

Exploring the Vertical Design Charrette as an Alternative to Traditional Service-Learning

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Abstract

This paper highlights a collaborative, intercollegiate vertical design charrette that illuminates the potential of short-term service opportunities. Interior design students from two major universities collaborated with a community partner over a 4-hour design charrette to produce preliminary design solutions for an expansion of the partner's residential community farm that houses adults with special needs. Student participants were at varying points in their college careers, and the vertical nature of the charrette experience facilitated extensive peer-to-peer learning. Little research to date has documented the potential of design charrettes as service opportunities. This experience challenges the notion of traditional service-learning as a sustained experience and posits that short-term experiences combined with diverse stakeholder groups can create equally valuable outcomes for both student learners and community partners. Further, including students of all levels in the design program led to organic, student-driven knowledge building throughout the charrette. In this way, students benefited not only from the service aspect of the charrette experience but also from the opportunity to collaborate with peers from another institution, resulting in increased agency over their own learning.

Central to the mission of interior design education is the production of emerging designers equipped with the skills necessary to enter the field as competent design professionals. Requirements set forth by the Council for Interior Design Accreditation stipulate that interior design education must offer 4 years of coursework designed to prepare students for professional careers, but chances for students to gain real-world experience are often limited and varying. The design profession is human-centered, yet emerging designers may fall short of professional expectations upon graduation if their education does not offer them ample opportunities to interact with clients.

One solution to this problem is community engagement through service-learning and other engaged scholarship. However, extended community engagement opportunities may be difficult for many design programs to accommodate in their already packed curricula. This paper asserts that the design charrette may be a viable alternative to traditional, semester-long (or longer) service-learning programs by providing students with the real-world experience they need to be competitive upon graduation. Through the examination of one unique intercollegiate, vertical charrette—that is, a charrette involving students at various stages in their college careers—novel theories emerged. The lessons learned from this study may offer

ideas for integrating community engagement into a range of programs and empowering emerging designers with the opportunity to experience client interaction within their 4-year curriculum.

Charrettes are used in design practice toward the start of projects to facilitate ideation and stakeholder involvement. They typically incorporate individuals involved in the design, construction, operations, and/or end use of the project and result in sketches that graphically communicate the concepts developed during discussions. The value of design charrettes within the field has been well established (Hou & Rios, 2003; Sanoff, 2000; Sutton & Kemp, 2002; Webber, 2015a), and charrettes are even recognized by professional rating systems for the built environment for their usefulness in increasing communication among stakeholders, which aids in setting expectations and providing refined design strategies. Design projects can earn credit toward Leadership in Energy and Environmental Design (LEED) certification as part of integrative design delivery (U.S. Green Building Council, n.d.) in the fourth version of the LEED Rating System and the WELL Building Standard (International WELL Building Institute, n.d.). While there is less research on charrettes in academic settings, pockets of research have investigated the value of hosting cross-disciplinary charrettes with allied disciplines in interior design education (Webber,

2015a) and teaching specific interdisciplinary topics such as sustainability (Walker & Seymour, 2008) and applied technical knowledge (Webber, 2015b). More exploration is needed to fully realize the potential of design charrette experiences within academic settings.

In design education, a course in which students work in groups with peers of diverse academic levels is commonly called a “vertical studio.” Vertical studios have been shown to build community among students and to provide students with greater freedom of choice in a studio environment (Barnes, 1993; Peterson & Tober, 2014). Few studies have investigated the benefits of building vertical charrette teams, but one study found that when students at different points in their education came together on a charrette team, the less experienced students’ learning was enhanced as a result (Webber, 2015a). This may be because the vertical nature of these events aligns with the reality of design practice. When executed with a vertical structure, design charrettes more closely model professional settings (Webber, 2015a) and can simulate real-world design practice for students before graduation—a desirable outcome of design education. Another study reported that students performed better in vertical student groups than in groups with a traditional structure (Barnes, 1993).

Much like the charrette process, the benefits of community engagement have been well established (Boyer, 2016; Bringle & Hatcher, 1996; Lindquist-Grantz & Vaughn, 2016; Van de Ven, 2007), but they have not been widely explored in the context of design education. However, one study posited community engagement as a valid model for teaching human-centered design (Sickler, 2019). This study also suggested that because design students were eager to positively impact their community, further study was needed to understand the potential student leadership opportunities afforded by community engagement. Design charrettes have been shown to offer both leadership and community engagement opportunities to participants (Hou & Rios, 2003; Webber, 2015a).

