‘DESIGN WITHOUT BORDERS’

International collaborative design projects as a mechanism to integrate social sustainability into student design practice.

Muireann McMahon¹, Prof. Tracy Bhamra²

¹University of Limerick, Limerick, Ireland.
²Loughborough University, Loughborough, U.K.
³Dept of Manufacturing & Operations Engineering, University of Limerick, Ireland.
Muireann.mcmahon@ul.ie, +353 61 213580.

Abstract
Like the notion of social impacts in Sustainable Development, social sustainability in design is a complex, contradictory and challenging area. Although not clearly defined, it is often where all the vague and immeasurable elements of Sustainable Design are placed. Addressing the balance of sustainability to include societal and human concerns is seen as a difficult, but necessary task which can lead to an increase in social capital, social cohesion and collaboration across geographical and educational boundaries (Findeli 2008).

Encouraging and facilitating collaboration between students in an educational setting is particularly challenging as students’ struggle to move past what they know and have learnt in their own cultural settings. Individual student thinking is often rooted in past educational experiences with students getting little exposure to diversities of practice (social and professional) or failing to become engaged in any real cross cultural dialogue. As in every field, designers must learn to co-operate across disciplines and borders. Both knowledge share and collaborative practice serve to open these communication channels and create a community of informed and informative professionals.

This paper explores the role international collaborative projects can play in introducing social sustainability into design education. The paper begins by grounding these projects in current theory surrounding social sustainability and educational practices. Subsequently a brief outline of the projects is provided (conducted between students from Universities in New Zealand, Ireland and Chile) and the paper continues to explain the logistics of planning and
implementing such projects. The findings from this study suggest that involving design students in international collaborative work encourages reflection, compromise and critical thinking. However, not withstanding the difficulties and realities involved; the conversations, conflicts and compromises that occur, and the unforeseen happenings that can thwart and enhance the experience. The paper concludes by reflecting on the experience of both students and tutors and the impact the project has on their subsequent practice.

Keywords
Social Sustainability, Collaboration, Design Education, Product Design.

1. Introduction
1.1 Background
The paradigm of design is changing; moving away from material led objects to more user-led experiences. These future solutions may be greatly enhanced through a process of collaboration, collective knowledge, multi-disciplinarity, holistic perspectives and diverse cultural backgrounds. The skills and capacities will require a shift in how designers are taught as students and subsequently practice as professionals. If they are to be responsible, innovative and pragmatic, design students must develop the ability to think critically, tie together disparate strands of information, apply systems thinking, co-operate in co-design projects and also imagine and realise new ideas. The broader the diversity of information, practices and cultures the students are exposed to the more open their perspectives will be and the more efficient they will become at participating in and facilitating the creation of innovative solutions.

It is generally accepted that sustainability incorporates three central tenets (social, economic and environmental) in equal measure. Social sustainability, unfortunately is difficult to define and even more difficult to implement as it involves issues as diverse (and unquantifiable) as ethics, values, active citizenship, cultural diversity, holistic perspectives and personal as well as professional responsibility. There is no denying the importance of this branch of sustainability or the need for social sustainability to be totally integrated into the education of designers; if the philosophies are embedded early then responsible practice becomes normative.

This ‘deeper’ approach to design poses a huge challenge as it requires a change in both behaviour and attitudes (Thackara 2006). What may be required is a new way of learning...
that ‘is creative and involves a deep awareness of alternative worldviews and ways of doing things’ (Sterling 2001). With every challenge though comes opportunity, the critical, creative and systemic thinking approach advocated through social sustainability offers great potential for making designers aware of the impact their ‘products’ have on both local and global societies. As this awareness grows, designer can feel enabled to change their practice and as a result impact positively on consumption and behavioural patterns of end users.

In third level design education, it is necessary to prepare students for the challenges they will face, one way of approaching this is applied collaborative projects that broaden students’ perspectives; ensure personal engagement (and as a result transformative experiences); encourage students to develop a holistic perspective and to become critical thinkers, thinkers who question, analyse, reflect and form their own worldview. There is also an imperative to expand the sustainable design debate beyond environmental and economic issues and into the realm of social issues where students have full knowledge and awareness of the impact their practice has on society as a whole and the individuals who inhabit it. Relevant skills and capacities need to be honed, however to enable students to successfully integrate the aspects of social sustainability into their practice. To this end, the effectiveness of using design education and international collaborations (within design education) to foster and embed the necessary skills and capacities must be explored.

