

Leadership Development in Undergraduate Construction Management Curriculum

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Construction managers are leaders. Despite this commonly agreed to phrase, most construction management education programs do not adequately prepare graduates to become leaders. In response to this need, the Construction Management Program at California State University, Fresno created a leadership development program. The initial results from this program provide a good example of engaging students in leadership activities as a viable tool for leadership development. The success of this program contributed to not only the leadership growth of the students, but also increased the activity of students within the school.

Key Words: Construction management, leadership development, leadership education, mentoring

Introduction

In light of the globalization and advances in technology, there is a pressing need for a new breed of construction industry leaders. Based upon this need, the Construction Management (CM) Program at California State University, Fresno (Fresno State) added leadership as a key educational outcome. Upon identifying this education outcome, the program then created a strategic initiative to establish a leadership development program. The premise of the proposed endeavor was to create a sustainable program that would instill leadership competencies in students. After an extensive deliberation among the faculty and industry representatives, it was determined that this leadership program would need to include not only leadership education, but also a leadership development program. Thus, a unique leadership program was devised as part of a newly revised undergraduate curriculum. This revised curriculum is focused on preparing future construction industry leaders through rigorous study and various mentorship, internship, experiential learning, and organizational activities (Zoghi et.al., 2012).

Background

Construction managers are leaders (Badger et.al., 2009; Ellis and Petersen, 2011; Hyatt and Fakner, 2012). This phrase is commonly accepted throughout the construction industry. The idea that construction managers will become leaders at some point in their career is a critical one when determining the educational outcomes of future construction managers. Despite understanding this goal, actually educating and developing future leaders is challenging. This can be attributed to the concept that leadership in construction can come in many forms. Some students will become formal leaders immediately as they are given management jobs upon graduate. Other students will be informal leaders early in their careers just by the fact that they have graduated from an institution of higher learning. These informal leadership positions are perhaps even more important to an organization. These informal leaders often set the tone for many of those people not directly connected to the project leadership (Dugan, 2011). So this begs the question ... how can you instill leadership in those emerging construction managers who will fill informal leadership roles?

Despite the agreement that construction managers are leaders, leadership is rarely taught within construction management curricula. This may be due to the increasing need to include more technical and management content within these programs. Additionally, there is no common agreement on what constitutes an effective leadership development curriculum for construction majors. Even more challenging is that fact that there is no universal agreement to the 'best' or most 'adequate' leadership development program within the construction industry (Hyatt and Fakner, 2012). Despite the fact that there are hundreds of leadership development models, there is no consensus on the ones are the 'best'. Warren Bennis summarized it best by stating, "Although we do not yet know what a theory of leadership would look like, we do know it will be interdisciplinary, a collaboration among

cognitive scientists, social psychologists, sociologists, neuroscientists, anthropologists, biologists, ethicists, political scientists, historians, sociobiologists, and others” (Bennis, 2007).

Key Concepts in Leadership Development

Common leadership literature provides definitions of leadership development. Allen and Roberts state that “leadership development is a continuous, systemic process designed to expand the capacities and awareness of individuals, groups, and organizations in an effort to meet shared goals and objectives.” They also make the distinction that leadership development is different than leadership education. Allen and Roberts postulate, “leadership education is a series of training interventions designed to enhance the knowledge, skills, and abilities of individuals interested in engaging in leadership”. Therefore, true leadership development is not a series of lectures or courses, but instead it is a process that individuals are guided through in order to become aware of their leadership abilities. (Allen and Roberts, 2011)

Recent literature has noted that leadership development programs are transitioning from the idea of teaching skills and competencies to teaching values and concepts (Bennis, 2007). This monumental shift is built on the idea that skills and competencies change from person to person, but the basic values and concepts are more common leader to leader. This means that leadership development programs must become more personal and unique to individuals. This also means that these programs are much more challenging to establish and operate.

