Studio D Institute – Making at a Distance and the Impact of Collaboration

Marlo Ransdell, PhD

Associate Professor
Director: Studio D: Design and Fabrication
Department of Interior Architecture and Design

Florida State University
Tallahassee, FL
mransdell@fsu.edu

Robert Coleman, MFA

Associate Professor
Director: MFA Technical Theatre Program
Department of Technical Theatre Production

Florida State University
Tallahassee, FL
rcoleman@fsu.edu

Abstract—**This paper focuses on two themes: the development and implementation of virtual studio and remote makerspace interactions in a small, focused fabrication shop for design prototyping; and a reflection on how these strategies may be employed by much more complex technical theater fabrication shops. The shop that will be the focus of the case study is Studio D, which is a design and fabrication lab in the Department of Interior Architecture and Design at Florida State University. It collectively houses the Studio D woodshop (est.2012), Studio 3D lab (est.2017), and the Materials and Objects Testing Lab (est.2019). The mission of Studio D is to provide learning opportunities for interactive and experiential learning in person and remotely for prototype development of designed objects. Studio D supports critical thinking through problem identification, context research, ideation, development, and solution testing for real-world design problems. The Studio D Institute summer residency program was launched in the summer of 2021 to bring academics and professionals from various fields into the virtual studio and remote makerspace through sponsored design residencies. This experience has led to collaborations with the MFA Technical Production Program at Florida State University's School of Theatre and has impacted the future directions of thought on the opportunities of making at a distance for creative and experiential fields. This paper will outline the development of Studio D by Marlo Ransdell over the past two years and conclude with a reflection by Robert Coleman on how this can adapt to larger and more complex remote interactions for the Technical Production aspects of the live performance entertainment field.**

Keywords—education, digital fabrication, design, theater

I. INTRODUCTION

The past year has brought unexpected and sudden changes to the use of physical learning environments. This is especially true of experiential learning spaces, such as performance, studios, makerspaces, and equipment-rich environments like that Studio D presented here, that practice and rely on in-person demonstrations and interactions. Experiential learning spaces are essential aspects of higher education learning as they support "communities of practice," which foster learning beyond the classroom (Kolb & Kolb, 2005). Rethinking the use and pedagogical approach of "hands-on" was paramount recently and maintaining the investment in this physical and equipment-rich environment, the transition to a hybrid system became more critical than ever. The shift in the makerspace's physical use and its newly found remote relationship to the virtual studio at Studio D evolved over the past year. This case study will focus on the organization of this small-scale virtual makerspace and the implications for other experiential learning spaces to incorporate hybrid and remote strategies.

II. BACKGROUND

During the spring of 2020, the makerspaces at Studio D found themselves in a limbo state with no activity

for six weeks. The use of software and technology to accomplish the final course goals was reactionary and strictly facilitated the virtual studio's minimum levels of success. The immediate needs that arose in spring prompted the development of a pilot study during the summer of 2020. The pilot study successfully connected four design professionals in different locations in the virtual studio and with the remote makerspace in real-time for process and product development. The lessons learned from these experiences formed the fall 2020 hybrid approach for graduate students, which successfully navigated in-person as well as remote studio and makerspace activity depending on the current day or student needs. Access to the equipment that students were using was available through webcams in real-time allowing students to view their production from anywhere. Logistics included remote file sharing, on-screen critiques, production files checks, machining toolpath setups, animations of production, and final prototype production. The results from the past year show that students can involve themselves in all studio and makerspace activities at Studio D in real-time regardless of their in-person or remote class status.

