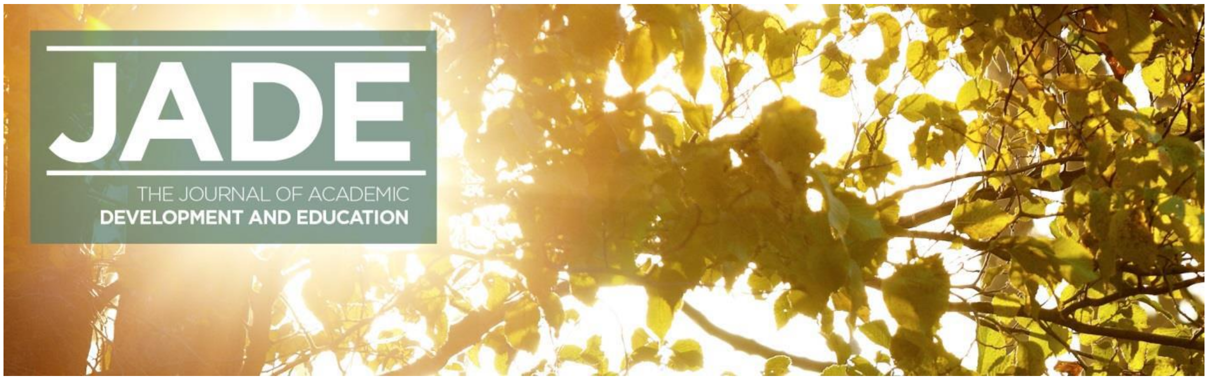

Issue 8
August 2017
ISSN: 2051-3593

Managing Editor
Dr. Russell Crawford

Administrator
Samantha Mottram

Telephone
+44 (0)1782 733007

Email
jade@keele.ac.uk

Web
http://jadekeele.wordpress.com/

Address
59-60 The Covert, Keele University, Keele,
ST5 5BG

Article:

Academic Tribalism and Subject Specialists as a Challenge to Teaching and Learning in Dual Honours Systems; a Qualitative Perspective From the School of Geography, Geology and the Environment, Keele University, UK.

Dr Steven L. Rogers and Dr Alix G. Cage

Contact: s.l.rogers@keele.ac.uk

School of Geography Geology and the Environment, Faculty of Natural Sciences, Keele University.

Academic Tribalism and Subject Specialists as a Challenge to Teaching and Learning in Dual Honours Systems; a Qualitative Perspective From the School of Geography, Geology and the Environment, Keele University, UK.

Dr Steven L. Rogers and Dr Alix G. Cage

Contact: s.l.rogers@keele.ac.uk

School of Geography Geology and the Environment, Faculty of Natural Sciences, Keele University.

Abstract
Here we give an account of our experiences teaching within a tight cognate group (Earth Sciences) and our perception of academic tribalism within a dual honours teaching and learning environment. We pose the question whether academic tribalism represents a positive or negative effect to the teaching and learning process and if it has an impact on our students becoming discipline specialists.

Keywords: Academic Tribalism, Discipline Specialist, Dual Honours, Teaching and Learning

Introduction

"*Do you often come across people for whom, all their lives, a 'subject' remains a 'subject', divided by watertight bulkheads from all other 'subjects', so that they experience very great difficulty in making an immediate mental connection between, let us say, algebra and detective fiction, sewage disposal and the price of salmon or more generally, between such spheres of knowledge as philosophy and economics, or chemistry and art?*"
(Sayers, 1948 in Burleigh 1973, p. 235)

Funding bodies (e.g. Natural Environmental Research Council, NERC) are increasingly promoting and funding interdisciplinary scientific research as society strives to solve 'real-life' complex questions and problems which need different disciplines to meet and cross-over (e.g. Donovan et al., 2011), i.e. research and education become 'problem-orientated' (e.g. Rhoten & Pfirman, 2007). As Popper said "*We are not students of some subject matter, but students of problems. And problems may cut right across the borders of any subject matter or discipline"* (Popper, 1963, p. 88). Increasingly, there is a changing emphasis towards multidisciplinary and interdisciplinary departments across the University sector (Thomas, 2008). Despite this, the standard and common approach to the teaching and learning environments is one of segregation; a distinctive feature of Keele University is its dual honour system. Arising at the lowest levels of teaching and enduring with enhanced acceptation is the idea of a *subject* or *discipline* (e.g. Becher & Trowler, 2001 and Kreber, 2009). Subject areas, whilst often broad in scope, focus on attributes, values and educational goals often deemed as unique to that particular discipline, learners are provided with a particular framework through which they assimilate, categorise and understand knowledge. In higher education settings, teaching and learning can be viewed as a means of creating subject specialists. This article investigates the connectivity between what we interpret as disciplines and how subject specialism, particularly in a combined curriculum (Keele Universities dual honours is used as an example, with experiences drawn from teaching within Earth Sciences), may influence effective teaching and learning. The division of knowledge into disciplines (as seen by society) has often been regarded to generate "academic tribes and territories", with each discipline having unique identity and cultural attributes (Beecher & Trowler, 2001, Amaral 2008 and Kreber, 2009) We hope to catalyse the discussion about academic tribalism, and the associated positives and negatives, in a broader context (including the views from other cognate disciplinary groups - e.g. neuroscience and psychology, marketing and media, business management and finance, etc.)

