

Industry & Academia Collaboration in UX Education: Bringing UX Internship Experience into the Classroom

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ABSTRACT

Students interested in a User eXperience (UX) career face many barriers when leaving academia: a competitive, saturated market; poorly written job descriptions, and companies unsure of the duties performed by UX practitioners. A rapid evolution of the market, emerging technologies, and individual uncertainty of career direction be it UX Research, UX Design, User Interface Design, Interaction Design, or Front-End Design, all increase the uncertainty experienced by students. However, by developing professional networks and mentor relationships with Industry professionals, students can enhance their understanding of the field of UX and become more acquainted with industry expectations such as working with clients, title definitions, current and emerging technologies, and evolving business needs, thus streamlining their career focus. Typically, students are exposed to the skills and expectations of industry via upper-level college coursework, practical training opportunities, and industry-specific internships. The best experiences are closely aligned with the industry each student seeks to enter. To better support these industry-academia collaborations, a strategy was developed using a hybrid teaching model, I-SPACE (Innovation for Students, Practitioners, Alumni, and Community Engagement) that brings industry professionals into a college course on UX via online platforms such as Zoom and Miro thereby creating a virtual internship experience. This paper will discuss the structure of the course, interactions with industry professionals in UX, and engagement with subject matter experts (SMEs). It will compare college classes, traditional internships, and I-SPACE in terms of the impact on student work, mentorship, and professional networking. Implications regarding issues of diversity, equity, and inclusion in each of these educational methods and potential barriers will be identified.

Keywords: UX internships, User experience (UX), User experience design (UXD), User experience research (UXR), Online education, Diversity, Equity, Inclusion, Accessibility, Design

INTRODUCTION

Students interested in a User Experience (UX) career are facing a multitude of barriers when leaving academia: a competitive, saturated market; poorly written job descriptions, and companies unsure of the duties performed by UX practitioners. A rapid evolution of the market, emerging technologies, and individual uncertainty in their career choice be it UX Research, UX

Design, User Interface Design, Interaction Design, or Front-End Design, all increase the frustration experienced by students as they seek to gain the meaningful industry informed experience that will be critical to their success in the job market. Therefore, by developing social networks and mentor relationships with industry professionals, students can enhance their understanding of the field of UX and become more acquainted with essential industry expectations such as working with clients, title definitions, current and emerging technologies, evolving business needs, thus streamlining their career focus. To support the goal of professional skill building, the I-SPACE (Innovation for Students, Practitioners, Alumni, and Community Engagement) teaching method was co-created by design educators and industry professionals for the purpose of giving students a virtual internship type of experience within the context of an online course (Satterfield et al. 2021). I-SPACE internships are conducted with industry professionals over a 15-week semester as part of a hybrid college class. The class is broken into three 5-week sprints; each one led by a different industry partner. The objectives of the I-SPACE class are: 1) give students exposure to three distinct UX industry models; 2) network with three sets of industry professionals; 3) provide a barrier-free and DEI-friendly opportunity for students in the class to participate in a high-impact educational practice; and 4) build discipline-specific professional communication skills. Thus, the goal of I-SPACE is to equitably enhance career preparedness post-graduation through industry exposure, building a social network of professionals in the field of UX, addressing confidence and imposter complex issues, and establishing industry mentors for all students (Hurley et al. 2022).

It has been found that equipping all students with the industry-academia engaged skills and experiences necessary to help them transition into the work world is critical to their success. To fill this need, universities have identified experiential learning strategies such as industry-academia engagement through practical training or internships as “high-impact practices” because they are significant predictors of student success. By making these types of experiential learning more readily available to students at all levels of their academic careers, a student’s chances of succeeding in the job market increase (Lucietto et al. 2021).

The F2F College Classroom Experience

The f2f classroom has long been the typical strategy used by universities to prepare students for future careers. It often relied heavily on outside experiences such as internships or part-time jobs to augment a student’s education and job preparation. To prepare students for the plethora of work experiences in UX, UI, and design research, college classes use a variety of strategies ranging from senior capstone projects, research projects, internships, and co-op partnerships. At the department level, industry-academia collaborations may take the form of advisory boards and sponsored projects. In all cases, significant coordination is required on the part of both industry and academia in terms of human resources and coordinated points of engagement to nurture these collaborative relationships (Lucietto et al. 2021).