An additional benefit of design charrettes is the collaborative nature of student participation. The charrette model requires cooperation between team members and a diverse set of stakeholders, and this process of exchange often prompts unique problem-solving approaches to the design scenario (Sanoff, 2000). In this way, charrette collaborations generate shared meanings and new understandings among team members (Hou &

Rios, 2003) that scaffold student-driven knowledge building. This concept is not unlike project-based service-learning (PBSL), in which both the community partner and student participants benefit from a rich learning experience over the duration of a specific, mutually beneficial project (Brescia et al., 2009). Additionally, problem-based learning engagements offer students tangible work experience, which is desired by potential employers (Eyler et al., 2001).

This paper presents outcomes from a vertical design charrette that involved student participants from design programs at two different universities. This intercollegiate program, combined with the benefits that the charrette offered to the community partner, provided a unique experience to student participants—one with the potential to transform the field’s current understanding of service-learning experiences within design curricula.

Methodology

In the fall of 2019, 27 interior design students and two faculty from Florida State University (FSU) traveled several hundred miles to the University of North Carolina Greensboro (UNCG) for an intercollegiate design charrette. Both institutions’ interior design programs offer 4-year degrees accredited by the Council for Interior Design Accreditation. FSU offers a Bachelor of Science or Bachelor of Arts degree in a limited enrollment program, while UNCG offers a Bachelor of Fine Arts in an open enrollment program. In both programs, students begin their learning with hand-drawn design foundations and applied design instruction and move on to computer-aided design techniques in their second year of study. At UNCG’s Center for Community Engaged Design, students can get involved with the community and work on local projects that address community needs; therefore, students from this program may be more familiar with community engagement in the context of a design discipline than students from FSU. Generally speaking, both programs offer similar course topics due to accreditation requirements, though content delivery, timing, and so on may differ between the institutions.

The 4-hour charrette event, which was held on the UNCG campus, was scheduled as the first stop of a 4-day travel experience for the group from FSU. The FSU cohort included a mix of second-, third-, and fourth-year students. The team from UNCG included one faculty member, one graduate student/community partner liaison, and 13 students. Student participants from the

UNCG program were in their second year of study. The participating faculty (the authors) assembled each charrette participant group to include one fourth-year student and a mix of second- and third-year students to evenly distribute skill levels among groups.

The community partner, Peacehaven Community Farm, is a sustainable farm that connects its residents, many of whom have special needs, to their surrounding community. Peacehaven describes itself as “a nurturing, supportive community where the core values of community, relationships, and growth are lived out on a daily basis” (Peacehaven, n.d., para. 2). Adults with a variety of special needs live and work together on the farm in a group setting to foster individual growth and servant leadership. Peacehaven had a previous relationship with UNCG’s interior architecture program and reached out to the design program when it was ready to expand its community to include an on-site general store. The team at Peacehaven needed help with early-stage planning for the project, and their previous work with faculty and student groups at UNCG and others prompted them to reach out to initiate a collaboration on the general store expansion. The general store is planned as a place for residents to both work and sell their handmade wares. The main goal of the student design charrette was to produce preliminary design drawings that could support the farm as it sought funding for expansion. The chief executive officer (CEO) at Peacehaven, Buck Cochran, wanted to work with interior design students again because he “values the feedback loop that occurs in a charrette as it expands the leadership’s ideation process beyond their creative norms” (B. Cochran, personal communication, November 17, 2020).

One week prior to travel, fourth-year students from FSU were asked to compile a list of programmatic information key to designing for the special user group at Peacehaven. Residents of the Peacehaven Farm have a variety of social and emotional challenges, and many are on the autism spectrum. Designing for special populations such as this one requires designers to consider the end users’ social and emotional needs when planning the physical characteristics of the space. Fourth-year students had already completed their interior design studio course focused on special user groups at the time of the charrette, making them well positioned to mentor other students on these topics. Once the charrette began, one fourth-year student was assigned to each charrette

group, and the collected references were then shared with other group members. Each team comprised approximately 10 students and included students from both universities at varying levels of experience within their programs. The short duration of the event required students to rely on hand graphics (as opposed to digital graphics) and oral skills for visual and verbal communication. Students were provided with large-format paper and wall space to pin up their work during the ideation session.

