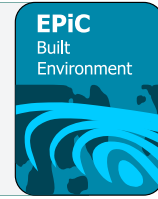




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# A Case Study of Student Perceptions of Preparation Strategies for the ASC Student Competition

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This study investigates student perceptions of preparation strategies used for the Associated Schools of Construction (ASC) Regions 6 and 7 student competition. A post competition survey was administered to 66 construction management students from a large public university. Students rated 15 preparation strategies using a 5-point Likert scale and selected the three they found most helpful and least helpful. Open-ended responses were also analyzed to identify missing resources and strategies for improving team performance. The highest-rated strategies were reviewing past competitions, completing practice presentations, and mock competitions. These were followed closely by mentorship from repeat team members and industry involvement. Students consistently valued preparation activities that simulated competition deliverables and included structured feedback. The lowest-rated strategies included stress management techniques, site visits, and general team-building activities. Faculty coaching appeared in both most and least helpful categories, indicating variability in implementation. Students recommended forming teams earlier, assigning clear deliverable roles, and increasing access to past materials and scoring criteria. These results provide useful insight for faculty advisors and ASC team members looking to improve preparation models, increase team readiness, and better align efforts with student needs.

**Keywords:** ASC competition, experiential learning, team preparation, coaching, student feedback

## Introduction

The Associated Schools of Construction (ASC) student competition offers construction management students a unique opportunity to apply their knowledge in a real-world, time-sensitive setting. These competitions require teams to analyze project scenarios, produce detailed deliverables, and present their solutions to industry professionals under tight deadlines. The format challenges students to work collaboratively, manage roles and responsibilities, and apply both technical and soft skills in a high-pressure environment.

Many construction programs support these teams through coursework, faculty advising, or independent study, but less is known about how students view the effectiveness of the strategies used to prepare them. This study helps address that gap by analyzing survey data from 66 students at Cal Poly, San Luis Obispo who participated in the 2025 ASC Regions 6 and 7 competition.

The survey asked students to rate 15 preparation methods, identify which strategies helped or hindered their performance, and offer suggestions for improvement. The goal of this paper is to

present those student perspectives and highlight preparation strategies that students find most valuable. These insights can help faculty advisors, coaches, and programs adjust their approach to better support student readiness and performance in future competitions.

### **Literature Review**

A growing body of work ties competition participation to tangible student development and early career outcomes. Using alumni survey data, Gleason, Kelting, and Bigelow (2017) reported that ASC competition participation was associated with higher starting salaries even when GPA was considered, suggesting that structured, time bound, real world tasks confer measurable employability benefits. Short (2013) examined internships as another form of experiential learning and found gains in professional skills and confidence that transfer into first roles, reinforcing the value of practice under authentic constraints.

Beyond outcomes, studies explain how competitions produce learning. Das Majumder, Yates, and Wentz (2020) examined international ASC teams and found increases in confidence, cross cultural teamwork, and professional communication, with the strongest effects when preparation included deliberate practice and guided coaching. A complementary Region 8 case study by Meekel and Kilby (2017) shows competitions working as both formative and summative experiences, where students apply technical knowledge under pressure while developing adaptability and resilience.

These dynamics align with experiential learning theory. Drawing on the Kolb framework of concrete experience, reflective observation, abstract conceptualization, and active experimentation, competition cycles and mock deliverables can be organized to move students through each phase. Kolb and Kolb (2017) provide guidance for higher education implementation, while early ASC guidance from Bodapati (1995) emphasized rehearsal, role clarity, and faculty mentorship as preparation levers that remain relevant.

Calls to better align curricula with industry expectations also support competition style preparation. Moore (2006) argued that employer valued abilities such as decision making, teamwork, and communication are fostered in authentic, iterative project work. Outside construction, employability studies consistently rank soft skills with technical literacy; Rainsbury et al. (2002) and Vignali and Hodgson (2007) highlight teamwork, customer orientation, and adaptability as top attributes. These are similar attributes that ASC student teams must demonstrate throughout the competition.

Preparation design literature points toward starting earlier, simulating reality more closely, and providing sustained coaching. Kolegraff, Kline, and Cleary (2019) show that studio style, hands on environments mirror the collaborative, open ended nature of ASC deliverables. During the COVID era, Kline, Kolegraff, and Cleary (2021) found that scaffolded, timed, deliverable driven practice, even with hybrid or online constraints, sustained both technical and soft skill growth. McCutcheon (2024) describes boot camp models that front load repeated, realistic task cycles with targeted coaching, an approach that matches student requests for earlier collaboration, milestone critiques, and iterative feedback.