Another key concept found in leadership development literature is the importance of focusing on personal strengths when developing leadership skills. This is contrary to conventional idea of working on all skills and abilities. The Gallup Organization has spend years studying the effects of focusing on strengths and has found that the best leaders spend much more time in their ‘strengths zone’ while minimizing their weaknesses. (Buckingham, 2012)

Other literature notes that the best leadership development programs are based upon models of experiential learning. This supports the newest leadership development literature previously discussed. Discovering personal values and concepts best occurs when participants are actively engaged in leadership development programs (Allen and Hartman, 2009). Other case studies support the idea that experiences matter the most when developing leaders (Riley et.al., 2008). The type of experiences matter as well. The experiences that participants learn through repetition of real leadership responsibilities have biggest impact (Kenner and Isaak, 2004). One way to do this in academic programs is to embed leadership responsibilities related to extra curricular activities (Riley et.al., 2008).

Finally, literature supports the idea that effective leadership development programs include mentoring. Mentoring of emerging leaders is the lever that truly ensures maximum returns for development programs. The key aspect of mentoring elements is the selection of mentors. Mentors should be people with adequate experience in the required fields. (Nadim and Singh, 2008)

Creating a Program

In the Fall semester of 2009, the Construction Management Program at California State University, Fresno embarked on the challenge to establish a leadership development program for it’s students. The purpose of the program was to create a program that allowed students to experience leadership in order to discover the values and concepts which enable them to maximize their leadership potential. Thus the “Leaders in Construction Development Program” or LCDP was birthed.

Based upon the literature above, the establishment of this program was to focus on the overall structure instead of basing it on a specific model. The concept is that if the program is structured appropriately, any leadership education model could be easily inserted into the program. With that in mind, the LCDP was structured based upon three themes in leadership development: (1) leadership development is a process, (2) leadership development enhances the individual, and (3) leadership development enhances the large system (Allen and Roberts, 2011). Additionally, the LCDP was created with the goal of having students actively lead programs and activities. The goal aligns with the findings in literature to have students continually learn about leadership through actual leadership experiences.

Based upon these key concepts, the initial pilot version of the LCDP set three key goals for each participant: (1) lead a program or university group, (2) lead a service project, and (3) interview a leader in the construction industry. Each student in the program was required to identify and complete all three of these goals during the school year. A faculty advisor would act as a mentor for all of the students and the students would meet on a periodic basis (every 3 to 4 weeks) to discuss the leadership development process.

Another key aspect of the program was to track each student's leadership development growth based upon John Maxwell's "5 Levels of Leadership". The first step is *Position* and is based upon responsibility. People follow because they have to follow the leader in this step. The next step is *Permission*, which is based upon relationships. In this step, people follow because they want to follow the leader. The third step is *Production*, and is based upon the results that the leader generates. People follow the leader because of what they have done for the group or organization. The next step is *People Development*. In this step, the leader is followed because of what they have done for the people that follow them. And the final step is *Personhood*, which is based upon respect. In this instance, people follow the leader because of who they are as a person. (Maxwell, 2011)

As previously stated, the pilot version of the LCDP required that each participant meet with a faculty advisor to develop a leadership development plan for the academic year. Prior to this meeting, the student completed an online assessment of his/her leadership strengths. In the subsequent meeting the designated faculty mentor would discuss/review the strengths assessment. The faculty mentor would also complete a Personal Development Plan with the students (see Appendix A). Generally, the advisor would identify three or four activities that will specifically address areas of focus based upon the student's interests and strengths. This constitutes the actual "plan" for the student during the academic year. The student's leadership ability in the focused areas were then assessed at the end of the academic year to determine how well the plan was followed and if they improved their leadership abilities throughout the course of the year. The student would also complete an end of year survey to further assess the student's achievements in the LCDP (Appendix B).

Assessment Methodology

The effectiveness of this program was measured in three ways, which are directly related to the three themes of leadership development outlined above. The first assessment was to determine the success of the students as they attempted to achieve their established goals corresponding to the first theme that leadership development is a process. The measurement of success provides a metric to determine the overall effectiveness of the students as they move through the program. This assessment method was calculated by determining the percentage of leadership activities that were completed by students in the LCDP.