Design education therefore, must stimulate the students into exploring alternative approaches to design, in a real and engaged way. As a result, they may critically analyse their own education and behaviour, as well as learning to comment and critique other design work by engaging in dialogue with a wide variety of designers from diverse cultural backgrounds. From the tutors perspective this will help to broaden and develop the experience for their students and will emphasise the importance of making project work relevant within the global context.

1.1 Context of Study

This paper is based on the initial study which is part of a larger on-going post-doctoral project. The key premise of the overall study is to investigate how social sustainability can be integrated into design practice. The focus of the work is international collaborative projects that foster the necessary skills and encourage students to look more broadly and critically at their own work and that of others. This paper describes the first phases of research and demonstrates how each phase informs the other using an action research model. Firstly the methods used in the study are explained. The paper continues by defining social
sustainability and its relationship to design, in addition attention is given to the role education can play in encouraging students to develop and hone these skills. As an integral part of this initial study a number of student led collaborative projects were conducted. These projects are described (in section 4) and are followed by a discussion on the outcomes of the first Action Research project. This discussion section describes how the first phase informed the design and implementation of the second phase. Finally the conclusion offers an indication of the future research and phases of Action Research that will be undertaken as the completion of the study.

2. Methods

![Figure 1: The Project Overview](image)

2.1 Aim

To investigate the use of international collaborative design projects as a mechanism to equip students with the skills and capacities necessary to integrate social sustainability into their daily design practice. Figure 1 illustrates the overall project map from the key aims at the centre of the diagram to the research methodology (left) for testing and the skills and capacities on the right.
2.2 Objectives

- To explore the role international collaborative projects could play in introducing social sustainability into design education. This will be approached from both the students and the lecturer’s perspectives (continuing benefit to the student in their professional career, as well as the learning outcomes and the pedagogical strategies behind the projects).

- To assess if exposure to multiple perspectives in the definition and resolution of design problems can broaden the educational experience for students. And how, that by participating in these international projects, that encourage Knowledge Share; Collaboration; Cross Cultural and Active Participation, can lead to a more responsible and globally conscious designer.

2.3 Research Method

The research is conducted using Action Research as the overarching strategy (figure 2). There are several reasons for adopting this approach. Firstly the approach enabled the researcher to become involved through action with the students and thereby develop a deep understanding of this complex phenomenon and secondly it allows for continuous feedback and testing of the collaborative project method. Action Research also tends to be used when people want to take pragmatic action to improve their own or others’ personal or social situations (McNiff and Whitehead 2006). The model lends itself to situations where the researcher wants to evaluate whether and in what way, their practice is influencing their own or other people’s learning (Ibid, McDowell et al. 2008).

![Figure 2: Action Research](image-url)
2.3.1 Using a design model for research

In explaining the Action Research process it is important to highlight the direct parallels between planning and structuring an action research project and the design process. Both require the ‘designer/researcher’ to be wholly cognisant of the user (motivations, drivers, experiences etc.) and the environments of use (constraints, opportunities, ; both call for creativity and imagination in the generation of new ideas (‘blue sky’ idea generation); both encourage in-depth explorations into a wide variety of possible solutions (concept generation) and through a comprehensive process of iteration, continuous improvement these ideas can be developed and honed into the most appropriate, desirable and innovative solution (development and implementation) (Lawson 2006). Both advocate a learning-by-doing process where mistakes inform the changes just as much as the successes.

The ability to communicate these ideas effectively is key to a successful design/research projects. Taking these similarities into account the intention has been to conduct this research project like a design project drawing together the most innovative and cutting edge methods begin employed by design leaders and radical thinkers. The process is pragmatically driven by creativity, learning by doing, ‘user’ understanding, iterative development, innovative thinking, appropriate decision making and effective communication. emerge.

The ‘learning by doing’ approach of action research and the design process leads to a cyclical or spiral structure, where feedback loops continuously drive improvement and change.

