

Collaboration, Teamwork, and Leadership
Programmatic Excellence and Innovation in Learning
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Dr. Christopher J. Chamberlain, Hospitality, Recreation & Tourism
Dr. Gretchen M. Reevy, Psychology
Ms. Julie Stein, M.S, General Education

Other contributors:
Dr. Michael Moon, Dr. Sharon Green

Abstract

This was a planning project to identify effective teaching and assessment practices of collaboration, teamwork, and leadership (CTL) in support of the CSUEB CTL Institutional Learning Outcome. Three proposed phases involving multi-method data collection, were: 1) data collection on the current state of CSUEB CTL instruction and assessment of the value that CSUEB students and employers place on CTL competencies, 2) analysis of collected data and investigation of existing CTL instructional methods, supplemented with secondary research, and 3) formative assessment, working definitions of CTL, and recommended content and tools for instructional use, learning assessment, and faculty development to enhance student success on CTL learning objectives.

Student Learning and Success Focus

In 2012, California State University, East Bay approved six institutional learning outcomes (ILO's) to identify expectations for all graduates to prepare them for more successful lives and careers. The ILO studied for this research project involved collaboration, teamwork, and leadership (CTL). Specifically, the ILO states: "Graduates of CSUEB will be able to work collaboratively and respectfully as members and leaders of diverse teams and communities. Working with others is an essential component of our university experience. Students work as teams on classroom assignments, on service learning projects, in student organizations, in campus service departments and elsewhere on campus. Collaborating with others, working in teams comprised of diverse members, and assuming leadership roles are essential in our workplaces and communities, so it is critical that our graduates master these skills.

- Collaboration, teamwork and leadership competencies include:

- o understanding that effective collaboration involves an appreciation of the ways that cultural, gender and other differences can affect team dynamics;
- o applying the key elements of teamwork and leadership, such as member roles and responsibilities and the fair allocation of work and rewards;
- o collaborating within and leading diverse groups with patience, objectivity, respect, inclusivity, and equity;
- o crafting consensus when presented with differing values, perspectives and priorities, and identifying, mitigating and resolving conflicts;
- o sharing in decision-making, creative group brainstorming, active listening, and giving and receiving constructive feedback;

of these concepts, providing a theoretical background for understanding each. Consistent with this global valuing of leadership, teamwork, and collaboration, the CSUEB community, through a campus-wide, inclusive year-long process, has also recently identified CTL as one of our six core values, stated in the form of an Institutional Learning Objective (ILO): “Graduates of CSUEB will be able to work collaboratively and respectfully as members and leaders of diverse teams and communities.”

working relationships, applying interpersonal communication skills, working well with diverse others, and responding constructively to conflict.

Leadership is a reciprocal influence relationship where leaders enlist the support of others engaged with them in the accomplishment of a common goal. Leaders are responsible for

The AAC&U has also created a teamwork value rubric, which involves assessing individuals on the following qualities: contributions to team meetings, facilitation of the contribution of team members, individual contributions made outside of team meetings, fostering of constructive team climate, and responding to conflict. Additionally, the Academic Advising and Career Education (AACE) department at CSU East Bay (2010) has researched skills that employers routinely seek, and has produced a list of 15 frequently sought skills, one of which is teamwork and collaboration. The Lumina Foundation for Education recently identified collaboration as one of the significant skills college students should master as an aspect of civic learning (Lumina Foundation, 2011).

College professors and administrators also advocate for leadership training. In a report summarizing results from a study of over 50,000 students in 52 higher education institutions in the United States, the authors discuss the growing recognition in universities that leadership training is an essential component of a college education, recommending that college teachers routinely teach leadership skills, even in courses which have not traditionally focused on leadership development (Dugan & Komives, 2007).

A century-old, interdisciplinary body of literature exists on CTL. Research has developed sufficiently that some knowledge exists regarding how and why groups may be relatively effective or relatively ineffective in accomplishing goals. For example, we now know that there is not a single productive leadership style, but rather, effectiveness of leadership in a particular situation depends upon characteristics of the general situation, the particular leader, and the dynamics of the particular group (e.g., Fiedler, 1964, 1996). As another example, problem-solving may sometimes be optimized through team work, but in other cases, team work can hamper problem solving (e.g., Laughlin, Bonner, & Miner, 2002; Laughlin, Zander, Knievel, &

Tan, 2003; Michaelsen, Watson, & Black, 1989). As an example of the former, recent research on collaboration in a game-playing context has piqued interest in collaboration for solving science problems. Researchers found that a group of game players, not formally trained in molecular biology, were able to identify the crystal structure of a specific retroviral protease that experts had been unable to solve after decades of research (Katib et al., 2011).

