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COVID-19 and the 2021 ASC International Conference: Opportunities and Challenges Ahead

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The COVID-19 pandemic caused massive disruption across the world, affecting all organizations. The Associated Schools of Construction (ASC) shifted its 2020 International Conference to a virtual, asynchronous event. In 2021, a virtual, synchronous ASC International Conference was sponsored by California State University-Chico and offered in April 2021. This study collected participant feedback on the 2021 virtual conference event to gauge participation in a virtual event, determine perceptions of the online conference (as compared to an in-person event), and determine if there were aspects of the conference that could effectively be offered as a virtual or hybrid option in future ASC conferences. The results indicated that items such as the paper presentations could be effectively offered as virtual events in future conferences, and if a hybrid or virtual option was available, a significant portion of ASC members indicated that this would make them more inclined to participate in future conferences. Conversely, most respondents indicated that the conference was best held as an in-person event. Results suggest that although the in-person conference should continue, an opportunity may exist for ASC to broaden its engagement with construction education and further its mission to advance construction education.

Key Words: Schools of Construction, Construction Education, Construction Management, Conference, COVID-19

Introduction

Prior to 2020, the Associated Schools of Construction (ASC) held 55 conferences in-person (*ASC Website*, 2013). The 2020 ASC conference was held asynchronously focusing on paper presentations with a small welcome from the ASC President. The 2020 shift to an online event was made less than 45 days prior to the scheduled in-person conference due to the rapid development of COVID-19 worldwide and the associated threat to public health and safety. Despite the late change, faculty were able to publish and present their papers as originally planned. Scholars, students, and industry partners were able to watch paper presentations remotely at any time they elected to do so. In 2021, additional time allowed for a conference that delivered material synchronously attempting to engage membership in dialogue over a one-week period in April 2021.

Looking forward to 2022 and beyond, the ASC Board is committed to returning to an in-person event as ASC seeks to re-establish close faculty relationships and mentorship that has long been a staple of ASC conferences. The traditional modality affords opportunities that cannot be captured with a virtual event. These include spontaneous conversations and connections in hallways, breaks, receptions, and planned events. While an in-person event will continue in future years, a hybrid approach may allow opportunities to expand the reach of ASC providing additional benefits to members while minimizing constraints.

2021 saw a variety of responses to the pandemic from academic conferences. Some conferences canceled plans while others shifted to remote events. The pandemic offered an opportunity to connect academicians virtually without geographic limitations. Table 1 compares a small sample of academic conferences associated with architecture, engineering, and construction education and their actions in 2020-21.

Table 1

Conference Modalities of Various Construction Education Conferences

Conference	2020 Modality	2021 Modality
ASC	Virtual-Asynchronous	Virtual-Synchronous
ASEE	Virtual	Virtual
ARCOM	Virtual-Asynchronous	Virtual-Synchronous
CITC	Not originally scheduled	Moved to Spring 2022
IBEE	Canceled	Canceled
ASEE	Virtual-Asynchronous	Virtual-Synchronous
AIA	Cancelled	Virtual-Synchronous

Virtual conference events have existed for at least 25 years (Bauman et al., 1996). Multiple articles have reflected on these types of events including comparing face-to-face and virtual conferences (Sá et al., 2019). Still others have focused on how to organize and plan such virtual events (Gichora et al., 2010). Much of the benefit from virtual conferences mirrors those benefits realized by distance learning: budget concerns, travel challenges, time zone differences, travel restrictions, and a host of issues international partners face (Bauman et al., 1996; Gichora et al., 2010; Oester et al., 2017).

This introductory research effort analyzed responses from construction management faculty who participated in the 2021 ASC International Conference. If attendee perspectives could be better understood, ASC membership may better plan and facilitate future conferences at ASC and throughout construction education:

- To what degree did ASC faculty engage in and participate in the virtual conference in 2021?
- What was the attendee’s impression of the online conference (as compared to an in-person event)?
- If hybrid or virtual options were included for future conferences, would participants be more inclined to attend as a virtual attendee?

This study contributes to the existing body of knowledge in several ways. First, there is little research on construction education conferences generally. Second, this study represents the only attempt to record and document construction educator responses to their participation in an online conference, as well as document the responses of the ASC to the pandemic in terms of their conference offerings.

With the continued worldwide pandemic, the paper is timely as other organizations prepare for a post-COVID conference environment.