- There is no need for concrete ideas and methodologies at the outset, these can develop and change over time.
- Flexibility to accommodate for changes in underlying strategies
- Accounts for unpredictability of persons and places under research.
- Encourages continuous and iterative testing and development
- Continuous feedback loops mean that mistakes are a valid part of the experience.
- Evaluation, reflection and resultant practice changes are key.
- New ideas can stem from exploring the initial idea, as one question is answered others can emerge.
- There is no ‘right’ or ‘wrong’ answers merely solutions that are the most appropriate given the information to hand and the situation at the time.
### 2.3.2 Gathering Information

During the data collection stage it will be necessary to use a mix of methods as each one will offer a different perspective, or tell the story in a different way. Below is a table that indicates the various techniques that may be employed throughout this project.

<table>
<thead>
<tr>
<th>Method</th>
<th>When</th>
<th>Why</th>
<th>Collection Technique</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storytelling</td>
<td>Planning</td>
<td>Build narrative</td>
<td>Journals (Diaries)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Enable, deep &amp; rich view</td>
<td></td>
</tr>
<tr>
<td></td>
<td>During</td>
<td>Monitor process</td>
<td>Observation (Discrete)</td>
</tr>
<tr>
<td></td>
<td>After</td>
<td>Reflect</td>
<td>Observation (Indiscrete)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Relate experiences</td>
<td>Focus Groups</td>
</tr>
<tr>
<td>Ethnography</td>
<td>Planning</td>
<td>Understand participants</td>
<td>Observations</td>
</tr>
<tr>
<td></td>
<td>During</td>
<td>Study behaviour</td>
<td>Behaviour mapping</td>
</tr>
<tr>
<td></td>
<td>After</td>
<td>Analyse experience</td>
<td>Focus Groups</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Analyse learning</td>
<td>Storyboarding</td>
</tr>
<tr>
<td>Empathy</td>
<td>Planning</td>
<td>Ensure appropriateness</td>
<td>Empathy Research</td>
</tr>
<tr>
<td></td>
<td>During</td>
<td>Participation</td>
<td>Day in the Life storyboarding</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Immersion</td>
<td></td>
</tr>
<tr>
<td></td>
<td>After</td>
<td>Inform change</td>
<td>Interviews (structured unstructured)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Understand experiences</td>
<td></td>
</tr>
</tbody>
</table>

Table continued on next page
Table continued from previous page

<table>
<thead>
<tr>
<th>Method</th>
<th>When</th>
<th>Why</th>
<th>Collection Technique</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case Study</td>
<td>During</td>
<td>Test Theories</td>
<td>Pilot Design Projects</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Generate measurable</td>
<td>Interviews</td>
</tr>
<tr>
<td></td>
<td></td>
<td>outcomes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>After</td>
<td>Observe Behaviour</td>
<td>Observations</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Experience</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Evaluating</td>
<td>Informal Questionnaires</td>
</tr>
</tbody>
</table>

Table 1: Research data gathering techniques

3. Social Sustainability & Education

As justification for the collaborative projects and to provide a background context it was necessary to first identify what social sustainability is in relation to design and also to discover what relevant skills and capacities designers needed to develop in order to practice responsibly.

The contemporary approach to design differs hugely from what it once was and the notion of a designer’s role as that of merely giving shape to physical objects is no longer valid. Design has evolved to become the link between human and social needs and industrial practices. This is achieved by giving meaning, providing cultural contexts and the contexts for individual expression, through the design of both tangible and intangible ‘object’. It now acts as cultural stimulus; a change agent; and a tool for social engagement. The designer’s role can now be defined as someone who makes something better for someone else.

The seemingly disparate topics of design and Sustainable Development can be drawn together by the thread of social sustainability. Like the social aspects of Sustainable Development, sustainable design calls for a deep understanding of human behaviour, fulfilling human needs and wants whilst being cognisant of environmental limits, resource use and carrying capacities. Sustainable design has progressed from the ‘green’ design agenda into a far more considered and holistic approach.
The debate around social design and the meaning of social sustainability within design practice can be interpreted in numerous different ways. It is often thought of as designing for marginal sectors of society in order to even the disparities in living standards and quality of life (design for society). Similarly considerations of culture and cultural meaning in products can be classified as social design, as can design processes that employ psychology and motivational strategies to lighten human impact (Design for behaviour change). Essentially though social sustainability in design is about harnessing human and cultural capital to bring about change and regain social cohesion.

