IMPROVING GROUP COLLABORATION AND STUDENT TEAMS' UNDERSTANDING OF RESPONSIBILITY THROUGH A THREE-PHASED CLASSROOM ASSESSMENT TECHNIQUE

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ABSTRACT

A research-based and theory-driven classroom assessment technique of group collaboration efforts was implemented in a capstone, senior-level, Marketing major required course where 50 teams of students developed a marketing plan for 50 different clients during a two year, four semester time period. A three-part student team assessment model, Collective Effort Classroom Assessment Technique (CECAT), was administered at the beginning of group work, at mid-term, and at the conclusion of the semester. The CECAT not only fostered successful group efforts 100 percent of the time, it also taught the important tenants behind team building while "free riding" was kept to 2.6 percent.

INTRODUCTION

Business leaders have been encouraging business professors to focus on the development of students' oral and written communications for several decades. And, most recently they have been stressing that the future business leaders need to develop strong "team building" and "group collaboration" competencies. Even the international collegiate business school accreditation body, AACSB, has endorsed the business executives' thoughts by their recent continuous improvement recommendations (AACSB 1999).

The anecdotal comments by the business world of student competency development needs was reinforced in a study by Uchida (1996) where it was found that among the skills needed by students to succeed in the workplace include critical thinking, problem solving, written com-munication, and the ability to work collabora-tively. Furthermore, Cunningham (1995), along with Butler and colleagues note that many busi-ness colleges have been criticized by the business world for their failure to provide the workplace skills identified by Uchida (Butler, Straughn-Mizerski, and Lacher 1995). Siegel (1996) in her research felt that the cause for the problem could be partly attributed to a reliance on teacher-centered instructional techniques (i.e., lecture method) rather than student-centered techniques that actively engage the student in the learning process. Bennett concluded that "learning is best accomplished when the learner is actively en-gaged in the process" (1999, p. 54).

Since the field of business, whether on the job or in the classroom, involves a "learning-doing-feedback-learning" process, professors need to emulate that principle with their students in train-

ing. To that end, Maxwell and Hagan contend that innovative professors must provide a "vehicle for providing some sort of 'hands-on' experience with real management situations and problems in order to provide foundations for the concepts introduced and discussed in the textbook" (1999, pp. 86–87). Group collaboration or student team activities have been promoted and researched extensively since 1965 (Walker and Angelo 1998) as an answer to "hands-on" education – where the learner is actively engaged. Promising new research on group collaboration (student teams) not only has helped professors better understand group performance, but design a method to teach and promote teaming, much to the delight of business executives.

GROUP COLLABORATION RESEARCH

Burnett and Gilbert (2000) noted that group collaboration projects are known for their difficulties, including "fair" grading, resentment by certain students who believe they do most of the work, group size (too big or too small for the task assigned), and scheduling of team meetings outside of class time. But, the authors cite that for those students who activity participate in group collaboration endeavors, the project was viewed as a very good learning experience. Slavin (1990) found that teams perform best when they have common goals, a reward structure, and means to insure team member accountability. "Free riding" or social loafing and not pulling one's weight in a group has been identified as a common problem with group collaboration efforts (Johnson, Johnson, and Holubec 1990). To solve a free riding problem, Karau and Williams (1995) concluded that eight factors must be present: (1) the work productivity of students can be evaluated by themselves or others, (2) individuals' contributions to the group are unique, (3) students know what good performance is for the group and themselves, (4) the work of the team is viewed as meaningful and important, (5) the group's task can not be easily done by a single student, (6) group members have mutual respect, (7) each student values working in a collective setting, and (8) team size is small (n < 7).

