

PEDAGOGY OF PROCESS: INTERDISCIPLINARY CASE STUDIES FROM AN IRISH UNIVERSITY

Orfhlaith Mairead NI BHRIAIN¹, Louise Bridget KIERNAN², Bernard HARTIGAN³, Eoin WHITE⁴, Hannah FAHY⁵ and Kathleen TURNER⁶

^{1,5,6}Irish World Academy of Music and Dance, University of Limerick

^{2,3,4}School of Design, University of Limerick

ABSTRACT

The aim of this research was to pilot a multi-disciplinary approach to creative pedagogy through collaboration between students and faculty from performing arts and product design. Creative pedagogy of process is a pedagogical approach that draws on the interaction and engagement of faculty and students across a range of disciplines and involves ethnographic research methods combined with reflective practice and a user centred design approach. This approach develops transversal competencies, common across creative domains and provides a rich learning environment for students and faculty alike. This paper examines the challenges and opportunities presented by a collaboration of this nature. Both performing Arts and Product Design are studio-based disciplines and have clear commonalities and points of convergence.

The impetus for this collaborative endeavour emerged from several discussions between faculty members relating to the importance of facilitating creativity in the third level studio. Lecturers in performance practice and product design noted similarities between pedagogical approaches in both realms to foster a learning environment where trial and error and process-based learning with reflexivity were key components. We shared common traits despite the perceived chasm between artistic and scientific research methods and output metrics.

We progressed our enquiry through establishing undergraduate peer learning projects. We sought to identify the opportunities and challenges presented by this interdisciplinary collaboration.

Keywords: Product design, performing arts, interdisciplinary collaboration

1 INTRODUCTION

This was an inter-disciplinary collaboration between staff and students across a range of disciplines involving ethnographic research methods combined with reflective practice and a user centred design approach. Both Product Design and Performing Arts are studio-based [1] and have clear comparisons. Lecturers in performance practice and product design noted similarities between pedagogical approaches in both realms to foster a learning environment where trial and error and process-based learning with reflexivity were key components. It was noted that our pedagogical philosophies had many common traits despite the perceived chasm between artistic and scientific research methods and output metrics. Therefore, the purpose of this study was threefold. In the first instance we sought to create a shared space for peer learning where students from performing arts and product design could engage in real world studio settings the goal of which was to draw on users' expertise to inform the design process and to give the performers active agency in the process in collaboration with their peers. Secondly, we sought to use reflexivity on the part of students and teachers through journaling and process books to investigate the points of convergence and divergence between how we assess creative processes by marrying multi-disciplinary teaching to cross-pollinate skillsets therefore enhancing outcomes. Finally, we wanted to build sustainable links across disciplines where students and faculty collaborations could be embedded in a modular structure.



Figure 1. Student collaboration

2 METHODOLOGIES

We progressed our investigation and enquiry through establishing undergraduate peer learning projects at final year project level. This process allows students to demonstrate the range of skills honed throughout their degree and apply them in an industry-related manner through working with multi-disciplinary stakeholders. We sought to identify the opportunities and challenges presented by this interdisciplinary collaboration between faculty and tutors. Some interesting issues emerged regarding the assessment of the creative process, both for design students and performers. We utilised a range of research techniques to inform our case studies. This mixed-methods approach allowed for engagement by students and faculty and provided data that was relevant to all cohorts. The performing arts students were active agents in the design of products that could enhance their performance longevity and the design students had access to peers who would also be clients.

Table 1. Methodological stages

Informal Discussions among faculty	Faculty and students collaborate within undergraduate modular structure	Interfaculty staff and student collaboration at undergraduate and postgraduate level	Case Studies	Revision, reflection, representation of ideas Response Potential Postgraduate projects	Further revision, reflection reponse and representation of working prototypes
---	--	---	---------------------	---	--

Teamwork and collaboration are fundamental to the core methodological approaches used in product design and extending our creative approach across other faculties further enhanced this experience. The partners in the cross disciplinary collaboration benefit from contact with each partner's network, which brings more diverse thinking and offers further potential for new projects. Furthermore, the potential shared pedagogical philosophies and approaches used by members can enrich student and teacher engagement. Our shared pedagogical approaches were explored through the development of specific projects, bringing together students from two university faculties, namely Product Design and Performing Arts. Two of these projects are outlined in the case studies below.

