Chapter 9

Pedagogic Frailty and the Ecology of Teaching at University:
A Case of Conceptual Exaptation

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ABSTRACT

The effective consideration of university teaching through an ecological lens requires a supporting framework that is able to add a sense of coherence to an evolving and seemingly chaotic professional environment. This can be provided through application of the pedagogic frailty model that supports the visualization of key aspects of the teaching environment. This is achieved using concept mapping as a tool to uncover the personalized ways in which academics make connections between ideas. This chapter considers examples to show how through the application of concept mapping exploration the model can add to the comprehensibility, manageability, and meaningfulness of the teaching enterprise so that individual academics may be better placed to map their own career aspirations and institutional managers may gain a more informative and integrated picture of the dynamic university system.

INTRODUCTION

Teaching at university is a complex activity that operates within a complex environment. Some of the environmental factors acting on teachers can support the development of teaching practice whilst others can be seen to impede the development of teaching as practice evolves from a simplistic transmission of content towards a more nuanced, socio-constructivist activity in which the student is seen as an active partner in learning rather than as a passive recipient of information. Teaching is made more difficult when we realize that the university environment is in a constant state of change as it responds to political, economic and societal uncertainties. Brookfield (2018: 13) describes how 'our lives as teachers often boil down to our best attempts to muddle through the complex contexts and configurations that our classrooms represent', with teachers reporting their work to be 'highly emotional and bafflingly chaotic'.

Simply labeling the university teaching environment as an 'ecological system' does little to support the survival of academics as they embark upon their teaching careers. We need to do more to help academics develop a level of resilience that allows them not just to cope with environmental change, but to thrive on it and avoid unnecessary stress and burnout (e.g. Howard & Johnson, 2004). The acknowledgement of the complex context in which teaching operates has encouraged a number of writers to look towards ecology as a source of inspiration (e.g. Barnett, 2011; Keiny, 2000; Kinchin, 2016a; Priestley et al, 2015; Taylor & Bovill, 2018). Ecologists consider the complex interactions in the environment and typically model what they observe so that simplified descriptions can emerge to firstly understand the dynamic processes that maintain ecosystems, and possibly to help manage those which may be seen to be damaged. An ecological lens opens up a new perspective on teaching that offers conceptual clarity:

The concept of ecology helps us in pointing to regions that have some systematicity, but yet are open to the rest of the world. It hints at a diversity that is being imperilled…, [it] suggests some fragility …. it harbours a sense of a presence in which one is implicated. Barnett (2018: 8)

The repurposing of a concept (such as ecology) from its discipline of origin to be co-opted to perform another function has been described as 'exaptation' (e.g. Garud et al, 2016). The idea of exaptation has itself been 'exapted' (*sensu* Larson et al, 2013) from the original use of the term by Gould & Vrba (1982) in the field of evolutionary biology. The exaptation of ecological concepts to consider teaching has led to the suggestion that researchers of higher education may be considered as '*conceptual ecologists*' (Kinchin, 2000). However, these conceptual ecologists require a framework against which to reflect on their observations that might add a sense of coherence to an otherwise chaotic picture. Such a sense of coherence requires a structure to provide comprehensibility, sufficient and appropriate resources to allow the problems that are encountered to be managed, and a clear purpose to provide a reason to invest energy to engage with endeavours in a meaningful manner (Eriksson & Mittelmark, 2017). Developing academic's sense of coherence of the teaching environment has been an explicit aim of work on the development and application of the pedagogic frailty model (Kinchin & Winstone, 2018), and exploration of this ambition is the aim of this chapter.

BACKGROUND

Higher Education research may be able to employ an ecological lens to consider teaching at university from the institutional level. The model of pedagogic frailty (Kinchin & Winstone, 2017; 2018) provides an integrative, ecological model that can overlay our view of teaching and help to provide a structural framework to support analysis by considering the interactions between elements of the teaching ecosystem. The pedagogic frailty model (Figure 1) has emerged from the application of concept mapping (Novak, 2010), a tool that supports the visualization of complex interactions between ideas.

The pedagogic frailty model was developed to add a sense of coherence to a complex and seemingly chaotic teaching environment in order to help academics begin to make sense of the system in which they work. The model considers four key dimensions that seem to account for much of the tension that can be observed to exist in the teaching environment and which can impede the development of teaching quality. These are:

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