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Design Without Borders: A Multi-Everything Masters

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Abstract: *Design is increasingly a global activity: addressing issues that challenge and affect people and populations other than our own, involving stakeholders from many cultures, realized through borderless networks of knowledge, services, materials, manufacturing and distribution. There is an appetite among graduates, especially in design and engineering, to broaden horizons and raise ambitions, to tackle big issues through innovation to bring about life-changing or world-changing impact. Employers demand such thinkers and doers: culturally attuned, multidisciplinary and T-shaped, unafraid to shake things up.*

In 2013, twelve postgraduates embarked on a new joint Masters course in London; students from eight different nations, studying together in three capital cities over two years. This programme is a collaboration between four centres of academic excellence in UK, USA and Japan; these students soon become its first graduating cohort, having experienced differing teaching styles, perspectives and specialisms around design, technology and innovation from four world-class institutions; immersion in three very different cultures; collaboration with students and faculty from many diverse disciplines and cultures; forming friendships and networks spanning the globe.

This paper outlines the rationale and philosophy of the course, the challenges in its realisation and development so far, and its likely future evolution.

Keywords: *Transnational; multidisciplinary; education; design; innovation.*

Introduction

Masters students participating in the Global Innovation Design program are immersed in diverse experiences: a trans-national journey, a broad range of design learning, and innovative design projects with international scope. Students spend a semester embedded at each partner university to live a first-hand experience of the culture and design industry of each location. Each partner university contributes a unique philosophy and practice of design. Students experience an integrated design education, working in local, and also globally-distributed, teams to research and develop design concepts and innovations informed by local cultural experiences in Japan, UK, and USA.

The joint course described here is now in its second year. Its first cohort is about to graduate, while its second is completing the international phase of the program. The course is in a continuing state of review and tuning, to respond to new opportunities and concerns identified by faculty and students alike. The purpose, structure and content of the course are outlined here, then some of the findings following the journeys of its pioneering students, and their implications for the future of the course, and others like it.

Context

Design thinking and multidisciplinary practice

The global shift from a knowledge society to a creative one stimulates demand for individuals able to identify social needs from international perspectives, and to bring about innovation in society through extraordinary creativity. The new course discussed here is a response to this demand, aiming to educate individuals ambitious to make an impact on the world through life-changing or world-changing innovations, by equipping them with creativity tools, design and management methods, finely tuned cultural awareness, and a fearless attitude to challenge the status quo.

The tools and methods of designers have potential to address complex challenges, as recognized and investigated by those striving to understand the design process (e.g Schön, 1983), then more widely in industry and academia, looking to design thinking (Brown, 2009; Lockwood, 2009; Leavy, 2010; Childs and Fountain 2011, Childs 2013) as an approach to understand and face complex challenges where analytical approaches have proved inadequate. Schön argued that design is a thought paradigm in its own right, and Buchanan (Buchanan, 1992) built on this, introducing the design world to Rittel's concept of wicked problems (Rittel, 1972; Rittel & Webber, 1973). There is now widespread acceptance of the value of designerly methods and tools for innovating in the context of wicked problems, but most powerfully in the hands of multi-disciplinary teams. Innovation firms are commonly staffed with such teams (Design Skills Advisory Panel, 2007), and academic institutions are providing design graduate programs for students from diverse backgrounds in order to foster multi-disciplinary collaborative skills (Fixson, 2009; d.school, 2015; Northumbria University, 2015; University of Ulster, 2015; RCA IDE, 2015), arguing that innovation opportunities are most often to be found at the boundaries of disciplines (Bailey, 2010; Multi-disciplinary design network, 2010).

