IDSA

INTERNATIONAL COLLABORATIVE DESIGN SPRINT

ASSIGNING A DESIGN BRIEF THE STUDENTS AREN'T READY FOR

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PAPER ABSTRACT:

Each spring, American industrial design students team up with Irish industrial design students to complete a 24-hour design sprint. This year the leading professors steered the project away from traditional product outcomes and challenged the students to forecast a future that included physical interaction points where the city and campus could better interact and grow together. The professors agreed that this type of project was beyond the current skill sets of our younger design students and elected to emphasize three frameworks to increase the chances of receiving strong deliverables. These frameworks are assigning local leadership, providing lectures from subject matter experts, and requiring the identification of three stakeholders. This paper includes a case study following two groups' final deliverables and questions how to best craft projects like these, not only strengthen the students' design outcomes in the short term, but also open the students' minds to the range of applications the industrial design curriculum prepares them for.

Keywords: Stakeholders, Collaboration, Culture, Sustainability, Context

1. INTRODUCTION

Each spring, sophomore level Auburn University Industrial Design students team up with freshman, sophomore, and junior level Institute of Technology Carlow Industrial Design students to engage in a 24-hour design sprint. In past years we have run a project where student teams purchase €30 worth of IKEA goods and hack the products together to make an end result that is worth more than the sum of its parts (Bush, 2020). The project very much aligns with the product based, traditional industrial design process and has been a valuable learning experience with strong outcomes. This year, there was an opportunity to do something different. The Higher Educational Authority, Ireland's Board of Education, made a motion that IT Carlow and Waterford IT would join to become South East Technical Institute. For the past 50 years, the two schools have existed as rivals operating just a mere 50 miles away from one another, but this union will bring together the institutes and their five respective campuses under one banner. And if there ever was a time for change, the time is now (Kane, 2022; O'Brien, 2022).

The professors took this opportunity to develop upon previous year's design sprint structure and challenge students to imagine a future where the local city and university might find ways to co-create culture, economy, and equity while balancing the values and desires of many different people groups. The goal of the paper is to see if the structural changes in the design sprint could enable the students to successfully take on a challenge beyond their current skill level.

2. PROVIDING THE STUDENTS WITH FRAMEWORK

Projects this complex are typically reserved for our senior level and graduate students. To help these students make sense of it all, IT Carlow Lecturer Hilary Dempsey added the following framework into the project.

2.1 ASSIGN LEADERSHIP TO IRISH 3RD YEAR LEVEL STUDENTS

With such a condensed timespan, decisions need to be made quickly with the support of the group. A hesitation in assuming the leadership role is further complicated by the social dynamics at play: the groups have just met each other minutes before the project begins. A lack of rapport and a desire to be accepted by peers creates an uneasiness when making substantial decisions. With the leader/ facilitator role being assigned, groups are able to simply get to work.

2.2 SUPPLY IN PERSON, CONTENT RELEVANT LECTURES FROM ACCOMPLISHED ALUMNI

Students from each school have yet to dive into any structured research methodologies. To give them an outside perspective and offer useful frameworks to use during the project, Lecturer Hilary Dempsey invites three IT Carlow alumni to share tools and approaches that they use in their professional design work.

2.3 REQUIRE TEAMS TO CHAMPION THREE UNIQUE STAKEHOLDER GROUPS

Multiple educational design sprints wrestle with the limitations of gaining adequate user involvement (Larusdottir et al. 2019; Soyupak, 2021). The unique opportunity of studying in a foreign context demands that we capitalize learning from a culture that is not our own. Any proposed solution would need to represent the perspectives, desires and needs of multiple people groups from within the community. The professors, the speakers, and the brief itself highlighted the concept of designing *with* people rather than just designing *for* people. Given the broad implications of their solutions and the limited time line, it was stressed that each group identify and understand their stakeholders as quickly as possible.

3. THE PROJECT

3.1 MONDAY

Around mid-afternoon the students were introduced to each other, and teams were assigned. Moments later they were given the design brief and a tentative project schedule (shown in the Appendix).

