University of Texas Rio Grande Valley

ScholarWorks @ UTRGV

2018

Group Projects in E-Learning: Challenges in Planning and Execution

Sharaf Rehman
The University of Texas Rio Grande Valley

Joanna Dzionek-Kozlowska
University of Lodz

Follow this and additional works at: https://scholarworks.utrgv.edu/com_fac

Part of the Communication Commons

Recommended Citation

Group Projects in E-Learning: Challenges in Planning and Execution

By
Sharaf N. Rehman, Ph.D., Visiting Professor
Department of Economics and Sociology
Lodz University, Poland
and
Joanna Dzionek- Kozłowska, Ph.D., Assistant Professor
Department of Economics and Sociology
Lodz University, Poland

Abstract

As the demand for online courses escalates and more and institutions of higher education offer online courses and programs, demands are growing for the content developers and teachers who can retain the students' attention. Simple talking heads and text-heavy PowerPoints slides are ineffective in online delivery. Creativity, visual variety, and engaging assignments will separate the successful courses from the failed ones. The challenges for the online teachers are further complicated by the demands of the employers who want employees with skills in teamwork and collaboration. Cooperation is deemed more important than leadership. Previous research has shown that learners in traditional classroom settings tend to view group work as non-productive, wasteful, and experiences lacking in inputs from other group members, thus, frustrating the active participants. Many teachers leave the students somewhat unguided on how to complete the assigned group projects. The result: dissatisfaction among the learners, and projects that are of average or below-average quality. This paper offers some suggestions for effectively incorporating group projects in face-to-face teaching and, in online courses.

1 Introduction

Many American and European college students experience a dichotomy when faced working in teams or collaborating on group projects. On the one hand, the students are encouraged to compete to earn the highest possible grades, especially if the grading is on a curve, i.e., so many will get 'A's, so many 'B's, and so on. When the same students are put in groups, they may perceive that by collaborating with others they are helping the others get a better grade. Such is not in one's best self-interest. Plainly put: Why should one help one's competition? For this reason, most of the students are reluctant to participate in groups and cooperate with other students.

On the other hand, an estimated 80% of all employees work in group-settings (Attle & Baker, 2007), thus, the students are reminded that the employers are seeking candidates

that not only have the highest grades but also possess effective oral and written communication skills, and the ability to work effectively within diverse groups (Finelli et al, 2011).

The present authors surveyed the college students in Poland and Romania about the students' experiences with group projects and their attitudes towards groups work. We have used this data from our survey to identify the common problems in groupwork and attempted to explain the difference in attitudes based on cultures. We have noted that despite the cultural differences, the concerns voiced by the students are identical, i.e., the problems in groups projects transcend beyond cultural boundaries. Hence, the first section of the paper is a descriptive comparison of attitudes of students from the two countries. In the second section, we offer suggestions for addressing the common problems encountered in group work and the extra effort that is necessary to create 'virtual' groups when students enroll in online courses. The third section makes use of the Cooperation Index developed by Dzionek-Kozłowska & Rehman (2017) in structuring the groups. Thus, the last two sections of the paper are intended as prescriptive.

2 Group Work

In the past four decades, a vast body of literature has evolved supporting the value of learning in groups. Taylor (2011) argues the group work may improve learning and prepare the students for life experiences. Weimer (2013) lists five advantages of learning through group work: The students master the material through discussions; develop a deeper understanding of the content through interaction; learn the behaviors that enhance group productivity; come to realize that groups make better decisions than individuals do, and; learn how to collaborate with others.

Based on a meta-analysis of over 168 studies, Johnson et al. (2014) concluded that students working and learning in groups had greater knowledge acquisition, higher retention of material, and better problem solving and reasoning abilities than students working alone did.

Group work, however, is not without its opponents. Some of the common concerns and hesitations toward group work come from students and teachers (Feichtner & Davis, 1984). The biggest concern for the students is that the other group members are either incapable of the required work or are indifferent to the task. The students fear that they will end u carrying most of the work while other will simply 'free ride'. The students are also concerned that without proper training in group-work, most participants will gain little.

The literature on group learning makes a distinction between *cooperative learning* and *collaborative* learning.

Cooperative learning is a strategy in which small teams, each with students of different levels of ability, use a variety of learning activities to improve their understanding of a subject. In cooperative learning, students work together in small groups on a structured activity. They are individually accountable for their work, and their collective work is also assessed. Cooperative groups work face-to-face and learn to work as team members.