Multidisciplinary practice is not to be seen as merely a multifaceted approach to an individual's practice but a realization for the need of an understanding of the

complexity of the design process across a myriad of design platforms and debates. Designers must not only be innovative in the development of products, systems or services, but also provide strategic thinking and leadership across a variety of contexts, in which design operates. (University of Ulster, 2015)

Multicultural, multinational HE courses

The internationalisation of higher education is growing rapidly, and new initiatives are being tried in many sectors and locations. Transnational mobility of students is already evident in most academic institutions; students may travel to foreign host universities to access better teaching, resources and perhaps a higher-value qualification than they might receive at home, but also for the lived-in experience of immersion in a new culture (e.g. see Hall et al. 2012). According to the European Students' Union, such internationalisation 'is a chance for acquiring intercultural competence and understanding, as well as democracy values and skills and language competences' and is essential for a future 'where graduates are expected to master skills to work in a multicultural, multilingual and international environment' (European Students' Union, 2013). Such skills are essential for future designers and innovators wishing to engage with the great challenges of this century.

It follows that exposure to multiple locations and cultures can offer more of such opportunities, although with increased complications for both students and faculty, as discussed later. Multi-centred educational experiences already exist, least surprisingly when the subject of study is related to the location, as in the social and cultural anthropology joint masters, Cultural Differences and Transnational Processes (CREOLE, 2013). This course is co-ordinated by Universität Wien with five partner institutions in Europe 'for students wishing to specialise in topical areas of anthropology such as transnationalism, new identities, material culture and visual culture'. It is structured to permit students to spend two semesters at another partner institution.

Other successful examples of trans-national joint courses are in the MBA sector, such as the Global Executive MBA (GEMBA, 2015), where students can study in the three hubs in France, Singapore, and Abu Dhabi, to gain an international and multicultural experience in a modular format. In design the Global Studio programme (Bohemia & Harman, 2008; Bohemia, Lauche, & Harman, 2008) connected several design schools in transnational, multi-institution design challenges via virtual co-location, to explore the complexities of a globalized design/manufacture process. More recently, there are a number of interesting experiences available for students such as Aalto University & Tongj University's Design Factory (Aalto Design Factory, 2015), a platform aiming to support interdisciplinary and international co-operation between parties interested in design and development. It is within this context, of demand for multidisciplinary and multinational practice, that the new course we present here was conceived.

The new course

Rationale and ethos

The Global Innovation Design masters program resulted from a desire among top-level design academia in London, Tokyo and New York to come together in a trans-national,

innovation-led, educational experience, to attract some of the most promising creative minds from around the world. Aiming to develop skills in applying creative methods to complex problems framed in real-world constraints, it is the result of several years' sustained efforts from faculty staff in all three locations. These centers are world-renowned academic institutions, leaders in creativity and innovation, with complementary expertise in art, design, engineering, technology, and business. It is a partnership between institutions that run quality design and innovation courses, with the added advantage of locations rich in cultural, design and lifestyle qualities. Students gain a unique perspective by living and studying on three different continents, immersed in three different cultures, amidst three of the largest economies in the world. Its aim is to educate global innovation leaders — creative catalysts for positive change in a globalized society.

Of course, these notions of global innovation and leadership are highly ambitious, potentially even overwhelming; to be a global innovator or designer in this changing world entails a complex variety of skills and qualities, and empathic cultural awareness is key. Global does not mean to suggest one common culture or solution, but to understand and respect differences. Culture in its social sense, or non-material culture is defined by its differences, and one's own cultural norms can make it difficult to work across these differences (see e.g. Redfield, Linton, & Herskovits, 1936; Hofstede, 1980). A core objective of the course is to prepare students to enter new situations where they can attune their manner and behavior to a culture that may be very different from their own. They are urged to reflect on what this means for them personally, as they encounter other cultures on the course and in their future careers. Ultimately this is to equip them better for conceiving and realizing innovative services and products for others, where stakeholders may come from many other cultures, and also for high-level, meaningful engagements (including negotiation, influence, and decision making) with people from other nations and cultures.