What was first unclear and perplexing about group collaboration efforts several decades ago (Kravitz and Martin 1986) is now much better understood with literally hundreds of studies on free riding, social loafing, and social facilitation having been conducted. Studies on smaller but still significant issues, such as how to compose the teams, have richly provided advice to professors. For example, Wagner (2000) conducted an experimental study where three different classes were arranged into teams in a different manner. One group of teams was organized based on the student's grade point average. Another group of teams was arranged based on the student's performance of a game entitled "Diversity." And the third group of teams was put together based on a combination of student's GPA and the outcome of the game. At the end of the term and all of the team presentations, there was no significant difference between the different group's performance and the team's grade. And there was no significant difference between the different types of teams and their respective perception of group satisfaction/dissatisfaction. Academicians understanding of the group collaboration process is richer than ever before, but it will never be complete.

CLASSROOM ASSESSMENT AND CLASSROOM RESEARCH

What is the difference between classroom assessment and classroom research? According to Cross and Steadman (1996, p. 7), "classroom assessment usually addresses the 'what' question about classroom behavior: what did students learn from . . .?, whereas classroom research is concerned with the 'why' question: why did students respond as they did? Classroom assessment describes what is happening; classroom research tries to find out why."

It would be very hard to argue against the concept cited by Angelo and Cross that "helping students learn the subject matter of their courses is the most common goal of college teachers, and virtually, all teachers try to measure what students are learning about the content being taught"

(1993, p. 106). But thank goodness that most college teachers go beyond just simply teaching students subject matter information. The better professors teach students to think, that is, to develop higher-level cognitive skills: to solve problems, analyze arguments, synthesize information from different sources, and apply what they are learning to new and unfamiliar contexts.

Research also suggests that students concentrate on learning whatever they think will be on the test. As McKeachie and his colleagues observe, "Whatever teachers' goals and no matter how clearly they present them, students' goals are strongly influenced by tests or the other activities that determine grades." (McKeachie, Pintich, Lin, and Smith 1976, p. 76). No matter how clear the teacher is about the "big picture," students are unlikely to share and appreciate the "view" unless tests and other assessment measures point them toward it. Formative, mid-course feedback at the classroom level, especially if it is repeated at regular intervals, helps students and teachers clarify their goals and access progress toward them while there is still time to make changes based on that feedback.

"College students need to be actively involved in their own learning." That was the general message of an influential report by the Study Group on the Conditions of Excellence in American Higher Education: "There is now a good deal of research evidence to suggest that the more time and effort students invest in the learning process and the more intensely they engage in their own education, the greater will be their satisfaction with their educational experience and their persistence in college, and the more likely they are to continue their learning" (1984, p. 17). As a result of this study, Angelo and Cross (1993) contend that active engagement in higher learning implies and requires self-awareness and self-direction.

The Classroom Research Project, funded by the Ford Foundation and the Pew Charitable Trusts, was developed. This handbook contains 50 Classroom Assessment Techniques (Angelo and Cross 1993) and is the most widely used and practical handbook designed for college teachers. The highly respected college classroom researchers and educators Angelo and Cross concluded, "When students respond to Classroom Assessment Techniques and receive feedback on their responses, their attitudes and behaviors also change. Faculty often report the following four observable, interrelated positive effects of Classroom Assessment on their students: more active involvement and participation; greater influence in learning, self-awareness as learners, and metacognitive skill; higher levels of cooperation within the classroom learning community; and greater student satisfaction" (1993, p. 372).

Faculty often report that Classroom Assessment is helpful in "lowering barriers" and in raising levels of trust and comfort in the classroom. Charles Walker, a psychology professor, found that Classroom Assessment helped his students realize that both he and they were after the same basic goal, successful learning. "Instead of engaging in confrontation, students and I found ourselves cooperating, trying to identify the most troublesome topics and exploring ways to understand and teach that which had not yet been learned or taught" (Walker 1991, p. 77). Nakaji notes that "the intense nature of the assessments, the increased personal contact and the overall tone and philosophy of classroom research as a tool to benefit students (have) strengthened and improved the bond between students and myself" (1991, p. 86). And, Cottell believes Classroom Assessment improves student-teacher cooperation because "the level of trust in the class increases as students express their questions and doubts without suffering any negative repercussions" (1991, p. 51).