III. CASE STUDY APPROACH

Managing the virtual studio's relationship and the remote makerspace led to the launch of Studio D Institute in the summer of 2021. There existed a field-wide gap Studio D was uniquely positioned to fill as there are currently very few opportunities for general design residencies within the field. Studio D is working to become a unique leader in this field by using the makerspace to bring together design professionals and academics in a creative "virtual" residency program. The architecture and design fields see limited collaboration opportunities between academia and the professions to learn together, and further, the design field relies on experiential learning and interaction, which has been limited. The virtual Studio D platform (video conferencing) allows collaboration to the remote Studio D makerspace for ideation and testing. "You can be anywhere, but I can still help you create and produce your works in Studio D." The pandemic has challenged design professionals and academics, who are used to hands-on learning, teaching, and professional work but, to this point, little remote collaboration. Studio D is meeting this challenge through the creative use of remote and hybrid-in-person spaces to accomplish design goals. We now must reinterpret what we do and how we do it under these new circumstances, viewing it as an opportunity.

IV. IMPLEMENTATION

The Studio D Institute summer residency program for design and design-related academics interested in digital fabrication prototyping was conceived and pilot tested over the spring and summer of 2021 after the success of the 2020-2021 academic year. The goals were to provide a supportive community, expert guidance, and remote access to digital fabrication equipment for creative and research related projects; all of which were not readily available to participants in their home locations. Academics in allied creative fields such as art, theater, and dance regularly attend summer residencies as a means of focused professional and career development (Dawson & Kelin, 2014). Residencies can offer dedicated time to further individual creative projects and research agendas over an extended period within a supportive environment and community of practice (Elfving, Kokko & Gielen, 2019). Application for the summer residency program were accepted online for six weeks during March and April, and follow-up virtual interviews with all applicants took place over two weeks in May. Of the 16 applications, four were appropriate in scale, scope, and need for support in the pilot program. The participants represented interior design, product design, visual art, and dance and were in Florida, Ohio, Illinois, and Argentina. Each participant received a mailed "welcome package" that included samples of materials available for projects along with fabrication examples from the machines available. Weekly meetings and mailing of process work were facilitated by the program lead and assistant and took place over eight weeks in June and July at the participants' convenience. The overall budget for the project was minimal at $6000; this covered modest salaries for staff, appropriate stipends for participants, and all material and mailing costs. This convergence of digital software, machines, and the creative person happened daily over the two-month span and drove the institute's trajectory during the summer of 2021.

V. CONCLUSION

The goal to fill the void for academics and professionals in the design field during the summer months by providing access to not only the machines, software, and materials for making but the expertise developed over the past decade of teaching making within the Studio D labs. Makerspaces and the experiential pedagogies they support present a unique opportunity in the era of authentic and meaningful distance learning.

VI. REFLECTION ON FUTURE WORK

The following is a reflection on the Studio D virtual studio and remote makerspace and the impact that could be seen in the field of Technical Theater Production by MFA Technical Production Program Director, Robert Coleman.

I have learned many things to my benefit as well as the benefit of the MFA Technical Production Program for the School of Drama I direct at Florida State University through my collaboration with Studio D and Dr. Ransdell. Among those things is that the pedagogy around which I designed our program—coursework supported by practice—has a name. We now refer to that pedagogy design as experiential training. Perhaps we always have identified this method as experiential; still, it is a relatively new term for me. Dr. Ransdell and I identified a commonality between our work methods. That coupled with an awareness of Dr. Ransdell's deep experience in developing techniques to support remote making alerted me to the possible benefits to both our programs Studio represents in current and future work. Initially, I did not recognize the flow of the development of methods and technology to facilitate creative activity at a distance, the value of sharing the equipment and expertise demonstrated through chosen projects, and how that offered expanded opportunities for individual makers. What was a challenge for me was how to employ what I then considered the reverse flow- using the techniques in collaborative and tradition-steeped technical production practices in my field, traditional theatre.

Let me take a moment to outline our scenic production process. Our students are assigned progressively greater responsibility over their 3-year course of study supported by progressively more rigorous and specialized course work. An example of such course work would be Structural Design for the Stage, a 3 semester, 45-week series. By or before the 3rd year, the student act as Technical Director for one or more of our productions, having progressed from Assistant Technical Director for several productions previously. A note: we have no staff technical director at the School; our students are assigned that responsibility. They also act as Assistant Production Managers and various other roles as appropriate.

