

A HOLE IN ONE: BREAKING BARRIERS & CREATING COMMUNITIES BY ENGAGING PRODUCT DESIGN STUDENTS WITH CREATIVE MODEL MAKING & COLLABORATION EVENTS

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ABSTRACT

Within product design education, encouraging collaboration, creativity, and a sense of community among students is vital, especially during the first few weeks of undergraduate study. Creating a student community in the early weeks is crucial for students to adapt to course cultures, adjust to new environments, and establish friendships. This is essential in creative disciplines where students must collaborate, serve as critical friends and network in a professional practice setting. Post-COVID-19 pandemic, students are increasingly anxious in new environments and often reluctant to engage in large events, which is problematic in a sector where 'community' is essential. Thus, it's important to create a collaborative culture quickly within undergraduate programs, however, this is a challenging task with large student cohorts. A strong design community can serve as an incubator for creative ideas, peer learning, and emotional support, helping students thrive in an academic environment that often demands intense problem-solving and innovation. This paper introduces 'A Hole in One,' a Welcome Week project designed to promote student engagement through competitive model-making. Using unique innovative approaches, we introduce a set of core values to first-year Product Design students through experiential learning and collaborative design making. The core aim is to break down barriers and cultivate student communities by challenging student groups to construct a unique crazy golf hole in groups. The collaborative effort resulted in a crazy golf course being assembled for an end of welcome week student competition. Our findings offer educators/institutions guidance in promoting community-based teamwork within design programs, suggesting innovative pedagogical approaches to elevate the educational experience for product design students.

Keywords: Community building, creativity, experiential learning, collaboration, creative model-making

1 INTRODUCTION

The early days/weeks of higher education for incoming undergraduate students are often identified as a pivotal point in a student's education. The friendships established within courses, societies and student accommodations often create the support systems, student communities, and social connections necessary for students to be successful in a higher education environment. Engaging with university initiatives and course programs in the early days/weeks in higher education is also essential. Minimizing early negative experiences, difficulties settling into university communities, financial issues, dissatisfaction with course programs/initiatives and attachment issues can all be attributed to student engagement issues/withdrawals [1]. Furthermore, engagement in the first three weeks of UK higher education has also been proven to predict subsequent activity and attainment in first year undergraduate students [2]. The importance of community in education cannot be overstated. Helping facilitate the creation of a student community is no easy task, particularly in the context of product design courses where students are often focused on individual projects, sticking to tight schedules, and working in isolated student accommodation with students from other courses university wide. Minimizing student non-engagement is therefore critical as this can pose problems later within degree program when summative assessments occur.

Historically within UK higher education, student activities outside of the classroom environment often involves alcohol consumption, this culture has been embedded in how students build social connections,

with many first-year students enlisting in the consumption of alcohol to create social bonds in order to get to know one another in key spaces of student life, including student housing and the social events of student societies [3]. However, the decline in certain activities and the number of students consuming alcohol within the associated social activities has meant students are seeking different ways to establish key friendships/communities. Within university environments, academics have been employing strategies to enhance engagement with courses for years, including creating creative spaces, monitoring/responding to demographic subgroup differences, creating stimulating intellectual environments, focusing on engagement, fostering social connections in different classroom environments, amongst others [4]. It is therefore essential that equal emphasis is placed on successful integration into the social world of a university as much as the academic environment [5].

In recent years, Product Design staff at Nottingham Trent University (NTU) have observed that engagement with Welcome Week/Freshers Week course activities correlates to student engagement, student progression and course cohesion. As such, we sought to create an engaging, collaborative, competitive and course community driven project that runs for the duration of Welcome Week to help break down barriers and facilitate/establish course communities. To maximize student engagement, this project focused on creative model making providing students with the opportunity to get hands on immediately. Learning by doing is an essential teaching methodology employed and is an essential part of modern-day design education [6]. Creative students often prefer to learn via this method and as such this formulates a large part of our teaching philosophy.

This paper takes a holistic view on the impact of how creative model-making and collaboration events can harness the concept that designing in a collaborative environment can benefit students through the application of learning by doing. The next sections of this paper discuss the methods used and the student outcomes, whilst reflecting how the 'A Hole in One' project has influenced students' creativity, communication skills, and overall sense of belonging in the design community at NTU. Our findings provide valuable insights for educators and institutions seeking to promote community building and teamwork within design programs providing the potential to inspire innovative pedagogical approaches and enhance the overall educational experience of product design students.