Angelo and Cross further contend that "when faculty demonstrate their commitment to assessment and self-assessment in the day-to-day level, they send a powerful signal to students about the importance of listening carefully to the ideas and opinions of others. Faculty can use Classroom

Assessment to help create meaningful communities of learners in their classrooms" (1993, p. 374).

Angelo and Cross observe that "students whose instructor use Classroom Assessment tend to believe they are learning more and are convinced that their teachers are sincerely committed to improving learning. Therefore it should come to no surprise that faculty often experience improvement in their student evaluation ratings when they begin to use this approach" (1993, p. 375). Three professors in three very different fields–Cottell (1991, p. 53; accounting), Olmsted (1991, p. 62; science), and Walker (1991, pp. 75–76; psychology) – all documented improvements in their student evaluations as a result of Classroom Assessment.

Finally, Angelo and Cross conclude that "determining whether the use of Classroom Assessment really improves student learning will require carefully planned and well-controlled experiments or quasi-experiments. To date, we know of no one who had the resources or time to carry out this type of confirmatory research, but we hope that someone soon will" (1993, p. 377). A series of anecdotal evidence has been reported that the use of Classroom Assessment has improved student learning.

USING CLASSROOM ASSESSMENT FOR GROUP COLLABORATION PROJECTS

Walker and Angelo (1998) developed and experimented with an assessment of students team work entitled, Collective Effort Classroom Assessment Technique (CECAT). It was their intention that the three-phased assessment technique would "stimulate a healthy development of student groups" (1998, p. 103) while addressing all that we know about learning and group collaboration. And the CECAT was designed to be used when student teams were working together for a half semester or longer. The researchers hoped that the CECAT could also be used with project groups, committees, applied problem-solving teams, case study teams, and other collaborative/group/cooperating teams. Not only was a purpose of the CECAT to foster group collaboration but also to help students avoid "free riding" (social loafing) while motivating students to perform well as individuals and as a group.

An early Assessment of Group Work (Exhibit 1) was administered right after the groups were formed. A mid-term version (Exhibit 2) was administered half way between the beginning time period and when the project was to be concluded. And the final assessment, or summative version (Exhibit 3), was administered after the final presentation was submitted/presented.

Since the CECAT was composed of items taken directly from the model of collective effort by Karau and Williams (1995), with additional elements taken from expectancy-value, social-identify, and social-comparison theories (Abrams and Hogg 1990; Goethals and Darley 1987), it had construct validity. To assess predictive validity, 80 junior and senior college students used the summative version (Exhibit 3) of the CECAT to rate two recent student team experiences: a satisfactory experience and an unsatisfactory experience. Unwanted effects of order were controlled for and an equal number of the gender completed the forms. Twenty of the 21 items significantly discriminated satisfactory from unsatisfactory group experiences; t-test with $p < .01$. The one bad item was deleted and does not appear in the CECAT assessment forms.

APPLYING CECAT TO MARKETING STRATEGY CLASS TEAM PROJECTS

In the capstone, senior-level, Marketing major required "Marketing Strategy" class, taught at a Midwestern four-year public-supported university, students were purposely selected by the teacher into groups of three students per team. This methodology was pursued, following the advice that since "tasks make groups, it is a good idea go let the work pick the workers and not to allow students to form their own groups" (Walker and Angelo 1998, p. 108). The instructor

Please indicate your level of agreement with each of the following statements using a five-point agree-disagree rating scale, where 1 = strongly disagree, 2 = disagree, 3 = uncertain, 4 = agree, and 5 = strongly agree (the higher the number, the more you agree).

