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GOING GLOBAL: AVOIDING 'DESIGN TOURISM' IN INTERNATIONAL COLLABORATIVE DESIGN PROJECTS

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ABSTRACT
This paper considers the planning, methodology and pitfalls in creating an educational collaboration in an international design project that deeply engages students in their new translocated context whilst avoiding surface-level engagement with the host community. Projects such as these offer many benefits to those involved, however could be accused of 'Design Tourism' - where the primary purpose of the project is the educational or personal development of the visitors, and the resulting ideas are left without any potential for realistic implementation. This problem is of critical importance for design and engineering educators who both want their students to learn and want their students' projects to have genuine legacy and impact. This paper explores this tension, and how this relates to the role of the designer working and learning across local and globalised contexts, and the role of an educator in designing an appropriate and effective learning experience. Building upon a legacy of annual international design projects, this paper uses 'GoGlobal Chile 2017' as a case study. The context and educational design of the project are outlined, and the resulting projects are presented, where 74 designers from the United Kingdom and Chile worked together to develop a series of innovation projects exploring the topic of food security. This paper concludes by considering factors for creating successful international design projects through a focus on building team cohesiveness and setting appropriate student expectations of legacy. By balancing these factors, students can be empowered to co-create impactful, contextualised projects whilst developing key skills to collaborate internationally in the future.

Keywords: International collaboration, sustainable development, design tourism, cultural transfer

1 INTRODUCTION

Collaborating with people from other cultures can be one of the most challenging and enjoyable experiences for any designer or engineer. It can push you far outside your comfort zone, let you walk in someone else's shoes and test the limits of your skills in observation and communication – accelerating development of a large range of participatory design skills, particularly in conducting effective research and realising collaborative design synthesis [1]. Working on projects in different cultural contexts can also be extremely rewarding, offering a chance to create projects with the potential for real tangible impact on the communities and partners involved [2]. However, as with any design work, there is room for error and these projects can also be ineffective and poorly executed; at worst, even damaging the local situations they aim to improve [3]. In recent years, this has entered the design discourse as designing for international development has come under criticism for promising too much and delivering too little to these local partners [4]. Thus, the concept of '*Voluntourism'* has established itself as a unique field of study over the past decade [5], where its benefits and shortcomings as a transformative learning experience are widely acknowledged [6]. In design education, this presents an increasing challenge for educators who understand the potential value of these projects to both the students and the local context and wish to avoid a move towards *'Design Tourism'*. In this paper, the authors responsible for 'GoGlobal' reflect on techniques for enhancing the beneficial aspects of international collaboration, whilst mitigating the damaging aspects. It is a cause well worth refining, implementing and sharing, as connected global thinking is an increasingly valuable part of design education.

2 CONTEXT

The 'GoGlobal' project is part of the two-year Innovation Design Engineering (IDE) dual masters programme run jointly between the Royal College of Art and Imperial College London. It is an interdisciplinary course that fosters impactful innovation practice through fostering disruptive design thinking, engineering and enterprise [7]. This culture of innovation is implemented by creating diversity and difference in the student cohort's background professions, cultural heritage and their interests and talents. In the first year, students conduct a series of intensive short (two to five week) projects that expose them to different ways of analysing, researching, thinking, synthesising, making and testing, whilst being exposed to a wide variety of tutors of different disciplinary backgrounds. In the second year, students combine their old and newfound skills to work solo and in groups on self-selected briefs.

Now in its thirteenth year, the GoGlobal module is an important part of creating this environment of 'extreme diversity' within IDE. It takes first year students outside the UK for a three-week contextual interdisciplinary collaboration with a partner institution outside of the UK. Previous destinations have recently included South Africa and South Korea [8]. In GoGlobal, IDE students' design practice meets with the local students' practice, and through this diversity and difference, they aim to co-create innovations to address global challenges which have manifested themselves at a local level, whilst creating skills working in and with other cultures. This paper presents the experiences of the tutors responsible for the GoGlobal 2017 project in Santiago, Chile, whose thematic area is that of food security, conducted in partnership with the Pontificia Universidad Católica de Chile and the Universidad Técnica Federico Santa María.