3 CASE STUDY 1 THE IRISH DANCING SHOE: A PRELIMINARY INVESTIGATION

3.1 Establishing the project

In 2017, an interdisciplinary learning environment was established through an initial study, which was carried out by 4th year Product Design and Technology students with undergraduate Irish dance students at the university. The aim was to investigate the issues with the shoe in terms of performance requirements, aesthetics, injury prevention and usability. Research was conducted with dancers, dance teachers and physiotherapists. Design students attended dance classes with dancers and observed them executing a variety of dance movements wearing their heavy shoes. Design students also tried on the shoes and experienced walking and moving in them. Design students were also introduced to the various rituals engaged in by dancers before putting on their shoes. These included, gauze wrapping on the feet, a range of blister pads and podiatry products and a general acceptance of discomfort. A number of issues were highlighted: injury, extended periods of recuperation and issues in life. The dancing shoe was found to be a contributory factor to many of the injuries identified. Based on the traditional brogue, this shoe has had little development since its introduction and provides limited support for today's performance requirements.

3.2 The Process

Designers and dancers met together at a studio session where dancers demonstrated the range of steps they took to mitigate blisters and discomfort. They also demonstrated a variety of dance movements and highlighted where additional flexibility and support was important in terms of footwear. Focus groups and interviews were conducted with dance participants following this session to gather their perspectives.

Initial conversations allowed for multiple areas of interest and flaws to be highlighted and identified specific places to focus on in the later stages of the project. Dancers outlined the regular rituals and processes undertaken to prevent blistering and lower leg injury. These included applying plasters, gauze and tape and various products to cushion the toes and heels and minimise discomfort. There was a consensus that shoes were generally uncomfortable until broken in and that pain was a part of the process.

This type of focus group allowed for open dialogue and discussions and gave students an opportunity to opine on a host of topics. It was loosely structured, and participants spoke openly. Students took notes but they did not record the session as they were striving for a natural ambience. In hindsight, had we

video recorded this session, we could potentially have gathered more detailed data. However, the process from the point of view of the participants may not have achieved the same level of open discussion. Interviews were also conducted with experienced tutors and performers of Irish dance. These included a chartered physiotherapist with significant experience as an elite competitor and professional performer of Irish dance. Tutors spoke about the range of products currently on the market. The conversation with the physiotherapist gave an insight into the most common types of injury and indicated at what point in the dancers' career they were most likely to occur. It also gave the students access to the technical language and terminology used to discuss dance injuries.

3.3 The student experience

Students enjoyed collaborating with their peers and appreciated the opportunity to participate in focus groups. This was highlighted by the design students in their process book reflection:

'In speaking to a group, it allowed us to focus on specific areas and necessities to bring into idea generation, what the needs and wants are, and what preferences were for each dancer. Also, by getting a group discussion, we were able to get a larger range of opinion'.

One of the design students with no previous experience of dance tried to wear the shoes to get an embodied experience of how this felt. She was taken aback by the lack of comfort and support. This is evidenced by the following entry in the process book:

'While attempting the toe stands, she noted how difficult the move was. While being supported by two dancers to aid her balance, it was possible, but highly uncomfortable. With high pressure on the toes, this was something that Suzanne found to be sore even in just a stationary position'.