The dual honours system at Keele University was spear-headed by Lord Lindsay, a philosopher with experience of 4-year-long degrees at Glasgow and Edinburgh Universities, which encompassed broad knowledge bases. Lindsay's vision was for a new type of university; a university which aimed to break down specialisation and encourage cross-disciplinary teaching and research. Here we share our experiences of the dual honours system (specifically Earth Science teaching in a dual honours system) and the inherent academic tribalism associated with staff and students. The authors of this contribution are both from the School of Geography, Geology and the Environment (GGE); one a geologist, the other a physical geographer and both are members of several course teaching teams in GGE, including some shared courses such as Geoscience and Environmental Science.

Academic Tribalism and Discipline Specialism: the Geography/Geology Love/Hate relationship

Teaching and learning relies heavily on the concept of discipline, particularly in higher education. Teaching within subjects is often (and expectedly) undertaken by subject specialists - these specialists most often being past students of the particular subject themselves. The result is a cohort of students and teachers committed to their idea of what their subject is i.e. *subject specialists*. Disciplines have no "set in stone" divisions and are mostly traditional groupings of interest (Abbott, 2001, Becher

& Trowler, 2001 and Kreber, 2009) the values and attributes of each discipline has been observed to change, both historically and geographically (Becher & Trowler, 2001). Both academics and students often identify with their department/discipline rather than their university (e.g. Fanghanel, 2012) and Amaral (2008) stated that *"University education could, therefore, be regarded as an introduction into a disciplinary community and as socialisation into its norms, values and ways of constructing the world..."*. Within our subjects and disciplines we acknowledge the importance of the accumulated knowledge, values and attitudes that are coherent to our idea of what our discipline is but can often fail to acknowledge the same of other disciplines, even those closely related. Amaral (2008) views higher education (specifically university level) as an introduction, and subsequent socialisation of an individual into a disciplinary community's norms and values. Abbott (2001) has suggested that within disciplines we are guilty of the same attitudes, with teachers and learners from sub-disciplines being dismissive of each other. The strong sense of discipline identity (e.g. Kreber, 2009) means that students can produce a barrier to their own learning, failing to see the link between the two subject areas and the need to translate skills across from one subject to the other so that they can make stronger critical interpretations of the environment around them. This problem is seen in other cognate disciplines (e.g. Meyer & Land, 2003) and is often further exacerbated by the modular system. Both Geology and Physical Geography encourage students to critically evaluate within and across the disciplines but over time a 'wedge' can set in. Sometimes this can be part of the 'culture' of a discipline, especially if there is a perception that a discipline is construed to be 'hard' or 'soft' (e.g. Biglan, 1973 in Fanghanel, 2012). This academic tribalism can also be evident between some staff members and this is not unique at Keele - Donovan et al., (2011) commented that '*To geologists, I was a geographer and to the geographers, I was a geologist*.' This academic tribalism amongst staff can occasionally trickle down and pervade the student consciousness. Despite this sub-discipline 'rivalry', it's interesting to note that when our subject of specialism (or importance thereof) is questioned or challenged by individuals outside of the discipline we put aside any sub-discipline rivalries and unite in defence (Abbott, 2001).

Does the integration of subjects in the dual honours system provide a positive or negative effect on teaching and learning?

Academic Tribalism and the Impact on Learning in Geography, Geology and the Environment

The discord between Human Geography and Geosciences (including Physical Geography) is somewhat understandable – the subjects are from two very different disciplines (social versus natural sciences). However, fundamentally Geology and

Physical Geography (as well as Environmental Science, other physical sciences and some aspects of social science) are intrinsically, tightly, linked disciplines, there are many similarities, as well as a fair share of differences. As physical geographers and geologists, we often are using the same ‘toolbox’ (sedimentology, micropalaeontology, geochemistry, mapping) but we’re using it to answer different research questions. As geography and geology are by definition separate (by name, by course, by the University, by social understanding and most often, by programme team), the study of one, with little conscious, signposted, knowledge of the other is completely possible – indeed this is the norm – single honour degrees in geography or geology are commonplace at many institutes. At Keele University, the availability of dual honours has offered an opportunity for both students and teachers to learn more about the connections between these inherited disciplines, and the linkages between them. Disciplinarity can be important to the success of an academic (Fanghanel, 2012) but in terms of student learning, academic tribalism can create a passion that borders on close-mindedness and can result in barriers to learning.