3 GOGLOBAL CHILE

Chile is one of the most developed countries in South America, with a vast array of ecosystems spanning from Antarctica to the Atacama Desert, and from the Andes to the Pacific. As such, it presents a unique setting for exploring both the social and environmental challenges arising from a rapidly developing economy and a unique set of natural resources. Food security is of particular importance to Chile where agriculture is a key component of the economy. Food also provides a lens through which to share cultures, build connections and explore health and nutrition, making it exciting ground for co-development. GoGlobal is built on three core learning outcomes, and by the end of the module students should:

- Become comfortable working with uncertainty and ambiguity in an innovation context.
- Develop skills in working in and with other cultures.
- Develop a global perspective on design, engineering, innovation and entrepreneurship.

Whilst the students are co-located together, it is also expected that the students will experience a wide variety of additional benefits through developing international friendships and networks of collaboration, and gaining an understanding of the differences and similarities, priorities and necessities between developed and developing countries.

3.1 Challenge Briefs

Five challenge briefs were formulated by the tutor team based on two early scoping trips to meet local partners and conduct initial field research in Chile. They were developed with partners and chosen to align with local cultural trends and challenges identified, and with the research and work of the local academics and partners involved in the project to ensure both highest potential for relevance and for gaining support and access to local facilities. Each briefing area defines a context and user group, whilst granting student's freedom to discover and define their own innovation opportunities based on their primary research:

1. **Health and Nutrition by Design**: How can food provide an opportunity for a rapidly ageing population, to bridge distances (perceived and real) and support wellbeing?
2. **Connecting Rural and Urban**: How can local economies be designed to bring together rural and urban food cultures and promote local wellbeing, and social integration?
3. **Food Resilience in the face of Natural Disasters**: How can design ensure appropriate food supplies and food safety in the preparation for, and wake of natural disasters?
4. **Food in Extreme Environments**: How can design reveal new opportunities for increasing wellbeing for those working in Chile's harshest regions and hardest jobs?

5. **New Hybrid Food Identities**: How can new food cultures celebrate Chilean identity and promote the integration of new immigrants from neighbouring countries?

A full briefing document was produced for each with an outline of the challenge area as well as key contacts and partner organisations. In order to form project teams, students from both IDE and the Chilean institutions were given an outline of the five areas during November 2016. They were asked to give their top three choices and were put into teams based on their preferences. Twelve groups were formed, where tutors curated groups to create an even mix of UK and Chilean students, as well as maximising the diversity of skill sets in each group (aiming for an even mix of creative, technical and 'other diverse' backgrounds). The students were then introduced via Skype to build familiarity and kick start the research phase.

3.2 Module Structure and Method

GoGlobal Chile ran for three weeks in Santiago during January of 2017, with a week of preparation occurring in London in December of 2016. This was a compulsory module at the start of the second term of study for the IDE students and was an optional course during the summer break for local Chilean students from the Engineering and Design schools. The module was structured as follows:

- **Week 0. Preparation:** This week consisted of; a) inspirational talks from UK based food innovators b) workshops in research methods, human centred and inclusive design, leadership and team dynamics, c) distance team building with Chilean students.
- **Week 1. Discover and Define:** This week consisted of, a) a kick off day with inspirational talks from Chilean food innovators, chefs and academics, b) a context setting day to explore the Chilean context through a futures workshop, c) facilitated research trips and meetings with local communities, partners and contacts, d) an early stage concept review.
- **Week 2. Develop:** This week consisted of, a) open time for students to conduct further primary research, concept development and prototyping, b) a field trip to see an innovation centre and further inspirational talks from companies, c) an interim review.
- **Week 3. Validate and Deliver:** This week consisted of, a) facilitated research trips to enable concept testing and validation, b) final project review and open exhibition.

A programme of tutorials was also put in place every day where tutors from both UK and Chilean institutions were available to give feedback and guidance as needed.