Because university professors often have less extensive experience and are less familiar with current industry needs, industry-academia collaborations can aid students in making a smooth transition into careers upon graduation. Therefore, by increasing industry-academia interactions, universities can adapt their f2f course curriculum appropriately and be assured that they are appropriately equipping graduates to enter the workforce (Lucietto et al. 2021).

Traditional Internship Experience

The traditional internship experience has long been recognized as an important part of learning the career expectations for students. Participation in an internship has been linked to higher job placement rates after graduation, thus making it even more critical (Lucietto et al. 2021). However, obtaining an internship relied on several key factors to assure success, namely a high level of academic achievement, a personal connection to the industry or effective networking skills, and the ability to demonstrate a high level of competency throughout the interview process. In addition, the student was often responsible for finding opportunities and successfully navigating the hiring process with very little assistance from industry or academia. This left many students at a distinct disadvantage in obtaining these critical experiences. For many students, the combination of factors necessary to secure an internship has proven to be a significant barrier. Thus, effectively preventing many students from participating in this important skill and confidence-building experience.

I-SPACE Experience

To address the changing demographics and students' needs at an urban university, the I-SPACE virtual internship strategy was co-created by design education professionals and industry professionals. The I-SPACE virtual internship experience was designed to reduce the barriers to participation in an internship experience and provide a more equitable opportunity for all students to gain critical job skills. I-SPACE integrates high-impact practices such as professional industry experience directly into the hybrid and online classroom and replicates internship experiences in ways that are usually only accessible to students who have traditional internships (Hurley et al. 2022). Integrating industry-informed experiential learning into the college classroom is essential for students experiencing challenges such as poverty, homelessness, and food insecurity. Students in these demographics may face the added barriers of jeopardizing their full-time income and financial stability if they take an internship. In addition, for students who are neurodiverse an I-SPACE online internship strategy may have fewer challenges in accessibility and physical barriers (Satterfield et al. 2015) (Abel et al. 2018). Therefore, industry-academia engagement using the I-SPACE model of education can engage students with industry professionals in ways that do not disrupt their economic situations (Hurley et al. 2022).

Barrier Comparisons in College Classes, Internships, and I-SPACE

The opportunity for internships is not equal for all students. Many students are dealing with external factors like finances, medical issues, heavy work schedules, and balancing family life; all of which make finding and taking an internship extremely difficult. While beneficial in providing industry experience and networking opportunities, an internship requires an additional time investment which not all students have equal access or the ability to participate (Camacho and Alexandre 2019). Therefore, a tighter integration between industry and education by bringing the benefits of an internship into the classroom can alleviate the need for a student to increase their already significant outside-of-school time commitments and financial burdens.

Internships are also strongly linked to success in the job market. The job search engine, Indeed.com, lists the following reasons for having an internship: building a network, resume, and references, creating a professional network, guiding career goals, and gaining job and research experience (Indeed Editorial Team 2022). The American Institute of Graphic Design (AIGA) describes an internship as an invaluable steppingstone into the profession of design. They note that an internship will allow a student to apply skills learned in school to real projects, allow for collaboration with professionals, gain insight into the profession, “test drive” a specific environment or area of design, and network with professionals (AIGA.org, 2023). Yet, according to the National Survey of College Internships (NSCI) 2021 Report, only 21.5% of undergraduate students reported taking an internship (NSCI, 2023). Of those, the in-person, on-site internships versus remote internships were split nearly in half. This reduced number of internships can in part be attributed to COVID and social distancing during the pandemic.