The morning of the event, students from both universities assembled as one large group for introductions, group assignments, and a presentation from faculty related to the programming needs of the Peacehaven residents. Faculty presented additional background information provided by the Peacehaven staff about the community partner organization, its core values, Peacehaven residents, and plans for expansion. Programming needs were discussed briefly but left in large part for peer discussion among team members once participants were released to their groups. Students were given site plans, an exterior elevation, and a building shell from which to design their general store proposal. The groups were given 3 hours to work on their designs. About an hour into the charrette, Buck Cochran joined the students and began circulating among the groups to provide feedback as they worked, as depicted in Figure 1. The infusion of his advice and perspective added depth and discovery to their design process. Faculty circulated around the groups for the duration of the charrette to observe group interactions and to record field notes, but they remained largely separate from the problem-solving process. Residents of Peacehaven did not attend the event, but Cochran shared the ideas generated during the charrette with the residents once the plans had been formalized. Cochran suggested this strategy because Peacehaven’s special needs residents tend to “love everything,” and he has found that their positivity can unintentionally diminish the value of critiques for the students during presentation sessions. Thus, their participation was not overlooked but rather planned for in a more controlled environment to protect the integrity of the learning process for students.

Faculty overtly employed participant observation in a natural setting. During the charrette, faculty walked around the space to observe each group’s process and progress. Faculty asked if students had questions, but they did not

interfere with the team dynamics and group work. Participant observation in natural settings results in higher validity but lower reliability since the study cannot be replicated with the same students (Guest et al., 2013, chap. 3). To increase reliability, all faculty made observations, and faculty later compared and discussed the field notes containing their observations.

At the conclusion of the 3 hours, the student groups displayed and presented their work to their peers, faculty, and the community partner. The pinup, or the process of displaying the design teams' work, showed that students' work in the short time span of the charrette demonstrated a variety of design solutions as well as a variety of visual presentation styles, sketching/drawing skills, and rendering types, as illustrated in Figure 2. Each design solution displayed and incorporated work from all student experience levels. Every student on each team took a turn verbally presenting the portion of the design solution that they contributed to their team's project.

Student reflection activities have been shown to extend the educational experience beyond traditional learning (Bringle & Hatcher, 1999). Therefore, to fully capture the impact of the experience, students were asked to reflect on the aspects of the experience that they found most valuable. Reflections were collected digitally, deidentified, and coded by year level and institution. The reflections ranged in length from 37 to 196 words, with an average of 111 words. Each

researcher employed open coding as the beginning phase of the content analysis. Open coding allows for major categories to emerge (Creswell & Poth, 2018), and the researchers compared and discussed these emerging categories. This process of constant comparative analysis and generative coding was employed during the analysis to identify commonalities. Both universities' institutional review boards determined this project to be exempt from review.

Outcomes

Perhaps the greatest benefit of charrettes for interior design students is that they closely model design practice in a learning environment. Design involves a cyclical process of iterative study, reflection, and modification. The quick nature of the charrette format condenses this process for designers and forces participants to think, reflect, and modify on the spot. In education, a condensed timeline naturally eliminates students' ability to second-guess themselves. This novel approach to learning under strict time constraints allows freedom of thought and exploration yet removes the "safety net" that students are used to. During the charrette, student groups worked quickly and efficiently together to produce thoughtful and creative solutions.

Because of the unique viewpoint offered by the participating community partner, the charrette experience gave students the opportunity to recognize and celebrate diverse perspectives.

Figure 1. Feedback session



Figure 2. Pinup displays and presentations



Student reflections revealed that students recognized the differences among themselves, which in turn provided a unique opportunity for peer-to-peer instruction and student-driven knowledge building, as illustrated in Figure 3. This team-focused approach not only supports research highlighting the personal and professional benefits of peer-to-peer learning in college (Davis et al., 2019) but also mirrors the design profession and affords students a glimpse of professional practice. Faculty observed peer knowledge exchange in the students' responses to the community partner's needs. Residents of the Peacehaven Farm have unique needs in their daily lives that must be considered in any design scenario. Fourth-year students shared their knowledge of this user type with less experienced group members, increasing the peer groups' general understanding of persons with different abilities. In this way, and in consideration of the end user, the charrette infused human-centered design into an immersive format for students, which supports research suggesting the potential benefits of community engagement (Sickler, 2019).

