

## Disciplinary Cultures and Undergraduate Education: How Differing Assumptions About the Nature of Knowledge Create Characteristic Forms of Teaching and Learning

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The relationship between epistemologies and pedagogies in academic disciplinary cultures is the subject of this project. It will examine how disciplinary differences in *assumptions about the nature of knowledge* affect perceptions of the nature of learning in higher education, and therefore the characteristic pedagogical forms favoured by different disciplines. The starting point for the investigation will be how 'generic' or 'transferable' skills and attributes are understood in a range of disciplines, and the ways in which these skills are developed in educational programs. In speaking of the *assumptions* underlying disciplines, we refer to both explicit epistemic frameworks and the range of tacit beliefs and values that form the 'world views' of these academic cultures.

Knowledge of teaching and learning in higher education is incomplete in one important respect. Yet to be fully researched is how the differing cultures of the academic disciplines shape the approaches and practices of teachers and students. The virtual silence of contemporary higher education theory on disciplinary differences in teaching and learning is surprising as research shows the epistemological cultures of the disciplines do have profound effects. The lack of recognition of disciplinary cultures in higher education with respect to teaching practice is particularly anomalous given the common university practice of structuring school-teacher education, and indeed whole education faculties, on the basis of discipline 'method' and the attention to disciplinary research in schools, including extensive discipline-based classroom research.

The aim of this study is to develop a more nuanced theory of university teaching and learning that takes into account the substantive influence of academic cultures. We intend to use Becher's four-cell matrix of disciplines—hard-pure/soft-pure/hard-applied/soft-applied—to open up new lines of inquiry into the specific ways in which disciplinary differences affect teaching and learning.

There are a number of possible entry points for this investigation: we plan to begin with an inquiry into the teaching and learning of generic skills and attributes, using the issue as a heuristic device for exploring disciplinary pedagogies. (From this point in the proposal we will use the phrase 'generic skills' as a shorthand term for a range of generic outcomes which encompass qualities and values as well as skills.) There are two reasons for this strategy. The first is practical: the pressure of government policy and employer demands is ensuring that generic skills have an increasingly important place in higher education curricula, yet there has been little research into the ways in which they are conceptualised, taught and assessed. Clearly, such skills are expected to be learned within a framework of aims and objectives that are largely content or subject-based, yet the relationship between the generic and the discipline-specific is quite unclear. A better understanding of the role of academic cultures and disciplinary differences in the development of generic skills has the potential to inform and enhance teaching and learning in higher education in significant ways.

The second reason is theoretical. Examining the teaching of generic skills across the disciplines offers a powerful and intriguing way of shedding light on the nature and consequences of alternative conceptions of knowledge, teaching and learning. Since generic skills by definition must be assumed to have much in common across the disciplines, the ways in which they are conceived, taught and learned within a disciplinary context, guided by academics with primary training and enculturation in that discipline, will say much about differing conceptualisations of knowledge and learning. This focus therefore has the potential to contribute a new dimension to the theoretical understanding of disciplinary difference.

**The Objective** will be to build a detailed picture of the 'world view' that permeates and defines the culture of a range of disciplines in relation to the key issues of how students learn in that field and therefore how they are taught. The approach will be an ethnographic one, using the principles of grounded theory (Strauss & Corbin 1998) for developing a more complex theoretical framework drawn from the perspectives of those teaching and studying in the disciplines. The disciplines studied will include a number of traditional areas, such as Chemistry and History, and some newer fields which appear to be cross-disciplinary, such as Computing and Gender Studies. The project will proceed through interviews with academic staff and students, analysis of key documents relating to teaching and learning, such as course outlines, and questionnaire-based surveys.

**The Outcomes** of the project will be:

- a richly nuanced conceptualisation of the differences and similarities in teaching and learning across academic cultures, the underlying epistemological assumptions and their implications for policy and pedagogical practice;
- based on this conceptualisation, a deeper understanding of how an awareness of disciplinary context might be incorporated into professional development programs on teaching and learning;
- an understanding of how procedures and instruments for evaluating teaching might be tailored to reflect the specific character of teaching and learning within discipline areas.

All of these outcomes, presented in scholarly articles and practical publications for professional development, will directly or indirectly contribute to the enhancement of the quality of teaching and learning in higher education.