The challenge for me was how we might productively apply Studio D's methodology –a methodology that was clearly effective supporting chosen—often individual-- creative activity—to a more defined, collaborative, production process. While we commonly work remotely with the 'creative' contributors—the Stage Director, Lighting Designer, the Sound Designer, et c.—how do we apply remote making to the more 'hands on' activities such as shop management, technical direction et c.? And frankly, given our traditions, why would we work that way?

To answer the 'why'—a couple of reasons come to mind. If the pandemic has taught us anything, it is that must be prepared to work and communicate in ways other than face to face. We need to continue to identify the numerous ways in which remote interaction might be an improvement on traditional methods. We will count discovery and implementation of new and effective remote management and collaboration in the future as a primary goal.

We will continue to adopt and 'beta test' Studio D's experimental work in our more defined and practice-based technical production processes. We will discover new economies by developing further collaboration. For one example of possible economy through collaborative remote use of equipment, our Technical Production Program has a technically advanced Computer Numerically Controlled (CNC) router—2 actually—coupled with hard-earned expertise in its operation at our School. While often used in our production process, there are periods of down-time. Why would other theatre groups in Tallahassee—or in any area to which shipping is economical for that matter—invest roughly $65000 in this equipment when accessing it might be as simple and economical as sending a computer file by email? Our future work will include exploring and promoting this aspect of practice-based remote making informed by the more experimental results of Studio D's work.

Let me now cite another important focus of our current and future research. I, like many of you, have been involved on live performance entertainment for roughly 35 years. In that time, I have never seen such high demand for employees, particularly management level employees, across such a wide spectrum within respected institutions, institutions with historically low staff turnover as exists at present. The pool of well-prepared candidates for these positions has always been shallow. I invite you to develop a substantial list of experienced and demonstrably capable Props Masters, Costume Shop Managers, Scenic Charge Artists—managers without whom we cannot operate effectively—but only if you have a high tolerance for disappointment and frustration –they are very hard to find.

How can we adapt what we are learning about remotely guided management from research to broaden and more efficiently utilize our limited management resources? And I assure you, these resources will continue to be limited for the foreseeable future. On the one hand, programs such as ours only turn out 4 or 5 candidates annually. That's in our case and the number is generally lower in most other cases. On the other hand, evidence- admittedly anecdotal in nature-- gleaned from conversations among my circles on the subject we might call "Where the heck did all the theatre folk go?" indicate that many of our colleagues just didn't come back to theatre after the pandemic. Apparently, some close to retirement elected to take retirement; some found other work with perhaps greater benefits –including being at home evenings and weekends; some are unsure of the safety of returning to our industry without greater assurance that the risk of illness is very dramatically reduced.

Therefore, we will add to our research foci discovering answers to questions such as "If we are familiar and comfortable with interacting with our Scenic Designer remotely, why not our Technical Director, our Costume Shop Manager, or our Scenic Studio Manager given our enhanced technology coupled with experience gained during the continued pandemic? Why couldn't we remotely share those limited management resources with several institutions?"

At first blush, it seems like the basic requirements to achieve these goals are improved scheduling and time management and a fresh examination of traditional practice to include remote making.
To close, let me reiterate that important among the goals of our future research are:

- Enhanced utilization of human and technological resources.
- Greater access to, and support for, creative activity on both individual and collaborative levels.
- The development of further experiential pedagogy.
- And, of course, the incorporation of any discoveries we might make through our research into our continuing practices on a beta level-- with dissemination of proved practice through Symposia to which it is currently our privilege to contribute.

REFERENCES

Dawson, K., & Kelin, D.A. (Eds.). (2014). *The reflexive teaching artist: collected wisdom from the drama/theatre field*. Intellect Ltd.

Elfving, T., Kokko, I., & Gielen, P. (Eds.). (2019). *Contemporary artist residences: Reclaiming time and space*. Antennae-Arts in Society.

Kolb, A., & Kolb, D. (2005). Learning Styles and Learning Spaces: Enhancing Experiential Learning in Higher Education. *Academy of Management Learning & Education, 4*(2), 193-212. Retrieved September 26, 2020, from http://www.jstor.org/stable/40214287