While the literature establishes a strong foundation for the educational value of ASC competitions, limited attention has been given to how students perceive the individual preparation strategies used in the lead-up to these events. The present study addresses this gap by analyzing the self-reported effectiveness of various preparation methods. Through this investigation, the research seeks to advance the understanding of how construction education programs can optimize student readiness and performance through intentional preparation design.

## Research Objectives

This study evaluates Associated Schools of Construction (ASC) student competition participants' perceptions of preparation strategies using post-competition feedback from the 2025 Region 6 and 7 competition. Specifically, this study will:

1. Quantify how participants perceive the effectiveness of commonly used preparation methods for ASC competition readiness and summarize differences in perceived effectiveness across methods.
2. Determine which preparation methods participants perceive as most and least helpful by identifying the methods most frequently selected among participants' top three "most helpful" choices.
3. Summarize participants' suggested improvements by identifying recurring themes in open-ended responses related to resources, support structures, and preparation strategies for future ASC competition cycles.

These objectives support broader academic and industry efforts to better align competition preparation with the performance-driven, team-oriented demands students will face in professional practice.

## Methodology

This research employed a quantitative and qualitative survey-based approach to assess student perceptions of preparation strategies for the Associated Schools of Construction (ASC) student competition. The survey was developed specifically for this study and refined through a pilot testing process. An initial version of the survey was created by the authors and reviewed by a group of ASC past student competitors for clarity, relevance, and comprehensiveness. Feedback from this group informed revisions to question phrasing, answer formats, and the inclusion of additional categories related to preparation strategies and team dynamics. The finalized version of the survey consisted of multiple-choice, Likert-scale, and open-ended questions.

Approximately two weeks following the 2025 ASC Regions 6 and 7 competition, the survey was distributed electronically to all students from Cal Poly, who participated in the event. This included team members and alternates from the twelve teams that competed. Participation in the survey was voluntary and anonymous. A total of 66 responses were collected from the 96 participants. The survey instrument captured data on student demographics, competition category, preparation activities engaged in, time committed to preparation, perceived helpfulness of various preparation methods, and overall confidence. Respondents also provided qualitative feedback on what resources, strategies, or support they believed would have better prepared them for the competition.

Descriptive statistics were used to analyze quantitative data, including frequency counts and cross-tabulations of confidence, perceived preparation sufficiency, and method rankings. Open-ended responses were coded thematically to identify common patterns related to preparation challenges, team dynamics, and recommendations for future competition cycles. This methodology allowed for a holistic analysis of the student preparation experience and provided a foundation for evaluating which support structures and instructional practices align most closely with student needs and competition success.

## Results

### *Demographics*

The survey collected responses from 66 students who participated in the 2025 ASC Region 6 & 7 Student Competition, representing Cal Poly. All respondents were team members or alternates on one of Cal Poly's ASC competition teams.

The majority of participants were upper-division students, with 29 third year students (44%), 26 fourth year (39%), and 11 second year students (17%). No first-year students participated in the survey, consistent with the program's practice of selecting students with more advanced standing and prior course exposure for competition roles. Among respondents, 52 students (79%) reported serving as team members, and 14 students (21%) served as alternates. Alternates generally supported deliverable development and attended team practices but did not present during the formal competition. This composition reflects the team structure typically used at Cal Poly, where each team includes both core members and one or more alternates.

Responses were collected from students across 12 separate ASC teams, with an average of approximately five to six respondents per team. This includes representation from tracks such as Preconstruction, Integrated Project, Mechanical, Mixed Use, Virtual Design and Construction (VDC), Sustainable Building, Commercial, Heavy Civil, Concrete Solutions, and others. Some students reported participating on multiple teams across different years, contributing additional depth to the datasets. These demographics indicate a respondent pool composed primarily of experienced, upper-division students actively involved in the competition preparation and execution process. This provides strong contextual grounding for interpreting their feedback on preparation strategies, support structures, and recommendations for future improvement.

#### *Student Ratings of Preparation Method Effectiveness*

To assess which preparation strategies students found most effective, respondents rated 15 different methods on a 5-point Likert scale ranging from 1 (not helpful) to 5 (very helpful). The results, summarized in Table 1, reflect a clear preference for preparation activities that were immersive, team-based, and directly aligned with the deliverables expected in the competition.

The highest-rated method was reviewing and practicing past competition material with a mean rating of 4.80, followed closely by practice presentations (4.79) and conducting mock competitions (4.78). These three strategies emphasize repetition, realism, and alignment with the final deliverables that teams must produce during the ASC competition.

