

# Creating a Mentoring Program for Members of the Cal Poly Women in Construction Club

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The construction industry remains one of the most male dominated industries in the workforce. With universities like California Polytechnic State University, San Luis Obispo (Cal Poly, SLO) placing significance on construction related career paths by offering coursework and graduate studies in construction management. That means a more diverse group of people, including women, are getting exposed to the construction industry and pursuing a college degree so they can obtain a good job. At Cal Poly, a new club was created to empower women in construction through mentorship, youth outreach, industry support, and strengthening department interrelations. The purpose of this paper is to present new data on what a mentoring program for the Cal Poly Women in Construction (CPWIC) Club should be set up as. This data was provided by industry member as well as member of the CPWIC club through questionnaire. The program is looking to have a 2 to 1 ratio of mentors to mentees and communication monthly between the mentor groups. Descriptions and graphics throughout the paper further explain the analyze the research that was done to gather results.

**Key Words:** Mentoring, Women in Construction, Female Construction Management Students, Collaboration, Communication

## Introduction

As the economy has recovered from the most recent recession, the construction industry has seen significant comebacks and continuous work. The growth has created great demand for workers. Although typically thought of as male dominated industries, women are finding significant employment opportunities in the construction industry. According to the Bureau of Labor Statistics women currently hold 9.1% of the overall workforce (2016). This percent continues to grow with the varied opportunities within the industry. The majority of women working in the construction industry perform administrative work, while the tasks at the operative level are largely performed by men (Aulin & Jingmond, 2011).

Women are valuable employees in the construction industry. They have the intelligence, determination, resolve and work ethic the industry needs. Whether women are doing labor intensive jobs or leading firms, they are raising the bar and changing the game just as much as their male counterparts. In the past, many people passed on higher education in order to take a job in the construction industry. Today, Universities like California Polytechnic State University, San Luis Obispo (Cal Poly, SLO) and Sacramento State, are placing significance on construction related career paths by offering coursework and graduate studies in construction administration, construction engineering and construction management. That means a more diverse group of people, including women, are getting exposed to the construction industry and pursuing a college degree so they can obtain a well paying job within the construction industry.

At Cal Poly, SLO, only 13% of the current undergraduate construction management body are women. However, just like the industry, this number is continuing to grow. The incoming freshmen class for Fall 2017 is to be 24% women, the most that Cal Poly has seen within the construction management program. With this growth, the female construction students created a club, Cal Poly Women in Construction (CPWIC), to empowering women in construction through mentorship, youth outreach, industry support, and strengthening department interrelations. With the club being very new and upcoming, the club continues to work on the structure of how each part of the club should be ran.

## *Purpose of the Study*

This study focuses on the mentoring program between the CPWIC members and industry members to understand the values that both mentors and mentees plan to receive from the mentoring relationship. The research was a questionnaire personally designed, using multiple existing mentor program questionnaires and personal created questions, to determine the collaborations industry members and CPWIC members anticipate getting out of a mentoring program.

## **Methodology**

Two different questionnaire surveys were conducted as the main approach of this research project. One questionnaire survey was sent via email and directed at existing industry members of different segments of the construction industry. The second was sent via email and directed to all students that are members of the Cal Poly Women in Construction Club. The main point of the survey was to determine what both industry members as well as students plan to see from a mentor program.

For the industry member survey, the first part of the survey consists of 5 questions related to personal information about the respondent, such as role and years in the industry. The next section had 2 questions related to the benefit a mentor program would be and their experience with a mentoring program. The last section of the survey contains 4 questions on their interest in being a part of the mentoring program for CPWIC, as well as a section of other comments and/or suggestions. The questionnaire was sent to over 100 industry members. Of these members, 48 of them responded to the survey.

The survey created for Cal Poly Women in Construction Club members consist of three main focuses. The first 5 questions were personal questions to see the demographics of the members. The next 4 questions determine the benefits of a mentoring program, both for individual and club purposes. Lastly, 4 more questions were asked to determine the interesting in being part of the mentoring program and the benefits that want from the program. The survey was sent out to 49 members of the club, with responses from 11 of these members.

## **Analysis of the Results**

Below breaks down and analyzes that results from the questionnaires created and distributed to both industry and CPWIC members. The analysis is broken into two parts: industry member results, CPWIC results. Figures and Tables are created to understand the data.

### *Industry Member Results*

The following information analyzes the results of the 49 industry members that responded to the survey. Each section of the survey is broken into sections to better analyze different aspects of the questionnaire. These sections consist of personal information, experience with a mentoring, and lastly interest in the Cal Poly Women in Construction mentoring program.