Program structure and content

SCHEDULE

Each student is enrolled at one ('home') institution on its respective Masters program, in Tokyo (Keio Media Design, Keio University), London (Royal College of Art & Imperial College) or New York (Pratt Institute, Brooklyn). After a period depending on location, they move for a semester with a partner host, then to the next partner the following semester. The cohorts rotate, rather than swap: students from Tokyo go to London then New York, London students to New York then Tokyo, while student enrolled in the USA go to Tokyo then London³³. In this way, each center hosts visiting students from both the partner

³³ Actually there are many differences between institutions in scheduling and structure, which make the reality more complicated and challenging. The semesters run at different times of the year, for different lengths of time. At Pratt the host program lasts three years, at Keio it's 2.5 years, with students relocating during their second year; the RCA/Imperial Masters runs only over two years, their students traveling in their first year, after a 5-week induction in London. The US and Japan programs are effectively 1-year electives from larger, parent courses, in Industrial Design and Media Design respectively; the London program is free-standing and leads to a unique double masters MA/MSc. Student numbers also vary between cohorts, between 8 and 12.

institutions in succession. During each phase, students are assessed by the local faculty tutors and transcripts passed back to the home institution. The following year, students complete their respective programs at their home locations. When they graduate they receive their certification from this institution only.

STUDENT PROFILES: MULTIDISCIPLINARY, MULTILINGUAL AND MULTICULTURAL

In keeping with the multidisciplinary ethos of the program, students come to all three centers from a range of backgrounds, though the mix in each one varies according to its respective admissions policy, specialism, and student appeal. In London they are predominantly graduates in design and engineering, but also architecture, business and marketing and social sciences; Tokyo has a very diverse mix, including computing and digital technologies, architecture, languages, planetary science, economics, and law; New York not only attracts students from related fields of architecture and interior design, but also from fine arts, biology, economics, political science, neuroscience, engineering and music. In terms of gender, across all cohorts and both years there is a slight predominance of male to female, 31 males to 26 females having participated so far (54% to 46%).³⁴

Excitingly for the program, many of these candidates are not from the host country, so there is even greater opportunity for cross-cultural exchange. In the first two years of the program New York has enrolled students from North and South America, Europe, and China; Tokyo from Japan but also Hong Kong, mainland China, Saudi Arabia, and Canada; London-based students are to date the most diverse, coming from UK and six other European countries, USA, Canada, Brazil, South Korea, Taiwan, mainland China and Thailand.

LOCAL CURRICULUM

Visiting students follow a syllabus that is a combination of existing modules with local students and bespoke classes and projects reflecting the themes and objectives of the program. Each partner center has a distinct design culture. In Japan, students study a four-fold media innovator model, including human-centered design, management and entrepreneurship, emerging technologies, and public policy to drive projects on the global stage. In New York, students are exposed to an art and design school environment based on intensive studio craft, where research, technology, concept, context and design skill are manifest in applied form-making. At the third center in London, students conduct extensive explorations of design concepts through rapid ideation and prototyping in a variety of materials, methods and making processes.

INTERNATIONAL PROJECT

In addition to courses at their host center, all students participate in the International Project. This is central to the program mission and draws on the unique benefits of a three-location partnership. The project reflects the aims of the course in two important ways. Firstly, its themes are deliberately wide, complex, and globally relevant; students are expected to incorporate international and cultural issues and insights, especially reflecting their home and host centers, as well as their home country. Secondly, the project is

³⁴ Participant numbers by gender are: London year 1: 6M, 6F; year 2: 7M, 4F; Tokyo year 1: 6M, 2F; year 2: 5M, 3F; New York year 1: 2M, 5F; year 2: 5M, 6F.

intended to foster teamwork across geographical boundaries, having phases in which students interact across the three centers (akin to a Global Studio project: Bohemia et al., 2008). Here, again, the students' own contrasting cultural and national perspectives are part of the challenge, as well as differences in design approach, knowledge and skill sets, and language. Added to these are a 14 hour time difference and a variety of capricious teleworking tools. The faculty members of each host center provide tutorial support throughout the project, with periodic all-center presentation sessions.