4 PROJECT RESULTS

The twelve resulting projects were analysed in terms of the following criteria:

1. **Team dynamics of international group:** Based on each team's demographic and disciplinary composition, the module organisers have commented on the quality of the students' integration and expectations of each other.
2. **Potential impact of proposed innovation:** The potential impact of each project is considered to be directly related to the project's legacy. This has been evaluated for each group by examining the level of validation of outputs, and clarity of value proposition.

The conditions surrounding each of the teams was compared with the nature of their delivered projects. The results of this are shown in Table 1. Further full project descriptions, including photography and video footage can be found on the GoGlobal project website [9].

5 DISCUSSION

From the journeys of these projects (Table 1), a number of trends can be identified that uncover the challenges and successes of the teams. In rest of this section, reflective student feedback gathered at the end of the term (8 weeks after GoGlobal) has been used to support discussion, shown in italics where directly quoted.

5.1 Key Observable Trends

A strong correlation can be seen between the teams with the most effective projects, and those with the most cohesive team dynamics. In the cases where the IDE students and Chilean students were able to co-operate closely, the teams were then also able to build strong bonds with local users, and therefore deliver well contextualised and considered concepts with the potential for tangible impacts.

Table 1. Project outcomes and comments. (Institution abbreviations: ICL - Imperial College London, RCA - Royal College of Art, USM - Universidad Santa Maria, PUC - Pontificia Universidad Católica)