Barriers to equitable participation often exist in education and in access to traditional internships and other industry engagement strategies such as I-SPACE virtual internships. To better address issues of barriers regarding diversity, equity, accessibility, and inclusion, the following six barriers were identified: cost of materials; travel to site; competitive hiring; networking or connections; interviewing skills; and accommodations for neurodiversity and physical accessibility (see Table 1). The barrier of cost in F2F classes is typically associated with textbooks, computer equipment, software, and lab or course fees. These costs can vary a lot depending on the course, but they may be mitigated by free sources for books, rentals, and the fact that some of the costs may be covered by financial aid. Costs associated with travel are associated with on campus F2F and hybrid class and are also associated with in-person or on-site internships. A competitive hiring process may disadvantage students who are from underrepresented groups or who face challenges based on ability levels. The factors of networks and interviewing skills are related to competitive hiring process. These factors will make a competitive hiring process an even greater barrier for students who do not have a robust network in their discipline or those students who suffer disproportionately from social anxiety, mental health, or imposter complex issues. Regarding accommodations, physical disabilities are more likely to be addressed in a work site due to Americans with Disabilities Act (ADA) compliance, however,

Table 1. Barriers in F2F classes, traditional internships and I-SPACE virtual internships.

Barrier Comparison for Classroom, Traditional Internship, and I-SPACE	F2F College Classes	Traditional Internships	I-SPACE Internships
Cost of Materials or Equipment	•		•
Travel to the Site	•	•	
Competitive Hiring Process		•	
Network or Industry Connections		•	
Interviewing Skills		•	
Accommodations for Neurodiversity/Accessibility	•		•

accommodations for neurodiversity are just emerging in the workplace and are more likely to be addressed in a university through various sources for support on campus. I-SPACE is conducted virtually and therefore accommodations can be managed through modifications to the digital content delivery systems through the university content management system and digital support tools.

Comparison of Student Learning in Classes, Internships, and I-SPACE

Classroom experiences are optimized to traditional lectures, tests, quizzes, labs, and F2F student interactions. Regarding industry skill building, a F2F classroom, a traditional on-site internship, and an I-SPACE experience have some similarities and distinct differences (see Table 2). Industry focused skills and experiences include networking opportunities, portfolio building, industry skill acquisition, skill or interest identification, collaboration with professionals, pay, on site work requirements, job opportunities, and time commitments. College classes can help students build a portfolio or resumé, learn industry skills, and help students identify new interests or skills. For F2F classes students are required to come to campus and their work is done either during class or as assigned homework. By comparison, a traditional internship has valuable networking opportunities, builds portfolio or resumé items, exposes students to industry skills, helps them identify new skills or interests, allows them to collaborate with professionals, and is paid. They will require students to travel to a job site, the work will be done outside of class time, and it has the potential to lead to a future job opportunity. An I-SPACE experience includes networking opportunities, portfolio and resumé building, acquiring industry skills, and collaboration with professionals. It is not paid and there is not an on-site requirement. It does however allow students to complete the work during normal class time or as homework and it has the added benefit of future job opportunities. When comparing the experiences, traditional internships and I-SPACE are both superior to a typical classroom experience. However, an internship is much more difficult to get and will only be an option for a select few students either based on their connections, interviewing skills, and access issues. I-SPACE offers most of the same perks as an internship with the exceptions of pay and required travel. It also offers the advantage of being available for all the students in a class

Table 2. Comparison of F2F classes, traditional internships, and I-SPACE internships.

Classroom, Traditional Internship, and I-SPACE Comparison	F2F College Classes	Traditional Internships	I-SPACE Internships
Networking Opportunities		•	•
Build a Portfolio	•	•	•
Learn Industry Skills	•	•	•
Identify New Skills or Interests	•	•	•
Collaborate w/Professionals Paid		• •	•
On-Site Requirement	•	•	
Job Potential		•	•
Work Done During Class Time	•		•

and allows them to use their allotted class time without jeopardizing other sources of income or other time commitments.