#### *Personal Information*

Forty-nine (49) industry members were individually surveyed to determine their thoughts of a mentoring programs. Of these 49 industry members that were surveyed, 28 (57.1%) were female and 21 (42.9%) male. As shown in Figure 1, the number of industry members that where Cal Poly graduates was overall greater, however, males that were Cal Poly graduates dominantly took the survey.

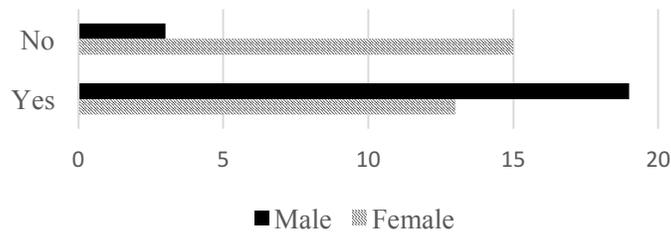


Figure 1: Cal Poly graduates surveyed.

Most industry members that responded to the survey have been in the construction industry for over 10 years. Looking at both genders, most responses for the survey were those in the industry for over 10 years. Figure 2 shows the amount of time in the industry by gender. Figure 3 shows 27 (53%) of the survey respondents have been in the industry for over 10 years, followed by 12 (24%) in industry between 4 to 10 years, 9 (18%) in industry for 2 to 3 years, and 3 (6%) in the construction industry for less than a year.

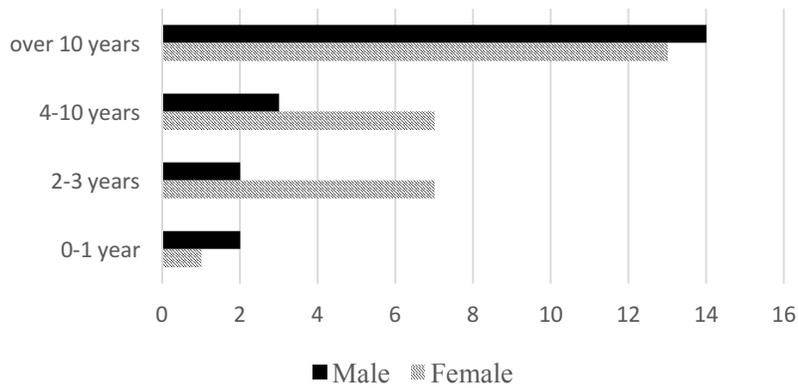


Figure 2: Years in industry. Broken up by gender.

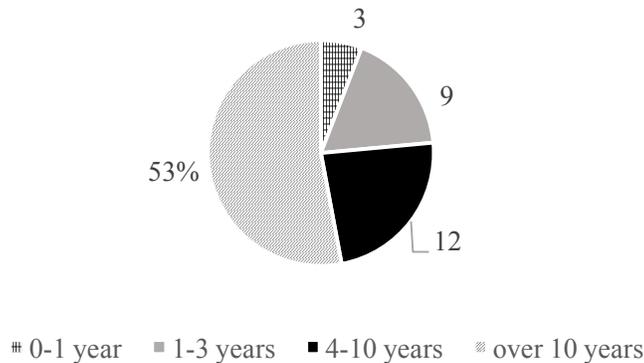


Figure 3: Years in industry.

### Experience with a Mentoring Program

In this section of the survey industry members were asked 3 questions on a scale from 1 to 5 with 1 being the strongly disagree and 5 being strongly agree. Table 1 below shows the responses to each of the three questions. Looking at the data most industry members agree that if a mentoring program was offered to them, they would

have taken been a part of the program. Continuing, 44 (89.8%) of industry members agreed/strongly agreed that a mentoring program would help excel upcoming women in the construction industry. Even more, 33 (67.3%) agreed/strongly agreed that if a mentoring program started tomorrow they would be a mentor for the program.