Brief	Project	Institution	Team dynamics comments	Impact potential comments
1. Health and Nutrition by Design	**La Olla** is a social initiative which brings the elderly of Chile together with younger generations over the love of food and cooking.	ICL / RCA ICL / RCA PUC USM PUC ICL / RCA PUC	Team has a balanced composition of students from UK and Chilean institutions. Group experienced a large amount of conflict over which direction to choose, and was strongly lead by a UK student, with Chilean students providing access to elderly end-users.	Project end outcome included a fully functional website, but is heavily reliant on existing social enterprises and their staff and operations, so would require buy-in from these stakeholders. Project needs further testing and validation to determine true feasibility. In-group tension held back project from achieving a more advanced outcome.
	Sobremesas helps Chilean elderly out of isolation by connecting them with the youth for a collaborative cooking and dining experience	PUC ICL / RCA ICL / RCA ICL / RCA PUC USM	Team has a balanced composition of students from UK and Chilean institutions, who worked well together: Chilean students were integral to the group. Early on in project, team was meeting with end users in care homes and this degree of cooperation continued throughout, creating good links with a number of local homes.	Project validated through multiple trials with local people. Students had spoken to a number of care homes about continuing the project activity, and the Chilean students were considering taking the project forwards. A very good project outcome with potential for implementation, enabled by good student international integration.
2. Connecting Rural and Urban	**RutaRural** is a new kind of community-led tourism for Pucón offering immersive, authentic, sensitive experiences.	ICL / RCA ICL / RCA ICL / RCA ICL / RCA PUC	Team had a large ratio of students from the UK institutions, due to amount of travel involved in project. Team was extremely cohesive, working very well together, and forming a close bond with their partnered local guide and local artisan end user.	Project validated through meetings with local government representatives. UK students continued to develop project, sending back prototype to the end user artisan in Chile. Good potential for project to continue in partnership with local guide. A very good project outcome, enabled by good team integration.
	Invitando al Mundo removes barriers for rural communities to access and host international tourists.	ICL / RCA ICL / RCA ICL / RCA ICL / RCA USM	Team had a large ratio of students from the UK institutions, due to amount of travel involved in project. Team experienced tension with group 'RutaRural', having very similar project outcomes with this group's concept. Poor mix of student backgrounds slowed group down, resulting in less refined outcomes. Group did not establish strong links with user groups.	Project result derivative of existing solutions found elsewhere in the world, without a culturally specific or appropriate implementation. Skill mix held back group from achieving a more advanced outcome.
3. Food Resilience in the face of Natural Disasters	**Manta de Evacuación** provides protection during disaster evac. combined with comfort, security, and shelter in the hours and days after.	ICL / RCA PUC ICL / RCA ICL / RCA PUC PUC	Team has a balanced composition of students from UK and Chilean institutions, who worked well together, but struggled to identify a project direction due to a strong UK student personality. Consequently, the group came to their project direction late, but accelerated quickly towards the end of the project.	Safe' product-based outcome with little systems-level thinking will require a big push for implementation, realistic scalability and distribution. No ongoing connections with users in local community, despite good level of early contact being made by students. Project held back by group tension early on.
	Programa BioCommunidad Valparaiso incentivises waste management, starting with bio-waste for a resilient and safer hill with less fire hazard.	ICL / RCA USM ICL / RCA PUC ICL / RCA USM	Problematic team dynamics, created by large cultural divide between students from UK institutions and Chilean students. Project in latter stages was salvaged by action from Chilean students, setting up field testing and co-design workshop.	Despite early difficulties, the students built a number of working prototypes with their end users, with local buy-in, creating a project with a large degree of potential legacy. The local knowledge of the Chilean students enabled the success of the project.
	Feria Arriba is a mobile market that brings fresh fruits and vegetables to the people of camps in the hills of Valparaiso.	PUC PUC ICL / RCA PUC ICL / RCA	High degree of conflict within group, exacerbated by one UK-based student arriving late. Several strong-willed individuals from UK and Chile.	Project resulted in an insightful piece of service design which could be highly implementable in Chile, with potential for impact. However, due to team conflict, project outcomes were rough and only lightly validated through conversations with community leaders. To continue, the project would need a local champion.
	Go Plantago is an educational kit to introduce a herb with medical properties to people living in areas with large amounts of air pollution.	USM PUC ICL / RCA PUC ICL / RCA ICL / RCA	Team consisted of students of weaker ability, who struggled to find their project direction until very late. Team working problems compounded by english language difficulties by all parties.	Created highly polished design outcome, based on a weak foundation of knowledge and insight, creating a weak project output. Poor team working and unproductive conflict slowed project.
4. Food in Extreme Environments	**Verdelise** gives farmers in the Atacama desert cheaper fertiliser and fights desertification.	PUC ICL / RCA ICL / RCA ICL / RCA ICL / RCA ICL / RCA ICL / RCA ICL / RCA ICL / RCA ICL / RCA	Team had a large ratio of students from the UK institutions, due to amount of travel involved in project. Two teams originally assigned to this brief joined together to pursue single project direction, which avoided conflict but allowed weaker students to 'hide' behind stronger ones.	Harmonious team created polished outcome, though lacking design refinement. Potential for impact, with a white paper written to 'hand over' the knowledge gained in the project, written with network of experts. Due to lack of a local champion to take the project forward, project has since disappeared, leaving the UK-based students disappointed. Chilean institutional support needed to push the concept further into reality.
5. New Hybrid Food Identities	**Cocina Abierta** is an open kitchen and dining experience, bringing cultures together through cooking, collaboration and conversation.	ICL / RCA ICL / RCA PUC ICL / RCA PUC PUC ICL / RCA	Team has a balanced composition of students from UK and Chilean institutions, who worked very well together. Chilean students facilitated user-centered process in public spaces to help establish early insights. The continued cooperation between team members resulting in a good level of testing and validation, with an impressive final designed experience.	A well validated, practical experiment-led project with a large number of demos with real users, lending credibility to their proposal. Students established talks with local social enterprise regarding incorporating their project ideas into their existing activities. Project enabled by excellent integration between visiting and local students.
	El Sabor de Chile is a box of the best of Chilean food: get back in touch with the flavour of Chile and discover great regional specialties	ICL / RCA ICL / RCA PUC ICL / RCA ICL / RCA	Team had a bias towards visiting students from UK, but via strong collaboration in team, found strong case studies in local population to find unique insights, and worked well to produce a high quality outcome.	A good, potentially scalable outcome, that lacked testing and validation, resulting in a project of limited scope. Would have benefitted from more Chilean students in the team, to enable further testing with users.
	Come Chileno builds pride in Chilean grown food, inspiring exploration in Chilean cuisine.	ICL / RCA ICL / RCA ICL / RCA PUC PUC ICL / RCA	Team had a bias towards visiting students from UK, but via strong collaboration in team, advanced rapidly in their thinking early on. However, due to possibly weaker Chilean student input, were unable to form strong connections with local users, or strongly contextualise their proposal, resulting in a weaker final outcome than expected.	An exciting and lively design process, resulting in an overly simple 'campaign' style outcome, with little scalability or potential for impact, despite very refined project outputs. Would have benefitted from more Chilean students in the team, to enable tighter integration with their anticipated users.