Collaborative learning is an approach to teaching and learning that involves groups of students working together to solve a problem, complete a task, or create a product. As such, the students work together to explore a topic or create a meaningful project. This is a useful strategy for engaging students in face-to-face interaction, as well as when students are working together over the Internet on a shared assignment.

3 The Present Study

Using the same paper-and-pencil, self-administered questionnaire, the data were collected from 186 Polish university students, and 155 Romanian university students: total N= 341. The data was collected during the academic year 2016-2017. Rehman and Hinojosa (2016) developed the instrument to study the Hispanic-American students' attitudes towards group work. A study that concluded that their sample held strongly-negative to negative attitudes towards group work, however, 91 percent of their respondents admitted that the group projects were completed and over 60 percent agreed that they would have done better had they received trained in group-work, and if the assignments were better structured.

Our aim was to compare the values regarding cooperation in two European cultures. We focused on the individualism vs. collectivism aspect of Cultural Dimensions theory (Hofstede, Hofstede, and Minkov, 2010) which suggests that people from an individualistic culture such as Poland, are less likely to collaborate with others than the people from a collectivistic culture such as Romania are. The Individual versus Collectivist Scale (IDV) ranges from 0 - 100 with 50 as a mid-point. A country with the score under 50 is labeled as "Collectivist" and above 50 as "Individualist." Thus, a culture with a score of 46 (Japan) is collectivist but less so than another culture with a score of 20 (China).

The IDV for Poland is 60, and for Romania, 30 (Hofstede, Hofstede, and Minkov, 2010). We hypothesized that the Romanian students would be more likely to work in groups than their Polish counterparts would. We also made comparisons based on gender.

Our second goal was to offer some recommendations for designing a learning environment where the students would appreciate the value of group work and produce worthwhile projects. For this, we relied on the Cooperation Index developed by Dzionek-Kozłowska & Rehman (2017).

4 Descriptive Data and Analysis

The Polish sample (N=186) consisted of 61 men and 125 women. The Romanian group (N =155) was composed of 42 men and 113 women.

In both countries, the students harbored less than favorable attitude towards group work. However, 92 percent of the participants from Poland and Romania reported that the group projects were completed. When identifying the common problems experienced during group projects, both samples listed issues such as antipathy towards group work, free riding, lack of group work skills, uneven contribution by group members,

procrastination, stress, having to do other group members' portion of the work, and a total indifference to the value of group work. These findings confirm the previous studies (Roberts and McInnerney, 2007; West, 2008; Chiriac & Granström, 2012).

More than three-fourth of the Romanian students declared their willingness to work in groups as compared to 47 percent of the Polish students. The calculated Chi-square (χ^2 = 18.971; p-value .000076; p < .001) shows this to a significant difference at .001 level, i.e., the Romanian students' willingness to cooperation is higher than that of the the Polish students.

The Cooperation Index (Dzionek-Kozłowska & Rehman, 2017) scores for the two samples reaffirm this difference. The average CI value for the Polish students was +0.53; for the Romanian students, it reached +1.24. (see Table 1.)

Table 1. *The Cooperation Index for the Polish and Romanian Students.*

	Polish students (N=186)	Romanian students (N=155)	Difference
Average	+0.53	+1.24	0.71
Males (N=103)	–0.09	+1.46	1.55
Females (N=238)	+0.83	+1.16	0.33

Source: Authors' calculation based on their 2016-2017 data.

More than 80 percent of the respondents agreed with the statement: *Group work will be ineffective unless people know how to work in groups*. Calculated Chi-square (χ^2 = 6.014; p-value .04944; p < .05) revealed this difference to be significant at .05 level.

From the above analysis, we may conclude that our data support the Cultural Dimensions theory: People from collectivist cultures are more likely to cooperate and work together. We also used the CIs to trace any gender differences. As per Table 2, the CIs are higher for the Romanian women versus the Polish women, and for the Romania men versus the Polish men.

Despite other cultural differences, the socialization of girls and boys differs in many cultures around the globe. Parents treat children of different genders differently, not only in dressing them differently in boy colors and girl colors but in also encouraging them to engage in different activities and play different games. Boys are encouraged to participate in competitive (win-lose) games while girls are encouraged to play together and share their toys (Tannen, 1990; Martin, Eisenbud & Rose, 1995; Van Volkom, 2003). It is, therefore, not surprising that women from both cultures are more willing to work in groups and collaborate. Our data also lend support to the gender socialization theory suggesting that boys and girls grow up with different values and attitudes towards competition and collaboration (Ivy & Backlund, 2004).

