Cultural exchange and internationalization—the process of integrating an international, intercultural, or global dimension into the functions and delivery of higher education—have increased markedly in significance within higher education in the last few years. In the broadest sense, this agenda is about preparing students for living in and contributing to an increasingly connected global society. At a time when the political and social trend seems to be toward exclusionism, exposing students to a vibrant blend of ideas, opinions, and experiences within the stimulating, yet safe, space of university resonates all the more strongly. However, historically it has been difficult to encourage students to participate fully, particularly with regard to student mobility and studying abroad. Socioeconomic and cultural factors play an important role here. This case study investigates the design and rollout of an innovative online international exchange program carried out between Abertay University in Dundee, Scotland, and DePaul University in Chicago, IL. As part of their core mission, both institutions are committed to widening participation, and both have a high proportion of first-generation students from the lowest socioeconomic groups. Consequently, the student mobility rate at both universities is low, which limits opportunities for students to situate their learning within a global context. Recent developments in digital communications and platform sharing technologies have allowed universities to explore online collaboration and virtual exchange, but this raises new challenges. In particular, how do you embed a sense of genuine cultural exchange and collaboration between students who are geographically remote, very possibly in different time zones, and—crucially—still enmeshed in their local culture? This paper outlines an innovative and practical response to that problem, using a collaborative project in which students must serve as both directors and clients in the production of creative sound works to facilitate a profound and meaningful cultural exchange. The paper outlines the design and implementation of this online student exchange program; discusses the challenges, benefits, and drawbacks to the approach; and concludes by generalizing from this particular case to discuss how discipline-specific skills can be used as a mechanism to build cohesive and outward-looking cohorts of students, even when they are not co-located on campus.
1. INTRODUCTION

In the last few years, internationalization and cultural exchange have grown in significance in higher education (Streitwieser, 2014). From an institutional perspective, internationalization is not just about how we deal with international students coming to our campuses to study, nor is it just about how we facilitate study abroad, it is about preparing students—all of our students—for living in and contributing to an increasingly connected global society (see, for example, Jibeen & Khan, 2015; de Wit, 1998), a role for which the responsibility rests most directly with faculty (Carlin, 2010).

With the current trend, both politically and socially, toward exclusionism and building walls, both real and metaphorical, never has it been more important to celebrate the richness of experience and the broadening of perspectives that diversity brings (Hurtado, 2007). Breaking down barriers to access is a prerequisite to embedding internationalization within the curriculum; however, even so, in sectors of the Scottish higher education system there are particular challenges in getting students to engage with this agenda. The British Council and independent researchers note that Scotland still has one of the lowest student mobility rates in Europe (King et al., 2010). This limits opportunities for students to situate their learning within a global context and to consider their place within and impact upon the global landscape. A similar situation exists in the United States, which is exemplified by the often-quoted statistic that 64% of Americans do not hold current passports. A focus on the domestic experience correlates strongly to unrealized innovation and lost productivity (Chalmers, 2013).

It was against this context, on September 14, 2012, that the DePaul University President (Reverend Dennis Holtschneider, C.M.) launched the university's new strategic plan, Vision 2018 (DePaul University, 2012). The plan set out Holtschneider's vision of “[deepening] the university's distinctive connection to the global City of Chicago,” and “Leveraging the global diversity of Chicago” by infusing “international and comparative perspectives throughout the teaching, research and service missions of the university.” This is a concrete mission that continues to underpin DePaul's current institutional strategy (DePaul University, 2018).

The DePaul Global Learning Experience (GLE) was born from this goal. Its purpose is to embed globalization, curricular innovation, and international awareness by creating opportunities for staff and students to participate in structured collaborative international learning experiences (Global Learning Experience, 2017). It was through this initiative that
initial contact was made between DePaul and Abertay universities. In the summer of 2015, the institutions embarked on a GLE in sound design, in collaboration with Associate Professor Rob Steel, and Ashanti Morgan, Senior Instructional Technology Consultant and Program Lead with the Global Learning Experience at DePaul University.

