Career support services in construction-related programs in the US

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Introduction

Careers in the construction industry are in high demand. More specifically, the demand for construction managers is expected to grow 9% in the next decade, that is "much faster than average" according to the [1]. A recent publication from the Association of General Contractors (AGC) in partnership with Sage also noted difficulty in hiring both craft workers and salaried positions, while companies seek to increase their headcount (AGC & Sage, 2025). To meet this demand, enrollment in construction programs has increased since the economic downturn in 2008, as evident by the rebound in bachelor's and master's degrees completions for construction-related programs in the last decade, as captured by the National Center for Education Statistics (NCES) [3] in Figure 1. We note this growth in construction-related degrees while overall degree completions for all fields are slightly down from the peak in 2020-2021.

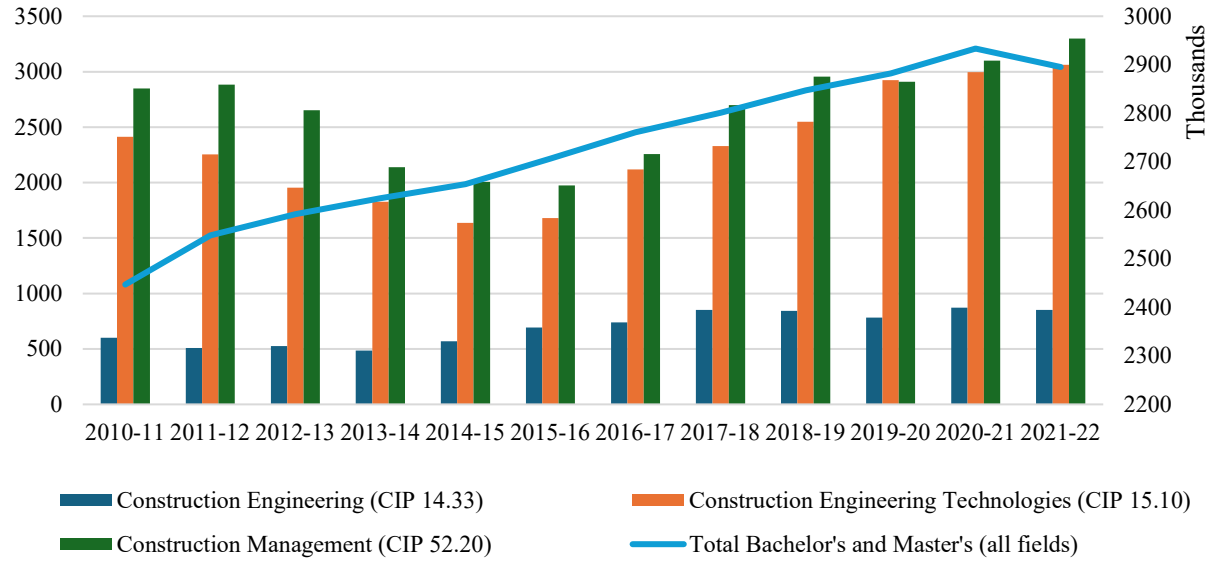

Figure 1. Construction-related degree completions (bachelor's and master's combined) compared to all fields. Graphic created by the authors using data from NCES [3], [4]

To support the connection between supply and demand of construction professionals, many higher-education institutions provide students with career services to increase their work readiness. These services may include career fairs, resume reviews, and meet-and-greet events with companies and are often advertised on websites and during recruitment procedures. Additional opportunities for industry engagement, which may or may not relate to career services, can also arise through jobsite visits and guest speaking opportunities for industry professionals [5], [6], [7]. Some of these resources are provided by industry, while others may be provided by the university, and the frequency and impact of these may vary. Many construction-

related programs across the United States either organize or participate in campus-wide career fairs [7].