3.4 Outputs

The design students documented their creative process in a process book which guided them throughout the project, but which also allowed the dancers to see the progression from beginning to end. The dancers attended the end of year presentations and exhibition of work by the design students and saw the prototypes which were designed as a result of the collaboration. This project has been further developed and it now being advanced as a PhD study. This indicates the opportunity for real world studio design collaboration and peer learning in a university setting. Students were given the opportunity to meet, discuss ideas, reflect and become active agents in their own learning. This engagement was recorded in the student process book. Through conference presentations and written publications, dissemination of ideas and potential projects is ongoing.

4 CASE STUDY 2: AN ACCESSIBLE WAY FOR VOCALISTS TO PROGRESS VOCAL HABILITATION AND HYGIENE

4.1 Process

In 2019, an interdisciplinary learning environment was established, as a fourth-year product design student set out to investigate how design could support the training of singers. Subsequently, a meeting was arranged between the investigating student, their research supervisor in design, and the course director of the BA Voice programme at the Irish World Academy of Music and Dance. This meeting highlighted areas within the vocal training process with potential to be supported by design, and the concept of designing an accessible means of progressing vocal habituation and vocal hygiene emerged as a focal point. The initial discussion developed into a final year project, and the design student engaged BA Voice students and faculty during the research and testing of the concept.

The rationale for designing a tool to support healthy vocal habituation stemmed from the initial discussion where aspects of vocal training were discussed. Semi occluded vocal tract (SOVT) exercises [2], were highlighted as important for singers to regularly incorporate into their vocal routine. These SOVT exercises are generally included in vocal warm up and cool down routines [3]. Vocalising in this way has been widely discussed as beneficial for singers and voice users [4]. SOVT exercises are regularly employed in clinical voice therapy and voice rehabilitation contexts [5], [6]. Many methods exist for SOVT exercises, including the use of a straw or purpose designed tool. There are a number of existing products on the market for SOVT exercises, but a gap was identified for the design of a product that would generate feedback, offer multiple functions and include a means of improving and tracking progress. With a narrowed focus, a clear rationale emerged to further the potential of the project within the parameters of a final year project in product design. Engagement with singing teachers during this

project presented opportunities to articulate and identify areas of potential for innovative design. Initial discussions with the research student prompted a questioning of common issues, along with the brainstorming of possible solutions. Key themes arose as areas of interest with potential to merge into a concept for a physical product.

4.2 The student experience

Students were initially apprehensive about participating in the process, but they reassured each other and grew in confidence over the course of the study. One of the issues was that the design student was a final year student, and the vocalists were a first-year cohort just acclimatising to the third level experience. In hindsight, it would perhaps, have been more beneficial to pair groups that were closer in age or level. However, the student interviews were carried out in pairs to offset some of these challenges.

4.3 Output

Between voice lessons, it is difficult for voice teachers to ascertain student progress or adherence to any prescribed exercise routine. It was suggested that a product could motivate singing students to develop and adhere to a practice routine, encouraging awareness, personal responsibility and demonstrating daily progress. This feature could encourage accountability to self and others e.g., their vocal peers or coach. Ideas about tracking progress and providing feedback were discussed. While the development of an application alongside the physical tool presented a number of opportunities for quantifiable feedback, a concern arose from the teacher perspective around the limitations or misinterpretation of aspects of this. Functions of the application that were thought to be feasible were the facilitation of SOVT exercises through the physical tool, feedback for the user on breath output and pressure, and the measurement of pitch through the application.