Literature Review

History of ASC and the ASC Conference

Undergraduate construction education degrees were established in 1926 at Yale, MIT and Union University (Tennessee) (Gunderson, 2006). As time progressed, “Building Construction” programs such as the one at the University of Florida developed. “After WWII, Johns-Manville and representatives of the building industry approached colleges and universities to set up programs with curriculum that would train students to meet the demand for construction managers projected by the federal government.”(Gunderson, 2006, p. 86) In the 1960s, construction faculty at multiple schools recognized the need for an association to focus on the teaching of construction. In a meeting at the University of Florida in 1965, the “Associated Schools of Construction” was envisioned and developed (*ASC Website*, 2013). Since that time, ASC members have met annually on both a regional and national level.

ASC’s vision is to “inspire excellence in construction leadership, education and research (*ASC Website*, 2013). The mission statement is as follows: “Advance construction education by supporting members in teaching best principles and practices, research innovation, and service to their institution, community and the industry.” (*ASC Website*, 2013)

Since 1965, the ASC International Conference has occurred each spring. Key milestones and accomplishments include the following:

- Sharing of best practices in teaching and research
- Publishing of Annual Proceedings of the Conference (Average of 75 papers disseminated annually)
- Conducting business of the organization
- Providing a platform for mentorship, networking, and professional development

Educational Conferences

Multiple reasons exist for academic conferences including the following:

- Faculty learn from others (Vito, 1999).
- Conferences strengthen the discipline (Reinhard et al., 2021).
- Faculty benefit directly.
 - Demonstrate research ability and presentation quality to peers (Neuilly & Stohr, 2016)
 - Provide opportunity to select course material (Reinhard et al., 2021)
 - Build reputation as a researcher and scholar (Alarid, 2016)
 - Advance social networking and professional collaboration (Alarid, 2016)
 - Leverage professional development opportunities (Vito, 1999)
 - Encourage “intellectual exploration” (Neuilly & Stohr, 2016, p. 287)

Neuilly and Stohr (2016) identify that the learning value of conferences varies by the individual. For example, the graduate student attending the ASC Conference might learn and be interested in learning things very different than someone with significant industry experience who has returned to the classroom.

Virtual and Hybrid Conferences

While the pandemic was the key driver for ASC to shift to a virtual conference, other reasons exist to consider such activities. First, early career academics may not be financially secure or have adequate travel funding to attend conferences (Reinhard et al., 2021). Such individuals are among the key beneficiaries of conferences as they share their research, learn about the work of others, and discover job opportunities (Applegate et al., 2009). Second, a virtual conference increases access to individuals across the globe. Determining the number of people that cannot attend an in-person event is difficult even in a year that lacks a pandemic. In addition to financial concerns, geographic reasons or travel restrictions, personal reasons, health considerations, and professional reasons all influence conference attendance (Reinhard et al., 2021).

Other academics point to a demand for alternative conference set-ups (Viglione, 2020). In a May 2021 event, Divya Persaud and Eleanor Armstrong led a conference at the University College of London called “Space Science in Context”. The goals of the conference included improved accessibility, reduced carbon footprint and a wider audience than could be generated with an in-person event. Participants were asked to watch recorded talks ahead of the event and then participate online in synchronous discussions on the day of the conference.

ASC conference attendees often express interest in events that occur simultaneously during previous in-person ASC conferences. Because of the short duration of the typical ASC conference, often proceedings paper presentations would conflict with committee meetings and/or roundtable educational settings. Pfeifer et al. (2014) referred to this as “program dilution” and recognized this as one reason for capturing events for later viewing by participants. A virtual event might offer opportunities such as this and make research more accessible to those across construction at low costs (Reinhard et al., 2021).

There are also concerns with virtual conferences. Research indicates concerns with no-show and ill-prepared presenters (Mueller et al., 2004; Pfeifer et al., 2014). And, some items associated with the in-person conference such as social networking, mentorship, and collaborative partnerships may be limited in a virtual format (Neuilly & Stohr, 2016). Some disciplines, like education and the humanities have been quick to adopt virtual conference formats due to objectives of the discipline (Fraser et al., 2016). One example of this is the openness within education to explore new technology within the classroom.