5 Application

The literature on group work and learning in groups points to problems on both sides of the equation. The students are reluctant because they trust neither the motives nor the abilities of the others. Students also fear that since the others may not do their share of the work, they may end up doing the work for the others as well. Add to all this, the reservation about helping the competition. The students' hesitation is understandable. However, 80 percent feel that with proper training in group-work the outcomes could be improved.

To incorporate group projects, the teachers need to work with the students' attitudes and perceptions regarding cooperation and group work. The teachers also need to organize the projects with attention to several details that are addressed in the following section. Lastly, group formation is critical. For this, we recommend using the CI discussed above to assess and use information about the students' attitudes in creating productive groups.

5.1. Students' Perceptions of Group Work

Some students Group may feel that group projects are a waste of time; therefore nothing worthwhile can be gained from these. In such a case, the teachers need to explain the importance and need for cooperation in one's personal and professional life. Humans accomplish a great many things through interdependence and collaboration. The students need to be made aware that more is done when working together, the quality of work improves, and groups make better decisions than when people work alone.

The students need to be reminded that the value of working on group projects extends beyond a particular course or a grade. The skills acquired while working in groups will be directly applicable in work life. Team players are desirable to the employees and such individuals often receive the important assignments and promotions. A teacher needs to demonstrate the importance of teamwork and motivate the students to engage in group-projects.

The students have four common apprehensions regarding group projects: social loafing, free riding, conflict, lack of trust in other group members' intentions and abilities.

5.1.1 Social Loafing
This occurs when individuals invest less effort toward achieving the group goal than if they were to work alone. Groups with more than five members have a greater tendency for social loafing to occur since each individual's specific contribution becomes less visible. When the students feel that their work is not likely to be recognized and appreciated, they are less likely to be motivated to perform, or they take the attitude that someone else will do the work. Social loafing leads to dissatisfaction toward the non-participating members and resentment by the team members doing most of the work. With social loafing, the groups fail to become cohesive or bonded teams.

5.1.2 Free Riding
This occurs when one or more group members leave all or most of the work to a few, more industrious members, forcing them to work harder or accept a lower grade.

Free riding erodes the long-term motivation of hard-working students and negative repercussions for the team's well-being and productivity.

5.1.3 Task interdependence
In group projects where the participants depend on one another to complete a task have a higher risk of conflict and mistrust that in groups where students work independently.

5.1.4 Conflict
Incompatibility of goals among the group members, their need for interdependence, and interaction (or lack of it) can create conflict and cause members to withdraw or become counterproductive. Free riding may be the cause or result of conflict.

5.2 The Teacher's Role in Assigning Group Work

In incorporating group projects in traditional and online courses, the teachers should consider the following five aspects.

5. 2. 1 Manageable Projects.
Even though four or five students complete the projects, it does not necessarily mean that five people together will be able to do more as a group than individually. The synergy laws don't always apply. The purpose is to help the students acquire the skills for working together. The end result of a group is of secondary significance. The learners need to be challenged but not beyond their collective potential. Allow class time for group meetings to avoid conflicts with work and family commitments.

5. 2. 2 Group Composition and Structure
Groups should consist of no more than five or seven people. An odd number is recommended to avoid any ties in making decisions. Every member should be able to bring something to the group. The groups should be created by the instructors after they have determined that abilities and potential of each student. Self-selection by the students may only result in cliques and fragmented groups.

5. 2. 3 Evaluation Criteria
The group should be informed about the specifics of the criteria for the evaluation of the various elements of the finished project. Each group member should also receive tasks based on their interest and expertise. Explain to the students about their individual responsibility and the group responsibility.

5.2.4 The group members
This should be limited to five or seven. Larger groups become challenging in making meeting schedules. Keep the groups at odd numbers to resolve any ties. We recommend using the Cooperation Index (Dzionek-Kozłowska & Rehman, 2017).

5. 2. 4 Teaching Process Skills

Effective group work requires to students to acquire communication, coordination, and conflict resolution skills. Either the teachers take on this responsibility or encourage the students to take appropriate courses/s in Applied Communication. Some instructors may be reluctant to deal with the interpersonal issues that can arise in groups. However, some sort of a plan needs to be in place to deal with such issues.

5. 2. 5 Evaluating the Individuals and the Group
Group members should have the opportunity to evaluate the work of other team members. This will also uncover any social loafing and free riding. These peer evaluations should be used for grading the groups as well as the individuals.