2. METHODOLOGY

The primary focus in developing the GLE was to embed international cultural exchange in existing taught components in established degree programs at both institutions: a Bachelor of Arts (Honors) degree in Creative Sound Production in Scotland and a Bachelor of Arts (Honors) degree in Digital Cinema. By necessity, the revisions to the existing curriculum had to be implemented in a way that did not require substantive changes to the learning outcomes of the core curricula or to the academic calendars at either institution. In particular, the learning outcomes specified two sets of core skills and disciplinary knowledge that had to be delivered, with the cultural exchange of the GLE augmenting these and providing opportunities for students to situate and reflect on their work and their professional identities within a disciplinary-meaningful international experience.

This operating context suggested iterative, design-led participatory action research as the most appropriate methodological framework, since it is one that is based on the close interaction between practice, theory, and change (Bresler, 1995). That notion of systemic change, observation, and reflection is characteristic of action research, and this is an established method for interrogating complex and active systems. As noted by Lewin (quoted in Schein, 1996), “You cannot understand a system until you try to change it.” In this instance, the designed GLE would provide the key point of change in curricular delivery and a mechanism to explore the following research question: how do you embed significant discipline-focused cultural exchange and collaboration between students who are geographically remote, physically located in different time zones, and—crucially—still enmeshed in their local culture? Data relating to this question would be gathered throughout the delivery of the GLE and students would be involved as active co-participants in the research process, an approach that is democratic, equitable, liberating, and life enhancing (Koch & Kralik, 2006); notions that support the core missions of the two institutions. Data gathering combined both qualitative and quantitative capture. Qualitative data were gathered from student interviews during delivery and from direct observation of student behaviors as they collaborated on the GLE. Quantitative data were gathered from the learning platform analytics. The numerical grading of an assessment instrument, one unit of which was constructively aligned with the research question, provided a point of triangulation.
3. PROJECT DESIGN

The design of the GLE was of paramount importance. As noted previously, there were two initial design principles. First, the GLE had to integrate with core delivery and programmatic content across two distinctive degree programs at two universities—each with different approaches to teaching and learning, different degree structures, different academic calendars, and different perspectives on the type of graduate attributes that students should embody. Second, it also had to provide a mechanism for meaningful cultural exchange that would provide both cohorts of students with a sense of the lived experience in another country, as well as how professional cultures of practice differed between the two. The project design would also have to accommodate collaborative production tools and workflows that would allow students to successfully collaborate remotely on project work. So doing would provide additionality beyond the core subject-specific learning outcomes, namely, enhanced employability skills: online collaboration between individual practitioners and collectives in the creative sector is a growth area (Gibson, 2014), and it opens up real opportunities for our students.

In the past, to get started in the creative industries, students often had to relocate to those major urban centers where the creative industries are focused: London, New York, Berlin, and Melbourne. These are some of the most vibrant and multicultural cities on Earth, and consequently they are some of the most expensive. For a production intern, working long hours and often for little money, that cost would have to be written off as career investment; such is the value of a foot in the door (Shade & Jacobson, 2015). This perpetuates a bias toward mobile, middle-class students, since they (or their families) are more likely to be able to support the upfront costs necessary to launch a creative career. However, as the industry moves toward a more distributed model, students can be part of a connected global network of practitioners (Luckman, 2012). Therefore, the embedding of these long-term employability skills became an important third design principle: how do we equip students with remote collaboration skills, prepare them to put those skills into practice, and then provide the opportunities for them to connect with others and deploy their discipline-specific skills as part of a collaborative, multi-disciplinary team under near-operational conditions.