I-SPACE: 3 Industry Aligned Projects With 3 Sprints

To approximate a work environment, the structure of the I-SPACE course focuses on interactions with industry professionals in the field of UX and engagement with subject matter experts (SMEs). The course was designed to replicate learning objectives from traditional internships and adapt them to an I-SPACE virtual internship experience. The focus is on improving the quality of student work based on mentorship, professional networking, industry skills, and portfolio building. The professor gives the course the required structure as dictated by the university including securing the industry partners, scheduling them into one of three 5-week slots, preparing the syllabus including project statements, developing the course outlines, setting up learning objectives, and determining classroom management issues such as grading and due dates. During the 15-week semester, three industry-aligned professionals worked with the students in an online college class on one project. An online class modality was used for maximum flexibility in working with industry professionals. This allows for professionals to join from a wide range of physical locations and eliminates any travel-associated costs or complications. Each project was divided into three sprints of one or two weeks each (see Table 3). The first sprint focused on introducing the industry and the professionals to the class via guest speakers, class research, and online panel discussions. During the first sprint, the industry professionals would share their workflows, and presentation strategies, and help student groups identify possible deliverables. The professional mentors typically joined during one class period for each of the three sprints. The second sprint would focus on in-progress presentations and collaborative work in small groups of 4–5 students and one professional who would follow with that group for the duration of the project. During the second sprint, SMEs would join the project via guest speakers, discussions, and small group Q and As. The third sprint was dedicated to presentation of final deliverables and small group mentorship discussions.

Table 3. I-SPACE project timeline and sprints.

I-SPACE Project Timeline	Sprint 1 (2 Weeks)	Sprint 2 (2 Weeks)	Sprint 3 (1 Week)
Introduced to Industry Processes	•	•	
Professional Industry Mentorship	•	•	•
SME Interviews and Review		•	•
Research and Data Collection	•	•	
Professional Reviews		•	•
Produce Final Deliverables		•	•
Final Presentation and Mentor Feedback			•

DISCUSSION AND CONCLUSION

The structure of the I-SPACE course facilitates direct student interactions with industry professionals in UX, engagement with SMEs, networking opportunities, experience working with a variety of industry strategies and workflows, and opportunities for jobs (see Table 4). By comparison, traditional internships are more limited regarding the number of students who can find them, secure a position through a competitive hiring process, and overcome the economic and physical barriers required for participation. While a traditional internship experience immerses the student in a typical work environment, this may be less important as more of industry allows work from home and hybrid work options. Additionally, while a traditional internship is longer in duration (15 weeks or more), an I-SPACE internship experience exposes students to multiple work experiences over the same span of time; therefore, allowing the student to gain a greater understanding of differences and similarities between career options.

A virtual I-SPACE internship experience can also be measured in terms of quality of student work, the individual impact of multiple professional mentorship experiences for each individual student, and the extensive professional networking opportunities that are unique to the I-SPACE collaboration strategies. Students who face barriers in acquiring a traditional internship will have greater access to the benefits of professional feedback and mentorship through the I-SPACE experience. Industry mentors are also able to customize the project and strategies to each student. The issues of diversity,

Table 4. Outcomes for F2F classes, traditional internships and I-SPACE internships.

Outcomes Comparison for Classroom, Traditional Internship, and I-SPACE	F2F College Classes	Traditional Internships	I-SPACE Internships
Introduced to Industry Processes		•	•
Professional Industry Mentorship		•	•
Class Instruction and Support	•		•
Portfolio Building Opportunities	•		•
Builds Professional Network		•	•
Increased Confidence for Job Seeking		•	•
Work with Multiple Companies			•

equity, accessibility, and inclusion that are complicated in traditional internship opportunities can be more easily mitigated through an I-SPACE model. Eliminating barriers such as threats to a primary income stream, the added costs of travel, opening high impact practices to students who lack industry connections, less savvy interviewing skills, and uneven skill sets are examples of such mitigations. For the university, an I-SPACE experience will increase the visibility of the programs and provide greater access to industry input and current practices. The benefits of I-SPACE make it an interesting alternative to the traditional internship model with very few drawbacks.

Future Research

Future research will include conducting student perception surveys to compare the experiences of students in each of the classroom, traditional internship, and I-SPACE models. The I-SPACE model will also be applied to other subjects within the service learning and design disciplines.

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