This paper uses concept mapping and interview techniques to track changes in knowledge and understanding among students and their supervisors in the course of full-time research towards a PhD. The on-going work measures both cognitive change in the specific subjects that are the topic for research and in the understanding of the process of PhD level research and supervision. The data makes a unique contribution to our knowledge of research processes and an understanding of the ways in which knowledge is created by research. It also helps to provide documentary evidence of the ways in which supervisors can act to facilitate learning and discovery. A theory of the supervision process as one of intellectual courtship is developed, highlighting the mutual partaking in an academic relationship. The approach is essentially ethnographic and comprises detailed case study analysis rather than any broad inferential comparison.

PhD Supervision as Intellectual Courtship

This project attempts to lay the foundations for the development of a research-led pedagogy for dissertation supervision. To date, only Hetrick and Trafford (1995) and Salmon (1992) provide detailed analysis of the processes involved in PhD supervision. However both neglect to document the process through time and report instead, individual expectations of the supervisory role. The results indicate the importance of supervision as a process, but do more to highlight the need for future research than to explain exactly what this ‘process’ might entail. One supervisor in the study of Hetrick and Trafford (1995), for example, is quoted as follows:

“…supervision should involve a journey of discovery for both tutor and student.”

[supervisor M quoted in Hetrick and Trafford, 1995]

Nevertheless no extant literature provides empirical data for such a journey through time and no studies to date have attempted to do this simultaneously among supervisor and student. As a result any attempt to formulate pedagogy for dissertation supervision lacks an underpinning research base. This is despite Salmon’s (1992) consistent emphasis on the importance of change and the support for change in the course of research. Documenting change in knowledge and understanding among PhD students and their supervisors is key to understanding what the joint processes of research and of supervision entail (Brew, 2003), and it is surprising that this has not yet been done. Perhaps the relative intractability of the learning process is the most compelling explanation for this lack of empirical data. However, recent theoretical and methodological developments in the fields of concept mapping (Novak, 1998) and of higher education pedagogy mean that these issues can be addressed. This is explained below.

The identification of mutual conceptual development requires a research design that enables the lived experience of the supervisory process to be explored over time. The method chosen is congruent with
our epistemological position, which relates to the legitimacy of generating data about how PhD students and their supervisors work together by talking interactively with them. The approach most suited to this position is qualitative, utilising what Charmaz (2001) calls “multiple sequential interviews” (p. 682); this type of interviewing “charts a person’s path through a process” and creates the opportunity for a “nuanced understanding of that process.”

Interviews are conducted with students and supervisors separately so that the research does not interfere with supervision. In-depth, semi-structured interviews are done with the students at four-monthly intervals utilising a grounded theory approach. Interview transcripts are translated into concept map summaries that provide structure for the data: facilitating analysis within cases and across cases. This also helps to identify a route through the developing narrative. Data collection and analysis occur at each stage, and enable each interview to draw upon the experiences of the participants to inform theory generation relating to changes in content and processes over time. The interviews explore two complementary lines of enquiry:

1. Topic – looking at the academic area under investigation within the PhD.

2. Process – looking at the conceptions held of the research process and of the PhD as an entity.

Questioning during student and supervisor interviews takes the form of three interconnected phases for each of the two themes. These three phases reflect the three phases of questioning identified by Pedrosa de Jesus et al. (2006) as 1) acquisition, 2) specialization and 3) integration. These in turn facilitate the co-construction of concept maps (by interviewee supported by interviewer) by building upon spokes, elaborating chains and finally integrating these as networks. This was guided by careful use of relational language (sensu Loewenstein and Gentner, 2005), during the interview to encourage the interviewee to make links explicit.

This differs from other investigations of PhD supervision which have focused on ‘satisfaction ratings’; ‘power issues’; ‘completion rates’ or ‘closeness of supervisor-student relationships’, rather we are looking at possible trajectories of mutual conceptual development within the supervisory process, exhibited by students and supervisors up to the production of the thesis. This reflects Wright and Lodwick’s (1989) view that for the great majority of students, ‘the academic aspects of supervision would take precedence.’ In addition, this work follows students through the entire course of study in contrast to most studies that have taken a snap-shot at one point in the supervision process (e.g. Wright and Lodwick, 1989).

Furthermore, the simultaneous assessment of students and supervisors is important for understanding how the cognitive changes of one affect the other and vice versa. What for example are the consequences of new discovery by the student researcher on the extant knowledge structures of the researcher? Do these constitute new thoughts and new ways of seeing things for both parties? Furthermore, will the active demonstration of change (or the lack of it) through concept mapping impede or enhance the rate of cognitive alignment towards new understandings of the field of research and possible of the research/supervision process itself? These important issues are able to be addressed through using concept mapping in the longitudinal study of PhD supervision.

Through the interviews the idea of intellectual courtship between the student and the supervisor has been developed. In contrast to a Platonic empty vessel theory of learning, PhD supervision involves a
mutual intellectual engagement. However, the degree of involvement and sharing varies dramatically across case studies and disciplines. The case studies are used as examples of various courtship styles in the supervision process, along with emergent issues of trust, learning and working styles, and the changing nature and purpose of the PhD. Curzon-Hobson (2002) has developed a notion of trust in higher learning, and examined the pedagogical challenges of its pursuit within of higher education. It is argued that the experience of trust is a necessary foundation for a critical, dialogical learning environment, yet it can be endangered by many of the demands and restrictions placed upon postgraduate education. This paper concludes with suggestions for students and supervisors, as well as recommendations for institutional policies that facilitate successful supervisory relationships.

References