Trends in the design industry are tending more towards responsible practice and the employment of creative methods to innovate for economic and social development. Whilst this is an emerging area it is by no means the norm as professional designers still struggle with the challenge of satisfying the needs of the very disparate range of stakeholders. Transferring the rhetoric into action is proving difficult as industrial drivers are not encouraging and the incentives to change are slow in coming. In spite of the challenges there are groups and individuals around the world who are adopting responsible, ethical and innovative approaches to sustainability and design. However it has taken time for many of them to strike the balance between doing commercially viable projects and socially responsible work.

When searching for a definition for social sustainability in design it quickly became clear that a definitive one did not exist. The majority of literature describes the social elements of sustainable design to mean issues of health and safety, equity, social entrepreneurship, consumption habits, efficiency and behaviour change. Lilley (2007) has distilled social sustainability to include the softer agendas ‘of governance, corporate social responsibility, personal responsibility, equitable distribution of social capital, meeting basic needs, quality of life, health, well-being and happiness, democratic participation, trusting, harmonious and cooperative behaviour and preserving social and cultural dynamism’ (2007). This can be further expanded to include history, traditions, dialogue, equity in expressing ideas, compromise, self fulfilment and altruism. These have been categorised as social capital, social engagement, social cohesion and social exclusion (Bramley et al. 2006).

---

1 Commercial viability means different things to different practitioners, in some cases it can simply be ‘Not for Profit’ work whilst others have established and run profitable and highly successful businesses.
3.1 Design Education for Sustainability

Unfortunately the problems linked with sustainability and in particular social sustainability are by their very nature are extremely complex and wicked. Designers need to be aware of the consequences of their design toward society. If we accept that the challenges are great then the approach for bringing about change demands a rethink of both design practice and education. Sustainable design is such a difficult and undefined subject (nobody really knows how to meet these new demands and challenges) that a struggle emerges when asked to educate for it. As a result students often struggle with marrying the complicated, contradictory and all too often confusing concepts that underpin it. Education and Sustainability are inextricably linked as it is seen as the key to effectively implement change (McKeown 2002). There is no denying that Education is pivotal in realising the vision and translating the rhetoric into real action (UN 2005, UNESCO 2004).

It is widely recognized that designer practices must move from a parochial to a global approach where openness, transparency and collaboration (co-design & co-generation) allow for a greater freedom of ideas and solutions. Collaboration and co-operation allow designers to hear other voices, build on both collective and individual knowledge and develop softer skills like compromise, dialogue, reflection and empathy.

Therefore an imperative exists to not only change what is taught to design students (curriculum content) but also how the core skills are taught (teaching methods). Non traditional learning models and Education for Sustainable Development (ESD) place emphasis on very different skill sets than traditional approaches to learning. Collaboration and interdisciplinary approaches; holistic and broad perspectives; problem solving; critical thinking and analysis; independent learning and self direction and reflection; these teaching and learning strategies take precedence over more subject specific strategic learning models. Many authors recommend developing in students a generic range of skills and capacities that facilitate them in understanding, managing and questioning knowledge and then implementing change and effecting action (McKeown 2002, Sterling 2001, González-Gaudiano 2005). The most effective learning strategy is undeniably one where the process is stressed as highly as the outcomes and where individuals are equipped with the ability to think critically and creatively in order to build a socially just and equitable world.
The non traditional approaches to education (described in the preceding section) foster the skills and capacities identified as those required for the integration of Social Sustainability in Design. From the wealth of literature that exists on educational models the following skills have been distilled as those necessary for effective and responsible design practice (figure 4):

![Diagram showing skills and capacities for Social Sustainability in design.](image)

Figure 3: Skills and capacities for Social Sustainability in design.
4. The Projects
4.1 Phase 1 Action Research: ‘Cultural Leanings’

Phase one of the Action Research strategy outlines the details of the collaborative project undertaken between the Year 2 undergraduate Product Design students in Unitec, Auckland, New Zealand and the University of Limerick, Ireland (from February to April 2008). The idea for the project originated from a staff exchange between two design lecturers from the Institutes and explored the concept of connectivity and interactivity between two culturally different student groups divided by almost 18,000km’s and 12 international time zones. It was not a problem with current practice per se that drove the project, instead it was an eagerness to encourage students to engage and collaborate with others in a similar discipline.

