

## Konstruktivismus und Pädagogik by Holger Lindemann

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Lindemann, Holger (2005) Konstruktivismus und Pädagogik Grundlagen, Modelle, Wege zur Praxis Ernst Reinhardt Verlag: Munich, Basel ISBN 3-497-01843-0 280 pages. Glossary, internet links, bibliography, subject index This book is a welcome addition to the literature about constructivism. As far as I know, it is the first serious attempt to compare the major trends of this school of thought and to discuss their similarities and differences from a non-belligerent position.

Lindemann's exposition of radical constructivism is thorough and accurate. Given the details to which his explanations go and the fact that he draws on sources in two languages, this is a major achievement. In his first chapter, Lindemann lists seven "fundamental theses of constructivism" to which, by implication, all constructivists would agree. I cannot speak for others, but I certainly do. I have one minor suggestion for an eventual second edition: because radical constructivism has often been accused of denying the existence of reality, I would rephrase part of the first of his thesis, which he calls "ontological scepticism." Rather than say that we cannot decide whether reality exists, I would say that we have no idea what the word "existence" should mean beyond the domain of experience.

The other six theses deal with the subjectivity of knowledge, the construction of an internal experiential world, the notion of viability, the pluralism of models and methods, the subject's responsibility for his or her constructions, and the fact that the constructivist theory must also be applied to itself. The thoroughness of his exposition is exemplary and should do much to correct the many mistaken ideas about constructivism and its intentions.

To further explain and amplify these theses, he provides in his second chapter an excellent clarification of the concept of "system," which leads effortlessly to the question of *living* systems and to an extended discussion of Humberto Maturana's theory of auto-

poiesis and its differences relative to Gerhard Roth's neurobiological studies.

In the next three chapters, Lindemann deals with problems of perception and consciousness, cognitive development and communication, and anthropological considerations. He covers the relevant works of Heinz von Foerster, Gerhard Roth, Gebhard Rusch, Siegfried Schmidt, Francisco Varela, Peter Heil, Howard Gardner, some of mine, and others. What he says about language fits with the theory of radical constructivism, but does not dwell upon the models of construction that furnish abstract concepts, which then function as the meaning of words such as "motion," "cause," "change," "time." His diagram "Sprachgebrauch und Sprachverständnis"(p. 112) tends to give the impression that all word-meanings are empirical abstractions. This, of course, is not the case, because without reflexive abstractions that yield word-meanings in the form of patterns of mental operations a language would be practically useless.

The remaining three chapters are dedicated to constructivist learning theory and the didactic guidelines that can be developed from it. They provide an excellent survey of what teachers might learn from constructivism. Lindemann focuses mainly on theoretical discussions in the German-language area. I therefore miss references to the successful implementation of constructivist methods at schools in the United States by people like Paul Cobb, Grayson Wheatley, Les Steffe, and SRRI at the University of Massachusetts. However, given the theoretical character of the text, this is a minor criticism. Lindemann's book is a competent and very valuable introduction to the ideas of constructivism and their application to pedagogy.