Accessibility of Service-Learning

The vertical charrette not only offered a unique learning experience but also made service-learning more accessible to the two participating university groups. Traditional service-learning experiences are conducted over longer intervals to allow for sufficient time to build relationships and address community needs. Design programs often rely on PBSL to accommodate engagement experiences in a design curriculum. The short duration of the design charrette created

an achievable PBSL scenario for a group of institutionally and academically diverse students and, considering the work produced by student groups, did not seem to compromise creativity in the design process. Throughout the event, students actively participated in their own learning and collective knowledge building. They produced robust design solutions for Peacehaven, which in turn used these solutions in service of its internal, residential community as well as its surrounding local community.

Stakeholder Perspectives

As an expansion of service-learning options, the design charrette offered a low-stakes, high-yield experience for all stakeholders. Unique to the charrette experience is the minimal time investment for the community partner coupled with great potential for future gains. This experience gave students at a variety of academic levels the opportunity to work with a real client on a real project in a predesign hypothetical situation—a rare occurrence for design students at any stage of their undergraduate education. At the same time, the charrette produced a large collection of preliminary drawings and ideas that the community partner could use in its discussions about the expansion with its board of directors and stakeholders before engaging design professionals, thus saving money. Funding agencies often require drawing sets, cost estimates, and so on when evaluating whether to contribute monies for expansion, and the design charrette was able to save Peacehaven the initial expense of hiring this work out by providing a variety of scenarios for consideration within the same

footprint for buildout. This format was attractive to the Cochran because he feels that the breadth of design solutions generated by students expands Peacehaven beyond its own limited scope of imagination. He requests charrette experiences with students to keep Peacehaven's own ideation fresh when planning for expansion. This perspective echoes another study highlighting the expanded idea generation and fresh perspectives that students can offer nonprofit organizations such as Peacehaven (McDonald & Ogden-Barnes, 2013). The result for Peacehaven was a major gain for both the

Figure 3. Peer-to-peer instruction and knowledge building



students and the community partner. As a working farm and full-time residential care facility for special needs residents, Peacehaven often has difficulty finding enough time for semester-long projects requiring feedback at multiple intervals, as is typical of traditional service-learning courses. The design charrette option represented a much more realistic commitment on Peacehaven's part, which influenced its willingness to participate.

Student Voices

Service-learning is believed to be more effective when it involves student reflection (Becker, 2000; Bringle & Hatcher, 1996, 1999; Riddle, 2003). Therefore, this charrette experience included student reflections at its conclusion. Students were asked to reflect on the charrette and to identify the best part of the experience from their own perspective. Of the 40 participating students, 31 submitted reflections at the conclusion of the event. The iterative coding process revealed three emergent themes among student perceptions: Students identified (a) peer-to-peer learning, (b) interaction with a real client, and (c) greater collective creativity as the most beneficial parts of their experience in the design charrette (see Table 1). This suggests that participants were aware not only of the benefits of working with a real project but also of the strengths that can be found among their differences, which supports the notion of the benefits of mixed learning groups (Peterson & Tober, 2014).

In their individual responses, participants discussed what they had learned from other students. Commensurate with Theme 1, students valued the diverse perspectives of their peers from different institutions and at different points in their studies. As an illustration of that point, one fourth-year FSU student wrote:

Overall, I enjoyed the experience. It was cool to be able to work with students I do not normally work with, both from FSU

and UNCG. Sometimes in studio we're with the same people so often and hearing similar ideas that having the opportunity to see different perspectives helps expand design solution approaches.

Theme 2 indicates that the students not only understood but also valued how the charrette simulated professional practice by including interaction with a client. The charrette's parallels to design practice reinforced aspects of the profession that traditional classroom learning cannot offer. As a means of illustration, one third-year FSU student wrote:

This charrette made me value the effects of design and how it can truly change one's experience. This was especially important to consider with the users of the potential space being on the spectrum. Overall, I valued the collaboration of skill levels for a design with a community partner.

Cochran relates the benefits of client interaction to the relationship building that occurs as a result of charrette scenarios. Charrettes, he notes, bring a collection of stakeholders together to offer solutions to identified problems. The relationships formed during such collaborations connect constituents across industry lines, often leading to lifelong connections. Student participants demonstrated an awareness of this benefit of charrettes in identifying "interaction with a real client" in their reflections.