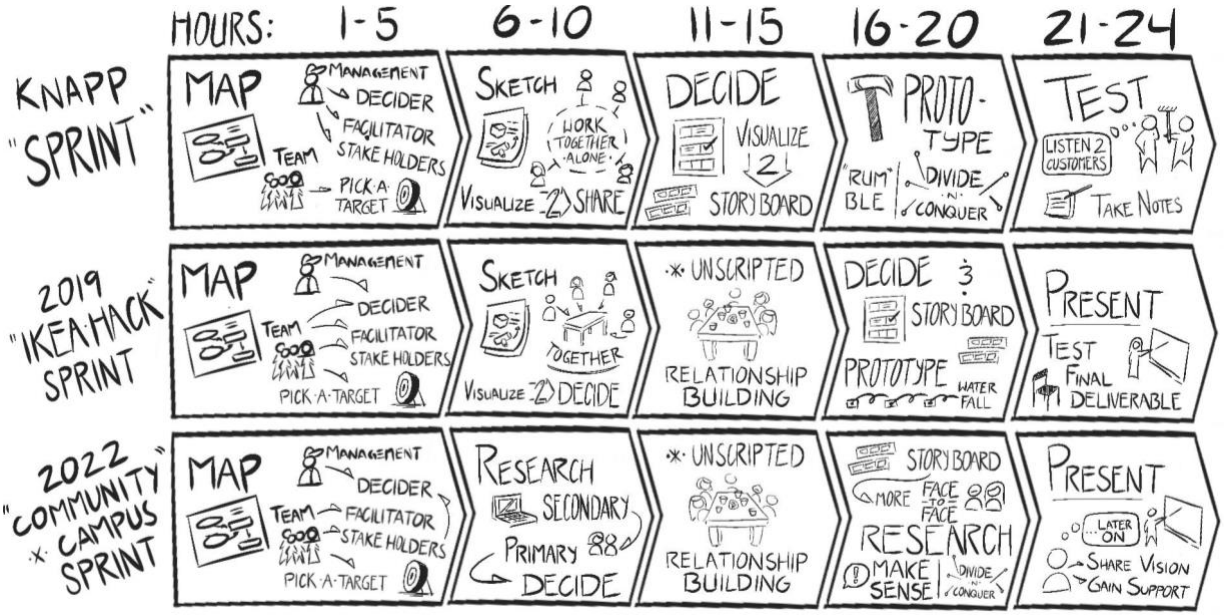

*Figure 1. Schedule comparison between Knapp Sprint, 2019 Sprint, and 2022 Sprint. *Knapp formatted from a 5-day schedule to fit into a 24-hour schedule.*

Hour 1 | Project Kick-Off. The brief itself contains no list of actionable items. The students want to talk with each other about the implications of the design challenge and allow each group to map out how they might respond to the challenge. This conversation lasts an hour at most and then a handful of students proceed to perhaps one of the most important parts of the study abroad experience: they make plans to hang out with each other later. Not to connect about the project but rather to talk about their similarities and differences— about music, culture, politics, and their aspirations. While social distractions are minimized in the Knapp sprint model (2016), they continually happen with or without the consent of the professors. There is a tendency to feel that these non-academic interactions are an inconvenience or a detriment to the project, but maybe there is more to this phase of the design sprint than is given credit.

3.2 TUESDAY

Tuesday morning started off with a series of talks from our subject matter experts and IT Carlow alumni: Dr. Simon O Rafferty, Deimante Stankeviciute, and Malcolm Noonan.

Hour 4 | Dr. Simon O Rafferty is an Associate Director of Design at MCO.ei, a design firm that specializes in design process and lean methodologies. His presentation was a masterclass of design research in action. He showed examples of 'cultural probes' and how fun, interactive questionnaires could lead to greater public involvement and more accurate data.

Deimante Stankeviciute is a project management assistant with the Matrix Q Climate School and is deeply involved with "TheGreenRootsProject" that strives to make small, tangible changes in Carlow County. Her talk focused on all of the project planning that was necessary to bring about incremental

change in the local community. Her talk showed teamwork best practices and emphasized that a cumulation of small but impactful changes can build up to a greater whole.