1. ___ My group will perform excellently.
2. ___ All the members of the group will work equally hard.
3. ___ As our work progresses, the group should become more cohesive.
4. ___ I want to feel proud of my group and I desire to work with people I highly respect.
5. ___ Most of the members of the group appear to value working in a collective (sic) (manner) with others.
6. ___ What the group will try to achieve is valuable and important to others members of the group.
7. ___ What the group will try to achieve is valuable and important to me.
8. ___ The group's task is intrinsically interesting.
9. ___ Other members of my group will not only know what I am doing, they will easily see what I am doing to monitor my work.
10. ___ Performance standards for the group will be set to allow us to evaluate the overall performance of the entire group as we work.
11. ___ The group I will be working in is just the right size.
12. ___ Performance standards for individuals will be set to allow each person to evaluate his or her contribution while he or she works for the group.
13. ___ The effort I exert will be instrumental in helping me obtain outcomes I want to achieve as an individual.
14. ___ My performance will be evaluated by the instructor or by other members of my group.
15. ___ The task of the group will require all of us to meet and work side by side, face to face, most of the time.
16. ___ I will exert a lot of effort to help the group achieve its goals.
17. ___ I have a lot of things to contribute to the group's work such as knowledge, skill, effort, time, and other essentials.
18. ___ My performance as an individual will directly affect how well the group as a whole will perform.
19. ___ My contribution to the group's work is unique; no one else will be doing exactly what I'm doing.
20. ___ The task of the group will be challenging.

_____ Total score

assigned teams were formed at the end of the first week of the semester and they worked together until their final written and verbal presentations were submitted and presented, respectively, at the end of the term.

Each team was assigned to develop an action-ready comprehensive marketing plan for a client on the campus, who had a marketing problem, challenge, or opportunity. One-hundred fifty students, in teams of three each, have

EXHIBIT 2
A MIDWAY ASSESSMENT OF GROUP WORK
(Walker and Angelo 1998, p. 105)

Please indicate your level of agreement with each of the following statements using a five-point agree-disagree rating scale, where 1 = strongly disagree, 2 = disagree, 3 = uncertain, 4 = agree, and 5 = strongly agree (the higher the number, the more you agree).

1. ___ My group is performing excellently.
2. ___ All the members of the group were working equally hard.
3. ___ As our work progresses, the group is becoming more cohesive.
4. ___ I am proud to be a member of the group and I highly respect most of the people I am working with.
5. ___ Most of the members of the group highly value working in a collective (sic) (manner) with others.
6. ___ What the group is trying to achieve is valuable and important to others members of the group.
7. ___ What the group is trying to achieve is valuable and important to me.
8. ___ The group's task is intrinsically interesting.
9. ___ Other members of my group not only know what I am doing, they can easily see what I am doing and monitor my work.
10. ___ Performance standards for the group have been set to allow us to evaluate the overall performance of the entire group as we are working.
11. ___ The group I am working in is just the right size.
12. ___ Performance standards for individuals have been set to allow each person to evaluate his or her contribution to the group.
13. ___ The effort I have exerted thus far has been instrumental in helping me obtain outcomes I want to achieve as an individual.
14. ___ My performance is being (or will be) evaluated by the instructor or by other members of my group.
15. ___ The task of the group requires all of us to meet and work side by side, face to face, most of the time.
16. ___ I am exerting a lot of effort to help the group achieve its goals.
17. ___ I am contributing a lot of things to the group's work such as knowledge, skill, effort, time, and other essentials.
18. ___ My performance as an individual is directly affecting how well the group as a whole performs.
19. ___ My contribution to the group's work is unique; no one else is doing exactly what I'm doing.
20. ___ The task of the group is challenging.

_____ Total score

served 50 clients during the four semesters of fall 1999, spring 2000, fall 2000, and spring 2001. Examples of the 50 different clients include: Admissions Office, Child Development Center, Financial Aid Office, Intercollegiate Athletic Department, Library, Marketing and Public Relations Office, Student Union, Multiculture Education Center, President's Office, School of Music, and (University) Theatre.