Figure 1 Clockwise from top left: Reverse-Disrupt project, KMD students in London: laptop tear-down; International Project, RCA/Imperial students in New York: Students create and sort inspiration cards – photo records of their local exploration of the new environment; International Project, Pratt students in Tokyo: presenting to peers and faculty by video conference; Shared MID/GID studio space, Pratt Institute, New York. (Other images Keio Media Design, 2013).

The International Project is split into two phases over the academic year, the second phase taking place at the students' second host location. This gives students an opportunity for a new perspective again, as they reconsider the topic in their new environment, or in some cases explore a new topic entirely. So far, topics include the Future of Food (with design topics as diverse as urban agriculture, health education, trends toward eating alone, in-home cultivation, and sustainable food cycles), Urban Mobility, and Transnational Hospitality. In each case, students are asked to explore local culture in depth using empathic design methods, in projects that specifically refer to cultural and social

difference. For example, the Omotenashi project required students in Tokyo to conduct participatory research by role-playing as local Japanese hosting foreigners, in order to identify difficulties encountered by foreigners when visiting the country. Although they are visiting foreigners themselves, this research method gave them valuable insights from a Japanese host perspective, and different from their own prior experiences, resulting in a range of original concepts (Figure 2).



*Figure 2 International Project Tokyo, Omotenashi: locally situated, culturally-driven innovation challenge for foreign visitors to 2020 Tokyo Olympics. Left: **Hiro** by Antton Peña, Da Eun Lee, Niya Sherif; right: **Tokyo Smart Wheel** by Setareh Shamdani, Filippo del Carlo, Hsin-Hua Yu, RCA/Imperial. Source: students' own, 2014.*

Student experience

At each phase in the student journey, feedback for the course directors has been sought through face-to-face conversations with tutors, termly group 'forum' discussions, and through web-based surveys addressing specific elements of the students' course and general experience. The students have embraced their role as pioneers of the program, and provided candid feedback – when things aren't right they tell us. Expectations of both parties are high. The student voice is included below through quotes from feedback questionnaires and interviews carried out in London. Not comprehensive by any means, they illustrate some of the main concerns and strengths of the experience so far.

A long way from home

For a cohort of around a dozen students, travelling and living together in a vastly different culture, it might be tempting for them to stay in a clique and within their comfort zone. This would miss the main opportunity and purpose of the program, and innovation opportunities can emerge when they are out of their safe, familiar environment and are forced to see the world differently. On the whole, students have been open to this – they have been selected with this in mind – although some have had their preconceptions of the city challenged, have felt isolated, or like tourists in the city, they didn't quite penetrate its surface:

[New York is] a fascinating hub of human civilization that I could witness with no more intimacy than a tourist... into it all I was tossed but it paid me no mind. I'm still an

outsider, or worse, a toothless cog in the machine, spinning ineffectively as I carved some wood. (London-based student in New York)

The experience of Japan has been very satisfactory, learning from the huge cultural differences compared to Europe and the US. This has proven to be utterly insightful, and provides an advanced perspective on how to innovate, do business and ultimately sell in different countries with different cultural sets; one-size-fits-everyone definitely does not apply in global innovation. (London-based student in Tokyo)

I've had a great experience in Japan! It was an incredible experience culturally and professionally... Immersion with most Japanese people was tough but I made very good friends over there. (London-based student in Tokyo)

The myth of New York being 'the city to live in' got destroyed, which is a good thing. (London-based student in New York)

Living in three very different cities in one year can be exhilarating, but also physically and mentally exhausting and isolating, with potential for burn-out, self-isolation and withdrawal. Exchanges between New York and London report a relatively smooth transition, thanks to fewer cultural barriers and more in common – most obviously language. However, students visiting Japan (and Japanese students in both other centers) are more at risk of these negative aspects of the experience. Program leaders in each location are attuned to the risks, and support their students remotely and locally, or in some cases with visits to the host country. For London students travelling to Tokyo, precautions are taken against these risks before and during their visit. Preparatory sessions before relocation, to acquaint the students with likely points of contrast, include

- Program content – what to expect from the classes in content and style.
- Culture Shock – tips on social and business etiquette, customs and common faux pas, delivered by faculty tutors who have lived and worked in Japan, and by a visiting lecturer who is a design and innovation consultant and Japanese national.
- Workshop discussions to explore culture differences, especially between USA, UK, Japan and the students' home nations, with reference to e.g. Hofstede's Cultural Dimensions (Hofstede, 2001).
- Introductory Japanese language classes.