Malcolm Noonan is the Minister for Heritage and Electoral Reform. He also serves as the 'Teachta Dála' for the Carlow Region, similar to a senator in the United States. He serves as a member of the Ireland Green party and has spearheaded initiatives for positive environmental impact. Minister Noonan spoke of the dangers of designing products in isolation from people.

Hour 6 |The students, inspired by the talks, spread out over the design building to plan their research. They begin by choosing a problem they want to investigate, identify three stakeholders, and construct a plan of action. The pivotal questions that each group needs to ask themselves are: 1) who the stakeholders are and 2) how we will gain actionable feedback from these people groups.

Similar to previous year's design sprints, the professors extend a level of autonomy to the student groups, walking the fine line between offering feedback and not explicit direction. Because of the future oriented direction of this project we wanted the stakeholder provided insights to be more highly valued than instructor opinion. The professors function as "deciders" but only on an *as needed* basis. The professors begin to make their rounds talking with the groups in approximately 90-minute intervals.

Hour 9 | Gathering user opinions takes time and a well-documented challenge with all sprints is the compressed timeline (Ferreira & Canedo 2019; Larusdottir et al. 2019; Raubenolt 2016). Timely, group-supported decisions must be made. At the same time, the professors wish to give space for students to fail fast and quickly recover. Experience has taught us that a lack of direction by 6:00pm has consistently led to weaker outcomes.

Hour 11 | The studio adjourns and agrees to check back in at 8.00 the next morning. Students can choose to meet beyond the studio if they wish, but many do not. By this point in the project, nearly all the students involved are heading out for drinks and laughs.

3.3 WEDNESDAY

Hour 16 | This stage of the project has always been the most crucial. This early morning hinges on two things: who shows up to work on the project and how to best delegate tasks and manage time before the presentations are due. In a best-case scenario, all team members show up and the leader sets the tone for the day. The chosen direction engages all team members and the tasks left are distributed to those with the proper skill sets. In a worst-case scenario, some team members don't show up for the final day of the design sprint. The team further delays identifying a problem to pursue and eventually fractures itself, splintering off with team members pursuing radically different directions and creating an increasingly disjointed presentation.

Hours 21 - 23 | The final two hours are reserved for presentation preparation. It's usually a mad dash of fabrication, photography, and slide building. This year's countdown to the final presentation was very different. Because each team knew who they were designing for, they were able to begin to construct a narrative well before the final conclusions were ironed out. The story of who they are designing for

equips each team member with confidence knowing how their contributions would add to the greater whole. This meant individuals were happy to work independently to create content in support of the team narrative; an act that Soyupak refers to as “working together alone” (2021). There was energy and momentum in the studio rather than the stagnation and anxiety of team members waiting for others to finish a task before they could start on their own.

Hour 23 | The six teams are given roughly 7 minutes to present their work, followed by a 3-minute question and answer session with the faculty. The criteria for giving critique is: how well did the teams know their chosen stakeholders, the level of thoughtfulness in their solution, and the feasibility of the proposed design intervention.

The most popular set of chosen stakeholders were university students, faculty, and the ‘community’. While each group strongly represented their peers as the college student stakeholder, the faculty stakeholder was surprisingly weak. The students failed to represent the high levels of anxiety many faculty hold around the merger.

The final user group identified most frequently among the teams was the ‘community’. While community is an important player in the future of this project, the definition of what and who community is varied from group to group. Some referred to the community as non-academic individuals, others used it to refer to young professionals or young families. While others considered ‘community’ to be local businesses that were already engaged with the student body such as grocery stores and clothing suppliers. Most groups neglected to include the demographic data like age, occupation, and local involvements of their ‘community members’ in their research.

4. OUTCOMES

Below are case studies of the two groups that showed the greatest difference in their proposed design solutions.

GROUP 3

Proposed solution: A collection of vertical stacked raised plant beds to function as community gardens that span the 1k walk between the campus and the city.

Intervention Opportunities: Students identified they could investigate methods of increasing public access to communal green spaces such as mixed-use parks or river walks. They also wanted to address sources of food waste in the town and campus and investigate how to ease transportation between the city center and the campus center. There was also the opportunity to reuse items that are no longer in use following the changes in Covid19 guidelines.