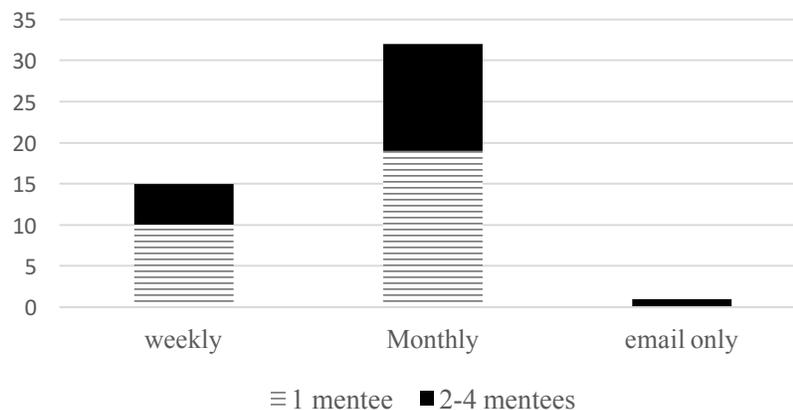
Table 1

***Experience and Importance of a Mentoring Program: Industry Members***

<b>Question</b>	<b>1 (Strongly Disagree)</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5 (Strongly Agree)</b>
When you were in college, you would have joined a mentorship program if offered.	2 (4.1%)	1 (2%)	13 (26.5%)	18 (36.7%)	15 (30.6%)
A mentoring program would help to excel upcoming women in the industry.	1 (2%)	1 (2%)	3 (6.1%)	18 (36.7%)	26 (53.1%)
If a mentoring program launched tomorrow, you would be a mentor.	2 (4.1%)	1 (2%)	13 (26.5%)	11 (22.4%)	22 (44.9%)

***Interest in Mentoring Program***

The last part of the questionnaire breaks down what industry members plan the structure of the mentoring program for the Cal Poly Women in Construction Club to be structured. Industry members were asked how many mentees would be ideal for each mentor. 29 (60.4%) of industry want to see each mentor to have only one mentee and the other 19 (39.6%) would like to see between mentors having anywhere from 2 to 4 mentees. No one in the survey wanted to see the program with a mentor having 5 or more mentees. Industry was then asked how much of a time commitment that they plan to see form the program. For this section 48 industry members responded to these questions. 32 (66.7%) wanted to meet or talk with their mentees at least once a month. 15 (31.3%) of industry members believed that meeting or talking weekly would be ideal for the mentoring program. Only 1 (2.1%) industry member wanted to talk to a mentee strictly through email. Figure 4, shows the direct comparison of industry members that only want the program to have one mentee for every mentor and only meet monthly. Looking at the data, 32 (66.7%) of mentors say that communicating monthly would be ideal for the program.



***Figure 4: Time commitment for the number of mentees.***

The last question on the survey had mentors rate areas between 1, being the most important, to 6, being the least important, of mentoring areas that are important to communicate about with a mentee. Industry members believed that the most important area of communication was a tie between leadership skills, career guidance, personal/workplace effectiveness, with each of these categories receiving 11 votes. Looking at the data, 25 (52.1%)

of industry members believe that insider knowledge is the important area of communication compared to all other areas.

### *Cal Poly Women in Construction Club Member Results*

The following information analyzes the results of the 11 club members that responded to the survey. Just like above, each section of the survey is broken into sections to better analyze different aspects of the questionnaire. These sections consist of personal information, experience with a mentoring, and lastly interest in the Cal Poly Women in Construction mentoring program. With such a small amount of data collected, it is difficult to get a good idea of what most members would like to see in the mentoring program.

#### *Personal Information*

The 11 members that responded to the survey had variety of the years in college that they have been enrolled into a university. With all members being Cal Poly students, 2 (18.2%) were 4<sup>th</sup> year students, 4 (36.4%) were 3<sup>rd</sup> year students, 4 (36.4%) were 2<sup>nd</sup> year students and only 1 (9.1%) was a 1<sup>st</sup> year. The data also looked at the amount of transfers that responded and how many students started off as a different major. The 1 (9.1%) student that was a transfer, also was part of the 4 (36.4%) of students that switched into the construction management program. Club members were asked what roll that they planned to hold when they got into industry and the data shows that 7 (63.6%) want to be project managers and the other 4 (36.4%) would like to be superintendents. For this question, they were given 5 options to choose from: project engineer, project manager, superintendent, field engineer, and other. There were no colorations between personal information received.

#### *Experience with a Mentoring Program*

Club member were asked a series of questions using a scale from 1 to 5 with 1 being the strongly disagree and 5 being strongly agree. Table 2 reveals the questions and the responses to each of the questions. Having a mentor from within the construction management program was neutral compared to having a mentor that was in industry. However, when looking at the data every club member agrees/strongly agreed that a mentoring program would help to excel them in the industry and they would join if one started tomorrow. Most member in the club do not feel fully confident going into the industry at their status.

