is not applicable to all courses. Done correctly, group work could expose students to new ideas and teach them how to work effectively with teams. Done poorly, however, group work might only detract from the learning experience.

9. Recommendations for Future Research

Future researchers should examine the impact of age, gender and ethnic background on group work performance. They should also examine case studies that highlight successful group work initiatives to glean best practices in group work course development, delivery and faculty training. Researchers should attempt to determine criteria on where and when group work projects should be included in courses. This analysis should identify the types of courses group projects would provide the most benefit and at what levels (i.e. 100 through 400 level courses).

Technology plays an ever-increasing role in course design and delivery. The issues of collaboration during online courses and working with other students from different time zones were heavily commented areas from both graduate and undergraduate students. New learning management systems and increased uses of synchronous video learning are transforming the learning environment. Additionally, the variations of blended learning create new opportunities for more interaction between all involved in the learning process. For these reasons, this research should be duplicated in three to five years to determine if any changes have occurred in faculty or student perceptions.

References

- Beckman, M. (1990). Collaborative learning: Preparation for the workplace and democracy. *College Teaching*, 38(4), 128-133.
- Bennis, W. (1997). *Organizinggenius: The secrets of creative collaboration*. New York: BasicBooks.
- Bosworth, K., & Hamilton, S. J. (1994). *Collaborative learning: Underlying processes and effective techniques*. San Francisco, CA: Jossey-Bass.
- Brindley, J., & Walti, C. (2009). Creating effective collaborative learning groups in an online environment. *The International Review of Research in Open and Distance Learning*, 10(3).
- Burdett, J. (2003). Making group work: University students' perceptions. *International Education Journal*, 4(3), 177-191.
- Chen, X., & Barshes, W. (2000). To team or not to team. *China Business Review*, 27(2), 30-34.
- Chickering, A. W., & Gamson, Z. F. (Eds.). (1991). Applying the seven principles for good practice in undergraduate education. *New directions for teaching and learning*, 47. San Francisco, CA: Jossey-Bass.
- Colbeck, C.L., Campbell, S.E., & Bjorklund, S.A. (2000). Grouping in the dark: What college students learn from group projects. *The Journal of Higher Education*, 71(1), 60-83.
- Collier, K. G. (1980). Peer-Group learning in higher education: The development of higher-order skills. *Studies in Higher Education*, 5(1), 55-62.
- Cook, S.H., & Matheson, H. (1997). Teaching group dynamics: a critical evaluation of an experimental programme. *Nurse Education Today*, 17, 31-38
- Cooper, J., & Associates. (1990). *Cooperative learning and college instruction*. Long Beach, CA: Institute for Teaching and Learning, California State University, 1990.
- Daly, J. P., & Worrell, D. L. (1993). Structuring group projects as miniature organizations. *Journal of Management Education*, 17, 236-242
- Danielson, E., & Berntsson, L. (2007). Registered nurses' perceptions of educational preparation for professional work and development in their profession. *Nurse Education Today*, 27 (8), 900-908.
- Elliott, N., & Higgins, A. (2005). Self and peer assessment — does it make a difference to student group work? *Nurse Education in Practice*, 5, 40-48.
- Feichtner, S. B., & Davis, E. A. (1985). Why some groups fail: A survey of students' experiences with learning groups. *Organizational Behavior Teaching Review*, 9, 58-73.
- Felder, R.M., Felder, G.N., & Dietz, E.J. (2002). The effects of personality type on engineering student performance and attitudes. *Journal of Engineering Education*, 91 (1), 3-17.
- Fenwick, T. (2002). Problem-based learning, group process and the mid-career professional: Implications for graduate education. *Higher Education: Research & Development*, 21(1), 5-21.
- Fletcher, J. D., Tobias, S., & Wisner, R. A. (2007). Learning anytime, anywhere: Advanced distributed learning and the changing face of education. *Educational Researcher*, 36(2), 96-102. <http://dx.doi.org.ezproxy.libproxy.db.erau.edu/10.3102/0013189X07300034>
- Gardner, B.S., & Korth, S.J. (1998). A framework for learning to work in teams. *Journal of Education for Business*, 74 (1), 28-33.
- Gay, L. R., Mills, G. E., & Airasian, P. W. (2006). *Educational research: Competencies for analysis and applications*. (8thEd.). Upper Saddle River, New Jersey: Pearson Education, Inc.
- Goodsell, A., Maher, M., Tinto, V., & Associates (Eds.). (1992). *Collaborative learning: A sourcebook for higher education*. University Park, PA: National Center on Postsecondary Teaching, Learning, and Assessment, Pennsylvania State University.
- Hansen, R. S. (2006). Benefits and problems with student teams: suggestions for improving team projects. *Journal of Education for Business*, 82, 11-19. doi: 10.3200/JOEB.82.1.11-19.
- Johnson, D. W., & Johnson, R. T. (1989). *Cooperation and competition: Theory and research*. Edina, MN: Interaction Books.
- Johnson, D. W., Johnson, R. T., & Smith, K. A. (1991). *Cooperative learning: Increasing college faculty instructional productivity*. ASHE-ERIC Higher Education Report No. 4. Washington, D.C.: School of Education and Human Development, George Washington University.
- Kohn, A. (1986). *No contest: The case against competition*. Boston, MA: Houghton Mifflin.