The second assessment was to compare the students' achievement of Maxwell's "5 Levels of Leadership" by the end of the program. This corresponds to the theme that leadership development enhances the individual. Surveys was administered to all students at the beginning and end of the program to determine their perceived 'Level of Leadership.'

The final assessment was a comparison of the overall participation of students year-to-year to determine the impact of the LCDP. This aligns with the last theme that leadership development enhances the larger system. This demonstrates the overall effectiveness of the student leaders in engaging other students in activities throughout the semester. The CM Program keeps statistics on the number of students involved in various clubs and activities throughout the course of the academic year.

Results & Analysis

In the past two academic years (Fall 2009 – Spring 2012) a total of 26 students have participated in the LCDP. The second year of the program increased 125% (from 8 to 18 participants). Each student identified between two and five leadership activities in their development plan. These activities were selected based upon interests, strengths, and/or areas of improvement for the students. The students identified a total of 115 activities, for an overall average

of 3.19 per student. Not surprisingly nearly every student (35 out of 36) self assessed themselves at the lowest leadership level (*Level 1 – Position*) at the beginning of the program. (The other student self assessed as *Level 2 – Permission*.)

Assessment 1: Achievement of Goals

During the first academic year each of the 8 participants completed 17 of the 26 identified activities. This 65% completion rate seemed a little low initially. However, when the data was analyzed more closely it was determined that the students that selected fewer activities (3 or less) were much more successful in completing nearly all of their goals. During the second academic year participants completed 68 of 89 identified activities for a 76% completion rate. The most interesting finding of this second year was that the students identified more activities (nearly 5 per student), but were also able to achieve most of them (nearly 4 per student). In the end of year survey, one student stated “identifying more short term activities provided a great opportunity learn about my leadership abilities and improve upon them throughout the year.”

Following are examples of activities identified in personal development plans and key results:

- One student is a strong social networker, but is not a confident public speaker. The faculty advisor and student determined that it would be beneficial for the student to join a local Toastmasters group. The student attended meetings (at 6 AM on Mondays) and loved the experience. In turn, the student engaged other students with this group and has even started the organization of a student chapter of Toastmasters on campus.
- Another student has a passion for sustainability, but had weak presentation skills. This student was also the president of our student group focused on sustainability (The Green Issue - TGI). One of the goals in his personal development plan was to make create and deliver a presentation about TGI to other student groups in each college. This student met this goal and was able to recruit several students to join TGI.
- One of the most significant achievements in this leadership program has been the establishment of a mentoring network for new students. A graduating student utilized his strength of organization while working on this networking ability by creating a formal mentoring opportunity within our student chapter of Sigma Lambda Chi (the Construction Management Honor Society). This mentoring program continues to make a lasting impact to students of all levels.
- Finally, a student made a significant contribution to the enhancement of lab spaces. This student has a strong technical background, so they have agreed to help the program procure materials to build an outdoor lab area for our newly established “eco-village” capstone course. This is a great example of the potential impact to the construction education program as a whole.

Assessment 2: Levels of Leadership

As previously stated, nearly all of the students in the program identified themselves as ‘Level 1 – Position’ at the onset of the program. At the completion of the first two years all but three (23 of 26) identified themselves as higher than the first level. Most of them, 16 of the 23, identified themselves as ‘Level 2 – Permission’. The remainder of the participants self-identified as ‘Level 3 – Production’. No students identified themselves as higher than the third level. Though these are self-assessment results, they do help to validate the concept that leadership development is a process, which ultimately leads to personal enhancement.