Building from common disciplinary expertise in sound production and media composition across the two universities, the delivery team identified points in the curriculum of the two undergraduate programs that could be extended according to these design principles to serve as a platform for collaborative working, involving a cohort of 30 students at each institution. We built a common assessment framework around project-led delivery, using the production of soundscapes (Schaeffer, 1993) as a mechanism to address the program-specific learning outcomes around sound production and critical listening, while providing
an opportunity for students to investigate and reflect upon a shared cultural experience. Delivery ran across a full semester in the United Kingdom and across the winter term in the United States, where students were supported by the production team through a combination of synchronous online group tutorials, face-to-face small group supervision, and asynchronous online discussions. The student work was focused around two iterations of a collaborative practical project structured around a client/producer workflow model. This mimicked a typical commercial relationship and provided an opportunity for students to compare and contrast the different expectations and behaviors that result from different cultures of professional practice.

The first iteration was designed to challenge students’ preconceptions about place and their levels of cultural shorthand and stereotyping that they employed. Working in production groups of four—with two Scottish students and two American students in each group—each production group was asked to produce two soundscapes: one of Dundee and one of Chicago. The Scottish students were asked to develop and realize a concept for an evocative soundscape of Chicago, and the American students were asked to develop a concept for a soundscape of Dundee based only on their perceptions drawn from popular culture and current affairs. In each production team, the two Scottish students could direct the two Chicagoans to gather any necessary field recordings in the city and vice versa; however, the soundscapes had to be produced and arranged by the non-resident students and without reference to any direct lived experience in either city. This soundscape was representative of the “outsider viewpoint,” and it characterized the students’ understanding and sense of place before the cultural exchange took place.

The second iteration was designed to foster cultural exchange by drawing on the students’ local knowledge and experience, and to find effective ways to communicate these. Students continued to work in their small production groups, and produced two further soundscapes, one of each city. However, this time, the Dundonian students had to work under the direction of the Chicagoans to create the Chicago soundscape, while the Chicagoans were directed by the Dundonians to create a sound picture of Dundee. This subtle shift in focus dramatically changed the nature of the students’ relationships, moving from what was essentially a work-for-hire service model to one that was much more reflexive and reciprocal.

All of the students had to be able to understand and articulate their relationship to their own locales as well as with those that were foreign to them: both sets of students had to embrace their own relationship to and understanding of their local geography and culture, but also that of an outsider looking in. During production, that local knowledge and experience was communicated through photographic essays, sound recordings, videos, songs, and text. This approach embodied the notion of mutual and cooperative exchange,
a key principle in community-based cultural exchange programs (see, for example, Brereton et al., 2014). It is also a fundamental component of effective participatory action research (Robertson, 2000). Such a cooperative learning environment, based on small group work, fosters confidence and motivation to learn and encourages a constructive and egalitarian relationship between the different groups of students (Potter, 2012).

This resulted in each production group having four soundscapes: two of Dundee and two of Chicago. Of these, each group had one “naive” soundscape of each city—one that was based on preconceptions and stereotypes—and one “informed” soundscape, based on a negotiated reciprocal understanding of place. This provided all students with a platform for reflexive assessment of their attitudes and professional behaviors, and a point of comparison to consider how effectively meaningful cultural exchange had taken place.

4. SOUNDSCAPE

As an approach, soundscape lends itself well to this sort of activity. To create a soundscape effectively, one must consider all of the aspects of the acoustic environment and the ways in which these influence how we relate to and use the physical spaces around us (Gandy & Nilsen, 2014). It also encourages students to relate through critical and analytical listening directly to different qualities of sound through reduced listening (those elements of the environment that create sound through causal listening) and to how sound might carry meaning, emotional weight, or function as a signifier through semantic listening (Chion, 1994).

An analogy may be useful here. Soundscape is to the sonic arts what landscape is to the visual arts. On the one hand, landscapes might be quite literal. For example, think of Vermeer's *The Little Street* in Delft (see Fig. 1), which captures a voyeuristic snapshot of seventeenth century Dutch life in breathtaking detail. However, landscapes might also be more impressionistic, such as Monet's *Water Lilies, Setting Sun* (see Fig. 2), which creates more of a visual impression of the experience of sitting at the waterside and watching the sun reflect off the pond rather than a naturalistic visual representation.