Having repeat team members lead the team was the fourth highest-rated method (4.77), highlighting the importance of continuity and peer mentorship. Internships also ranked highly (4.71), reinforcing the value students place on real-world exposure as part of their preparation. In contrast, the methods with the lowest average ratings were stress management techniques (3.49), team building activities (3.57), and site visits (3.73). While these methods may support team cohesion or general well-being, students appeared to prioritize hands-on and output-driven activities that directly impacted competition performance.

To understand which preparation methods students considered most and least valuable, they were asked to select three strategies that helped them the most and three they found least helpful out of the 15 strategies included in the rating question. These rankings reveal which preparation approaches students viewed as essential to their success versus those they perceived as ineffective or underutilized.

**Table 1.** Student Ratings of Preparation Methods

Rank	Preparation Method	Mean Rating
1	Reviewing Past Competitions/Case Studies	4.80
2	Practice Presentations	4.79
3	Conducting Mock Competitions	4.78
4	Having Repeat Team Members Lead the Team	4.77
5	Internships	4.71
6	Faculty Coaching	4.64
7	Team Meetings with Practice Problems	4.58
8	Industry Coaching	4.57
9	Role-Specific Training (Estimator, Scheduler, etc.)	4.36
10	Using Software Tools (Procore, Bluebeam, P6, etc.)	4.25
11	Cal Poly Classes	4.15
12	Having Different Majors on the Team	3.91
13	Site Visits	3.73
14	Team Building Activities	3.57
15	Stress Management Techniques	3.49

*Identification of Most and Least Helpful Preparation Strategies*

As shown in Table 2, the preparation methods most frequently selected as “Most helpful” were internships, mentioned by 39 respondents, followed by team meetings with practice problems, selected by 34 students. Industry coaching (on and off campus) received 27 mentions, and practice presentations to industry were selected by 18 respondents. These strategies share common features, including active engagement, alignment with real-world deliverables, and opportunities for structured feedback. Their consistent appearance among the most helpful choices underscores students’ strong preference for experiential, applied learning environments that simulate the competition setting.

**Table 2.** Most Helpful Preparation Methods

Preparation Method	Most Helpful Mentions
Internships	39
Team Meetings with Practice Problems	34
Industry Coaching (on and off campus)	27
Practice Presentations to Industry	18

Conversely, students identified several strategies as being least helpful. As shown in Table 3, stress management techniques were cited most frequently, with 46 mentions, followed by site visits (33), faculty coaching (32), and role-specific training (24). These results suggest that students may view certain well-intentioned support mechanisms as less effective when they are not directly connected to the deliverables or time pressures of the competition.

**Table 3.** Least Helpful Preparation Methods

<b>Preparation Method</b>	<b>Least Helpful Mentions</b>
Stress Management Techniques	46
Site Visits	33
Faculty Coaching	32
Role-Specific Training (Estimator, Scheduler, etc.)	24

### *Student-Identified Resource Needs for Improved Preparation*

Students were asked to describe what resources or support would have better prepared them for the competition, and what strategies or approaches they would recommend to future teams. While these questions were distinct, student responses revealed significant thematic overlap. The combined analysis provides a comprehensive view of student-identified priorities for improving both preparation and team performance in future ASC competition cycles.

The most common theme across responses was the need for more practice, particularly structured sessions that mimic the pace and format of actual competition deliverables. Students emphasized that simply practicing more was not sufficient; instead, they advocated for realistic mock deliverables completed under time constraints and followed by targeted feedback. A second common theme was the desire to start team preparation earlier. Many students noted that teams formed late in the quarter had limited time to develop team chemistry, assign roles, and build a shared understanding of deliverables. Early formation, coupled with a milestone-based timeline, was viewed as key to improving team coordination and reducing last-minute scrambling. Students also called for clearer role definitions and responsibility structures within teams. Several respondents noted that lack of role clarity caused confusion during both preparation and competition. Suggestions included assigning leads for each deliverable and implementing internal deadlines to track progress.

Another frequently cited suggestion was to provide access to past competition materials, including examples of successful deliverables and scoring rubrics. Students believed that reviewing real samples would give them a better sense of expectations and reduce uncertainty. In addition, students also recommended increased interaction with both faculty and industry professionals throughout the preparation period. Feedback from faculty coaches and external reviewers was viewed as highly valuable, particularly when offered early and regularly. Some respondents also highlighted the benefit of involving returning team members to share insights and mentor less experienced participants.