Stakeholders: The three identified stakeholders were university students, university food services, and local homeowners.

Research outcomes: Local students wanted to be able to sit in public spaces and have a sense of ownership. Currently, IT Carlow students are not allowed to lounge on the grassy areas surrounding the

campus. Out of the 24 local residents interviewed, 75% claimed that they would use a community garden, and 68% voiced they would like to join a horticulture society.

Notes from the proposed intervention:

The students spoke with the food services of IT Carlow who said that traditional compost levels were low however, there was a high amount of used coffee grounds available.

The group chose to emphasize vertical gardens – and use reclaimed acrylic sheets for structure and protection from the elements.

Figure 2. Group 3 Field Research and Photoshop composite of proposed design intervention.

GROUP 5

Proposed solution: The university works with the city to identify a space downtown to install an innovation lab to be filled with business, design, and marketing students. This space would engage the local businesses to respond to various community needs.

Intervention Opportunities: Students identified an opportunity to examine the effectiveness of the local bus service. They also wanted to celebrate the strongest features of the town: the river and local businesses, while addressing students' living accommodations.

Stakeholders: The three identified stakeholders were students who might benefit from discipline relevant experience, local businesses who desire cost effective services, and decision makers like university administration and city counselors.

Research outcomes: 75% of students surveyed said they would want to live in a downtown academic studio if they gained relevant professional experience and the housing was attractive. They presented a persona of a professor who values cross discipline collaboration and real-world experience for the students but faces many barriers in making those desires a reality. The team also shared a persona of a Pub owner who enjoys having college aged patrons and talking with them about their projects. He also enjoys watching collegiate athletics and wishes there was a way to engage the university in a more significant way.

Notes from the proposed intervention:

Group's Design Hypothesis: It should be possible to cultivate and sustain an engaging and positive relationship between the new SETU entity and Carlow town through the integration of a collaborative space partnered with student accommodation located near the central social hub of Carlow.

This group presented a brochure targeted towards creative and business focused majors that offered a state-of-the-art studio/ presentation space with adjoined living accommodations. The space would serve as both an innovation hub working to find solutions for local businesses and an exhibition space for the university and local schools.

Figure 3. Group 5 Mock brochure featuring proposed accommodations, travel times, and collaborative opportunities.

This group revealed that they actually considered 6 stakeholders in their proposed design intervention: university students, university administration, business owners, local government officials, landlords, and community members.

This group also recognized that there were challenges that were not yet fully considered yet. One challenge was the necessary renovations that would need to take place and would require the cooperation of town and university officials. A second factor to consider was how to share profits and intellectual property between the businesses and involved students.

5. REFLECTIONS

Did the structural changes enable the design students to successfully take on a project beyond their current skill level? Yes and no. Assigning local leadership was largely a successful move. On the other hand, the inclusion of subject matter expert lectures did not result in a noticeable impact on the students' final outcomes. While an added emphasis on three stakeholders showed mixed outcomes.

Assigning group leaders led to significantly better student involvement and group outcomes than in previous years. It is possible that the most senior Irish design student is not the most qualified to serve in the leadership role; however, their assigned position appears to increase overall success by being able to make decisions earlier on in the project timeline. Assigning a facilitator quickly galvanized the groups,

which led to greater group stability, a supported design direction, and ultimately led to stronger final deliverables.

Unfortunately, there was not much from the professionals' presentations that we saw reiterated in the students' final solutions. Perhaps it's the time limitation that contributes to the lack of consideration. Maybe the content was beyond what they were ready for at this level of progression. It is also possible the teams might have already had solutions in mind and the lecturers' content didn't line up with their intended directions.

The emphasis on stakeholders highlighted the importance of groups talking with populations they typically might not engage with. However, many teams found it challenging to gain actionable feedback from their stakeholders— the students learned that not all questions delivered answers they expected. They had to think through the answers and reexamine their existing findings which necessitated asking better questions. For a cohort that hasn't taken a design research or ethnography course, this was surprising and exciting to see. In this design sprint the stakeholders serve simultaneously as the customers and deciders. Future iterations of this project could recruit leaders and stakeholders to be points of contact for the duration of the design sprint.