4.1.1 Project Theme

The students in groups of two were asked to identify a tradition, a cultural phenomenon or a historical practice specific to their own country (art, religion, conflict, music and performing arts, literature, food, drink or anything that conveyed the culture of their nation). They were asked to re-imagine their chosen topic in the present day, not to rebuild the past but instead to re-interpret it in a contemporary context.

4.1.2 Project Logistics

Due to distances and time difference the students were required to make their work deliverable and communicable by available technologies. To this end each group established a blog (using Vox) and this was used as the primary communication tools for the duration of the project. The Vox sites were used as virtual exhibition spaces, project management tools, reflective diaries and project journals as well as providing a platform for giving and receiving feedback from the other participants.

The primary aim of the project was to encourage the following activities:

- Collaborative Work
- Shared Skills
- Cultural Diversity
- Critical Analysis & Reflective Practice
- Active Participation
- Communities of Practice; Knowledge Share & Networks
- Interaction & Engagement
- Reflection
- Developing Critical Thinking
Holistic Perspectives

4.1.3 Project Outcomes

The student work stemming from the project was both interesting and innovative. The diversity of ‘products’ ranged from tattooing tools to cooking and from furniture pieces to whiskey decanters. Each solution was rooted in the historical and contemporary culture of the students’ own country. For the first time in their design education some groups even explored the notion of replacing the physical object with an ‘intangible’ experiences.

Information on the project and feedback from the participants was gathered through online surveys and semi-structured interviews with a number of the students. Figure 4 highlights the process undertaken in the Action Research Phase 1 from the initial problem identification through the implementation phase and finally to the evaluation and modifications stemming from the projects.

Figure 4: Action Research Phase 1
4.1 Phase 2 Action Research ‘Food for thought’

The second phase of the action research project built on the lessons learned from the first phase. The project took place from the beginning of March until the end of April 2010 and initially involved three international partners: Unitec, Auckland, New Zealand; Universidad de Valparaiso, Chile and the University of Limerick, Ireland. Unfortunately due to situations beyond the control of the project the Chilean students were unable to participate. Such unintended consequences often form a part of Action Research as it is a continuously evolving process that is hinged on human and societal behaviour (which are often unpredictable in nature).

4.2.1 Project Theme

Food was chosen as the overarching theme, not only is it an issue (for very different reasons) in each of the countries, but each would have a very different perspective on the subject. The theme was then divided into 7 sub categories (e.g. Packaging & Transport; Domestic Food Production; Community Production; Shared Dining). A finding from phase 1 showed that students struggled with the open-ended theme and precious time was wasted at the start trying to come to terms with what the brief meant. It was decided to provide the students with clear direction, but still allow them to explore an area in depth.

The main modifications to the second phase of the action research were in the area of project theme, the collaboration process and the breadth of the collaborative experience. How these findings drove subsequent changes in the second action research phase are described below.

4.2.2 Collaboration

In order to make the collaboration as clear as possible a roadmap was compiled signposting all the times when interaction was necessary between the groups. These stages were suggested as times to communicate, however it is anticipated that the communication will happen outside these times too so that the sharing of ideas and information can go beyond the ‘studio’ and thus the academic environment. The ideal is a move to a situation where students converse not because they ‘have to’ but because they ‘want to’.

Another significant change was made in order to facilitate deeper interaction and that was in the project set-up. Instead of the student teams working on their own project it was decided that groups would be formed containing one team from each partner country. Each local team (containing either 3/4 members) would research the groups sub category as it related
to their country. They would then hand over the research to another team in their group, who would take the research findings and acting as a ‘Design team’ would develop innovative solutions for their ‘Client’ country. The designer would have to refer to their clients regularly to ensure the concepts being developed were relevant and necessary. This co-generative approach allows students to see how others approach their work (reflection) and ‘forces’ them to develop a common language and hone communication skills.

Figure 5: Action Research Phase 2
5. Discussion & Reflection

The following section provides a discussion on the first two phases of the action research\(^2\). This discussion draws together key observations from the data gathered through post-treatment questionnaires, semi-structured interviews, work published by the students in their blogs and informal discussions among participating learners and tutors.