Virtual conferences require a high degree of planning and present technological challenges (Diethart et al., 2020). Raby and Madden (2021) specifically point to the need to tailor the format of the conference to suit the preference of online attendees. Their research also highlights strong potential in the area of scientific exchange while noting challenges with social events and networking. Several researchers recommend a hybrid approach to conferences (Reinhard et al., 2021) Referred to by some as a “bricks and clicks” method, this approach may allow participants to capitalize on the values provided by an in-person event or virtual event according to their individual needs and capacity. In such an approach, conference items that work well, and are demanded by both in-person and online

attendees, can be offered in a hybrid format. Items that are in less demand, or perhaps have less impact, could be offered only online or only in-person.

Methodology

The purpose of this research was to identify the perceptions of attendees of the 2021 ASC International Conference to understand their impressions of participating in a conference utilizing virtual components. The study also sought to identify perceptions of hybrid conference components for future ASC conferences. Specific research questions addressed by the survey included the following:

- To what degree did ASC faculty engage in and participate in the virtual conference in 2021?
- What was the attendee’s impression of the online conference (as compared to an in-person event)?
- If hybrid or virtual options were included for future conferences, would participants be more inclined to attend as a virtual attendee?

The first part of a survey asked the respondents to identify demographic information using open responses (text box) and one multiple-choice question. The purpose of these questions was to identify how many different universities the respondents represented, as well as their overall history of experience with ASC. This also aided in understanding the participant’s history with in-person ASC conferences and how their perspective may compare to the 2021 virtual conference. Table 2 shows the list of questions used in the demographic survey.

Table 2

Demographic Survey Questions

What is the name of your university?
 Which of the following were ways in which you participated in the conference? (select from list)
 Prior to this virtual conference, how many previous ASC Annual Conferences have you attended?
 What year was the last ASC Annual Conference you attended?

The second part of the survey focused on the respondent’s impressions of the value of their experience attending a completely virtual ASC conference. Questions utilized an open-ended response (text box) and asked respondents to identify which components of the conference they believed were effectively delivered online as well as those that should instead be offered as in-person for future events. The questionnaire also asked if the respondents would be more inclined to attend an ASC conference as a virtual attendee if that possibility was an option using a 5-point Likert Scale. Table 3 shows the list of questions used for this part of the survey.

Table 3

Survey Questions on Perceptions of Virtual/Hybrid Components of the ASC Conference

Indicate which components of the conference you think could be effectively offered virtually or hybrid in the future. (Select from list of all events.)
 Indicate which components of the conference you think should be offered as in-person events in the future. (Select from list of all events.)

Were there components/activities that you felt were missing from this year's conference because it was virtual?

If certain components of the conference were offered in a virtual/hybrid format, would you be more inclined to attend the ASC conference as a virtual attendee?

The survey was input into the SurveyMonkey® online platform and was distributed to all registered attendees of the 2021 ASC Conference (N=412). There were no registration fees for the ASC Conference. These attendees were asked to respond to the survey within 30 days of the initial inquiry. The initial inquiry was sent at the end of the virtual conference in April with a follow-up reminder sent again approximately two weeks after the end of the 2021 conference.

Results

The ASC Conference had the highest number of registered attendees of any previous ASC Conference with 412 people registered. A total of 51 people responded to the survey, representing a 12% response rate. It is interesting to note that although there were 412 people officially registered for the conference, only 126 participated in any session according to the data found in the Zoom meeting logs. If only those that participated responded to the survey, this would instead represent a response rate of approximately 40% based on actual attendance. This virtual attendance of 126 individuals is lower than a typical modern-day, in-person ASC Conference that usually has approximately 200 attendees.

The respondents represent 29 different universities from three different countries and all eight of the ASC Regions. The respondents participated in a variety of activities at the conference, with the largest percentage being paper authors at 42% of the respondents. Those responding to the survey on the virtual conference indicated that they had attended an average of over 6 ASC Conferences in the past, with 10 respondents indicated this was their first ASC Conference. 94% indicate that they had attended an ASC Conference in the last 3 years.

Regarding what items were effectively delivered in the virtual environment, there were several items that were positively viewed by the respondents. The paper presentations gained the most responses with 21 of the 51 respondents (41%) indicating those could be done virtually or as a hybrid. The other two items that had significant responses were the Regional Meetings and the Committee Meetings, with each having 10 responses (20%). Of note, 8 of the 51 respondents (16%) indicated that all aspects of the conference could be done virtual effectively.