Relating these ideas to sound composition, consider creating a literal soundscape of a recording studio control room. If you stop and listen, you may hear nothing but the austere silence of an acoustically treated space. It is authentic, certainly, but not terribly interesting to listen to, and it does not capture anything of the hustle and bustle of activity inside the space as engineers prepare for a recording or mixing session. In this instance, an impressionistic approach may communicate more about the significance of an environment as a space, while a literal approach may communicate more about the acoustic properties of the space.
FIG. 1: Vermeer’s *The Little Street*, currently on display at the Rijksmuseum, Amsterdam, portrays an intimate and detailed literal perspective of a visual landscape (image courtesy of the Google Art Project, artsandculture.google.com)
As with visual landscapes, where we use landmarks as visual cues to orient ourselves within a space, in soundscapes we use keynote sounds and soundmarks (Schaeffer, 1993), those sounds that are particularly characteristic of an environment, and build on the weight of meaning that the sounds carry as much as their acoustic qualities. Therefore, working with sound in this way is not simply a mechanical process. It requires careful consideration and planning. It requires the curation of sound and an understanding of its cultural significance and meaning. It requires an understanding of how the timbral, contextual, and semantic qualities of sound might work together to create a narrative, and how that narrative might communicate meaning to an external listener. Without all of these very high-level details working together a soundscape is likely to be perfunctory. Thus, as we designed the project we took the view that the quality of the soundscapes was a proxy for how effectively that cultural exchange had taken place, an approach that has some currency across affective contemporary artistic practice in general (Candy & Ferguson, 2014).

5. OPERATIONAL DELIVERY

The project moved toward the first iteration of full delivery in January 2016, and over a period of 12 weeks the student teams worked together to create high-quality master recordings. In some respects, teaching the theory and practice of effective soundscape design was the easy part. Overcoming the institutional constraints, supporting the project collaborations, and finding technologies that allowed students to pre-produce, edit, mix, and master work at a distance was more challenging.

There were a number of factors that had to be addressed during the rollout of the assessment exercise. Leaving to one side the time difference and the cultural barriers that
we anticipated our students would have to address, the two institutions operated very different academic calendars that did not align, meaning that delivery could not be fully synchronous. Therefore, student collaboration would have to take place while the two cohorts were at different stages of development. However, this was incorporated into the key outcomes for the project, specifically to encourage students to be accountable for their contribution to the collaborative project. This required them to develop strategies for reaching a consensus around problem solving using synchronous and asynchronous approaches and to understanding the importance of flexibility in terms of workflows and timelines.

The delivery team used the institutions’ online learning management systems to provide a common online platform for the educational delivery of the project. However, we recognized that beyond that, the production technology that enabled the collaboration was almost incidental: it was just another digital tool, and students would select solutions that worked for them and their preferred workflow. We also recognized that there was value in scoping, reviewing, and evaluating the different production technologies, and so we suggested that students should audition different options and carry out some operational testing of the technologies as part of their pre-production process and to reflect on their experience of technologically mediated collaboration and the technologies that support it.

Technology has made it possible for all of us to manage workflow remotely in a way that would have been inconceivable just a few years ago (Akoumianakis, 2009). However, the challenges of getting the underlying social foundations of collaboration right, particularly when that collaboration is geographically dispersed and technically mediated, are not trivial. To help prepare the students fully for this we ran a series of preparatory workshops, where we investigated the theory and practice of sound design and discussed professional roles, attitudes, behaviors, and expectations. Role play was used to explore different situations and strategies for dealing with problems that might arise; an approach that previously has been proven successful in developing resilience in independent student work (Villani, 2016). In addition, we were keen to build a support network for both sets of students, which would allow them to feel that they had an experienced mentor to turn to if they were faced with a situation they had not anticipated or did not know how to resolve.

6. REFLECTIONS ON PRACTICE

All of the teams successfully completed the tasks, although the quality of the workflow and the value of the collaboration varied from group to group. Some teams thrived during the collaboration and submitted very high-quality narrative soundscapes and thoughtful reflections on the experience. Other teams struggled with basic collaboration and communication skills. Around one-quarter—four of the 15 teams—needed significant
academic and problem-solving input to work effectively with their project collaborators. Breakthroughs happened but the quality of the work suffered.