Qualitative feedback was gleaned from the survey as well as the series of semi structured interviews with project participants. This feedback provided a wealth of information and observational insights and centered on the experience of the students and the lecturers which in the main was positive from all involved. The novelty of the projects really interested and engaged the students and the themes allowed them to look deeper into their own culture and society, whilst learning about the cultural influences and traditions affecting another country.

‘I felt it was a very good project as I learned a lot more about my culture and the fields I was researching. The project really helped my team working skills and I know that this will be really important in the future.’

‘It was excellent to see a different culture and participate in such a project. It allows me to see beyond my own country and thoughts’ (Survey Monkey results 5.08.08)

From the lecturers' perspectives\(^3\) the whole experience of working closely with another design school allowed them to expand their personal and professional horizons. It also provided the opportunity to explore alternative methods for preparing and implementing student projects.

5.1 Interaction

5.1.1 Tools

Blogs were used as the primary interaction tool in both projects. Despite an initial settling in period (as reflected in the survey), the students not only enjoyed the novelty and convenience of this new delivery method, but they also felt that the opportunity to get feedback from others really helped and encouraged them. Those who didn’t engage fully

---

\(^2\) It is important to note that the data from the second phase has not be collated and analysed in detail at this stage.

\(^3\) Exploring the role of the researcher is an important aspect of the Action Research model.
with the blogs regretted it once the project was complete and they could review the effort exerted by their peers.

'I think for me the problem was being too set on designing the way I had previously, and didn't interact enough with the blogging. This is something I regret as I really believe [sic] it could be used as a very useful tool' (Survey Monkey results 5.08.08).

The ability to view the work of all the students (via blog neighbourhoods) also put pressure on the students to increase the standard of their work as now direct and immediate comparisons could be drawn between the work of the various groups.

'Made me see the standard at which my projects need to reach' (Survey Monkey results 5.08.08). Another student observed that 'it was beneficial in terms of getting advice from other students, because our work was going to be seen by a lot of people it forced me to strive for a high standard of work' (Survey Monkey results 5.08.08). These views were confirmed by the students during interview, they felt the very fact that the comparison was clear on the blog they worked harder to raise their work standard.

‘Student 1: we thought the standard of work compared to previous projects level just went way higher.
Researcher: why do you think that was?
Student 1: I think its competition, because you have that other group and you know they have a long history of design and we are just very new, so we just wanted to make sure we matched their standard and were better.’ (McMahon 2010)

‘It was a good way to see what other people were up too and to look for inspiration’ (Survey Monkey results 5.08.08)

5.1.2 Competition

Students also felt (and this was confirmed by both lecturers) that personal engagement with the projects was at a higher level than their previous projects. ‘The dimension of having the other country there pushed us to get a more professional product and professional finish. Before there wasn’t that real drive but with them there we were looking at their work and saying we can do this and we can push things a little bit further’ (McMahon 2010). They tended to reflect more and at greater length about their work and this was evident in the depth of information appearing on the blogs. This is something often missing from conventional projects as limited time and tight delivery requirements mitigate against
continuous reflection on their own practice (students are encouraged to reflect on their outputs but not always on their individual practice).

In addition because the blogs could be updated in 'real-time' this reflection tended to be more honest than if time was allowed to think on the comments. One student positively observed that the blogs provided them with a 'better understanding of presenting digitally and also great for gaining techniques and sharing ideas with a different design course' (Survey Monkey results 5.08.08).

5.1.1 Insights

A very positive by-product from using blogs is that a permanent record of the work is retained that students and the general public can access at a later date. The video conferences allow the students to ‘meet’ each other and put a personal face on the virtual relationship that had previously existed. Enjoyment from the video conferences was obvious at the time and the feedback afterwards confirmed as much. There was a suggestion, however that a video conference at the start of the project would be beneficial so the students could be introduced to each other and this might lead to a greater degree of interaction via the blogs throughout the remainder of the project ‘Maybe meet at the start like we did at the end would be good to create a bond’ (McMahon 2010). This change was introduced in the second phase where students scheduled formal and informal virtual meetings at regular stages in the project.

