

## The emergence of complexity. Rethinking education as a social science

Paul Hager and David Beckett

Springer Nature Switzerland AG, Chum  
Switzerland

280 p.

ISBN 978-3-030-31837-6

Review DOI [10.1108/JWL-02-2021-0018](https://doi.org/10.1108/JWL-02-2021-0018)

---

401

---

In our Editorial Statement, we assume that the authors that publish in *JWL* would have their enquiries located in the “organisational learning” area, in other words, study the learning that takes place in the workplaces. This reasonably narrow statement of the range of study makes it somewhat rare to see really new openings in the discussion that goes on in the journal. There are, however, continuously developments in other sciences that may bring new insights both to concepts and phenomena also for studying learning at workplace. Paul Hager and David Beckett have composed an argument that the discussion tends to overlook the complexity in human sciences (or, in studying the workplace practice, human *relations*) despite the popularity of complexity theory in natural sciences since decades. The book at hand then compiles the theory base of complexity for education and learning and points out some potential implications to researchers of concepts such as *agency, learning, practice, skill, competence and expertise*.

After discussing to some depth the current views to these central concepts, it becomes clear that they are definitely at least as multi-faceted than any activities in human systems. To attempt tackling the problem of understand learning as a complex phenomenon from a new angle, the authors introduce co-present groups as a lens through which the complexity could be viewed. This position would reject the individual agent as the learner, and the seeing human activity and performance as isolated from the whole (assumed to be part of the original whole”, as the authors say, p. 127). Furthermore, the authors feel that there is too much of a cognitive view to the human performances, and the social content is forgotten. To counter these problems, recognising that most of the actions of learning take place in small groups, Hager and Beckett introduce, as their particular lens, the concept of *co-present groups*, where affect and other non-cognitive attributes make up a good deal of what we look at as “learning”.

To a certain part, this angle resembles the “community view to performance” assumed by the *activity theory* that has at times been tested in *JWL* (e.g. Engeström, Kerosuo and others). However, it is the *complexity theory* connection that brings some new insights to learning here. Instead of clearly-definable attributes such as “tools” and “environment” of the activity theory, the authors state, learning in co-present groups take place in a whole that includes their relations, their affections, as well as their locus in “place-in-time”. Thus, the co-present groups should, according to the authors, be studied by understanding the relations of their affective functioning and shared purpose, their participation and social



relationships, their shared sense of place-in-time and their deliberation of their purpose and their actions.

As the name implies, the complexity theory would require lots of space to delve deeper into, and despite having been a part of a small network of physicists in the early 2000s, it is not a task this writer would take upon here. In brief, the physics' view assumes, instead of universal determinism, a certain level of randomness in the events, "emergent properties" that may make the systems take different states in different situations, different places and different times. The complexity view thus must take a look at the relations, rather than the properties, of individual details of the system. One grain of sand adds to the shape of a dune; another, precisely similar grain, can make the whole dune collapse and completely change its shape (and even location; "equilibrium" vs "non-equilibrium" states). Complexity is a property of systems, also of human systems.

Hager and Beckett's view to complexity is well based, and their account of what complexity would mean to studies of action and learning in human systems is to my opinion remarkably complete and easy to follow. They state that it would "make possible explanatory accounts of previously unpredictable, even inexplicable, phenomena and occurrences". At the first thought, it would seem difficult to build systematic research approaches to implement this kind of thinking into studies of workplace learning. However, the last part of the book gives us a connection to the co-present groups concept where learning can be seen to occur, "a system of systems", of the individuals and their group, *both* of which thus are changed by learning. These both types of simultaneous experience of "new" are potential objects of learning study.

Finally, the complexity theory approach suggests the researchers to aim their analysis to (small primary) groups instead of individuals, insisting of holistic, relational understandings and recognising the central role of judgement, especially in the non-cognitive dimension of affect. The final third part of the book indeed builds philosophic theoretical ground to why these vies should be as acceptable as individualistic, cognitive views. The authors are quite convincing here and, at least to this writer, manage to provide "fresh understandings" that manage to overcome some of the common problems that traditional learning theory still contain, despite some attempts to more holistic earlier views. It is completely possible that this complexity also brings added complexity to the empirical research work that we require at *JWL*, but we would welcome new analyses also along with the directions lined in this tome.

Thought-provoking, well-written, recommended reading.

**Tauno Kekale**

*Technology Centre Merinova Ltd, Vaasa, Finland*