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**Postgraduate Taught Students can do Posters too: Enhancing Postgraduate Taught Student
Communication Skills through Interdisciplinary Peer Networking**

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Postgraduate Taught Students can do Posters too: Enhancing Postgraduate Taught Student Communication Skills through Interdisciplinary Peer Networking

Dr Sharon George

Abstract

Postgraduate taught students are known to be a diverse group and their learning needs and preferences are different to that of the undergraduate student. This paper discusses the potential for these postgraduate students to benefit from actively participating in a research-led student activity. The submission of posters from students on the MSc in Environmental Sustainability and Green Technology to the postgraduate conference: "Outside the Frame: Thinking and Engaging Differently" is described. The potential for this type of multidisciplinary forum to enhance the postgraduate taught learning experience and to support interdisciplinarity among postgraduate students is discussed.

Introduction

Undergraduate (UG) and postgraduate taught (PGT) learning needs have been shown to be different (Kember 2016) and there is a lack of research into the needs of the postgraduate taught student (Morgan and Direito 2016a). The Postgraduate Experience Project (PEP) was a collaborative study conducted in 2013 funded by the Higher Education Funding Council (HEFCE) to begin to address the knowledge gap in this area. It showed that the needs and expectations of PGT students are complex and cannot be met by simply replicating methods used in UG teaching and learning (Morgan and Direito 2016b) and that this diverse group of students have specific learning preferences. These include, for instance, face-to-face interaction when receiving feedback and having learning experiences that are perceived to be highly relevant to their career aspirations. Teaching and assessment modes of PGT students however often mirror undergraduate courses. In addition, in an evolving technological teaching environment, feedback is often delivered electronically and this has benefits including being faster especially for large groups of students but does not satisfy the need for direct face-to-face discussion on submitted work (Hast and Healy 2016). Opportunities to discuss assessed work and to receive peer feedback can be an effective and valuable enhancement to the student experience.

The MSc in Environmental Sustainability and Green Technology is made up of modules across a wide range of disciplines including law, politics and science. A main aim of the course is to support and encourage independent learning, creativity and interdisciplinarity. This is achieved through design of wide-ranging content, problem-based learning, industry engagement and a focus on effective communication and debate with peers and teaching staff from a broad discipline base. Students on this course develop new insights into issues through this high level of interaction but rarely get to share their newly developed knowledge or to test their communication skills and ability to develop new ideas through discussion with different audiences and students outside of their own course and familiar cohort. More diverse academic interaction provides a more fertile environment for interdisciplinary development which generates new knowledge resulting from different viewpoints coming together, integrating and stimulating innovative thinking.

The importance of the poster

Poster presentations are a relatively common feature of most higher education courses and can be a particularly effective form of communicating research. Students, in general, find the experience of exhibiting work and participating in formative peer assessment a positive experience (Vickerman 2009). The poster presentation serves the purpose of direct dissemination of information but also acts as a catalyst to stimulate further discussion, for example at a conference, or at a sales exhibition. Effective communication skills development is a prominent feature of the MSc in Environmental Sustainability and Green Technology to prepare students for careers in energy development and sustainability and posters are a component of assessment in several modules. Students normally present their posters to each other and give peer-to-peer feedback.

Stimulating Interdisciplinary Discussion

It is recognised that subject specific silos exist and differences in cultures in teaching and research run deep and are a barrier to interdisciplinarity (Bauer 2001). This interdisciplinarity is particularly needed in energy development which brings together technological, social and economic aspects to develop novel ideas and technological advancement. Learning environment and communication skills are important components to interdisciplinary thinking in students (Spelt *et al* 2009). Indeed, multidisciplinary has been identified by students to be a perceived barrier to learning due to a lack of ability among students to communicate effectively with other students outside their own discipline (Sharma *et al* 2017). Genuine interdisciplinary discussion is a difficult thing to engineer for a wide range of reasons including time-constraints (Owen *et al.*, 2011).

A Postgraduate Conference, “Outside the Frame: Thinking and Engaging Differently”, aimed at encouraging interdisciplinary discussion was held at Keele University in spring 2016 mainly aimed at postgraduate research students to showcase their research through posters and short talks. The aim was to raise the profile of research amongst students and to provide a forum where postgraduate students could come together to exhibit work and to start interdisciplinary research-led conversations. Postgraduate taught students at Keele learn in a research-led environment and they were encouraged to actively participate as equal members of the postgraduate student community. This type of research-led learning is recognised to be beneficial to taught students (Hoskins & Mitchell, 2015). The research poster format posed a challenge for many PGT students, many of which only study for one year and do not start their research until six months into their course which is after the conference. For those PGT students on courses that start their research earlier and can present some preliminary work it is an opportunity to share ideas and showcase their work but it is too early to have meaningful results to show in a forum with active PhD researchers and this can be daunting. Other posters that these same students produce throughout the year are based on coursework so are informative rather than results-based. This barrier to participation was addressed by inviting students to showcase posters that they had already produced for the module “Clean and Green: Technology from Above the Earth” with the topic defined as: “Developmental and interdisciplinary challenges in a relevant renewable technology from the module”. This enabled the students to submit detailed posters and experience the reaction and feedback from an authentic research-led audience. They were also able to engage in discussion with a technical but non-specialist audience from different disciplines that they would not normally encounter. This activity contributed to Bloom’s taxonomy of objectives that feature in the design of the MSc course,

particularly allowing the students an opportunity to re-visit the process of analysing and evaluating their knowledge (Bloom, 1956a, Anderson & Krathwohl, 2001) and to develop more critical thinking (Bloom 1956b). The opportunity for contrasting work with that of students from other disciplines was clear and this yielded opportunities for discussion and academic debate in a structured and supported environment.

Conclusions

Postgraduate taught learning can be supported by participation in wider interdisciplinary research-led networks through participation in poster presentations and peer discussion. This activity gives postgraduate taught students a forum to test their recall and understanding of knowledge and allows them to reflect and consider their understanding through discussion with technical non-specialist audiences.

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