Support is also offered to the students during their time in Japan:

- Introductory Cultural Immersion, a 2 week field trip to experience Japanese culture and conduct participant-observer fieldwork in provincial Japan. Students are accompanied by a London faculty tutor and by one or two Japanese teaching assistants. The field trip culminates in a joint innovation workshop with local students and staff from a local university
- Periodic visits during the semester in Tokyo from London faculty for 1:1 pastoral tutorials.

Embracing diversity

Collaboration across disciplines and cultures is a key element of the program ethos, including dealing with conflicts. From conflicts students practice negotiation, and learn to respect and build upon others' ideas and opinions – essential skills for leaders. Students

have responded in different ways to their situation: some felt like outsiders in the studio, just 'passing through'; others found great reward in working with local students, sharing skills as well as connecting with other cultures:

There was very good integration with [local] Masters students, I learned a lot from them about how Americans think about design. (London-based student in New York)

I'm from New York... when you come to Europe there are people from different countries and different parts of each country, and there's this huge explosion of diversity. (London-based student)

[Generally, I] do not like group projects. I find them to usually be a compromise. Everyone's individual idea is whittled down to a likeable form by all, which is usually quite mediocre... [Working with local students has] completely shifted my perspective of team work and I am extremely happy with the output and the process. There were some obviously difficult moments, but as a team I feel we have done well. (New York-based student in London.)

Being global

At certain points, students are required to interact between all three centers. Working as a team across oceans, cultures, languages and time differences is difficult. While challenge is good, tackling major global issues is daunting enough on its own without the complications of remote team collaboration. During the first semester of the program, the organisers realised that some of these inherent difficulties were interfering with other learning objectives, and student feedback was frank – *it wasn't working*. At the same time, there was recognition of just how multinational and multicultural the program is, simply by virtue of the students' relocation and their own diversity, coupled with the nature of the cities themselves. Reflecting on this later in the year, former senior faculty member [name omitted] summed it up perfectly:

With the diversity of students at all three schools and the international character of three great world cities, arguably local experiences automatically take on a global dimension. The local resources and points of view of professors... are also inherently global, and as such, intense local research and local designing, shared with colleagues in the other cities, would have been an excellent and perhaps more productive alternative than straight conventional teamwork... Evidently, the essential difficulty experienced by each team was the problem of compromising on a project and how to execute it; this ended up as a fairly common interpretation of teamwork that tended to thwart discovery.

Clearly, more creative attention ought to be paid to what constitutes global and local, and to how the signature character of each school and its mentors manifests in much more innovative projects. Attacking gigantic global themes head-on is probably not the best approach; meaningful local projects with internationally diverse teams and independent but related contributions may be much better pedagogically. (Keio Media Design, 2013)

Indeed this shift of emphasis was agreed, and the format of the International Project was adapted to have less cross-cohort collaboration, and focus on meaningful locally-

situated projects with diversity built in: in the teams, the subject matter and cosmopolitan setting of the city.

Faculty specialisms, learning styles and resources

Each school has their special little bit of expertise, and we get to steal all of those and come back here to London, and coalesce it into big projects in our second year.
(London-based student)

The three participating centers have their own distinct academic specialisms, varying approaches to teaching and learning, and different technical and material resource availability. While it was jointly intended from the outset to celebrate cultural exchange and diverse ideas about design, the complexity of three different cultures of education is a challenge, both for students and faculty. Students often expressed frustration when expectations based on their home institutions were not met elsewhere. Some aspects that might seem trivial to staff, especially compared the major task of co-ordinating the program, assume great importance to the students: for example, which materials are provided free of charge, workshop access (opening times, training required, availability of technician), accommodation provision, and even the price of a lunchtime sandwich.