Through the use of these services and as a result of the high market demand, many construction-related programs achieve a placement rate well above 90% [8] (for recent examples, see [9], [10], [11]), to the benefit of students, higher education institutions and companies. Yet, there is a lack of understanding of what career services are available in the different construction programs and their institutions, while recent research acknowledges the importance of "providing career education and coaching" to construction students [12]. This is important because, beyond placement rates, recent models of career services focus on establishing mentoring relations, assisting students in achieving long-term career satisfaction, as well as creating career communities, enabling the creation of a strong alumni network that can strengthen the institution outcomes [13]. Therefore, understanding what opportunities are available in different programs provides a useful benchmark for construction educators seeking to improve their programs. To achieve this goal, we have used a survey approach of construction programs.

We are especially concerned in identifying the breadth of services provided at the program level and at the university level. Our findings will assist construction education programs in assessing how their career services compare with other construction-related programs, as well as identifying potential services provided to students that can assist them with work readiness.

Background Literature

Unfortunately, the literature about career services specific to construction-related programs is scarce and scattered. The few resources usually focus on one aspect of career service or industry engagement, such as cooperative education [14], industry guest speakers [8], [15], career fairs [7], and jobsite visits [5]. One of the few programs that enumerate career services offered within the construction-related department is discussed in Guggemos and Khattab [8]. In their case study, they mention the existence of two staff members within the department that provide counseling and assistance with job searches, in addition to organizing a discipline specific career fair. On the other hand, when Waller et al. [16] analyzed students' satisfaction with their undergraduate experience, they noted that, although students' satisfaction with program-specific career support was slightly above average, support from a university-wide career center ranked last on a list of 18 items.

Of the few research that evaluate industry engagement in construction education, we note that participation is usually skewed toward general and commercial contractors [6]. This may influence students' perspectives about job opportunities in different sectors or types of companies. Moreover, industry engagement through internship opportunities is the most frequent type of involvement of the construction industry in construction programs [6], noting the importance of this type of engagement in construction education.

Moreover, recent research within the Australian context highlights the need for more career preparedness within construction education, as well as the role of construction educators in assisting students with career-related questions [12]. The same research mentions the lack of alignment between construction instructors and industry related to the role of instructors in work readiness, suggesting an over reliance on general career services provided by the universities [12].

It is interesting to note that at the dawn of the 20th century, career services usually used a vocational approach, during which instructors provided assistance to students [13]. Given construction education's practical nature and close ties with industry, this model is still somewhat expected of construction instructors, as noted by Borg et al. (2024). Moreover, recent technological and social developments have pushed university-wide career services toward more personalized actions [13]. And though these services generally help students receive more job offers, about one third of students have not used centralized career services during their undergraduate years [17].

Moreover, career services have changed in recent times. Beyond traditional elements, the aim is now to connect people (students, employers and alumni) in large networks, creating customized experiences supported by new technology and social media, such as "career counseling, resume assistance, and career fairs" [13, p. 8]. Moreover, students are looking for less formalized and more personalized assistance, therefore lectures and workshops may not function as well as they once did [13]. Given the rise of this new model for career services and the need for personalized assistance in a practical-based discipline, such as construction, it is unclear what resources are being provided to students.

Methodology

To achieve this goal, the present research uses a survey approach to review career-support resources available at US-based construction undergraduate construction programs. The survey was hosted in Qualtrics and distributed to program chairs or department heads accredited by the American Council for Construction Education (ACCE) by email invitation and phone calls. Contact information for those programs is publicly available on the ACCE website (ACCE, 2024). Only ACCE-affiliated institutions that had a 4-year bachelor's degree in a construction-related discipline were selected, totaling 77 programs. In that survey, respondents were asked to provide information about their program (such as number of students, internship requirements and number of graduates), followed by information about career services provided by their program, and then a separate section with questions related to career services that were provided by the university. Information on the scope of service provider was included, so that participants clearly separate between program- and university-provided services. For the services provided by programs and institutions, participants could choose between 'yes,' 'no,' or 'unsure', in case they were not familiar. Finally, participants were provided with an open space to include any additional relevant information.