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│                          EXHIBIT 3                                │
│            A SUMMATIVE ASSESSMENT OF GROUP WORK                    │
│                (Walker and Angelo 1998, p. 106)                   │
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Please indicate your level of agreement with each of the following statements using a five-point agree-disagree rating scale, where 1 = strongly disagree, 2 = disagree, 3 = uncertain, 4 = agree, and 5 = strongly agree (the higher the number, the more you agree).

1. ___ My group performed excellently.
2. ___ All the members of the group worked equally hard.
3. ___ As our work progressed, the group became more cohesive.
4. ___ I was proud to be a member of the group and I highly respected most of the people I worked with.
5. ___ Most of the members of the group highly value working in a collective (sic) (manner) with others.
6. ___ What the group achieved (or tried to achieve) was considered important and valuable to others members of the group.
7. ___ What the group achieved (or tried to achieve) was valuable and important to me.
8. ___ The group's task was intrinsically interesting.
9. ___ Other members of my group not only know what I was doing, they could easily see what I am doing and monitor my work.
10. ___ Performance standards for the group were set in advance to allow us to evaluate the overall performance of the entire group as we worked.
11. ___ The group I worked in was just the right size.
12. ___ Performance standards for individuals were set in advance to allow each person to evaluate his or her contribution while he or she worked for the group.
13. ___ The effort I exerted was instrumental in helping me obtain the outcomes I want to achieve as an individual.
14. ___ My performance was evaluated by the instructor or by other members of my group.
15. ___ The task of the group required us to meet and work side by side most of the time; we did not work alone and then combine our efforts only at the end.
16. ___ I exerted a lot of effort to help the group achieve its goals.
17. ___ I had a lot of things to contribute to the group's work such as knowledge, skill, effort, time, and other essentials.
18. ___ My performance as an individual directly affected how well the group as a whole performed.
19. ___ My contribution to the group's work was unique; no one else did exactly what I did.
20. ___ The task of the group was challenging.

_____ Total score

Following the group collaboration advice of researchers Walker and Angelo, a sufficiently high value weight to group work was given in the grading system (33%). Walker and Angelo note that conflict within groups "can be avoided if the goals of each group are clear, evaluation standards for the group and its members are clear, and the instructor evaluates the quality of each group's product while the group members evaluate one another on the making of their group's

product" (1998, p. 108). Therefore, the written marketing plan in the capstone course was worth 100 points (Table 1) where 50 percent of those points were awarded by the client. The verbal marketing plan was worth 50 points where the client determined one-third of the points, a Graduate Assistant determined one-third of the points, and the instructor determined the remaining points. A peer evaluation system (Table 2), combined with an assessment of the team members by the client, determined another 50 points. This point distribution system was clearly delineated in the syllabi and was reiterated numerous times throughout the semester so that students would not only focus on developing an actionable marketing plan but also focus on the importance of group collaboration and group accountability.

An early Assessment of Group Work (Exhibit 1) was administered right after the groups were formed. This version was completed as a home-work assignment, requesting that they bring the completed form back to the next class session with their name and group identified, but they were told not to share their individual responses with their team members. The author calculated the average total score per group and average rating per item, and returned this information to each team. No team was given the data on other team's scores. Keeping these results confidential and within groups allowed students to see that the instructor was protecting their sense of privacy. The instructor then told the entire class that according to Walker and Angelo (1998, p. 110), an average score of 80 and above (out of 100) had been associated with successful team performance, scores of 60 and below had been associated with mediocre performance and unpleasant group experiences, mean item ratings equal to or greater than 4.0 (5.0 = high) pointed to strengths the groups should maintain, and that mean item ratings of less than 3.0 (5.0 = high) were diagnos-

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TABLE 1
DISTRIBUTION OF WRITTEN AND VERBAL MARKETING PLAN POINTS

Client evaluation of written marketing plan . . . 25 points

Instructor evaluation of written marketing plan . . . 25 points

Client evaluation of verbal marketing plan presentation . . . 17 points

Graduate Assistant evaluation of verbal marketing plan presentation . . . 17 points