2 LOGISTICS

During the students first week at NTU, 151 students across three undergraduate Product Design courses (BA Product Design, BA Furniture and Product Design and BSc Product Design) and a group of students from our International Exchange Program were set the challenge to design a Crazy Golf Hole primarily from corrugated cardboard and an assortment of other materials such as foam, paper etc. A short project briefing was provided to all students and post the project briefing, students were asked to get into groups of 6 to 10, this varied based on the size of the cohorts of the respective courses. The project spanned the entirety of welcome week, with designated times allocated for designing/making their imaginative crazy golf holes; this was supplemented by other welcome week activities linked to university initiatives. This ensured that all students had time to explore their new city, join societies and participate in other social events.

To encourage the students to get know other members in their group and the rest of their cohort, the students were taken to a social evening at Nottingham Bowl, where NTU had reserved bowling lanes and time slots on an existing crazy golf course. This not only facilitated group interaction in a more social setting but also provided an opportunity for primary research, enabling students to draw inspiration and gather insights for their own designs. This was organised on the evening of the students first day to reduce any first day nerves and therefore provide a strong platform for group interaction for the rest of the week. For the next three days, students were given access to their respective course design studios for a couple of hours every day to meet up with their group and construct their crazy golf holes. This ensured the students were able to get used to their studio environment which will be their course home for the next few years, whilst also giving them a chance to ask questions and get to know their lecturers for the year.

To end the week, a social gathering in an open area on campus was facilitated. Each group were asked to set up their crazy golf holes and receive a scorecard, a pen, and a putter before navigating through the course. Students not only played their own designed hole but also the other 20 holes crafted by different groups. To encourage equal participation, staff members and student mentors assigned to support welcome week monitored the rotation through the crazy golf holes, completing scorecard signoffs thus ensuring every student within each group took turns playing the holes. Whilst students were playing the

golf course, chosen staff judges walked around the course picking their chosen designs for each course that aligned to following awards; the most creatively designed crazy golf hole and the best considered and well-made golf hole. Additionally, there was also awards for the lowest score from each course and an overall group winning score.

3 METHODS

The brief for the project had specific parameters to ensure both socialization but also a soft introduction to some of the core design methods to be used in the coming weeks. Also, group projects formulate a core aspect of the start of the product design courses at NTU, so this group activity is designed to help with the experiences. Overall, the project would expose the students to key themes within the design process, ideation, prototyping, testing, and, eventually, the creation of a functioning golf hole prototype. The collaborative nature of the project would require effective communication, problem-solving, and the ability to synthesize ideas. The parameters for the golf holes that the students could create were given a maximum size restriction of either 3m x 1m or 2m x 2m. The size was determined by staff for several reasons. This would effectively be two sheets of cardboard laid out but the size and time-frame available also meant the groups would be encouraged to work together to meet the finale deadline at the end of the week. The size of the holes would be too big for an individual to complete on their own, but not so large that it becomes overwhelming and stressful for a group. Students were encouraged to think of a theme for the crazy golf hole. This would allow the group to align their ideas to a clear direction they have decided but also encouraged the students to get to know each other to identify a theme they could all agree on.

Each group was given a plastic cup to act as the golf hole itself. The cup was chosen for a couple of reasons. Firstly, as it was the same for every group it meant parity across all golf holes on the course but the second was the introduction of a fixed component that the students would have to creatively consider how to integrate into their designs. Exposing the students to working with constraints and considerations was also critical. Furthermore, each group was given a golf ball at the start of the week and putters were available in the studio. This pushed the students to work in 3D and therefore prototype and test their ideas, something that is a key skill as a designer and encouraged throughout their time on the course. The limitations of just being able to make their crazy golf holes from the corrugated card provided meant modelling was easily accessible, whilst also getting the students to consider the strengths and limitations of the material.

4 OUTCOMES

On many levels the project can be viewed as a success. The primary objective of the project was to encourage new students to socialise and get to know each other whilst having fun. It also provided an opportunity for students to very early on get hands-on using their problem-solving skills but also use collaborative model making to bring together a diverse student pool to present an outcome within a few days. Critically the students felt that the collaborative model-making focus of the welcome week project encouraged them through brainstorming, problem-solving and discussion to create a fun interactive outcome. It can be seen from the student comments below how successful this was. From a teaching point of view, the project successfully introduced students to some of the key ideas and methodologies they will be exposed to in the course.

"It helped integrate people with each other and relax and be themselves. Creating a relaxed environment, breaking down any initial Barriers between each other"

"It helped build and form Friendship groups, and it allowed individuals to come out of their shells and interact with each other"

"The project was really good, and it helped us get to know each other naturally and easily. Despite working in small groups, we all got to know each other well which made it enjoyable".

"I really enjoyed the fun atmosphere it created, gave everyone chance to connect with one another, our group are all close friends and some of us are even going to live together next year".

“It really helped to bond us as a group and has formed friendship a group that has lasted throughout the term, it was a great way to learn design skills and bond as a course”.