Additionally, the research team reviewed publicly available information about each program's career services (within the program and institution-wide), as well as basic program information (e.g., size, graduation rate and job placement, if available) on each program's website. These resources were coded, and information was added to an Excel spreadsheet for analysis.

Results are presented using descriptive statistics and the breadth of career support services that are taking place in construction-related programs in the United States (US), as well as which are the most frequently found, are identified. Additionally, results are discussed based on previous research findings, pointing to future areas of research. The findings from the present research will assist programs and industry in diversifying career support services that will lead to student job placement.

Results & Discussion

Of the 77 email invitations sent, the research team received 24 complete responses (31% response rate). Of the completed responses, 21 were from public universities and three from private institutions. Nineteen different states were represented in the survey, with Florida having the most responses (n=4), followed by New York (n=2). All other states represented had only one response each. The map in Figure 2 shows all states for which responses were received, showing some over representation of southern and Midwest states.

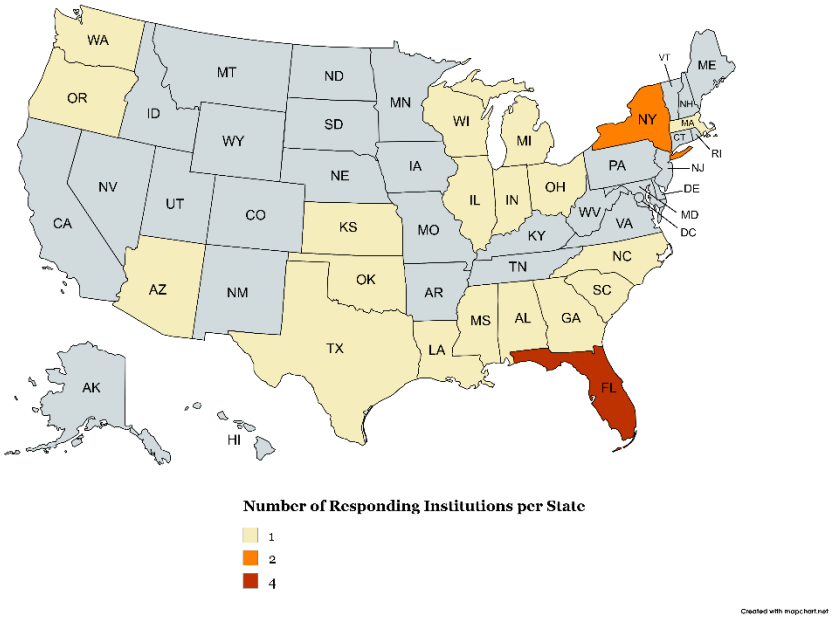

Figure 2. Number of responding institutions per state

Program sizes of responding institutions in Fall 2024 ranged from 45 to 749 students, with a median (M) of 305 and standard deviation (SD) of 203.3, showing a larger variation in program sizes. In terms of number of graduates for the 2023-2024 academic year also varied, ranging from 13 to 176, with a median of 55 and a standard deviation of 47.4. Placement rate at

graduation ranged from 80% to 100% (M=100%, SD=6%). The high placement rate across all programs seems to confirm the promising career outlook mentioned by the Bureau of Labor Statistics (BLS, 2024). Yet, we note that this number is affected by the number of students reporting the information at graduation.

Requirements for internships from the surveyed programs show that 11 of them require students to do an internship as a required part of their program, while 12 do not. Of the ones that require internships, some require a set number of hours, while others tie internships to credited classes. Ten responses indicated an hour value for internship requirements, ranging from a low of 45 hours to a high of 1,280 hours, with a median of 425 hours. Three programs indicated the internship requirements in terms of credit hours, ranging from 1 (n=2) to 2 (n=1) credit hours. We note that the two programs indicated 1 credit hour have hour requirements. For one of the institutions, 1 credit hour is equivalent to 320 hours, and for the other it is 500 hours. More information about the hours equivalent to the 2 credit hours mentioned by one of the respondents was not found.