Not all feedback was positive however as some students felt that the blogs were a waste of time and that they didn't enhance the project in any way as the engagement with their partner teams wasn't deep enough. Some also felt that if their interaction wasn't reciprocated they were less inclined to use the blog as the project progressed 'we tried but when we weren't receiving anything back we just gave up' (McMahon 2010). As with every project some students will engage more, ask for more feedback and work harder than others. 'Working with another country would be very good it just turned out that there was not much communication inputs and so on (as far as I experienced it)'. This observation ensures a deeper and perhaps more 'forced' interaction between the participating countries is necessary in future projects.

Subsequent phases of the project will endeavour to deepen the collaboration and also explore how participation in the projects will influence the behaviour of designers once they are qualified professionals.
5.2 Reflective Practice
The opportunity for reflection provided by the Blog platform was invaluable, students reflected not only on their work but on their individual practice and their learning experience. Reflection is often a key part of project work, but it tends to come at the end of the project. The ‘real-time’ nature of the blogging process ensured the students reflected instantly on their design work, forcing them to question and justify the decisions they were making as they were making them.

5.3 Engagement
Students engaged with the projects more readily than with conventional projects, resulting in better outcomes and a higher quality of work thus creating a deeper learning experience. However some measures could be taken in future projects to ensure 100% engagement with the project and the interactions from all students participating. These could include (but are not limited to) additional formal video conferencing sessions, provide facilities for more informal dialogues between student teams, better collaboration through shared project deliverables between different countries.

5.4 Developing Critical Thinking
Students began to question their own practices and those of other cultures through the projects. This needs to be expanded upon and encouraged on a deeper level to ensure they can apply critical thinking to their professional practice once they graduate.

5.5 Holistic Perspectives
By participating in this type of project the students gained an understanding of what drives design in other countries (both historical and contemporary influences) ‘it’s quite similar to Irish, they have the same humour… get a new perspective on design and how other design courses are doing it. I suppose its kind of reassuring that we are not too far off’ (McMahon 2010). ‘...it’s very similar but they just had a different slant on things, a bit of a twist’ (McMahon 2010). This provided the students' with an understanding that design does not occur in a vacuum and that society is both influenced by and influences design practice. This can be a difficult concept to relate to students and is best learned by engagement with a diverse group of project partners. On this premise the group of participating countries should be expanded to include designers from different socio-economic backgrounds and varied cultural models.
5.6 Confusion & Conflict
Not all of the collaborative efforts were successful, unfortunately. The unpredictability and ‘uncontrollable’ nature of human behaviour means that, in spite of all the paths being clearly laid out, people will very often behave however they see fit. This became apparent in the second phase of action research as the project tended towards chaos in the latter stages, this can be attributed to a disconnect between the tutors and incompatible time-zones and academic calendars. The researcher intends to explore the notions of synergy (working towards an agreed common goal) and commitment (or ‘buy-in’) within subsequent phases.

6. Conclusion
There is no denying that equilibrium needs to be reached in the sustainable design debate. The emphasis has primarily been placed on resolving issues related to economics and the environment as the changes and outcomes are quantifiable (in most cases). Social sustainability, on the other hand, is difficult to implement in design practice as it deals with softer and immeasurable elements of human and societal behaviour. In order for designers to consider these ‘softer’ issues in their practice education needs to facilitate them acquiring and practicing a more varied set of skills and capacities. This paper has shown these skills and capacities to include participation, openness, dialogue, reflection, participation, engagement, understanding, co-operation and compromise. By encouraging deep learning, knowledge sharing and critical thinking design students can begin to reflect on their behaviour and the behaviour of others.

The experience of undertaking a number international collaborative projects has shown that by exposure to diversities of practice, behaviours and perspectives designers can begin to make more informed and responsible decisions. The reflection on and outcomes from these projects (and the subsequent phases of the Action Research strategy) will hopefully serve to find empathy, common ground and a common language in solving and resolving the issues surrounding social sustainability.

Whilst the projects described above have gone some way to encouraging design students to collaborate and engage across social and geographical boundaries, the very process of undertaking them has highlighted the real and apparent need for designers to develop the range of skills that ensure responsible practice becomes normative. As the realm of professional design shifts towards a future of alternative systems students must develop the ability to think creatively, innovatively and holistically.
References