When queried about items that should be conducted in-person with no virtual or hybrid offering, the respondents identified several components. There were 31 respondents (61%) that indicated all components of the conference should be done in-person. Comments included "in person events are always preferable" and "all the components of the conference should be in-person, not virtually or hybrid." For the balance of responses, two items received significant votes to remain as in-person events. The teaching roundtables were the most popular with 19 responses (37%) followed by the awards banquet with 17 votes (33%). All remaining activities received less than 4 responses of conference events that should be conducted in-person.

In terms of what the respondents said was missing from the virtual conference, over half indicated social events and faculty interactions. Comments such as, "I get more out of talking with others than I generally do at the presentations", and "the ability to network and connect with colleagues, I truly missed that aspect." Also 14 of the 51 respondents (27%) indicated that networking was lacking in a

virtual environment. There were also individual responses stating that things such as site tours and the ability to meet construction companies were also missing from the virtual conference.

When asked if having an online or a hybrid option to attend the conference would make them more inclined to attend a future ASC Conference, 12 people (23%) indicated they strongly agreed, 12 (23%) indicated they agreed, 17 (33%) indicated they neither agree nor disagree, 7 (14%) disagreed and 3 (6%) strongly disagreed. Overall, this indicates that 47% would be more likely to attend an online or hybrid conference; 33% didn't think it would affect their decision to participate; and 20% Strongly Disagreed or Disagreed it would get them more engaged with an ASC Conference.

Recommendations and Conclusion

The results show that there a significant number of faculty members (47%) that believe they would be more inclined to attend a future ASC Conference if a virtual or hybrid option was available. While no one specific type of event at the conference was preferred as virtual, the results showed a large population of faculty that would engage in a virtual or hybrid ASC Conference if given the chance. Despite the numbers that suggests a virtual or hybrid option might make attendees more like to attend, the majority of respondents (61%) indicated that all elements of the conference should be held in person. These responses combined with the relatively low participation rate in the 2021 Conference suggests that moving to a fully online conference permanently for ASC may actually reduce engagement. However, the hybrid conference would allow participants to engage in either mode of their choosing.

Other results show that while some components of the conference would work well in a virtual or hybrid environment, such as the paper presentations or the regional and committee meetings, respondents indicated that there were components of the conference that were lacking because of the virtual environment. The teaching roundtables and the networking aspect of the conference were clearly limited in the virtual environment. These results match the literature review which noted limited social networking, mentorship, and collaborative partnerships were limited in a virtual format (Neuilly & Stohr, 2016).

From a perspective of the conference attendee, the authors believe that construction management academics will be unlikely to attend a conference in person unless the benefits of that conference are clear and compelling (and above what a virtual-only option would offer). ASC conferences that are in-person or utilize hybrid delivery will need to enhance engagement and present a compelling event for attendees. Panels and lectures will need to diminish with improved opportunities for collaboration, mentorship, and conversation. It is possible that fewer construction conferences will exist, and those that do will need to assure a high-quality event for those in attendance.

There is an opportunity for the ASC to expand its engagement with faculty across the globe by engaging in hybrid components of the ASC Conference. A fully online conference presented limitations and challenges, but a hybrid conference would allow for participants to select the best way for them to engage with the ASC conference. Faculty may prefer an in-person experience, but many factors such as budgetary limitations or travel restrictions may make physically attending a conference impossible (Reinhard et al., 2021). By offering a hybrid experience the ASC would be able to engage these members. This research suggests that initial targets for a hybrid conference may include at least one virtual paper track along with a virtual meeting option for regional meetings.

As ASC continues to pursue international engagement as a strategic goal, the addition of a hybrid option for the conference may provide a unique opportunity to connect with new international partners. Offering a hybrid conference may assist in recruiting schools to engage with ASC for the first time. Many universities outside of the US offer construction education programs. These universities may not have the funding or ability to travel or may not believe the ASC to be a priority since they are not familiar with the organization. By offering a hybrid conference, faculty at these universities could experience some of the benefits of an ASC Conference with minimal expense. This outreach to new universities would help further the mission of ASC.

This study only collected data for a single year of the ASC Conference and was limited to 51 responses. Future research could be conducted by surveying the entire ASC membership to identify their perceptions of the benefits of a hybrid conference and/or the effects of incorporating a hybrid format into future conferences. In addition, no written goals for the ASC International Conference were identified. If these goals could be better identified, a filter may be created that would allow ASC to better assess whether an in-person, virtual, or hybrid event would best meet those goals. In addition, one could consider how meeting conference goals varies across and between in-person and hybrid conferences.

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