Table 2

#### *Experience and Importance of a Mentoring Program: Club Members*

<b>Question</b>	<b>1 (Strongly Disagree)</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5 (Strongly Agree)</b>
A mentoring program within the major would be ideal rather than industry members.	1 (9.1%)	2 (18.2%)	4 (36.4%)	4 (36.4%)	-
A mentoring program would help to me excel in the industry.	-	-	-	7 (63.6%)	4 (36.4%)
If a mentoring program launched tomorrow, I would join.	-	-	-	5 (45.5%)	6 (54.5%)
Overall, I feel confident going into the industry without a mentor.	3 (27.3%)	1 (9.1%)	6 (54.5%)	1 (9.1%)	-

#### *Interest in Mentoring Program*

Of the club member responses, 6 (54.5%) members wanted to see that every mentee has two mentors and 5 (45.5%) wanted to a one mentor to one mentee ratio. Just like the industry member results most, 7 (63.6%) of club members

would like to meet or communicate with industry mentors once a month and 4 (46.4%) of them would like to meet or communicate weekly. Figure 5 shows the comparison of the number of mentors' club members plan to have and the amount of time they will be committed they plan on having. Monthly meeting regardless of the number of mentors out weighted communicating weekly with 7(63.6%) respondent rate. Club members are more inclined to join and want to be a part of a club that is flexible with time commitment.

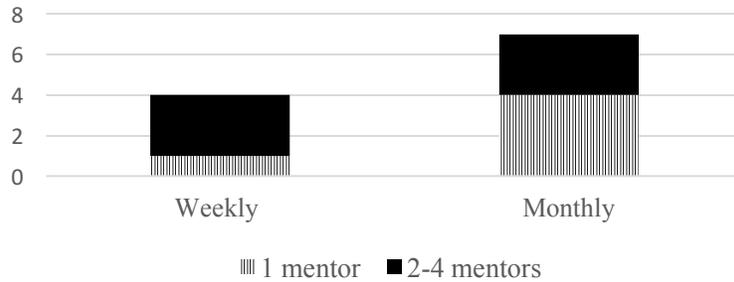


Figure 5: Time commitment for the number of mentors.

Looking at the skills that club members want to communicate with mentors, they were asked to rate areas between 1, being the most important, to 6, being the least important, of mentoring areas. Career guidance was the most important to students with 5 (45.1%) club members voting for it as number 1 highest of importance. Overall the different types of communication areas, club members' votes were more evenly spread out in determining what they considered important. Either importance was primarily focused on how to create their career rather than gathering knowledge of the industry.

### Conclusion

The aim of this study was to determine industry members and CPWIC members' ideal setup for a mentoring program for the CPWIC club. Comparing the data from the responses of industry members and the responses of club members, both groups had a total of 39 (67.2%) responders wanting to meet monthly. Figure 6 represents the comparison of the number of mentors and mentees each group will have and the time commitment that is ideal. Most industry members favored having one mentee, while most club members favored having 2 to 4 mentors. Setting a minimum of speaking or meeting with mentors/mentees could be set at once per month. However, if either the mentor or mentee would like to do so, they are more than welcomed to do so.

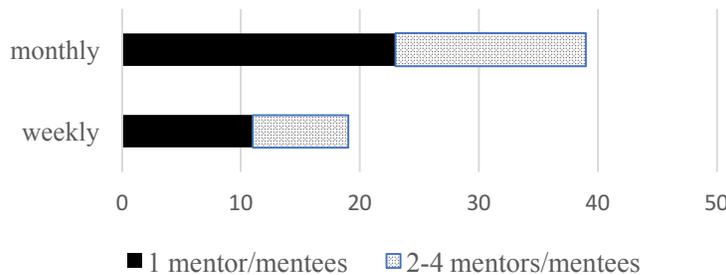


Figure 6: Time commitment for the number of mentors/mentees.

Looking further into the data received from both surveys, Table 3 shows the areas of important communication topics formed between both groups. Both groups found that career guidance was the most important category to communicate with their mentor/mentee, and that the least important was insider knowledge of the industry. Comparing the overall importance between industry and club members, their areas of importance was very similar to each other's.

Table 3

***Important Communication Topics***

<b>Importance</b>	<b>Industry</b>	<b>Club Members</b>
1 <sup>st</sup> (most important)	Career Guidance	Career Guidance
2 <sup>nd</sup>	Personal/ Workplace Effectiveness	Industry Knowledge
3 <sup>rd</sup>	Business Skills	Business Skills
4 <sup>th</sup>	Leadership Skills	Leadership Skills
5 <sup>th</sup>	Industry Knowledge	Personal/ Workplace Effectiveness
6 <sup>th</sup> (least important)	Insider Knowledge	Insider Knowledge

To increase the number of women in the Cal Poly Women in Construction club members feeling comfortable to go into the construction industry, providing opportunities to have a mentoring program with those currently holding positions in the construction industry. This program must meet the 1 mentee to 2 mentor ratios, as requested by both club members and industry members. They will communicate at least a minimum of once a month, but as much as both the mentor and mentee would like. With career guidance being an important subject matter of discussion, mentors will work closely in helping mentees create a plan for their future career plans.

