Chapter I
Closing the Circle: From Dewey to Web 2.0

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ABSTRACT

Taking into account the complexity and multiplicity of constructivist theories, the first part of this chapter focuses on the relationship between epistemology and pedagogy in constructivism, in particular in the radical constructivist position of von Glasersfeld, which is considered a significant referent in constructivism. To overcome some of the shortcomings of radical constructivism, the author have then explored the origins of constructivist theory and practice in the work of John Dewey, whose ideas could be still a source of inspiration for constructivist educational practice. The second part of this chapter analyses the social constructivist development in different internet-based learning platforms and social software and considers at the end some practical difficulties and benefits of online learning for the implementation of constructivist learning theories for learners as teachers.

INTRODUCTION

The definition of constructivist theory or constructivism is an issue in itself. Constructivism has become such a complex topic that just the effort to clarify the different positions and trends is enough to serve as the main subject of some papers where the authors have tried to put some structure into the enormous range of definitions, sections and positions regarding constructivism (Phillips, 2005; Riegler, 2005; Steffe & Gale, 1995). It is not the purpose of this paper to do so, I will however give a brief overview of the complexity and multidimensionality of this field.

The difficulty of defining “constructivism” starts with the question whether constructivism
is a theory, an approach, or a perspective. For von Glasersfeld constructivism is a way of thinking (von Glasersfeld 1985, 1992), for Siebert it is a metatheory (Siebert, 2004), Huit is considers the constructivist approach to teaching and learning as based on a combination of cognitive psychology and social psychology (Huit, 2003), Dougiamas talks about the faces of constructivism (Dougiamas, 1998) as does Philip, considering constructivism as a secular religion within educational theory (Philip, 1995) or even a magic word (Philip, 2000) and Duit (1993) regards it as a fashionable and fruitful paradigm. What seems clear from all these studies is that, as Horst Siebert (2005) puts it, constructivism is not a scientific discipline in itself but an interdisciplinary and transdisciplinary “Paradigma,” it is a perspective in which reality depends on the observer.

Common to all the approaches and different definitions is the source of the term “construction,” which is a metaphor of architecture, and is about the building up of structures from pre-existing pieces, possibly specially shaped for the task. This metaphor, as Ernest (1995) points out, describes understanding as the building of mental structures, and it is also contained in the term “restructuring,” often used as synonym for accommodation or conceptual change. Ernest also notes a relevant feature of this metaphor: the building blocks are not merely received, they are products of previous acts of construction.

A fundamental component of constructivism is action: knowing is an active process, learners are not passive receivers of learning contents. As Glasserfeld (1989) formulates the first principle of constructivism: “Knowledge is not passively received but actively built up by the cognizing subject” (p. 182).

Although constructivism has received significant inputs from specific sciences such as neurobiology with the authors Humberto Maturana and Francisco Varela, and from brain research, two main fields remain the most relevant within the constructivist discussion: epistemology and pedagogy. Epistemology, or theory of knowledge, which considers the genesis and the nature of knowledge, is the main philosophical discipline associated with the term constructivism. The particular vision of theory of knowledge which considers that our knowledge is constructed has been labelled as constructivist epistemology or epistemological constructivism (Heylighen, 1995). In pedagogy the term constructivism applies to different aspects of this discipline such as learning theory, teaching techniques or the general pedagogical approach (Philip, 2000). Although the theoretical frame of this paper as well as that of this volume is clearly within the educational aspects of constructivism, the first sections of this chapter will look in some detail the most relevant position in constructivist epistemologies to provide an insight into the origins and spirit of constructivism. After this I will look into new developments of online learning tools and to what extent they are within the spirit of constructivism.

**CONSTRUCTIVISM AS EPISTEMOLOGY**

A first look into the studies on “constructivism” show clearly the two parallel trends within this paradigm: the epistemological and the pedagogical. It is worth researching the extent to which these two positions are parallel – i.e., that they expand and develop in different realms never touching each other, or whether they are intrinsically interrelated.

It seems to make sense that learning theories come after philosophical ones, that is, the first fundamental question is: “what is knowledge?” and then the question arises “how to acquire knowledge?”

Constructivist theory has been associated with epistemology, which is the discipline within philosophy which deals with the question of what we can know, and with the possibility of truth