The following are some qualitative observations made whilst teaching within this ‘tight’ cognate GGE discipline group. Observations have come from lectures, practical classes and fieldtrips, with the majority coming from those modules where dual honours Geography and Geology students attend, and in particular, from the transition from level 5 to 6 where the students make their choice of majoring in a particular discipline, or maintaining a 50/50 split in subjects. Our observations of dynamics between the geology and geography ‘tribes’ are as follows:

- Students often build up separate and distinct ‘scaffolds’ (Wood *et al.* 1976, Bruner 1978, Vygotsky 1978, Murtagh and Webster 2010) for the individual subjects. They can often be unwilling or unaware that they can, and should be, synthesizing different sources of knowledge into an individual ‘skill-set’ or ‘knowledge silo’ (e.g. Morrison, 2006). It has become apparent that many students struggle to integrate their existing knowledge generated within their subject across the disciplines; showing unwillingness or inability to implement Constructivism (Piaget, 1950).
- Some members of a cohort express boredom with the aspect of their dual honour which they perceive as the less important, or which they identify (the disciplines norms and identity) with the least. This has on occasion resulted in disruption of teaching activities or attitude problems. It can also result in poor grades in the subject they favour the least.
- Cohorts from different disciplines can become dogmatic in their approach to teaching and learning; being unwilling to approach different learning styles.
- Lack of cohesion between students of different subject groups. This is particularly noticeable on field trips.

- The attitudes of staff toward *their* discipline is likely the origin to some of this behaviour. Whilst the vast majority of staff are capable (and do!) make cognitive links between disciplines, in both research and teaching, the behaviour and environment created by some staff and students arguably enhances disciplinary dogma.
- The dual honours system encourages subject specialism and disciplinary identity. Indeed, these identities, and the experiences students receive of different discipline attitudes are possibly what *makes* some of our students such great geographers and geologists!

We can consider academic tribalism in terms of the impact it has on student learning (not just grades). Table 1 shows the three main modes of learning. Ideally we want our students to adopt a deep approach to learning, thinking critically and linking up thought and ideas from different subject areas (e.g. Brockbank's paradigm) and for them to address threshold concepts and troublesome knowledge (Meyer & Land, 2003). However, academic tribalism can often lead to a surface approach to learning for the subject that they favour the least. What we need to work towards is a transformative learning approach (e.g. Taylor, 2008) for our dual honours students where they are encouraged to critically reflect on their assumptions and beliefs about the subjects and actively draw upon experiences and knowledge to transform the way they synthesize and appraise their academic approach to physical geography and geology. Better links between the subject areas, maybe through the use of case studies or collaborative fieldtrips (or for other disciplines - seminars) may help facilitate the cultural change needed to break down those 'tribal' barriers.

Discussion: where now?

It is clear from our experiences that academic tribalism can occur within the dual honours system in the GGE subjects. Considerations should be given to the causes for this and whether it is a positive or negative feature to the teaching and learning environment. Does this also impact on the employability of students? Theoretically, Keele's dual honours degrees can produce graduates who can help facilitate a societal need for an interdisciplinary approach to problem-solving and its potential to put our students in a good place for employability has been noted (e.g.http://www.independent.co.uk/student/news/a-dual-degree-means-double-your-chances-in-a-tough-jobs-market-8656183.html). Indeed, in 2016, Keele University was ranked first for Graduate Employability by Higher Education Statistics Agency (HESA, Destinations of Leavers from Higher Education, 2016). Could this be attributed to students with strong discipline identity, or with experience of working across different discipline boundaries?

Using Keele’s dual honours system (and comparing dual honour with single honour students, of Keele and other institutions, if possible) the context and rationale of academic tribalism could be investigated further. Discussion with both students and staff, weighing the advantages and disadvantages of a combined curriculum is needed. Would better understanding and appreciation of physical geography from geologists and vice versa, and encouraging more interdisciplinary teaching, lead to more synthesis and learning potential between both staff and students in these tight cognate disciplines? Or is academic tribalism ultimately responsible for the identities and attitudes that make a person a discipline specialist?

We would welcome thoughts and experiences from other staff working across the dual honours system, and we hope to explore student and staff perceptions of academic tribalism in the future.

