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Interdisciplinary teaching and learning is challenging for both teachers and students (Woods, 2007; Bleakley et al., 2011; Modo and Kinchin, 2011). Despite being an important higher education (HE) agenda (Davies and Devlin, 2010), it is approached in different ways across HE and there is little evidence that these lead to positive outcomes for student learning or material output (Morrison, 2014). One reason may be the difficulties in establishing reliable means of assessing interdisciplinarity. However, there is also debate in HE about the difference between interdisciplinary learning and learning to *be* interdisciplinary; often these are tacitly regarded as identical. Furthermore, the distinction, and its effect on effective pedagogies, subject interactions, and student outcomes have not been significantly explored to date.

The project reported here has three facets which challenge existing approaches to interdisciplinarity. First, interdisciplinarity is regarded as *only* a collaborative activity, and that this should explicitly *avoid* shared knowledge models of collaborative practice (Morrison 2014). Existing literature emphasises the need to develop individual breadth of knowledge or shared collaborative knowledge in students (Repko 2008; Woods 2007). Second, interdisciplinary learning and learning to be interdisciplinary is regarded as *separate* learning outcomes, and examine how each may be best achieved via collaborative learning across arts and science disciplines. Third, effective interdisciplinary learning requires a meaningful goal or output which requires *integration* of differing expertise to achieve – interdisciplinary learning outcomes cannot be assessed outside of this.

The goal for the project reported in this paper is the emerging field of education for sustainable development (ESD). Increasingly recognised as a global priority area of reform in education (UNESCO 2014), the graduate competency development and attributes agenda of ESD has led to its advocacy for interdisciplinary, participatory, and active pedagogies (Tilbury 2011; QAA, 2014). Such approaches are considered vital in the development of skills and collaborative relationships across disciplines required to address the multiple points of global crisis, with regard to environmental degradation and social injustice.

The project involves four (paired) modules from across the arts and sciences working on a sustainable development topic. The modules will utilise a number of pedagogical approaches including experiential learning, peer mentoring, and critical self-evaluation. Second year students will be introduced to developing the skills and practice of interdisciplinary collaboration and sustainable outcomes, while

postgraduate student mentors will be recruited to work alongside undergraduate students. The role of the postgraduate mentor is to develop more nuanced abilities to evaluate, moderate, and where necessary repair/correct interdisciplinary practice – skills essential for *leading* interdisciplinary projects. In this way, postgraduate student mentors will facilitate undergraduates' learning and development of interdisciplinary skills. This will simultaneously develop an understanding of these skills in the student mentors.

This paper will report on data from student mentors' phenomenological accounts of the project (n=8) and the second year student pre and post surveys (n=140). The quantitative data will be analysed using SPSS according to key interdisciplinary skills developed as part of the framework (Morrison 2014). The qualitative data will be thematically analysed by identifying units and categories, a process that will require persistent checking for overlaps and inconsistencies until each unit is assigned to a category. Where possible, the categories identified from the student survey and the mentor accounts will be compared and contrasted.

The findings from this study will provide much needed evidence about the processes involved in interdisciplinary learning, particularly from the student experience perspective. It will provide information about the potential and actual challenges of working across disciplines and to what extent students value this type of learning. The findings could then be used to inform lecturers and university leaders about the support and resources required to facilitate work across disciplines. These empirical findings can also be used to develop the theoretical underpinnings of interdisciplinarity.

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