Theme 3 indicates that many students recognized that creativity increases when large working groups come together. Students are accustomed to working in much smaller groups for coursework, usually in groups of two to four. Around 10 students were in each charrette group, which more accurately simulates the size of a team in design practice when all trades are taken into consideration. A second-year UNCG student wrote, "By having people from different levels in the program, we were able to come up with a lot more ideas."

Like the students, Cochran saw the charrette as an opportunity to engage in expanded "innovation, ideation, and creativity" whereby farm leaders can "take off the blinders" imposed by the farm's mission and vision (B. Cochran, personal communication, November 17, 2020). Both the students and community partner stand

Table 1. Frequency of Student Responses by Theme

Themes	Frequency (<i>n</i> = 31)
Peer-to-peer learning	26
Interaction with a real client	14
Greater collective creativity	16

to benefit from the expanded creativity afforded by the design charrette.

Faculty Observations

During the charrette, each faculty representative recorded field notes based upon observations of the student charrette groups. Faculty notes reflected upon the collaboration, student work, and overall process followed by participants during the event. Table 2 summarizes the field notes from each faculty supervisor.

Lessons Learned

It is not uncommon for students to experience a lag in enthusiasm for course materials by the middle of the semester. Faculty found that the charrette experience, which provided students with a real client and peer interaction, reinvigorated students at the midsemester slump, helping them to push beyond the midterm hump. The strategic timing of this event was not lost on faculty, who returned to normal coursework with students recharged to finish the semester. For the second-year students at UNCG, who were feeling overwhelmed at the midpoint of a challenging introductory semester to full-time coursework in the major, the charrette partnered them with more advanced students and offered a glimpse of their own trajectories. One student wrote in their reflection, “It was a good experience collaborating with the FSU students. The upper-level students introduced blocking and bubble diagrams which

will be nice to have [the knowledge of before] next semester.” They remarked to faculty how fun and eye-opening they found the experience. Additionally, the service component added a level of humanity and meaning to a field that, from the outside, can be perceived as exclusive to persons with means.

Service-learning courses are often reserved for upper-level students, as it has been suggested that they have more expertise to offer the community partner and are more strongly impacted by the experience. However, due to the vertical nature of this service-learning opportunity, the second-year students had at least as much to gain as the more advanced students did. Perhaps service-learning could be expanded to include students earlier on in their coursework if they are paired with upper-level students to offer a more robust learning experience.

Third-year student participants were also perfectly positioned to benefit from this service-learning experience due to its timing. The third year in an interior design curriculum is particularly challenging because it coincides with the transition from formative knowledge building to highly technical and detailed knowledge application. Third-year curricula are therefore dense and time-consuming for students in every design program, leading to a major slump in the third year. Faculty are often faced with disgruntled and stressed students, and it becomes easy to lose students’ focus as a result. The vertical service charrette infused tired and stressed students with an outward

Table 2. Frequency of Student Responses by Theme

UNCG faculty	• Upper-level students acted as mentors to the lower-level students by explaining techniques for producing graphics more quickly. • Students were energized by the short turnaround, demonstrating focus. • Fourth-year students modeled communication skills that the second-year students tried to emulate. • Students were asking more questions of their peers than they typically ask of their instructor in class.
FSU faculty	• Students spent extended periods of time exchanging skills and techniques from their home institutions. • Most groups experienced one or more student leaders emerging during collaboration. • Students responded positively when engaging with the community partner, and they were able to alter their designs on the spot based on his feedback. • During presentations, students took personal ownership of the components they contributed to the design solution; every student participated.

facing challenge, giving them a much needed, albeit brief, reprieve from internal stressors. Third-year students were the largest cohort of student participants, and faculty observed them beginning to relax during the event. While their energy was directed at teaching second-years or solving the complex problems of the charrette, they were no longer focused on the workload awaiting them at home. Rather, they were offered leadership experience, which is a valuable outcome of vertical collaborations. At times during and after the event, many third-year students remarked to the faculty that this event was “just what they needed.” This suggests that short-term service-learning, if timed strategically, could have great potential in helping students overcome the midterm slump.

