

Theoretical and empirical modelling of change in academic practice

The practice of academics constantly changes, driven from within by the on-going nature of development within an academic's own field and cognate fields, but also driven by societal demands - cultural, political and economic. The literature contains many studies on the impact of change on academia, i.e. at the organisational level. There are also a multitude of studies on the many aspects of academic practice and some of these explore the impact of change. Together these studies give an eclectic view of academic practice. There is a pressing need for integration. Meta-analysis of the literature fails to achieve this integration as studies often differ subtly in their objects of investigation making synthesis impossible. The individual academic's experience of their practice as a coherent whole gets fragmented in the literature making it challenging to see the bigger picture and to study change in a way that is meaningful at an individual level. There is a need for an integrated holistic model of academic practice that highlights systemic relationships to reflect the individual academic's experience of unity rather than of a practice of disparate elements. Such a model is a prerequisite for successfully mapping how academics and academia respond to change. (1, 2, 3, 4, 5, 6)

The work described here begins to address this need by (i) using an adaptation of a well established empirical approach to develop an integrated holistic model of academic practice, (ii) operating and testing this model in the field, and (iii) using this experience to inform the development of a theoretical framework for modelling change in academic practice.

A development of the phenomenographic approach was used to gather data on how individual academics experience their own practice. Interview questions were designed from a meta-analysis of the literature. The subjects were presented with opportunities to give descriptions of their experience of examples of practice, to attach meaning to these experiences, to relate them to social and other contexts and to connect them to individual ideologies. The resulting holistic descriptions of individual practices were then used for model building where Peircian triadic relationships were emphasised and an iterative procedure used that attended to both group variation and particular individuality. This approach ensured that the model generated is applicable to both academic practice in general and to individual particular practices. (7, 8)

The model itself describes practice in terms of doing, being, social, and ideological aspects. The meaning and identity associated with being an academic and the intentions and strategies for doing academic work

flesh out the model. The variety of ways academics reason and relate with the social, cultural and intellectual contexts of academia as well as academic ethologies, epistemologies and ontologies are all included. The model can be easily used in a systemic way as the relationships amongst the components form an integral part of the model.

The model was tested by operating it in a variety of academic settings. Examples are, using the model to prepare and deliver a lecture, to organise and conduct a round table discussion, to deliver a workshop, and to read selected papers from the literature on academic practice. This testing highlighted both strengths and limitations of the model. The model was found to be strong on identifying and working with sameness and similarity, for example tasks involving integration of disparate elements. The model was found to be weak on maintaining and working with difference, i.e. tasks where difference was important for a successful outcome.

The modelling of difference is central to modelling of change and this apparent weakness in the empirical model would limit its usefulness in modelling change. The question arises if this is a limitation of the theoretical framework of phenomenography (i.e. Variation theory) or a weakness in our implementation. To address this question we explored a theorization of the modelling itself. This was done by patterning the theory-approach-content of our empirical model with at least one alternative modelling. We chose Isabelle Stengers' modelling of scientific practice for this comparison. She describes her theory as Cosmopolitics and her approach as an 'ecology of practices' and she developed this approach by a historic exploration of scientific and related practices. Our approach to theorization thus involved exploring the sameness-similarity-difference in our modelling of academic practice and Stengers' modelling of scientific practice, i.e. we compared and contrasted patterns in 'Variation theory-phenomenography-academic practice' and 'Cosmopolitics-ecology of practices-scientific practice'. (9, 10, 11)

Stengers' modelling of scientific practice is theoretical; she describes her work as speculative philosophy. She emphasises how practice forms, develops and evolves. Her attention to change, her emphasis on creativity and her focus on practice makes her work an ideal comparator for theorizing change in academic practice. A key feature of her modelling is the description of constraints on practice in terms of requirements and obligations. These features are then used to show how value can be created and how means and value are related, thus providing an account of disciplinary difference while simultaneously showing how change is possible. This opens the possibility of showing how disciplines evolve together with their environment. (10, 11)

Patterning Stengers' modelling with ours highlights clearly the elements of our model and modelling involved in mapping difference, change, and creation and presents the possibility of a remodelling of our work to better show the dynamic nature of academic practice and hence achieve our aim of modelling change in that practice.

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