The delivery team ran post-delivery review sessions with individual project groups to investigate the reasons for lack of initial engagement. All of the students clearly understood that their chosen professions were grounded in effective collaboration yet many took significant persuasion and support to engage with collaborative work. In all but one of these groups, two or more students in each reported that they disliked group work and collaboration under any circumstances. The additional work involved in coordinating face-to-face work with their co-located group mate and remote work with their other group mates made an already challenging activity more difficult for them. In the remaining group, the initial difficulty in getting started came down to collective procrastination, although clearly it is difficult to disaggregate cause and effect in all four of these cases. Was a dislike of group activity the cause of the procrastination or a post hoc rationalization for it? In either instance, procrastination has been long acknowledged as a challenge for students undertaking distance and remote learning and correlates inversely with attainment (see, for example, Wilkinson & Sherman, 1989). This suggests that better scaffolding and up-front support of early group interactions would be useful.

Previous studies have found that less procrastination occurs when assignments are perceived by students as requiring the use of a variety of skills, and where there are clear social benefits to starting work early (Ackerman & Gross, 2005). For example, having made the decision to allow the student groups a degree of autonomy in selecting both technologies and workflows that suited them, we did not insist that students have synchronous meetings and conversations via Zoom, Skype, or telephone. While most groups did incorporate synchronous meetings, many relied entirely on email and social media for communication. With hindsight, this had an impact on the cohesion of those groups and the sense of investment that the students felt toward both the project and one another. Cross-referencing those groups with the assessment outcomes, it was clear that there was a strong correlation between those student groups that had employed a range of synchronous communication and collaboration strategies, procrastination, and the quality of the results.

Furthermore, we had encouraged the students to explore different technology options and choose the one that best suited their workflow and collaborative needs. In almost all cases, all of the student groups defaulted to the technologies that they had used before and understood best. With hindsight, this is, perhaps, not too much of a surprise. After all, in a professional context, that is exactly how we all work, too. We do not tend to throw new technology at a project, especially if that project is already complex and difficult to manage. Instead, we tend to build it around technologies that we know will work such that
we might focus on the specifics of the task at hand. From a project design perspective, the lesson is to keep things simple and focused. Structure the activity in such a way as to allow the students to concentrate on the material that is important for their learning, and avoid tangential additionality, no matter how useful it might be.

The imposed institutional delivery structure also caused problems. Because of the differences between semester and term start times at the two institutions, the student work was staggered slightly, with the Scottish students beginning preparatory work on the project a few weeks before the American students, and similarly concluding and submitting their work a few weeks earlier as well. The delivery team dealt with this by having two completely separate delivery schedules and assessment briefs. Each cohort was assessed independently using a common framework, but their work brought them together for collaboration at appropriate points during delivery. For the academics involved, this seemed reasonable; however, the students became fixated with the idea that they were all submitting work at different times and concluded—incorrectly—that each cohort was being treated differently. No amount of deconstructing the schedules or assessments satisfied them. Perceived inequity, even if no actual inequity exists, can be a very powerful force (Ethington, 2009).

One thing that surprised us as an academic team was how similar many of the submissions were. This was not the result of collusion, but rather a result of how we had framed the project. We encouraged all of the students to think about how they might avoid their soundscapes becoming a collection of loosely related sound recordings by providing some central theme or idea to link them together and provide structure and direction to the finished work. Given that we had emphasized to the students the importance of using the soundscapes to capture a sense of place, and an opportunity to capture in a short period of time a range of different urban encounters (c.f. Darling & Wilson, 2016), it is perhaps not too surprising that most of the students decided to structure their soundscapes as a journey, and when it came to Chicago, that meant a trip on the Red Line.