Instructor evaluation of verbal marketing plan presentation . . . 16 points

TOTAL . . . 100 points

TABLE 2
DISTRIBUTION OF PEER EVALUATION POINTS

Client evaluation of team members' work . . . 25 points

Peer evaluation of other team members' work . . . 25 points

TOTAL . . . 50 points

tic of specific addressable weaknesses. The instructor requested that each team, with their team summary data before them and this research information, talk among themselves about a strategy to improve their group collaboration efforts. Finally, the author invited any team that would like to visit with the instructor about their plans to remedy their weaknesses and build on their strengths to voluntarily make an appointment. In the four semesters of the study, only one group requested to visit with the instructor, but they canceled their meeting saying that they realized that they had to resolve their problem on their own volition. At this time the professor discussed the marketing plan point structure and means of determining the points one more time, focusing on the importance of group collaboration and group success in solving their client's marketing problem, challenge, or opportunity. The total and per items scores of the early Assessment of Group Work (Exhibit 1) have always (50/50 teams; 100%) been higher than the remaining two assessments (Exhibit 2 and Exhibit 3). The greatest value of the early assessment is for students to read (and understand) the research-based 20 items that lead to successful group collaboration, self-reflect, reflect as a group, and lay out a plan with their team members to build on strengths and improve on self-identified weaknesses.

A mid-term version (Exhibit 2) was administered half way between the beginning of team formation and when the project was to be concluded. As in the early assessment, the students completed the instrument in their own privacy, with the instructor providing the team members with their group data results (again, they do not see the data of other groups) and the per item means, and the team meet in class to discuss the data. However, whereas in the early assessment each group was asked to discuss their self-assessment results, the teacher now requested the group to submit a written summary of the members' discussion of the data and their plans to remedy CECAT identified problems. Again, the groups were told they can meet with the instructor on their own volition but before they do that

they must try to solve their problems by themselves before consulting with teacher. To date, not one group has met with the author. And, after this discussion, again the marketing plan point distribution system was discussed with the class seeking discussion to clarify any misunderstanding, and stressing that successful group collaboration will lead to a successful actionable marketing plan for their client.

And the final assessment, or summative version (Exhibit 3), was administered (usually during the last two weeks of the semester) after the marketing plan verbal presentation was presented in class in front of the client, the client's guests, the entire Marketing Strategy class, the Graduate Assistant, and invited marketing faculty and College of Business Administration administrators. Each team member was requested to complete the summative assessment in their own privacy and submit it to the teacher at their earliest convenience, but no later than the comprehensive final exam time period. The students were also requested to submit open-ended comments without their name identified and this information was to only be submitted via a computer print out (so that the author would not be able to identify authors by their handwriting) on any (their choice to do all or none) of the following: (1) what worked and did not work with the group assignment, (2) their opinion of the three CECAT instruments and its impact on their group collaboration efforts, (3) their thoughts on the manner in which the team project was handled in this class versus other college classes that had group projects, and (4) their thoughts on whether the learning theories and team collaboration theories of "learning-doing-feedback-learning," "hands-on education," and "student-centered focus of learning" repeatedly espoused by the instructor were or were not accomplished.

SUMMARY AND CONCLUSIONS

The CECAT is a research-based and theory-driven assessment tool of group efforts. Walker and Angelo (1998) claim that the three group assessment model teaching technique "has the

EXHIBIT 4
CECAT ITEMS SORTED BY THEIR SOCIAL FUNCTION
(Walker and Angelo 1998, p. 107)

Group Composition

4. I am proud to be a member of the group and I highly respect most of the people I am working with.
5. Most of the members of the group highly value working in a collective (sic) (manner) with others.
11. The group I am working in is just the right size.
17. I am contributing a lot of things to the group's work such as knowledge, skill, effort, time, and other essentials.

Task Characteristics

2. All the members of the group were working equally hard.
8. The group's task is intrinsically interesting.
15. The task of the group requires all of us to meet and work side by side, face to face, most of the time.