Assessment 3: Program Impact

One of the most exciting and unexpected outcomes from the LCDP was the positive impact to the CM Program. Upon a review of the annual statistics, nearly every club and activity in the program showed increases year over year. One example was the CM Program Annual Awards Banquet lead by LCDP students. The attendance increased by 22% the first year (98 to 119) and 31% the second year (119 to 156). Another example was the increase in student club membership. The primary student club for the CM Program (Students in Construction) increased membership each year (38 in 2008-2009; 47 in 2009-2010; 62 in 2010-2011). These are some examples of increased participation by industry and students in the CM Program.

The CM Program also benefited by the increase in outreach activities by the LCDP students. Some examples of this increased outreach included hosting a “Green Film Festival” in the community, organizing a Latino business event, and leading the team of CM students in a Habitat for Humanity project. All together, activities such as these had a great impact on not only the CM Program but also the local community.

Recommendations & Conclusion

The LCDP has been very successful over the first two years. Despite this success, a number of enhancements are recommended for future years. First, it is recommended that the program engage industry mentors with participants. This will greatly enhance the program and engage industry members in the leadership development process.

Second, the LCDP students requested that they be able to mentor new students within the program. In response to this request, the program has been redesigned with two-tier approach. The top-tier will be students currently in leadership positions and/or enrolled in the LCDP. The second-tier will be new students. The top-tier students would then mentor the second-tier students.

Finally, it is recommended that each student in the LCDP lead a service-learning project as part of the goals. The CM Program at Fresno State requires students to participate in at least 40 hours of service learning in the lower division curriculum. Thus, this would ensure that student leaders are actively engaged in these service-learning opportunities.

In addition to these enhancements, several questions need further research to fully validate this leadership development model for construction education programs. First, how can this program be initiated in education programs with limited staff? Second, how many goals are appropriate for students to set when engaging in this program? Finally, how can this program be sustained with limited financial resources?

In conclusion, leadership should be a key educational outcome for construction management programs. The increased need and focus on leadership in the construction industry makes this a priority for construction education programs. Construction education programs should look at ways to integrate leadership education and development into their programs. By including leadership development into education programs, it will ensure that future construction managers are developing their leadership skills. Additionally, these programs provide a great way to engage students in leading activities in the education program. The program developed at Fresno State provides a potential model for leadership development programs in other construction education programs.

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Appendix A: LCDP Personal Development Plan

**Leadership in Construction Development Program
Personal Development Plan**

Name: _____

Date: _____

Graduation Year: _____ Fall Spring Summer

Current Leadership Development Step: 1 2 3 4 5

Personal Interests:

Leadership Strengths:

Goals

Goal	Metric	Due Date	Completed
PROGRAM GOAL			
SERVICE GOAL			
INTERVIEW			

Appendix B: End of Year Survey

1) Do you feel that your participation in the leadership program helped you to grow as a leader this year?*

- Yes
- No

2) What was your favorite leadership activity?*

John Maxwell's 5 Levels of Leadership

3) Which level of leadership do you think that you were when you started this favorite leadership activity?*

- 1 - Position
- 2 - Permission
- 3 - Production
- 4 - People Development
- 5 - Pinnacle

4) Which level of leadership do you think you were when you ended this activity?*

- 1 - Position
- 2 - Permission
- 3 - Production
- 4 - People Development
- 5 - Pinnacle

5) Which level of leadership do you think best represents where you are in the CM Program at this time?*

- 1 - Position
- 2 - Permission
- 3 - Production
- 4 - People Development
- 5 - Pinnacle

6) Was the Strengths Quest evaluation effective in helping you to learn more about your leadership abilities?*

- Yes
- No

7) What other ways were you able to learn more about your personal leadership abilities this year?*

8) What do you feel was the strength of the program?*

9) What do you think should be done in the future to improve the program?*

10) If you could change one thing in the program, what would it be?*

11) Would you recommend this program to other students?*

- Yes
- No

12) Do you feel that this program was effective in preparing you for leadership roles in the construction industry?*

- Yes
- No

13) How many years have you participated in this program?*

- 1st year
- 2nd year

14) What other feedback, if any, do you have about this program?