Therefore, while it is important to structure projects in such a way as to provide students with a sense of clarity, order, and structure, the guidance they are given should also provide students with the opportunity to interpret and express individuality through their creative submissions. In this instance, we feel that that balance was pitched fairly well; however, we could have provided more in the way of concrete model examples to demonstrate to students what alternative approaches might result in work that met the requirements of the creative brief (Brown & Knight, 2002, Chapter 7).
7. ITERATIVE REFINEMENT
This initial pilot project led to a series of successive Global Learning Experiences in 2017 and 2018. The design of subsequent iterations drew upon the outcomes and reflections of the previous one, allowing us to refine the experience and the educational outcomes for the students.

In response to the issues of cohort building and student procrastination, the delivery team front-loaded and increased the amount of synchronous staff and student interactions. This ensured that the social foundations for the collaboration were in place, and it provided opportunities to explicate the different roles and team functions at the outset of the work (Pozzi, 2010). We combined this with staged “soft” project milestones to help students structure their time and plan their work. The impact was positive, and we saw a marked reduction in both the number of groups and the amount time affected by early project procrastination.

The delivery team also refined and developed the underlying project work to provide a suite of different creative, collaborative projects that allowed students to situate their learning within a global context and that tied their experience explicitly to the core skills, knowledge, and practice of their degree programs. This is an approach that acknowledges that learning is both an individual and a social phenomenon, and that it happens most effectively when instruction and active exploration are focused on real problems in an authentic task context (Oppermann & Specht, 2006). With this in mind, successive projects were designed around media scoring exercises, including sound design for film, film scoring, and soundtrack production and mastering. This also allowed for the embedding of a number of additional key employability and professional skills directly into the curriculum.

8. CONCLUSIONS
The initial rollout of this project was a measured success. All of the student teams produced narrative sound design work that was of good quality, with some producing exceptional work. All of the students reported and were able to demonstrate some form of meaningful cultural exchange and an increased knowledge of the city that they had “visited” through remote collaboration. All of the students also reported an improved awareness of how their professional skills might be deployed within an international context. The cultural and communication issues that we had anticipated were not, in the end, problematic. While it would be nice to claim the credit for that, largely, credit was due to the students themselves. They are digital natives and more used to forging strong and meaningful virtual relationships online than we are (Pinheiro, 2016).

The successful running of a cross-institutional international exchange program depends fundamentally on a strong and coherent relationship between the two institutional leads.
Indeed, I would argue that this is the most important element of a project like this. The relationship between the leads is the foundational element on which everything else is built; it provides the basis for the project idea, the disciplinary content and expertise, the executive management of the project and the project teams, and the consistent and equitable treatment of all students. Time invested up front to ensure that this relationship is strong is time that is very well spent.

The delivery team created a program of collaborative activity and assessment around sound design and soundscape. The rationale focused on using collaborative disciplinary learning as a mechanism through which students could engage with and reflect upon their own cultural experience, and then share that with their collaborators. While soundscape lends itself particularly well to this, it is not the only form of cultural expression or professional practice to do so. Any form of culturally embedded professional activity, from storytelling to accountancy, could be substituted—albeit with different discipline-specific learning outcomes—to provide a concrete, shared project experience that enables students to explore their common and divergent cultural perspectives and professional attitudes.

In the particular context of online music education, as noted previously, we have already successfully adapted the underlying approach to incorporate sound design, film scoring, and soundtrack production and mastering projects. Ethnomusicology is one area in which this approach would work particularly well, where international groups could be used to explore insider and outsider perspectives on regional music and performance practices. More broadly, it would be relatively straightforward to base similar virtual international cultural exchange experiences around, for example, instrumental tuition, ensemble playing, improvisation, or recording and production.

To conclude, in the wake of COVID, institutions worldwide are investing more heavily in the virtual real estate of their online campuses. A key concern here is in building a strong and dynamic sense of identity for cohorts of students that are geographically dispersed. Equally pressing, as opportunities for international student travel have become heavily restricted, is that universities must find alternative mechanisms to provide that significant international dimension to the student experience. In some respects, the enforced shift to online learning has normalized the idea that dispersed communities might come together to meet and cohere in the virtual learning space united by common purpose and shared activities. This is where approaches like this have real significance and value.

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REFERENCES