Processes and Procedures

9. Other members of my group not only know what I am doing, they can easily see what I am doing and monitor my work.
18. My performance as an individual is directly affecting how well the group as a whole performs.
19. My contribution to the group's work is unique; no one else is doing exactly what I'm doing.

Individual and Group Motivation

2. All the members of the group were working equally hard.
6. What the group is trying to achieve is valuable and important to others members of the group.
7. What the group is trying to achieve is valuable and important to me.
13. The effort I have exerted thus far has been instrumental in helping me obtain outcomes I want to achieve as an individual.

Performance Evaluation

10. Performance standards for the group have been set to allow us to evaluate the overall performance of the entire group as we are working.
12. Performance standards for individuals have been set to allow each person to evaluate his or her contribution to the group.
14. My performance is being (or will be) evaluated by the instructor or by other members of my group.

General Conditions and Outcomes

1. My group is performing excellently.
3. As our work progresses, the group is becoming more cohesive.
16. I am exerting a lot of effort to help the group achieve its goals.

potential to go beyond this practice-based wisdom and provide insights on *why* certain teaching practices are consistently effective" (italicized "why" in original text). Based on results that this author has seen, in written response from students at the end of the semester plus in written responses received from the students after they've graduated and been employed, the CECAT instrument in and of itself drives home the importance of the concept of team work to students much better than any "lecture" or "advice from a business advisory board" could ever offer. Plus, in the author's 29 years of higher education teaching experience, group projects have never been completed as smoothly and without student complaint as they have when the CECAT group collaboration tool was implemented. All of the previous attempts at team work design, implementation, control, evaluation, and group productivity are now folly.

There are five observable and measurable results of the 50 student teams having been taken down the disciplined road of implementing Walker and Angelo's CECAT. First, 49 of the 50 (98%) groups performed at Walker and Angelo's defined level of being "successful" (average team score of ≥ 80) upon completion of the Summative Assessment (Exhibit 3). Second, all 150 students (100%) noted, in writing, that they know their group's performance improved, over time, as a result of taking the three assessment forms, receiving and analyzing team data, and putting together a plan to build on their strengths and remedy their weaknesses. Third, "free loading" by a team member was identifiable by one member in each of four different teams during the two-year, four semester time period (4/150 = 2.6%). Two of those four "free loading" members flunked the course and one of those two has successfully retaken the course. Fourth, all 150 students (100%) said, in writing, that completing the group project in the class, with the assistance of the CECAT technique, was the best experi-

ence they had in college as compared to all other college professors attempts at team work. And finally, all 150 (100%) students noted, in writing, that as a result of the CECAT experience, they were able to experience, first-hand, and see what the instructor was trying to "preach" to them about the importance of the "learning-doing-feedback-learning," "hands-on," and "student-centered focus of learning" models of behavior that the felt had to be exhibited as a Marketing professor and that soon they will see themselves portraying in the business world as they work with their business associates and colleagues.

RECOMMENDATIONS

The unbelievable and semester-after-semester success observed by the use of Walker and Angelo's CECAT is one that, at times, is hard to believe. But, upon serious reflection of CECAT's research-based and theory-driven assessment tool and noting the disciplined manner in which it is administered, not once, or twice, but three times, plus the continual feedback that is provided to the students, the proof was in seeing the student's performance and reading their glowing comments . . . not for just one semester (possible halo effect), but four semesters running. Walker and Angelo's CECAT is a "try it, you'll like it" group collaboration instructional technique that must be implemented by any professor, of any discipline, where team work is utilized. And, even if the student teams are working together for a short period of time, the Summative Assessment form (Exhibit 3) should be given to the students prior to their group work, discussed in class to highlight what comprises successful group collaboration, and then administered at the conclusion of the group effort. Exhibit 4 sorts the 20 CECAT items into group collaboration social functions for the convenience of professors who would like to design their own team work assessment instrument.

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