5 DISCUSSIONS

The case studies outlined are demonstrative of the merits of creative interdisciplinary teaching. Following Biggs' [7] model of constructive alignment, teaching is at its most effective when it encourages a move from 'surface' to 'deep learning' for students; that is a move beyond the acquisition and application of knowledge to a conceptual shift. As Biggs states, "we see the world differently" as a result of our learning (p. 60) and this is made possible by establishing clear objectives, enhancing student motivation, providing tasks that offer deep engagement, and collaborative opportunities to learn (pp. 60-61). Bain proposes confronting students with "intriguing, beautiful or important problems" to promote active and deep learning and skills in critical engagement [8]. These characteristics are demonstrable in the projects undertaken in this case, and they can be further developed through additional creative modelling in the areas of curriculum design, particularly with regard to feedback and peer review methods. Feedback between students and staff was consistently used in the creative projects outlined, by establishing an ongoing dialogue to track the development of each design solution. The skills gained in this dialogic approach could be furthered by embedding reflexive feedback into each project from the outset, thereby creating opportunities for students to "develop the capacity to monitor and evaluate their own learning" [9]. This could be achieved through tools such as reflective journaling, peer group discussions or a shared blog space, where students reflect on their personal development throughout the creative process as well as the successful development of the creative product. Students should also be encouraged to review and respond to their peer's reflections, learning from each other as a consequence. These reflective tools also benefit staff by providing space for a "learner-focused approach", enabling teachers to be responsive to student needs as the project develops, by critically reflecting on their progress in relation to the intended learning outcomes [10]. Therefore, a pedagogical model with creativity at its centre offers a myriad of possibilities for development for all involved. By establishing a collaborative culture of learning where students and teachers / facilitators are co-creators in the learning process, knowledge exchange is made possible between staff and students both across and within disciplines.

6 CONCLUSIONS

These case studies presented challenges and opportunities. In the first instance, without fully developed working prototypes, it was difficult to understand how effective the concepts would be. However, the process broadened the scope of understanding and informed design concepts. Understanding the limitations of the design concepts would be examined at later stages of the project.

Involving students in the project encouraged more awareness and attention to their individual artistic practices. It also demonstrated the possibilities of interdisciplinary collaboration, encouraging 'deep learning' through a dialogic and process-based approach to teaching. Furthermore, by initiating this process at undergraduate level and creating peer learning opportunities, it was possible to tease out some design ideas in an exploratory manner and develop ideas which could be developed further at postgraduate level. Eventually, once working prototypes were developed this could lead to invention disclosures, a possibility for patents and potential sign off and licensing opportunities with local businesses. These case studies demonstrate that a creative pedagogical approach can equip students with a broad range of transferrable skills and learning outcomes, that can serve them well beyond the life of the individual assignment or project.

REFERENCES

- [1] Kjesrud R. D. 2021. Studio-based Learning: Pedagogy and Practices.
- [2] Titze I. (2006). Voice Training and Therapy with a Semi-Occluded Vocal Tract: Rationale and Scientific Underpinnings, *Journal of Speech, Language, and Hearing Research*, 49(2), 448-459.
- [3] Ragan K. (2018). The Efficacy of Vocal Cool-down Exercises, *Journal of Singing*, 74(5), 521-526.
- [4] Maxfield L., Titze I., Hunter E. and Kapsner-Smith M. (2015). Intraoral pressures produced by thirteen semi-occluded vocal tract gestures, *Logopedics Phoniatrics Vocology*, 40(2),86-92.
- [5] Simberg S. and Laine A. (2007). The resonance tube method in voice therapy; description and practical implementations, *Logopedics, phoniatrics, vocology*, 32, 165-170.
- [6] Kapsner-Smith M., Hunter E., Kirkham K., Cox K. and Titze I. (2015). A Randomised Controlled Trial of Two Semi-Occluded Vocal Tract Voice Therapy Protocols, *Journal of Speech, Language and Hearing Research*, 58(3), 535-549.
- [7] Biggs J. (1999). What the student does: teaching for enhanced learning, *Higher Education Research and Development*, 18:1, pp. 57-75.
- [8] Bean J. (2011). *Engaging Ideas: The Professor's Guide to Integrating Writing, Critical Thinking, and Active Learning in the Classroom*. Hoboken: John Wiley & Sons, Incorporated.
- [9] Winstone N. and Carless D. (2020). *Designing Effective Feedback Processes in Higher Education: A Learning Focused Approach*. London: Routledge.
- [10] Fry H., Ketteridge S. and Marshall S. (eds.) (2015). *A Handbook for Teaching and Learning in Higher Education (4th Edition)*. London: Routledge.