### **Discussion and Proposed Solutions**

This study examined how students perceive preparation strategies for the ASC competition and which approaches they believe will most improve team performance. Based on the findings, students prefer preparation that looks and feels like the event they will face. They rated reviewing past deliverables, running timed mock problems, practicing presentations, and learning from returning team members as the most effective activities. They emphasized that these activities work best when they begin early in the quarter and follow a steady cadence so the team can build rhythm and confidence.

The data also show where preparation breaks down. Faculty coaching appeared on both the most helpful and least helpful lists. Students praised coaching when it met certain expectations, set milestones, and delivered consistent, actionable critique. They were frustrated when feedback was inconsistent, when access to coaches was limited, or when guidance arrived too late to change the work. The takeaway is to focus less on the amount of coaching and more on the way it is delivered. A

simple protocol helps. Set an early calendar of internal deadlines, assign a lead for each deliverable and have short, timed rehearsals with targeted critique. Capture decisions in a single shared workspace so feedback does not drift.

Students did not ask for more content. They asked for earlier structure and better access. Comments such as: “We needed more mock deliverables with critique earlier in the quarter”, and “We had good information but not enough time together to get in rhythm”, point to the same solution. Form teams early, publish a milestone map for the quarter, schedule weekly or biweekly practice windows. In addition, use returning team members as peer mentors to model role clarity and handoffs.

Access to past materials came up often. Students want scoring rubrics and examples of prior work so they can see what success, and failure looks like. A practical approach is to build a small archive with one or two annotated examples per deliverable and a short note that spells out what earned points and what did not. Pair that archive with a brief scoring exercise early in the quarter so students learn how judges read the work.

The results also clarify a discrepancy around internships. Many students rated internships positively, yet when they were forced to rank the most useful preparation strategies for competition, internships dropped below mock deliverables, rehearsal, and coaching. The likely reason is not that internships are unhelpful, but rather the tasks and workload during an internship do not always map to ASC deliverables. A simple bridge can close the gap. In week one, hold a translation workshop where each student writes a short memo that converts a recent internship task into a competition task. Follow with a brief drill that practices that task under time constraints. In this way, internship experience is captured and applied to the work the team must deliver.

Taken together, the findings point to a straightforward preparation model; start early, make expectations visible, rehearse realistic tasks on a steady cadence with concise feedback, define roles and assign deliverable leads, and use returning team members as mentors. These choices align with evidence that studio style, hands on, deliverable driven practice builds skill and confidence, and they fit with outcomes work linking competition participation to early career advantages (Kline et al., 2019; Kline et al., 2021; Gleason, Kelting, and Bigelow, 2017).

## Conclusion

This study examined how students view the effectiveness of preparation strategies for the ASC student competition using Likert scale ratings, forced choice rankings, and open-ended reflections. The results point to a clear preference for preparation that is structured, realistic, and aligned with the deliverables and time limits of the event. Students rated mock deliverables, practice presentations, reviewing past cases, and mentoring from returning team members as most helpful. They consistently valued applied settings that made expectations clear and created regular opportunities for feedback.

In contrast, strategies that felt general or distant from competition outputs were ranked among the least helpful. Examples included stress management training, site visits, and role specific workshops. Faculty coaching drew mixed reactions. Some students rated it as essential. Others listed it among the least helpful. This split suggests that how coaching is delivered matters more than the label. Students responded to coaching that was consistent, timely, and tied to the work they had to produce. They were frustrated when feedback was late, uneven, or not connected to the current deliverable.

Open ended comments reinforced the need for earlier team formation, clear roles, internal milestone deadlines, and more frequent engagement with faculty and industry professionals. These points argue for a preparation model that starts early and includes scheduled practice, review, and feedback well before the final weeks of the quarter.

Although the data come from a single institution, the themes are broadly relevant across ASC regions and problem tracks. The value of realistic practice, coaching delivered with consistency, and deliberate work on team rhythm and cohesion should travel well. Future studies could compare preparation models across universities to see which structures are most effective. It would also help to include the perspectives of faculty coaches and industry judges to check alignment between student preparation and evaluation criteria. Longitudinal work that follows students across multiple years could show how preparation needs change over time and how experienced participants contribute to peer learning and team performance.

Centering student perspectives points to clear next steps. Start earlier. Make expectations visible. Rehearse realistic tasks on a steady schedule with concise feedback. Define roles and assign leads. Use returning team members as mentors. These are practical changes that can refine advising, team organization, and course integration within ASC programs.

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