Faculty in all centers have to mediate between visitors and the institution's own culture, and also to accommodate differing attitudes e.g. to peer feedback and critique, or to authority and structure (versus freedom). The program in New York follows a traditional model of studio and support classes every week. Visiting students from London expected more autonomy and less contact time with their tutors. Underestimating their workload, several struggled initially with time management. Expectations of New York students in London were, unsurprisingly, the reverse, and they expressed sometimes feeling neglected by tutors. Differences in design philosophy were also recognized – another key objective of the program, but not easy for all to accept.

I have a lot of gripes, but I have also a lot of experiences that would be impossible anywhere else. I am not crazy about London, but I love the program. And getting a sense of how things are done here and the extent to which design is grounded in reality... is both refreshing and a bar-raising insight. With all of the mess and confusion, I don't think I would have it any other way. (New York-based student in London)

[Tokyo] has this amazing focus on what we wouldn't be able to learn at [home], like the multi-sensory function and programming. It's really nice that our professors are pioneers in this technology. (London based student in Tokyo)

Conclusion

As a new course, it is recognised that it must adapt and respond to iron out initial problems, and it is in a continuing state of review. All centers have responded to feedback from visiting students in order to improve their living and learning experiences in many ways, some of which have been shared here. However, addressing feedback and ensuring dialogue and action to tackle issues effectively is not straightforward. The constant update of programme structure, content and project topics makes it a moving target for the international team. While the partnerships strengthen between institutions, and cohorts

might increase in number, the longer-term future vision for the program may also include additional locations. There is so much to learn from other great universities, cities and cultures.

Participating students have shown patience, resilience and a great collective pride in pioneering this new program. They have bonded with a sense of identity and esprit de corps that makes them ambitious, demanding, and a pleasure to work with.

Now that it has run for nearly two years, there is a strongly held belief among its staff that the hopes in the original vision for this program have been borne out. We remain committed to its continuation and improvement, while we look forward to seeing the trajectories of its alumni, wherever they might lead.

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Robin VandeZande is a strong advocate for the teaching of design education at the elementary and secondary levels. An associate professor of art education at Kent State University, her research and publications include teaching sustainable design, K-12 design education as it relates to social responsibility, the economy and enhancement to life. She has recently completed a framework for the Principles, Practices and Strategies of teaching design under a National Art Education Foundation grant. Dr. VandeZande is a trustee of DESIGN-ED, Advisory Council member of Fallingwater, Education member of the National Building Museum, Washington, DC., past-chair of the NAEA Design Issues Group, and chair of the Learnxdesign2015 Conference.



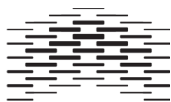
Erik Bohemia

Erik Bohemia's current research explores changes associated with globalisation and the impact of these changes on design. Such research has been used to develop various funded research projects, as well as an innovative international collaboration through the Global Studio. Dr Bohemia is actively shaping the design education agenda through co-chairing key international design education research conferences and through editorial roles. Erik is currently leading programme development for the Institute for Design Innovation at Loughborough University London. Dr Bohemia is an elected member of DRS' Executive Council, an international society for developing and supporting the interests of the design research community.



Ingvild Digranes

Ingvild Digranes' research interests include: curriculum studies and design education for citizenship as well as professional challenges for design educators. Dr Digranes chairs the course Educational Theory and Practice in Art and Design Education at Oslo and Akershus University College in Norway, and also teaches and supervises at master and PhD level. Ingvild has experience in policymaking through curriculum development at local and national levels. Dr Digranes chairs the NGO Art and Design in Education, and sits in the board for the Nordic Collaboration of Craft Teachers. She is the guest editor for the FORMakademisk Special Issue from the conference.



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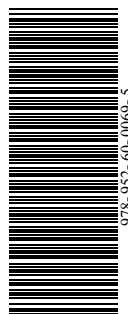
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