Nevertheless, in many ways these students were set up for success. Engaging with locals within an international study abroad situation encouraged students to stretch beyond their comfort level in order to have thoughtful conversations. This type of project creates the conditions that help deepen the students' understanding of designing *for* versus designing *with*. The impact of relationships on any type of design sprint cannot be understated. Yes, getting to know the stakeholders is important but the opportunity of getting to know one's international teammates in a casual way pays dividends within the project and for years to come!

In reflecting on the outcomes of this project, one unexpected condition that seems detrimental to success was the underlying air of competition. When group 3 was met with critique and questions, they always had a response. A student in the group had experience with aquaponics and this helped the group feel more confident with their decisions. One might assume that the group felt that if any part of their project was flawed, the entire project was rendered flawed. Oppositely, group 5 made it a point to include both the things they knew and the things still unknown. So often students are vying to be the best— to create the most stunning renderings, craft the most clever solution, get the very best internship. The goal of design projects like this one isn't to be right or to be the best, it is to gain a better understanding of people and of context.

Prompts like this one ask students to sit with research findings and champion the users, going further than pie charts and bar graphs to wrestle with challenging questions and insights from stakeholders. They invite students to struggle to have a deeper understanding of the context, cultural influences, and structural incentives that inform the stakeholders' perspectives. We do students, and the people they will design for in the future, a disservice when we do not create the conditions to bring up designers who are humble— offering projects that require embracing a spirit of humility and internalizing the truth that you as a designer do not have all the answers and have to work alongside users to develop something truly useful.

6. REFERENCES

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7. APPENDIX

Design Carlow
Seminar

In association with

As IT Carlow and Waterford IT merge into the new South East Technological University, we have the unique opportunity to understand and examine what a sustainable multi campus is. Site locations close to the campuses could be maximized to reframe our perceptions around what a sustainable campus could be, and how such a model could, in turn sustain the community in which they service.

Monday 21st March 2022

Annual 24 hours Design Sprint challenge with students for Design Carlow and visiting students and staff from Auburn University, Alabama.

3.30 | Project Launch and Briefing
This year, as IT Carlow and Waterford IT combine into the new SETU entity we have a unique opportunity to examine how the site locations close to or even in town could be maximised to reframe our perceptions around what a sustainable campus could be and how such a model could in turn sustain the community in which it sits.

Tuesday 22nd March 2022

Series of Talks from Design Carlow Graduates
10.30 | Dr Simon O Rafferty*- Using design methods to engage communities with place. Case Study into co-design and co-creation for placemaking with a focus on active travel

10.50 | Deimante Stankeviciute – Importance of Community and connection to create resilience

11.30 | Malcolm Noonan - Green Party
(Minister for Heritage & Electoral Reform)
The importance of Design in making a just transition to a sustainable economy

1.00 | Engage the Project
Students identify a team home base and then engage the research phase

16.00 | Group discussion of area focus and workplan
Touch bases with the groups and redirect if necessary

17.00 | Online Presentation (Organised by Ben Bush, Masterclass in Digital Sketching with Industrial Designer at Nerf and Bark

Wednesday 23rd March

9.00 – 13.00 | Studio
Staff will be available to students across all three studios on ideation and Realisation phases of the design sprint

13.00 – 15.00 | Presentation Preparation

15.00 - 16.00 | Final Presentation
The outputs to this design sprint should include a digital presentation, design artefact and a proposed design intervention. The design activity should include stakeholder mapping with a learner/student focus. The work should have a broad view on what constitutes a learner at the Institute and could pay particular attention to high needs groups. As a guide the digital presentation could include reports on the research, a design hypothesis, analysis of the research, design intervention and a proposal as to how such an intervention could be validated.

16.15 | Project Debrief
Reiterate the importance of the design spring and the potential these future oriented projects have. Final photo opportunity before the Auburn group leaves.

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Figure 4. Design Brief and proposed schedule