6. Using the Cooperation Index

If one group has five members with hostile attitude toward group work and another team has five members that are enthusiastic about group work, the outcomes of the two groups are easy to predict. The first group may benefit nothing from the exercise but waste their time and energy and receive a poor grade. The second group is likely to produce a better product and receive a higher grade.

We believe that such unevenness can be corrected by using the Cooperation index. On the first day of a senior class in Communication Campaign Development, we ran the CI instrument to measure the individual scores. As expected, a small portion of students scored 'High' on their willingness to work in groups, a majority scored 'Low'. A good portion fell somewhere in the middle. We created the groups by including at least one student with High score, two to three with middle score, and one with low score in each group. The resulting four groups were told that they would be competing against the other groups. The groups were assigned to develop a media campaign to launch a new independent movie by a local company. The groups were given the criteria for assessment of various elements of the campaign and individual group members were charged with specific tasks. Judging from the group interactions and the quality of resulting projects, we feel confident in stating that the Cooperation Index may also be effectively used in online courses requiring group projects. The Cooperation Index instrument may be obtained (free of charge) by emailing the authors.

7. Conclusion
This paper has stressed the value of group work and collaboration. We have identified the advantages and challenges associated with teaching using group projects. We have also highlighted some of the common learner apprehensions and strategies for addressing these concerns. A well-planned group project requires effective use of learners' time, communication and conflict management skills, and a demonstration of the importance of group work and collaboration in personal and professional lives. Based on our own success in conducting group projects with the help of the Cooperation Index, we recommend its use by other teachers and facilitators.

References

Attle, S., & Baker, B. 2007 Cooperative learning in a competitive environment: Classroom applications. *International Journal of Teaching and Learning in Higher Education*, *19*(1), 77-83.

Bennett, L. M., & Gadlin, H. (2012). Collaboration and team science. *Journal of Investigative Medicine*, *60*(5), 768-775.

Chiriac E.H., & Granström, K. (2012). Teachers' leadership and students' experience of group work. *Teachers and Teaching Vol. 18*(3). pp 345–363.

Dzionek-Kozłowska, J., & Rehman, S. (2017). "Between Indoctrination and Self-Selection. An Influence of Economic Education on Students' Approach to Cooperation." Paper presented at the 21st International Conference of Ethics in Economic Life. Lodz University, May 11-12, 2017.

Feichtner, S.B., & Davis, E. A. (1984). Why some groups fail: A survey of students' experiences with learning groups. *Journal of Management Education Vol. 9*(4). 58-73.

Finelli, C. J., Bergom, I., & Mesa, V. (2011). Student teams in the engineering classroom and beyond: Setting up students for success. *CRLT Occasional Papers*, *29*.

Hofstede, G., Hofstede, G.J., & Minkov, M. (2010), Cultures and organizations: Software of the mind, 3rd Edition, McGraw-Hill, USA.

Ivy, D.K., & Backlund, P. (2004). *GenderSpeak: Personal communication in gender communication*. New York: McGraw Hill.

Johnson, D. W., Johnson, R. T., & Smith, K. A. (2014). Cooperative learning: Improving university instruction by basing practice on validated theory. *Journal on Excellence in University Teaching*, *25*(4), 1-26.

Martin, C.L., Eisenbud, L., Rose, H. (1995), Children's gender-based reasoning about toys, *Child Development*, Vol. 66, pp. 1453-1471, doi:10.1111/j.1467-8624.1995.tb00945.x.

Rehman, S., & Hinojosa, D. (2016). "Hispanic-American students' perceptions of learning in groups. Paper presented at the 58th Annual Conference of the Western Social Sciences Association, Reno, NV. April 2016.

Roberts, T. S., & McInnerney, J. M. (2007). Seven problems of online group learning (and their solutions). *Educational Technology & Society, 10* (4), 257-268.

Tannen, D. (1990). *You just don't understand*. New York: William Morrow.

Taylor, A. (2011). Top 10 reasons students dislike working in small groups and why I do it anyway. *Biochemistry and Molecular Biology Education*, *39*(3), 219-220.

Van Volkom, M. (2003), The relationship between childhood Tomboyism, siblings' activities, and adult gender roles, *Sex Roles*, Vol. 49, no. 11-12, pp. 609–618.

West, M. A. (2008). Effective teams in organizations. In N. Chmiel (Ed.), *An introduction to work and organizational psychology: A European perspective* (2nd ed; pp. 305-328). Oxford, UK: Blackwell Publishing.