

**THE COMPLEXITY OF LEARNING: RELATIONS ALL THE WAY DOWN**

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*submitted for the degree of*  
*Doctor of Philosophy*  
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*by*  
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## **CERTIFICATE OF AUTHORSHIP/ORIGINALITY**

I certify that the work in this thesis has not previously been submitted for a degree nor has it been submitted as part of requirements for a degree except as fully acknowledged within the text.

I also certify that the thesis has been written by me. Any help that I have received in my research work and the preparation of the thesis itself has been acknowledged. In addition, I certify that all information sources and literature used are indicated in the thesis.

Signature of Candidate

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You were in luck – there was a forest.  
You were in luck – there were no trees.  
You were in luck – a rake, a hook, a beam, a brake,  
a jamb, a turn, a quarter inch, an instant.  
You were in luck – just then a straw went floating by.

Wisława Szymborska, *Could Have*

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## ABSTRACT

This is a conceptual thesis about how both learning in relation to professional practice, particularly learning *from* practice, and the production and use of professional knowledge, can be understood. The work of the thesis is an attempt to address the issue of how to conceptualise an onto-epistemological framework for inquiry in the field of social sciences that consists of learning, practice, learning from practice and producing and using knowledge; a framework that fits more productively with practitioners' experience in these areas than the one we currently use.

The traditional ontological perspective, that frames the way in which concepts such as practice and learning are conceptualised, imposes significant limitations on their understanding and use. This traditional framework is substantialist in form. That is, it reflects a model of the world in which substances or entities have prime ontological significance. Because of this, the relations between entities are commonly either treated themselves reductively as additional entities, or are ignored. I argue that it is this relational reductionism of the traditional substantialist ontology that is problematic when considering human processes such as practice and learning.

The thesis has its experiential origins in the lack of fit between espoused theories of learning and theories-in-use as related to professional practice. To illustrate this I use the claims of Evidence-based Medicine to function as a theory of medical practice and as a medical epistemology. I argue that its limitations in both areas follow from its development within the traditional substantialist, or entity-based, framework which shapes these claims. The limitations of Evidence-based Medicine serve as an example of the way in which applying relationally reductive manoeuvres to the complex relations of lived experience, while to some degree a necessary aspect of all human social functioning, is problematic if not done in a critical or reflective manner.

The body of constructs and theories known as 'complexity' offers a more encompassing onto-epistemological framework for considering human processes. It does so because it is relation-based. In such a framework, systems and processes are conceptualised as being constituted by their relations, rather than built up of their composite entities. In



this thesis I draw on several already current theories and bodies of concepts which are consistent with a complexity perspective, to support the use of complexity as a framework in re-formulating learning and its relation to practice.

The first of these is the pragmatist philosopher John Dewey's formulation of living functionality which has 'trans-actional' relations as a central feature. I argue that if these relations are understood as an exemplar of complex living relations, then complexity has a capacity to account for the generativity (the emergence of the radically new) and the indeterminacy (the unknown unknowns) of human functioning, neither of which can be done within the traditional substantialist framework.

The second is a body of concepts derived from psychoanalytic thinking and other theories of psycho-biological functioning which relate to human affective functioning. Human affective needs act as a driver of social processes and activities and human experience that is affectively shared between individuals and socially processed. produces meaning. What these concepts have in common is an understanding of human psycho-social function as having a relational basis at multiple levels, for which trans-actional relating can function as a model. These psycho-biological concepts, with sociologist Niklas Luhmann's theories of social functioning as emerging from interpersonal communication, allow for distinctions to be made between aspects of human functioning at biological, psychological and social 'levels', levels that are both differentiated and mutually dependent, allowing a re-formulation of learning, its relation to practice and the production of knowledge.

With these theories in mind, I take the 'co-present group' as central to an exploration of how practice and learning might look from a complexity perspective. The human co-present group is a group, such as a work group, where individuals are each known to the others as *specific* individuals. It functions as a complex system (the group) of complex systems (the participating individuals). I argue that the co-present group functions as the site of both human learning and of the origin, development and modification of all social and cultural phenomena, both of which depend on the group processing of human affective states.

Because humans have the capacity to 'share' the processing of affective states with other specific individuals, this processing function is not co-terminous with the biological human individual but can be considered as an aspect of co-present group's functionality. Learning, for the individual, emerges from co-present group processes through the bio-psychological individual. In contrast, and following the work of sociologist Niklas Luhmann, 'communications' emerge from complexity-reducing interactions *between* individuals, thus having a social origin, and are available for elaboration into social and cultural phenomena through repeated use and re-use in multiple contexts.

I draw conclusions to this thesis in two areas. The first is that if complexity is understood broadly as being based on complex living relations as exemplified by John Dewey's trans-actions, it can function as an onto-epistemological framework for inquiry into living human processes. The second area, which follows as a consequence of using such a framework, is that human processes are re-conceptualised in functional terms and can be seen as being based in, and emergent from, co-present group function. This, in turn, has consequences for how we understand learning, its relation to practice and the production and use of knowledge.