A key factor that impacted the cohesiveness of the teams was mismatched expectations. As many IDE students were not already experienced designers, some of the Chilean students were disappointed that visitors from such prestigious institutions were not performing better in the basics of design. By return, many IDE students were disappointed in a lack of commitment, that *"not all Chilean summer students were motivated to participate in the programme or to put much effort"* and *"they weren't as willing to get out of their comfort zones as us... the project wasn't as important to them"*.
This highlights the importance of setting the right conditions and expectations ahead of the project, and another area where this became influential in the development of the work was in the scoping of the specific brief given. For briefs 1, 2 & 4 a clear link was given with a community, leading to highly contextualised, but perhaps less innovative solutions. Brief 5 by contrast was much more open and resulted in a range of more abstract and creative outputs through students finding their own contacts. In contrast, for the previous year's GoGlobal project in South Africa, the briefs were more constrained, resulting in more localised small-scale innovations which were readily implementable by the partnered social enterprise [10].
For brief 3 however, a series of natural disasters occurred before, and during our time in Chile. This meant that local project partners were unavailable, being busy with real disaster response operations. Without these contacts to steer the work and being faced with the realities of communities in the midst of disaster recovery led to student groups struggling to find solutions they deemed effective enough.

5.2 Educational Design & Expectations

"*The question of Voluntourism and its impact is ongoing - I think this module still needs to be more careful about extremely bold claims it makes and challenges it attempts*." Student feedback such as this reveals that students expect real world impact of their GoGlobal projects, and that they are dissatisfied with the lack of legacy of their projects, beyond the scope of their module. These expectations are shaped strongly by four educational design factors: the module aims, intended learning outcomes, taught input and assessment methods. These are intended to be structurally aligned to consistently emphasise personal development and educational growth (Section 3). This degree of structural alignment is essential to create a deep engagement with the intended aims of any educational module [11]. In reality, the wrong expectations were set for the students with the high-level philosophy being communicated as primarily aiming to "create breakthrough innovation to address global challenges", rather than to primarily "develop a global perspective on design, engineering, innovation" as stated in the module learning outcomes – the former being a much more prominent message to the students than the latter. Additionally, further teaching activities would need to be created in alignment, which focus on the international collaborative design process, as well as end outcomes, such as global connected thinking, team dynamics and self-reflection.

5.3 Tutor Reflections on Impact

GoGlobal set out to positively impact on both the local Chilean context, and the design practice of the students engaged in the project. In the first case, unfortunately very little lasting impact can be seen as none of the projects continued. Although a number of the projects demonstrated great potential and could be readily implemented (*Sobremesas*, *Programa BioCommunidad*, *Feria Arriba* and *Cocina Abierta*), they ultimately failed as they would have needed a local champion to take them forward. The projects that came closest to ensuring legacy were *Verdalise* and *RutaRural* who both built very strong local networks and left behind comprehensive plans for implementation that were not taken forwards once the students returned to London and faced the rigours of their studies. In the second case, more positive results can be seen in the year following GoGlobal. A number of the IDE students involved have gone on to work together in their second year of study to create projects that strongly exhibit elements of GoGlobal's learning outcomes. Two key examples are the projects 'Augmented Nature' [12] and 'Finite' [13]. The former has designed beneficial artificial augmentations to species in endangered ecosystems, and the latter is an invention of a biodegradable concrete. Both projects have established international collaborators and are strongly contextualised in appropriate locations (Amazon Rainforest and the Middle East respectively) whilst keeping strong links to the larger global picture and relevant megatrends.