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## Appendix

# Mentoring Program: Industry Members

Connecting the women in the Construction Management program with industry members to mentor them throughout their college experience.

- 1) Are you a Cal Poly Alumni?
  - a. Yes
  - b. No
  - c. N/a
- 2) If not where did you attended?
  - a. \_\_\_\_\_
- 3) Gender?
  - a. Female
  - b. Male
  - c. Prefer not to say
- 4) How long have you worked in the construction industry?
  - a. 0-1 years
  - b. 1-3 years
  - c. 4-10 years
  - d. 10 + years
- 5) What role do you currently hold?
  - a. Project Manager
  - b. Superintendent
  - c. Project Engineer
  - d. Field Engineer
  - e. Other: \_\_\_\_\_
- 6) When you were in college, you would have joined a mentorship program if offered.
  - 1 (Strongly Disagree)
  - 2
  - 3
  - 4
  - 5 (Strongly Agree)
- 7) A mentoring program with help excel upcoming women in the industry.
  - 1 (Strongly Disagree)
  - 2
  - 3
  - 4
  - 5 (Strongly Agree)
- 8) How many mentees would you like to have:
  - a. 1 mentee
  - b. 2-4 mentees
  - c. 5 or more mentees
- 9) If you were a mentor, how much time commitment would be ideal?
  - a. Meet and/or talk (phone/email) daily
  - b. Meet and/or talk (phone/email) weekly
  - c. Meet and/or talk (phone/email) monthly
  - d. Email conversation only
- 10) Please rate the following mentoring areas 1 (being the most important) to 6 (being least important) of importance.
  - a. \_\_\_\_\_ Leadership Skills
  - b. \_\_\_\_\_ Personal/workplace Effectiveness
  - c. \_\_\_\_\_ Business skills
  - d. \_\_\_\_\_ Career Guidance
  - e. \_\_\_\_\_ Industry Knowledge
  - f. \_\_\_\_\_ Insider Knowledge
- 11) Comments or Suggestions

# Mentoring Program: WIC club members

Connecting the women in the Construction Management program with industry members to mentor them throughout their college experience.

- 1) What year are you?
  - a. 1<sup>st</sup> year
  - b. 2<sup>nd</sup> year
  - c. 3<sup>rd</sup> year
  - d. 4<sup>th</sup> year
  - e. 5<sup>th</sup> year or more
- 2) Are you a transfer student?
  - a. Yes
  - b. No
- 3) Did you switch into CM?
  - a. Yes
  - b. No
- 4) What role do you plan on holding when entering the industry?
  - a. Project Manager
  - b. Superintendent
  - c. Project Engineer
  - d. Field Engineer
  - e. Other
- 5) A mentoring program within the industry would be ideal rather than industry members.
  - 1 (Strongly Disagree)
  - 2
  - 3
  - 4
  - 5 (Strongly Agree)
- 6) A mentoring program would help me excel in the industry.
  - 1 (Strongly Disagree)
  - 2
  - 3
  - 4
  - 5 (Strongly Agree)
- 7) If a mentoring program launched tomorrow, I would joining.
  - 1 (Strongly Disagree)
  - 2
  - 3
  - 4
  - 5 (Strongly Agree)
- 8) Overall, I feel confident going into the industry without a mentor.
  - 1 (Strongly Disagree)
  - 2
  - 4
  - 4
  - 5 (Strongly Agree)
- 9) How many mentors would you want to have?
  - a. 1 mentor
  - b. 2-4 mentors
  - c. 5 or more mentors
- 10) What style of mentoring are you interested in?
  - a. Long-term relationship
  - b. Conversations with multiple mentors to gain perspective
  - c. Short-term mentors with change every quarter
  - d. None
  - e. Other
- 11) Please rate the following mentoring areas 1 (being the most important) to 6 (being least important) of importance.
  - a. \_\_\_\_\_ Leadership Skills
  - b. \_\_\_\_\_ Personal/workplace Effectiveness
  - c. \_\_\_\_\_ Business skills
  - d. \_\_\_\_\_ Career Guidance
  - e. \_\_\_\_\_ Industry Knowledge
  - f. \_\_\_\_\_ Insider Knowledge
- 12) Comments or Suggestions