Moving on to career services, most programs informed that instructors are expected to provide career counseling services to students (n=16). This seems aligned with previous research [12], [13] and the applied nature of construction-related programs. Only a few programs noted having a dedicated career specialist (n=6). Future research could provide more context for this type of professional, including hiring trends, skills and expectations and implications to program recruitment, retention, and graduate placement rates. From the information summarized in Table 1, no significant association seems to form between graduate placement rates and the existence of this profession on staff, while a career specialist is present at somewhat larger programs.

Table 1. Average enrollment and job placement at graduation for programs with and without a career specialist

Dedicated career specialist availability	Median Enrollment Size	Median Job Placement Rate at Graduation
Programs without specialist	295.5	100%
Programs with specialist	375	100%

The overwhelming majority of responding programs indicated they host two dedicated career fairs per year (n=18). Only two programs host more (that is 3) career fairs per year, while one program only hosts one career fair, and two programs do not host dedicated career fairs. Across all career fairs hosted by construction programs, the number of companies participating ranged from 10 to 233, with a median of 69 (SD = 54.2). Interestingly, the median number of companies participating per career fair is higher than the median number of graduates per year for all responding programs. Considering the largest career fair per responding program, Figure 3 shows the relationship between enrollment and the number of participating companies. As

expected, larger programs have a higher number of participating companies, though exceptions exist.

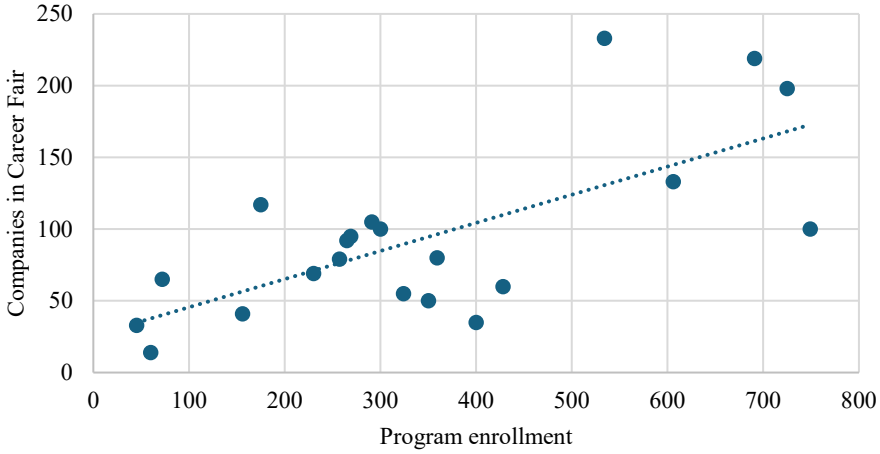

Figure 3. Correlation of program enrollment with number of companies attending career fairs

Following, programs were asked about a series of dedicated career services, including a dedicated job board, resume review sessions, interview preparation sessions, career preparedness website, career closet (service to lend students clothes for career recruitment events), professional headshots, career preparedness presentations and individual career counseling meetings. A summary of the findings is included in Table 2. One respondent was unsure of the availability of career orientation in group presentations in their program. The median number of career services provided by the surveyed construction programs is 2 (SD=2.5, min = 0, max = 7). Moreover, the responses suggest that no specific type of service is frequently observed in construction programs, though a dedicated job board, resume reviews, and individual career counseling meetings are present in half of the responding programs.