5 DISCUSSION & RESULTS

5.1 Breaking the Ice

Icebreaking is a key component within “Welcome Week”, extending beyond simple introductions. The “Hole in One” project integrates icebreaking through collaborative model making, recognising its potential to develop friendships and a sense of belonging amongst students whilst working in a relaxed and inclusive environment. This was key in developing a design community within the cohort, where students were able to feel empowered to express themselves creatively and engage in collaborate problem-solving. Whilst icebreakers are typically brief activities, the project served as an extended icebreaking activity, evolving over the week to deepen student relationships and promote peer and staff-student connections. Rather than focus on structured introductions, the project allowed students to interact organically, gradually breaking down barriers and working towards a shared goal. By engaging in a competitive and collaborative project, students were not only able to familiarise themselves with their peers and university environment but also, they were able to develop a sense of course belonging. For first-year students, navigating higher education for the first time can be challenging, and icebreaking activities offer an opportunity to overcome some of these challenges. By providing a platform for students to connect, this project facilitated a smoother transition into university life, instilling confidence and easing anxieties. Moreover, their shared experiences contribute to the development of a support network, essential not only for academic success but for overall well-being. Overall, the ice-breaking nature of the “Hole in One” project aided in enhancing student engagement and nurturing a positive journey into Higher Education.

5.2 Building Community

Community building lies at the heart of effective higher education, encouraging a supportive and inclusive learning environment where students can succeed both academically and personally. In the context of product design education, cultivating a strong sense of community is critical, as it encourages collaboration, innovation, and peer learning, all important skills needed in a professional design context. This project shows how collaborative model-making initiatives can serve as a catalyst for community building within a cohort. By working together to design and construct a crazy golf course, students not only developed their technical skills but also form meaningful connections with their peers. These connections extend beyond the confines of the project, laying the foundation for a cohesive academic community. Community building initiatives promote active engagement and participation among students, fostering a culture of collaboration and shared responsibility. Through collaborative practices, students learn to appreciate diverse perspectives, communicate effectively, and work towards common goals. Additionally, a strong sense of community provides students with a support network that they can rely on during challenging times, further enhancing their academic resilience and well-being.

5.3 Fostering Competition

Four course cohorts took part in the “Welcome Week” activity, including first-year students from BA Product Design, BSc Product Design & BA Product and Furniture Design, in addition to a group of Students on European Project Semester (EPS). In addition to each team being in competition with each other, each course was competing as a full cohort. Introducing an element of competition into educational activities can have profound effects on student engagement, motivation, and learning outcomes. In the context of this project, the competitive aspect added an exciting dimension to the experience, fuelling students' enthusiasm and creativity. By challenging student teams to design and construct a unique crazy golf hole, the project fostered a spirit of friendly competition that drove innovation. Competition serves as a powerful motivator for students, encouraging them to strive for excellence and push the boundaries of their creativity. Throughout the week, the prospect of designing the most impressive and functional crazy golf hole spurred student teams to invest extra time and effort into their designs, often spending time outside of timetabled sessions working on their models. This heightened level of engagement not only enhanced the quality of the outcomes but also instilled a sense of pride and achievement among student groups. Moreover, competition cultivates important skills such as teamwork, time management, and problem-solving. As student teams worked collaboratively to

design and make their golf holes, they encountered various challenges that required innovative solutions, for example, limiting material usage. By navigating these challenges together, students honed their collaborative skills and developed a deeper appreciation for the value of teamwork in achieving common objectives. Overall, the competitive aspect of the "A Hole in One" project not only enhanced student engagement and motivation but also provided a platform for students to demonstrate their creativity, teamwork, and problem-solving skills.

5.4 Developing Skills

The project not only served as an icebreaker and community-building initiative but also provided a platform for students to begin developing essential skills for their academic and professional journey in Product Design. Throughout the project, students engaged in hands-on activities that required them to employ various design techniques, problem-solving strategies, and communication skills. Throughout the week, students enhanced their design skills through ideation, prototyping, and iteration processes. Furthermore, the friendships created in this initial week helped formulate lasting friendships for the course and beyond, including some groups signing up to second year houses together.

The project facilitated the development of critical thinking and problem-solving abilities among students. As they encountered challenges during the design and construction phases, students had to think creatively to overcome obstacles, adapt their designs, and find solutions to meet project requirements. Overall, the project provided students with a holistic learning experience that went beyond traditional classroom instruction. By engaging in practical design challenges within a collaborative and competitive framework, students began to develop the foundational skills necessary for success in both their academic studies and future careers in product design. This section highlights the transformative impact of experiential learning initiatives in equipping students with the skills, knowledge, and mindset needed in the field of product design.