6 CONCLUSIONS

The central issue this paper explores is that of value creation in international educational design projects. Projects such as GoGlobal have the potential to create real impact and value in their chosen context, but also create value for the participating students. The tension between these two kinds of value is manifested in the complaint of *'Design Tourism'*, where the value created is biased in favour of the visiting institution and its students. Based on reflection on the module's organisation and project results in Chile, the authors propose two main strategies of (a) relationship building and (b) expectation setting, when designing similar modules. The authors found that highly integrated student teams create project outcomes with a higher potential for impact. Successful bonds between students lead to strong teams which engage well with external partners and users, resulting in a strongly contextualised project outcome. Strategies for building trust and team cohesiveness in a short time between students of different cultures include ensuring there is sufficient incentive and motivation for all to participate, especially those who are participating as an extracurricular activity, as well as pre-project ice breaking sessions (by remote, if necessary). In this way, the educational design principles of collaboration must also include setting correct expectations amongst the student cohorts via learning outcomes, teaching activities and assessments that are all aligned with the module organisers' aims. With respect to ensuring legacy and impact, the previous year's GoGlobal project in South Africa [10] created much more tightly constrained design briefs. Whilst this resulted in outcomes that were immediately implemented by the partner organisation, the results were hyper-localised, with less scope for scalability. This balance between student freedom and legacy of the final outcome remains an open question at present. Where a project is only three weeks long, it is important to be realistic about the impact that is possible for the students to create. Caution should be exercised when the aims of an educational module explicitly include project legacy. Thus, it is also important to reinforce the notion that the learning outcomes experienced by the participating students *are* the positive impact of a module like GoGlobal, which have the potential for shaping their identity and practice as designers - to be able to create and implement sensitive, innovative ideas across geographical and cultural boundaries. It is this kind of globally connected and human sensitive design practice that GoGlobal aspires to enable in its students.

REFERENCES

[1] Stevens, J. & Townsend, H. Building Cross-Border Communities, In *International Conference on Engineering and Product Design Education 2017*, Oslo, (2017).

[2] Bohemia, E., Harman, K., Lauche, K. The Global Studio: Linking Research, Teaching and Learning. *IOS Press* (2009).

[3] Moalosi, R., Popovic, V., & Hickling-Hudson, A. (2010). Culture-orientated product design. International Journal of Technology and Design Education, 20(2), 175-190.

[4] Design Observer, *Humanitarian Design vs. Design Imperialism.* Available: bit.ly/2FcR9IT [Accessed on 2018, 01 March] (2010).

[5] Wearing, S. & McGehee, N. *Volunteer Tourism: A Review*. Progress in Tourism Management (2013).

[6] Coghlan, A. & Gooch, M. Applying a transformative learning framework to volunteer tourism. In Journal of Sustainable Tourism, Vol 19, pp. 713-728 (2011).

[7] Childs, P.R.N., and Pennington, M. '*Industrial, and innovation design engineering*' in Chakrabarti, A., and Lindemann, U. (Editors) Impact of Design Research on Industrial Practice, pp. 133-149, Springer (2015).

[8] Hall, A. & Jin-Nam, T. *Designing Social City Experiences* MKC, S. Korea. (2013).

[9] Innovation Design Engineering, *Chile GoGlobal 2017*. Available: ide-goglobal.com [Accessed on 2018, 01 March] (2017).

[10] Togni, R., Pindeus, M., Slack, A., Slingsby, C., Bahk, Y. & Pennington, M., 2016, Monograph, *GoGlobal Cape Town - Impact Evaluation* Documentation. Royal College of Art. (Unpublished)

[11] Biggs, J. Constructive Alignment in University Teaching, *HERDSA Review of Higher Education*, Vol. 1, pp. 5-22 (2014).

[12] Malliaraki, E., Carter, D., Geerits, M, and Gouillart, A. *Augmented Nature*. Available: augmentednature.co.uk [Accessed on 2018, 01 March] (2018).

[13] Tam, C., Oza, H., Maccario, M. and Maruyama, S. *Material Finite*. Available: materialfinite.com [Accessed on 2018, 01 March] (2018).