Fourth-year students approached the charrette differently than students with less experience in the major did. Rather than speaking boastfully about the client knowledge they were tasked with contributing, the fourth-year students served more as peer leaders for other group members. The vertical group format uniquely positioned advanced students to perceive both their connection to a real client and their role as group leader and mentor. As the smallest cohort of participants, the fourth-year students assumed leadership roles in their groups, experience that will serve them well upon graduation. These outcomes support the notion that charrette experiences can afford both leadership and community-engagement opportunities (Hou & Rios, 2003; Webber, 2015a). Overall, students remarked to faculty how rewarding they found the experience on multiple levels. It follows that a curriculum punctuated with short-term service-learning opportunities can grab students’ attention at the beginning of their coursework and then send them off with a reminder of their impact potential at the end.

Added Value to Travel

For the traveling group, it was clear to faculty leaders that the design charrette added meaning and value that exceeded that of a typical field trip experience. The value of field trips in a design curriculum has been established, but as Thakur and Cai (2018) have pointed out, although students find great value in field trip experiences, they are often left wanting further exploration and discussion after a field trip has ended. Therefore, the addition of a service experience to an extended field trip was used strategically to offer students a deeper connection to their discipline while traveling. Passive experiences

like endless meetings and tours, while beneficial, can feel superficial without accompanying opportunities for deep engagement. This supports a study by Gale and Sickler (2019), which found that “the service of a people is a better method of understanding them than by visiting a city” (p. 15). The service charrette engaged students with the host community and required them to give something of themselves, making the event an active session. Observationally, faculty perceived that student engagement during the charrette was different than it was for other field trip stops. In their reflection, one student noted, “Overall, it was a very rewarding design challenge where we got the opportunity to help others; I definitely look forward to keeping up with Peacehaven to see their final product.” Another remarked, “It was a great experience; I would definitely recommend making this a tradition!” Many other students expressed this sentiment verbally, echoing outcomes from other service experiences of longer duration. This suggests that, as Gale and Sickler (2019) suggested, short-term service experiences may offer enough value to student learning that, if peppered throughout their coursework, they could offer the same added enhancement as a semester-long program.

Furthermore, this experience suggested that short-term service opportunities delivered in a vertical charrette format could provide the scaffolding for a rich undergraduate experience by allowing students to work with real clients (community partners) at all levels of their coursework. The vertical nature of the charrette allows for peer knowledge building, and the short duration of these events could reasonably be accomplished on a reoccurring basis. Shorter, more frequent service-learning experiences peppered throughout one’s college experience could become as impactful to students as traditional service-learning.

This model could be adapted for other disciplines by following guidelines similar to those used in this vertical charrette. Disciplines that include problem-based learning scenarios in their educational pedagogy could most easily integrate service-learning charrettes into their curricula. With creative planning, however, charrettes may be useful in a wide variety of service-learning experiences. Disciplines closely aligned with interior design, such as architecture, engineering, construction management, and so on, may achieve similar results by following the guidelines suggested in Table 3. Other disciplines unrelated

Table 3. Suggestions for Implementing Vertical Charrettes in Any Discipline

Phases	Faculty	Students	Community partner
Phase 1: <i>Plan event</i>	• Identify a community partner. • Plan strategic timing. • Align activity with course goals. <i>Note:</i> This may take several months.	• Not applicable in most cases, however situations do arise when students may be involved in planning a collaborative event. <i>Note:</i> This is most likely to occur in graduate-level courses.	• Identify overlap between the needs of the partner organization and the course. • Contribute to the strategic timing of the event.
Phase 2: <i>Prepare program in advance</i>	• Provide students with background information on the community partner/general topic ahead of time. • Prepare a programming document for the event that succinctly identifies specific problems to be addressed during the charrette <i>Note:</i> Send a draft to the community partner to review. • Generate team lists, distributing students among teams by skill level, taking care to curate teams with a spread of proficiencies. • Develop a rough plan (floor, site, etc.) to expedite the charrette process for students.	• Assemble information that will support problem-solving for the community partner’s needs during the event. • Bring any materials necessary for production of documents, drawings, prototypes, and so on during the event.	• Identify representatives that will participate in the event. • Provide faculty with a list of needs that can realistically be addressed during the allotted duration of the charrette.