5.5 The Final

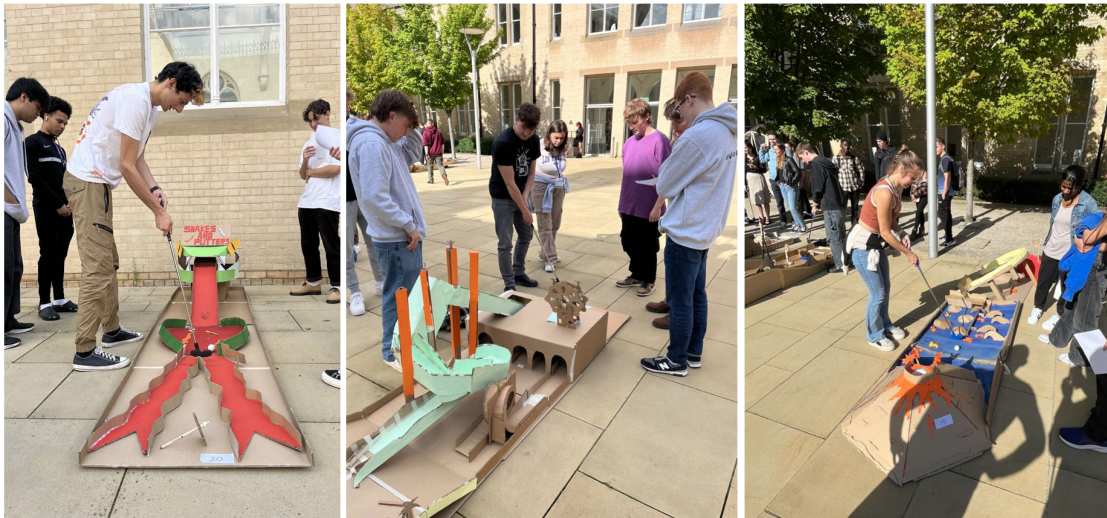


Figure 1. The Final

During the final day of the project, all 21 golf holes were assembled in a shared space, providing a platform for the end-of-project finale (*Figure 1*). This not only facilitated a reunion of all students but also welcomed additional staff members, encouraging a sense of inclusivity and collaboration within the academic community. Playing all the holes offered an opportunity for students to observe and appreciate the techniques used to construct each hole, enriching their understanding of design processes and skills. Furthermore, student groups were able to observe the various themes of the golf holes, including a "Barbie" themed hole and holes themed around personal interests or experience, for example, "Anime", or in the case of EPS students, a hole themed around the different countries they had travelled from. Not only did the variety in themes create a dynamic and exciting atmosphere, but the theming of the holes also highlighted particular interests and hobbies, allowing students to form further friendships based on shared interests. Prizes were awarded for the most creative and best-constructed

holes per cohort, as well as for the team completing the course with the fewest shots, further enhancing the atmosphere of friendly competition. This served as a conclusion to Welcome Week, reinforcing the bonds formed within cohorts.

6 CONCLUSIONS

In conclusion, the "A Hole in One" project exemplifies the impact of creative model-making and collaborative events on the landscape of product design education. By strategically incorporating experiential learning into Welcome Week activities, this project successfully breaks down barriers and encourages community building amongst students. Through collaborative model-making, students not only demonstrated their creativity and innovation but also developed essential teamwork and communication skills necessary for success in the design industry. This approach not only enhances students' design abilities but also instils a collaborative mindset essential for navigating the complexities of modern design practice. By encouraging a strong sense of community, the project serves as an incubator for creative ideas, peer learning, and emotional support, empowering students to succeed in an academic environment that demands intense problem-solving and innovation.

By engaging students in hands-on activities from the outset, staff can create a dynamic learning environment that inspires creativity, collaboration, and engagement. This project underscores the importance of integrating practical experiences into design education, providing students with opportunities to apply theoretical knowledge in real-world contexts. Furthermore, the collaborative nature of the project develops a supportive and inclusive culture within the design community.

Overall, the "A Hole in One" project offers valuable insights for educators and institutions seeking to enhance community building and teamwork within design programs. By prioritising experiential learning and collaborative activities, staff can elevate the educational experience for product design students, equipping them with the skills, knowledge, and mindset needed to succeed in the ever-evolving field of design.

7 RECOMMENDATIONS

Despite its success in facilitating the creation of strong friendships early on, it has been observed that students arriving late to the courses encountered challenges integrating into the courses due to bonds established through the "Welcome Week" activity. Whilst these students cannot avoid missing "Welcome Week", future iterations of the project should aim to prioritise ways to support the integration of latecomers. Furthermore, whilst the project aimed to promote sustainability by using cardboard for construction, the disassembly process proved challenging in many cases. To address this, future iterations of the project should emphasise the importance of designing the holes so that they can be easily taken apart and reused in future projects, emphasising long-term sustainability.

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