Although we know much about CTL processes, relatively less is known about how to teach these competencies to students. In *Education for Life and Work: Developing Transferable Knowledge and Skills in the 21st Century*, a lengthy (more than 200 page) report of the National Research Council released in 2012, the forty-one contributing authors, representing universities and testing, assessment, or research organizations across the United States, define a set of 21st century skill-

The **Interpersonal** Domain includes two clusters of competencies: teamwork and collaboration; and leadership. These clusters include competencies such as communication, collaboration, responsibility, and conflict resolution.” (National Research Council, 2012, p. Sum-3)

As the authors discuss, the bulk of research on teaching, learning, and assessing of these skills has focused on the cognitive domain. The authors emphasize that both employers and academics are recognizing that intrapersonal and interpersonal skills are equally important to life success as are the cognitive ones and thus, researchers need to shift some of their focus to the investigation of these non-cognitive skills.

A primary theme of the report is that 21st century teaching at all levels, including university, must focus on “deeper learning,” which means learning that will “transfer” to new situations. The authors make a number of recommendations about how to achieve “teaching for transfer,” including the following:

- Teaching should be done in a systematic fashion, with learning goals that are clearly defined. Results of research indicate that “learning for transfer requires knowledge that is mentally organized, understanding of the broad principles of the knowledge, and skills for using this knowledge to solve problems” (p. 4-25).
- Students need ample opportunity to practice new knowledge and skills. Learning is much less likely to “stick” without sustained practice.
- Formative assessments of student work appear to be helpful. These are assessments which occur *during* the learning process, providing ample feedback, and allowing for revisions of student work before the work is considered “final.”
-

own characteristics can perform better than students who do not hold this belief (e.g., Yeager & Walton, 2011).

- College professors will need to be taught how to integrate new teaching principles into their teaching. This will require faculty development work and adequate time for the college professors to receive training.

- At this point it is difficult to determine if teaching for transfer is domain/discipline specific or is interdisciplinary. Private funders and the government should fund research to investigate this issue further.

The report authors caution that the recommendations above are based primarily upon research which has been conducted on competencies in the cognitive domain. Although they believe that these recommendations may apply to interpersonal competencies, research is required to confirm this. The authors make the following recommendation which applies to CTL competencies (using their vocabulary, “interpersonal competencies”):

- Researchers need to develop clear, valid ways of assessing CTL competencies in students, both formative and summative assessments. The lack of reliable, valid, and fair measurement devices has led to a limitation of useful research regarding how to effectively teach or learn CTL. A publication from the National Research Council (2001) provides recommendations regarding what constitutes an evidence-based assessment.

Research and Findings

Employer Survey

Employer surveys were distributed to job fair participants by one of the researchers or an AACE employee. Job fair participants were asked to complete the survey at their convenience and return the survey to the researcher either at the completion of the job fair, in person, or through using a pre-addressed, stamped envelope addressed to one of the researchers. The employer survey was a three-page hard-

ii. Collaborating within diverse groups with patience, objectivity, respect, inclusivity, and equity.	4.80	0.50
iii. Crafting consensus when presented with differing values, perspectives and priorities.	4.40	0.76
iv. Identifying, mitigating, and resolving conflicts.	4.64	0.49
v. Understanding team member roles and responsibilities.	4.52	0.71
vi. Applying the key elements of leadership, including fair allocation of work and rewards.	4.38	0.82
vii. The ability to participate in team decision-making and creative group brainstorming.	4.52	0.71
viii. The ability to actively listen.	4.96	0.20
ix. The ability to give and receive constructive feedback.	4.80	0.41
x. Being sensitive to and appreciative of the views of others.	4.68	0.56
xi. Being comfortable in diverse social and professional settings.	4.60	0.58
xii. Being aware of one's own perspectives and biases.	4.64	0.64
xiii. Understanding the implications of values and ethics for leadership, teamwork and collaboration.	4.80	0.41
xiv. Leading diverse groups with patience, objectivity, respect, inclusivity, and equity.	4.64	0.57
xv. The abilities to identify strengths of team members and nurture these strengths in service of group goals.	4.24	1.13

Notes:

Scale for items 1-4 is as follows: 1= not at all important; 3 = moderately important; 5 = very important

n = 27

than “four” on a scale of one to five (where one indicates not at all important, three indicates moderately important, and five indicates very important). Open-ended survey responses, described below, also reveal the importance that employers place on CTL skills and provide a vivid, real-world picture of the ways in which they are actually applied in the workplace.