Acknowledgements
The main bulk of this work was carried out as a discipline-specific group project on our TLHE training at Keele University. The authors would like to express their thanks to Dr Sally Findlow for constructive feedback and critique during the TLHE project.

The authors declare that they have no competing interests.

References
Abbott, A. 2001. *Chaos of Disciplines*, The University of Chicago Press.

Amaral, A. 2008. Transforming Higher Education. In: Amaral, A., Bleiklie, I. and Musselin, C. (eds.) *From Governance to Identity,* Springer Science 19-30.

Becher, T. and Trowler, P. R. 2001. *Academic Tribes and Territories*. The Society for Research into Higher Education & Open University Press.

Biglan, A. 1973. The Characteristics of Subject Matter in Different Scientific Areas. *Journal of Applied Psychology,* 57 (3), 195-203.

Bruner, J. S. 1978. The role of dialogue in language acquisition. In Sinclair, A., Jarvelle, R. J. and Levelt, W. J.M. (eds.) *The Child's Concept of Language*. New York: Springer-Verlag.

Donovan, K., Sidway, J.D. and Stewart, I. 2011. Bridging the geo-divide: reflections on an interdisciplinary (ESRC⁄NERC) studentship. *Transactions of the Institute of British Geographers*, 36, 9-14.

Entwistle, N.J., Tait, H. and McCune, V. 1999. Scoring key for Approaches to Studying Sub-scales within the Approaches and Study Skills Inventory for Students, University of Edinburgh, Department of Higher and Further Education (unpublished). In: Maguire, S., Evans, S.E. and Dyas, L. 2001. *Approaches to learning*: A study of first-year Geography undergraduates. *Journal of Geography in Higher Education*, 25(1): 95 – 107.

Fanghanel, J. 2012. *Being an academic*. Routledge, Oxford.

Kreber, C. 2009. *The University and its disciplines: Teaching and learning within and beyond disciplinary boundaries*. London and New York: Routledge.

Maguire, S., Evans, S.E. and Dyas, L. 2001. Approaches to learning: A study of first-year Geography undergraduates. *Journal of Geography in higher Education*, 25(1): 95 – 107.

Meyer, J.H.F. and Land, R. 2003. Threshold concepts and troublesome knowledge: linkages to ways of thinking and practising. In: Rust, C. (ed.), *Improving Student Learning - Theory and Practice Ten Years On*. Oxford: Oxford Centre for Staff and Learning Development (OCSLD), pp 412-424.

Morrison, J. (2006). *STEM education monograph series: Attributes of STEM education*. Teaching Institute for Essential Science. Baltimore, MD.

Murtagh, L. and Webster, M. 2010. Scaffolding teaching, learning and assessment in Higher Education. *TEAN Journal.* Vol. 1 (2) [Online]. Available at: http://bit.ly/tyfJ5M (Accessed 28 Jan 2014).

Piaget, J. 1950. *The Psychology of Intelligence*. New York: Routledge.

Popper, K. 1963. *Conjectures and Refutations*. London: Routledge & Kegan Paul.

Rhoten, D. and Pfirman, S. 2007.   Women in interdisciplinary science: Exploring preferences and consequences. *Research Policy*, 36, 56–75.

Sayers, D. I. 1948. The lost tools of learning. Reprinted in Burleigh, A. H. (ed.) Education for a free society 1973.

Taylor, E. W., 2008. Transformative Learning Theory. *New Directions for Adult and Continuing Education*, 119, 5-15

Thomas, N. 2008. Mapping the Earth Sciences Learning and Teaching Agenda for 2007 –2011. *Planet*, 20, 6 – 9.

Vygotsky, L. S. 1978. *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.

Wood, D. J., Bruner, J. S., & Ross, G. (1976). The role of tutoring in problem solving. *Journal of Child Psychiatry and Psychology*, 17(2), 89-100.

Table 1 - Characteristics of different learning approaches (reproduced from Maguire et al., 2001; adapted from Entwistle et al., 1999).

Learning Approach	**Characteristics of Learning approach**
Deep approach	Relating ideas; relating ideas between courses Use of evidence; relating evidence to conclusions *Related motives:* Interest in ideas and topics Ability to discuss and collaborate
Instrumental (surface) approach	Lack of understanding ; reliance on memory Lack of purpose and clear goals Syllabus-boundness ; focus on bare minimum to pass *Related motives:* Fear of failure Reliance on courses/tutors who dictate information to learn
Strategic approach	Organised studying Time management; ability to organise time effectively Monitoring effectiveness ; checking work against aims *Related motives:* Motivated, achievement orientated