- LaBeouf, J. P., Griffith, J. C., & Schultz, M. C. (2014). The value of academic group work: An examination of faculty and student perceptions. *The Business Review, Cambridge* 22(1), 32-39.
- Lejk, M., Wyvill, M., & Farrow, S. (1996). A survey of methods of deriving individual grades from group assessments. Retrieved from <http://dx.doi.org/10.1080/0260293960210306>.
- Lizzio, A., & Wilson, K. (2006). Enhancing the effectiveness of self-managed learning groups: understanding students' choices and concerns. *Studies in Higher Education*, 31 (6), 689–703.
- McKeachie, W. J., Pintrich, P. R., Lin, Y. G., & Smith, D. A. F. (1986). *Teaching and learning in the college classroom: A review of the research literature*. Ann Arbor MA: National Center for Research to Improve Postsecondary Teaching and Learning, University of Michigan.
- Mello, J. A. (1993). Improving individual member accountability in small work group settings. *Journal of Management Education*, 17, 253–259.
- Michaelsen, L.K., Bauman Knight, A., & Fink, L.D. (2004). *Team-based learning: A transformative use of small groups in college teaching*, Sterling, VA: Stylus Publishing.
- Noonan, M. (2013). The ethical considerations associated with group work assessments. *Nurse Education Today*, 33(11), 1422–1427.
- Parr, J. M., & Townsend, M. A. R. (2002). Environments, processes, and mechanisms in peer learning. *International Journal of Educational Research*, 37(5), 403-423.
- Payne, B.K., Monk-Turner, E., Smith, D., & Sumter, M. (2006). Improving group work: voices of students. *Education*, 126(3), 441-448.
- Piezon, S., & Ferree, W. (2008). Perceptions of social loafing in online learning groups: A study of public university and U.S. Naval War College students. *The International Review of Research in Open and Distance Learning, North America ed.* Retrieved from <http://www.irrodl.org/index.php/irrodl/article/view/484/1034>
- Saleh, T.A. (2011). Statistical analysis of cooperative strategy compared with individualistic strategy: an application study. *Journal of Effective Teaching*, 11(1), 19-27.
- Sedgwich, P. (2010). Reflections of a “progressive” teacher in higher education: The opportunities involved in giving students control. CETL AFL Occasional Papers. No. 5. Newcastle upon Tyne, UK: Centre for Excellence in Assessment for Learning, North Umbria University.
- Sekaran, U., & Bougie, R. (2013). *Research methods for business: A skill building approach*. (6th Ed.). Chichester, United Kingdom: Wiley.
- Slavin, R. E. (1980). Cooperative learning. *Review of Educational Research*, 50(2), 315-342.
- Spellings, M. (2006). *A test of leadership: Charting the future of U.S. higher education*. Washington, D.C.: U.S. Dept. of Education.
- Spowart, J. (2006). Hotel school students' views of their preparation for work-integrated learning: an exploratory study. *Asia-Pacific Journal of Cooperative Education*, 7(2), 10–15.
- Stokes, P. J. (2006). Hidden in plain sight: Adult learners forge a new tradition in higher education. In *A national dialogue: The Secretary of Education's Commission on the Future of Higher Education, Issue Paper - Eleventh* in a series of Issue Papers released at the request of Chairman Charles Miller to inform the work of the Commission. Washington, D.C.: U.S. Dept. of Education.
- Volet, S. E. (2001). Significance of cultural and motivational variables on students' appraisals of group work. In F. Sahli, C. Y. Chiu & Y. Y. Hong (Eds.), *Student motivation: The culture and context of learning* (pp. 309-334). New York: Plenum.
- Volet, S. E., & Ang, G. (1998). Culturally mixed groups on international campuses: An opportunity for intercultural learning. *Higher Education: Research & Development*, 17(1), 5-23.
- Whitman, N. A. (1988). *Peer teaching: To teach is to learn twice*. Higher Education Report No. 4. Washington, D.C.: Association for the Study of Higher Education.
- Wright, S., & Lander, D. (2003). Collaborative group interactions of students from two ethnic backgrounds. *Higher Education: Research & Development*, 22(3), 237-252.
- Wright, E. R., & Lawson, A. H. (2005). Computer mediated communication and student learning in large introductory sociology classes. *Teaching Sociology*, 33(2), 122–135.