Qualitative Survey Responses: Collaboration

In response to the following question, “Which collaboration skills would you most like to see in college graduates?” the skills most frequently cited were good oral and written communication, strong interpersonal skills, the ability to manage conflict, valuing and respecting the different cultures and opinions of others, professionalism, problem solving, and global thinking. Additional collaboration skills cited more than once were negotiation, giving and receiving constructive feedback, flexibility and follow-through.

In response to the following, “Describe... under what circumstances employees in your organization need to collaborate,” the most frequent responses were program development, special projects, in support of the organization's mission and goals, for product development, process improvement, making decisions under pressure, addressing client concerns, working in client communities, thinking of new ideas, and using technology such as WebEx or screen sharing.

Qualitative Survey Responses: Teamwork

In response to the following question, “Which teamwork skills would you most like to see in college graduates?” the skills most frequently cited were operating as a part of many teams, adaptability, working with others' ideas, clearly communicating, and listening. In response to the following, “Describe... under what circumstances employees in your organization work in teams,” the most frequent responses were: acting quickly and effectively in the client's

best interest, intervening in a crisis, to support communities, to establish rapport, to work with other viewpoints and diverse groups, serve customers, work on multiple roles concurrently, mentor students, and facilitate the classroom.

Qualitative Survey Responses: Leadership

whole - not just themselves; Communication and working with a highly diverse group of people is critical; Good oral and written communication skills are critical and collaboration is critical to a global economy; Students need political savvy and need to get job done with high quality; Candidates need to know how to write a resume and know what they want in a career before interviewing; Many seem to lack the self-esteem for a quick interview; Suggest a mixer without alcohol before the fair to get to know students - students need to know how to make the first move to approach an employer; Students need knowledge of collaboration tools (technology - Webex); Some students lack the ability to multi-task.

Interpretation of Employer Survey Results

A few themes emerge from the employer survey results. First, employers are reporting that they value all CTL competencies assessed in the survey. Both general communication skills and listening are rated relatively highly in the numeric results and are mentioned frequently in the qualitative data. Additionally, valuing and respecting diverse cultures and opinions is mentioned frequently. In general, collaboration and teamwork skills are valued more highly than are leadership skills. In summary, employers highly value the multi-dimensional ways that employees get work accomplished through working together and also value employees' leadership behaviors whether or not in a formal leadership position.

Student Survey

One of the researchers emailed the online survey link to CSUEB students in the winter quarter of 2013. The survey software used was Qualtrix. The survey was managed through the Office of Planning and Institutional Research on campus since the faculty researchers did not have access to Qualtrix software. The survey link was sent to 2940 CSUEB students (588 freshmen, 588 sophomores, 588 juniors, 588 seniors, and 588 graduate students), which

represented 17% of the total CSUEB student body in winter 2013. A total of 877 (29.2 %) of the 2940 started the survey and 690 (23.5%) of the 2940 completed the survey. Among those who completed the survey, 78 (11.4%) skipped one or more questions on the survey. The survey asked respondents to estimate how frequently they were exposed to CTL and related experiences in classes and co-curricular activities, amount of their involvement in co-curricular activities, identification of CSUEB courses in which they were exposed to CTL, and their assessment of the degree to which their CTL experiences at CSUEB prepare them for the workforce and contribute to their personal growth. Results of the student survey are presented in Table 2.

Table 2

Results of Student Survey: Percentages and Means for Survey Questions

1. Please indicate the percentage (%) of courses which involved learning about or the course work required:

	<u>Percentage</u>
a. Group work	50.55
b. Leadership	46.96
c. Teamwork/ collaboration	55.29
d. Applying teamwork and leadership skills in a real-life setting	50.93
e. The influence of diversity (culture, race, gender, or age) upon group behavior	55.78
f. Identification and resolution of conflicts within groups	46.42
g. Collaboration and creative group brainstorming	53.36
h. Respecting the views of others in group settings	65.05
i. Importance of integrity and ethics when interacting in a group	62.73

2. Have you been involved in any of these co-curricular activities.

Citizenship and Residency: 77.1% US citizen-in state student; 1.8% US citizen-out of state student; 4.8% resident alien/immigrant; 7.7% non-resident alien/nonimmigrant; 8.6% missing. In which language do you communicate best? 81.5% English; 1.3% Spanish; 6.6% An Asian language; 2.4% other; 8.2% ge; 2.4% oth

Table 3

College	Leadership	Teamwork	Collaboration	Group
Science	2	4	0	20
Letters, Arts, & Social Sciences	9	5	6	62
Business & Economics	2	6	1	3
Education & Allies Studies	63	8	8	32
Library	0	0	0	0
*Other	0	0	0	5

*Other includes programs not associated with a particular college such as General Studies.

