

Developing graduate attributes through participation in the British Conference of Undergraduate Research (0100)

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Abstract

Graduate attributes are a framework of skills, attitudes, values and knowledge that graduates should develop by the end of their degree programmes. Adopting a largely qualitative approach and using semi-structured interviews, this paper evidences the graduate attributes developed by Geography, Earth and Environmental Science (GEES) students at a national undergraduate research conference over three years. The students demonstrated intellectual autonomy, repurposing their work for presentation to a multi-disciplinary audience through conversation with and benchmarking against peers. They evidenced movement towards self-authorship, consciously balancing the contextual nature of their disciplinary knowledge with intra-personally grounded goals and values. The undergraduate research conference is an in-between space in which students express hybrid identities: a conjoining of undergraduate student and emerging graduate professional. The undergraduate research conference thereby offers students an opportunity to begin to construct their professional identities during their studies, potentially helping them to navigate into their working and wider social lives.

Research context

The growing emphasis on graduate attributes in higher education is indicative of a larger global debate about the nature and purpose of university education (Barnett, 2000, 2004). According to Whalley et al. (2011, p. 380), universities must now 'validate their social role and purpose more explicitly' than ever before in order to prepare students to recognize and navigate the heterogeneity and change they will encounter in communities beyond their campuses.

Graduate attributes are defined by Bowden et al. (2000, p.3) as:

'the qualities, skills and understandings [that] include but go beyond the disciplinary expertise or technical knowledge that has traditionally formed the core of most university courses.'

For the purposes of this paper we regard graduate attributes as comprising i) generic skills/abilities of students, ii) student attitudes/values to knowledge and learning, their own development and the world around them, and iii) knowledge beyond disciplinary contexts. We adopt the Conceptions of Generic Attributes model developed by Barrie (2004) (Figure 1) to evidence engagement with graduate attributes by GEES students through their participation in the British Conference of Undergraduate Research (BCUR). The findings are relevant beyond the UK as equivalent national undergraduate research conferences also occur in the United States, Australia and parts of Europe.

Methods

Semi-structured interviews were undertaken with 22 undergraduate GEES students during or shortly after their participation in BCUR conferences over three consecutive years (2012-2014). The respondents revealed their experiences of preparing and presenting their posters or papers and, in particular, the skills they used in both the preparatory and participatory stages. Interview transcripts were coded in relation to the five translation graduate attribute clusters of Barrie (2004) (Figure 1). Finally, the three enabling graduate attributes from Barrie (2004) were interpreted with reference to the overarching pedagogic concept of self-authorship (Baxter Magolda, 2004).

Results

The students identified effective oral communication as a key skill they had developed through participating in BCUR. They referred to the importance of preparation, practice and repurposing of their work, identifying and organising key messages, taking account of audience perspectives and making their presentations engaging. The respondents were acutely aware of translating the technical language of their discipline into lay terms in order to communicate with the diverse multi-disciplinary audience (Spronken-Smith et al., 2013).

Students made few comments relating to the research and inquiry process and to information literacy because dissemination falls at the end of the research cycle. They did, however, recognise the importance of disseminating their research findings (Boyer Commission, 1998), with one identifying research dissemination as 'the missing link' for students in their undergraduate learning experience. The undergraduate research conference allows students to make their research public, completing the research cycle (Walkington, 2008).

Students attested to self-regulating their work in preparation for BCUR - rehearsing and amending work dependent upon feedback from peers and academic staff. Students progressed from low level

rehearsal to deeper and more meaningful interaction with their work through peer interaction. In this way, they began to fulfil the disposition of understanding for themselves (McCune & Entwistle, 2011); demonstrating a sound grasp of disciplinary knowledge, a willingness to apply this knowledge using generic skills, and an alertness to the context in which they were immersed.

The students realised that they must develop inter-personal skills to speak effectively to people beyond the GEES disciplines. Through direct engagement in a multi-disciplinary research context, they began to appreciate that knowledge is partial, continually being created and recreated through research, dissemination and negotiation in response to new ideas and alternative perspectives (Su, 2014).

Through their participation in BCUR the students evidenced a movement towards self-authorship (Baxter Magolda, 2004): consciously balancing the contextual nature of their disciplinary knowledge with intra-personally grounded goals, beliefs and values. Encountering unfamiliar contexts, diverse audiences and externally referenced benchmarks, the students were compelled to reassess their knowledge, understanding and conceptions of self in order to develop their potential graduate professional identities. The students noted in particular their embracing of freedom and creativity away from tutor assigned assessment criteria, to benchmark themselves against an exposition of self and self-directed research appropriate to a diverse audience. The undergraduate research conference acts as a 'borderland' space beyond the academy, an in-between space in which students express hybrid identities (Huber & Morreale, 2002): a conjoining of undergraduate student and emerging graduate professional.