Table 2. Number of programs providing career services

Type of service	Provided (frequency)	Not provided (frequency)	Total
Dedicated job board	12	12	24
Resume review	12	12	24
Interview preparation	10	14	24
Career preparedness website	6	18	24
Career closet	4	20	24
Professional headshots	4	20	24
Career orientation (group presentations)	6	17	23
Career counseling (individual meetings)	12	12	24

When providing an open-ended space to include comments, five respondents indicated that many of the services included in the questions are offered at the university level and questions about this were included in the next survey section. All respondents (n=24) indicated that their institution has a university-wide career center that provides students with career support. Respondents were then asked to provide information about the availability of the following services by their institution: campus-wide career fair, resume review, interview preparation, career preparedness website, career closet, professional headshots, career orientation group presentations, and individual career counseling meetings. Some respondents were unsure of services provided by their institution, and therefore not included in Table 3. The top three items that respondents were unsure related to group presentations about career orientation (n=7), professional headshots (n=5) and career closets (n=5). From the results, we see that many services are provided at the institutional level, notably career fairs, resume reviews, interview preparation, career preparedness website and individual career counseling meetings. Other services, such as the career readiness website and professional headshots, are somewhat present, and only half of the institutions provide a career closet for students. The difference between program-offered services and institution-offered is aligned with what was observed in a previous study by Borg et al. (2024), which suggested the reliance on construction programs in institution-level career services.

Table 3. Frequency of institution wide career services

Type of service	Provided (frequency)	Not provided (frequency)	Total
Career fairs	23	1	24
Resume review	22	1	23
Interview preparation	23	1	24
Career preparedness website	23	0	23
Career closet	13	5	18
Professional headshots	16	3	19
Career orientation (group presentations)	17	0	17
Career counseling (individual meetings)	22	0	22

In addition to specific services, participants were asked about additional services provided by their institution. Their answers provide additional information about career services provided at their institutions, including the inclusion of career assessment services.

- Career readiness certification program.
- Course credit for taking career readiness classes.

- An internship scholar program.
- Business etiquette dinners and other similar events.
- Career assessment services for students who are uncertain about their career path or field of study.
- Shadow mentoring program.
- Annual roundtable with industry advisory board members that allows students to interact and ask industry members relevant questions.

Conclusions and Limitations

Our research evaluated career services provided by 24 construction programs and their respective institutions. Our findings indicate that most programs host two dedicated career fairs per year with a median participation of over 50 companies. Other industry-interaction opportunities exist in all programs, but the number also varies greatly. Two-thirds of the responding programs noted that they expect their faculty to also provide career counseling to construction students, and only six programs have a dedicated career specialist. Future research could provide more information about this position and its value in preparing students for their future careers.

In terms of career services provided by construction programs, there seems to be a high variability, with no service being offered by over half of the programs. The most frequently offered services by construction programs include a dedicated job board, resume reviews, individual career counseling and interview preparation. There seems to be a reliance on the career services offered at the institution level. At the institutional level, common services also include resume reviews, interview preparation, individual career counseling, in addition to institution-wide career fairs and career preparedness websites. Additional notable references to career services provided by surveyed institutions include a career readiness certificate and courses on the same topic, an internship scholar program, and a shadow mentoring program. Exploring more about what these services entail with their impact on students could provide helpful information to construction programs and the industry in general. It would be particularly helpful to explore how institutions are educating future professionals on the impact of emerging technologies on their careers and how students can leverage these tools to improve their career preparedness. Yet, our research provides construction education programs with a baseline of what other similar programs and institutions are offering their students, in support of their future careers. This knowledge could help programs determine if additional services would be beneficial for their students. Moreover, construction programs can also evaluate the balance of services provided by institutions and programs, to maximize value to students and constituents.

We note that a higher response rate from the surveyed programs could provide more insights into the services provided by construction programs and that our respondents were limited to ACCE-affiliated 4-year programs. In addition to previous suggestions, further studies could (a) evaluate the impact of these career services toward student recruitment, retention, graduation and job placement rate, (b) assess industry perceptions of value and participation provided by those

services, and (c) assess how construction programs assess the effectiveness of their career services, focusing on developing and validating tracked metrics or key performance indicators.

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