Three items in the student survey began with the following stem, “Please list the course ID for one or more classes which involved learning about:” and each was completed by one of the following three expressions: “Group work,” “Leadership,” and “Collaboration/Teamwork”. Table 4 illustrates the number of different courses which students reported as involving group work, leadership, or collaboration/teamwork, organized by college. When comparing the student course feedback to the course catalog survey, it is clear that students are experiencing CTL or group activities in many courses which do not include any of these key terms in their course catalog description.

Table 4

unavailable for most college teaching. They recommend that researchers commit themselves to creating fair, reliable, and valid measurement devices. CSUEB research funds could be devoted to the development of measures of CTL competency.

The authors of the report also make a number of recommendations for teaching any type of knowledge or skill, although they caution that the evidence that these recommendations are effective come primarily from research on cognitive competencies. We listed a number of recommendations earlier in the report (pp. 8 & 9); a number of the recommendations are worth repeating here:

- Allow opportunities for sustained practice of the competencies. Here at CSUEB we appear to be exposing our students to CTL experiences frequently in classes, and thus are allowing for “sustained practice.” Future research on campus could investigate more about *how* we are exposing our students to CTL in classes as a part of assessing our effectiveness in teaching CTL.
- In classes, do formative assessments of student work in CTL. Formative assessments are assessments that occur during the learning process, in which teachers provide detailed feedback of student work and allow students to revise the work before the final product is submitted for a grade.
- Encourage students to believe that their personal qualities are potentially malleable, since evidence reveals that individuals who think this way perform better on cognitive tasks (Yeager & Walton, 2011). This message of malleability could be communicated to students by their professors and by personnel in the Student Center for Academic Achievement, in Accessibility Services, and in Academic Advising and Career Education. For instance, some people believe that there are “born leaders,” but evidence indicates that leadership qualities can develop in individuals.

- The university should support the Office of Faculty Development for training professors in teaching methods that may not be well known (e.g., formative assessments, the importance of sustained practice, and AAC&U high impact practice to develop teamwork through group work).
- We, the researchers, intend to disseminate our results and recommendations through presentations on campus, such as “Back to the Bay,” and off campus.

While further research is conducted on CTL to determine the most effective teaching methods, other resources are available. Griffith University has created a 43-page Teamwork Skills Toolkit, with practical “how to” advice, available at http://www.griffith.edu.au/_data/assets/pdf_file/0006/162726/teamwork.pdf. The National Clearinghouse for Leadership Programs produced a helpful report on leadership development available at <http://nclp.umd.edu/include/pdfs/MSLReport-FINAL.pdf>.

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Authors

Gretchen M. Reevy received her B.A. in Psychology from the University of North Carolina at Chapel Hill and her Ph.D. in Psychology from the University of California, Berkeley. Since 1994 she has taught in the Department of Psychology at California State University, East Bay, specializing in personality, stress and coping, and psychological assessment courses. With Alan Monat and Richard S. Lazarus, she co-edited the *Praeger Handbook on Stress and Coping* (2007). She is also author of the *Encyclopedia of Emotion* (2010), with co-authors Yvette Malamud Ozer and Yuri Ito. With Erica Frydenberg, she co-edited *Personality, Stress, and Coping: Implications for Education* (2011). Her research interests are in personality, stress and coping, emotion, college achievement, and the human-animal bond. In her free time Gretchen enjoys running and dance classes and is interested in animal welfare.

Julie Stein has a B.S. in Industrial Psychology and an M.S. In Human Resources Management from California State University, East Bay. She has 25 years combined experience in corporate education and college and university instruction. Her corporate training and development experience includes work for Pacific Gas and Electric Company, DHL Airways,

and most recently as the marketing, retail, and web training manager at Safeway. She has instructed 19 different courses in the Business department at Las Positas College and in the Communication, Marketing, and General Education Departments at CSU East Bay. Her experience also includes working for the CSU Chancellor's office as a Faculty Development Specialist on the "Give Students a Compass" initiative for General Education reform.

Chris Chamberlain has a B.A. in Liberal Studies, a B.S. in Recreation Management, and an M.P.A. in Public Management, all from California State University, East Bay. He has a