Implications for policy and practice

Taking part in BCUR supports the development of graduate attributes and self-authorship. With this opportunity, however, comes responsibility for staff to encourage inclusivity, particularly for those lacking cultural capital in educational settings (Felten et al., 2013). Students who attend BCUR are largely self-selecting and are already highly motivated with regard to their academic studies. Inclusivity might be enhanced by generating disciplinary and multi-disciplinary undergraduate research conferences within universities, faculties or departments and welcoming all students to participate (Spronken-Smith et al., 2013).

Some researchers state that graduate attributes are most effectively developed in the context of discipline knowledge, embedded within curricula and assessment, rather than addressed as stand-

alone strategies (e.g. Hughes & Barrie, 2010). The research presented here, however, highlights the importance of developing graduate attributes outside of these formal structures if the development of graduate skills, values and non-disciplinary knowledge are to lead students to self-authorship. This raises the question of how universities might help students harness the learning potential of their engagement with university life outside of formal classes. Recent work in the UK on developing structured personal profiles and 'graduate passport' opportunities has the potential here to guide students and academics.

There is an important role for academic and other staff within HEIs to make the achievement of graduate attributes transparent to students via dialogue and/or reflective engagement (Mager & Spronken-Smith, 2014). Whilst graded work might evidence certain skills, knowledge and values, the students themselves should be able to communicate their competencies directly to employers. Unlocking tacit attributes for students to articulate confidently to employers is highly relevant to graduate job-seekers and is possibly the most direct advertisement of any university's accomplishment of graduate capabilities.

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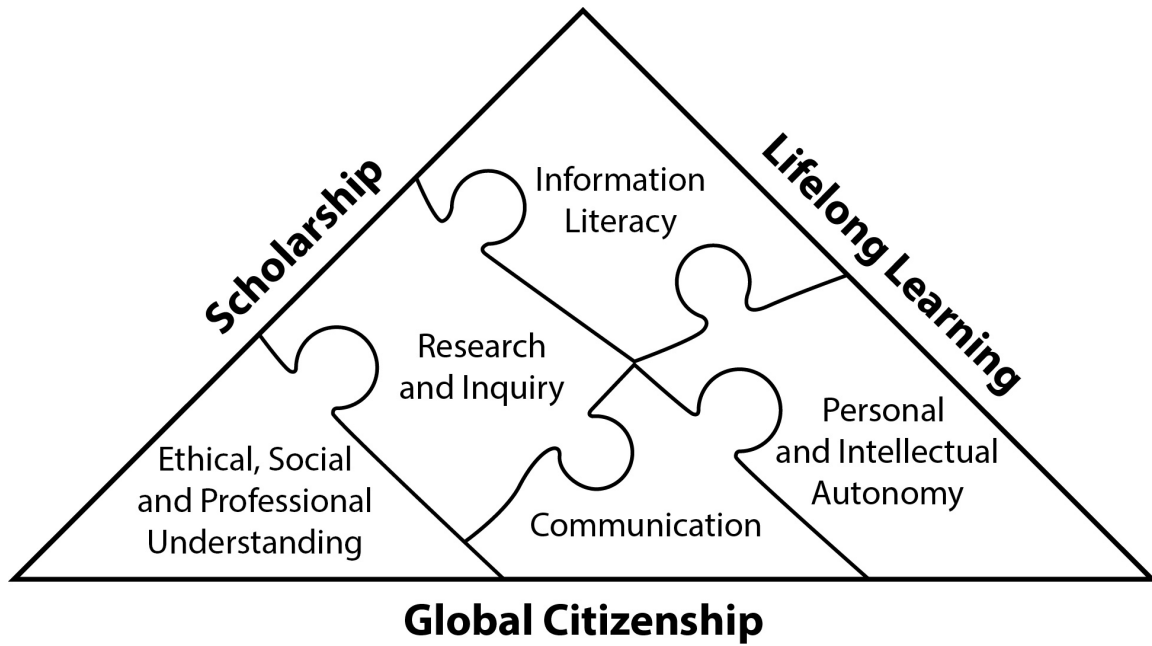


Figure 1 The graduate attribute model of Barrie (2004) adopted in this study. Overarching enabling graduate attributes of scholarship, global citizenship and lifelong learning skirt the triangle. Clusters of translation graduate attributes form the jigsaw pieces in the triangle.