Table 3 (continued). Suggestions for Implementing Vertical Charrettes in Any Discipline

Phases	Faculty	Students	Community partner
Phase 3: <i>Conduct event efficiently</i>	• Deliver a brief introduction to the problem, review all programming information, and orient student teams to assigned tasks. • Have teams focus on ideation rather than execution in order to generate as many ideas as possible for the community partner. • Allow students to work in teams with limited outside interaction for 1–2 hours. At the midpoint of the event, allow teams to interact with the community partner for feedback on their progress. • After 3–4 hours, students should present their solutions to all participants, faculty, and community partner representatives, allowing time for feedback during each presentation.	• Distribute tasks among team members by skill level, allowing crossover where appropriate. • After initial planning is complete, engage with the community partner to solicit feedback. • Complete iterative study of progress based on feedback from the community partner. • Utilize the collective skills of the team to present a proposal to the community partner.	• Introduce yourself and the mission of the organization. • Observe teams and their interactions. After an hour, engage with teams, providing feedback on their progress. The delayed interaction will allow teams time to prepare initial thoughts and potential solutions. • During team presentations, consider which ideas could feasibly be further developed beyond the charrette to provide real-life solutions to needs.
Phase 4: <i>Reflect on outcomes</i>	• Ask students to reflect on their experience using broad, open-ended questions.	• Consider (a) how skills could have been distributed differently among team members to produce more robust outcomes, (b) the impact of the designs on the community partner, and (c) personal growth from participating in the event.	• Reflect with stakeholders on how this event sparked discussion, action, and so on toward the problem being explored. • Follow up with faculty leaders on suggestions for future events and/or how the partnership can be further explored.

to the design industry may benefit from modifying this plan to suit their educational needs.

Limitations

Faculty noted that an on-site charrette could be more fruitful for stakeholder interaction and sensitivity toward the end user. Students were eager to hear more about the Peacehaven residents from Cochran during the charrette, yet the nature of the residents' disposition made their attendance unrealistic. On-site activities would allow the student groups some time for observation, which could better inform their design decisions. Faculty also acknowledged that group formations could have been more strategic. Groups for this charrette were assembled based on program experience to level out each group, but group composition could also account for personality type, emotional intelligence scores, or a variety of other indicators. Lastly, this project was completed by students of a single discipline. Future events could expand to include students from a variety of majors, such as psychology, industrial design, urban planning, and recreational or occupational therapy, depending on the community partner and its needs. Interdisciplinary teams can afford more diverse perspectives than this student group offered, which could yield even more fruitful peer-to-peer learning outcomes for students and the community partner.

Conclusions

The immersive nature and quality of peer-to-peer learning was evident. Not only did students engage in fluid knowledge exchange on the topic of the design challenge at hand, but they also took advantage of leadership opportunities to exchange general skills learned in design school relative to the production of drawings and documents. Faculty observed students exchanging program-specific strategies that they had learned in their courses. This supports Abdel-Hadi et al.'s (2020) findings of increased engagement, interactivity, and sense of connection in vertical collaborations with real clients. Assembling groups from different universities demonstrated that tasks could be accomplished by different means and that no one path exists to the "right" answer. This mirrors design practice, in which diverse voices from many specialties come together to solve complex design problems. One FSU student wrote in their reflection:

Through this experience, I learned that students from other institutions have a very different learning path than we have in our program. They were taught different things than we were during our second year. I also learned that working with a community partner could potentially put our designs into a real project. It was very interesting to work in a real-life scenario and know all the specific needs that we may be curious about during the design process. This experience was valuable to me and showed me how quickly great ideas can be developed. It also showed me how beneficial it is to work in a team of diverse people.

In the classroom, students can easily get caught up in looking for the "right" answer. Yet in the field, design solutions are not often this simple. The vertical and intercollegiate nature of this charrette experience gave students the exposure they needed to begin to understand the importance of diverse perspectives on a team. This strategy could go a long way toward increasing students' flexibility, resilience, and teamwork skills—all soft skills that are important for them to possess as emerging professionals. The attainment of these and other soft skills can give emerging design professionals an advantage in placement within the field, as studies have found that hiring practitioners value (Gale et al., 2017) and seek out soft skills in their decision-making processes for job candidates (Huber, 2018).

In addition to exposing the relevance of real-world client experiences and peer learning, the charrette illuminated the benefits of rapid iteration and idea generation for community stakeholders. Cochran prefers charrette experiences for this reason, and the number of potential solutions generated during the event bears out the benefit of this practice to the community. What's more, Cochran has requested that another charrette be conducted to address Peacehaven's needs on an upcoming project. This request suggests the value of charrette experiences beyond the classroom.

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