

## Chapter XXVIII

# Demystifying Constructivism: The Role for the Teacher in New Technology Exploiting Learning Situations

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### ABSTRACT

*This chapter introduces constructivism as a pedagogical construct from which educational professionals might begin to analyse new technology exploiting learning-teaching interactions. Following a brief history of constructivism as both epistemology and pedagogy it presents an overview of published literature through an analysis of the characteristics of constructivist learning and learning environments and the characteristics of constructivist teachers. Finally, seven principles by which teachers might begin to analyse practice are proposed and discussed via the deconstruction of three fictional, new technology exploiting, learning-teaching vignettes. In this way it is hoped that educators in a variety of contexts will be able to engage in reflection concerning the theory and practice of constructivist pedagogy as related to personally held professional positions.*

### INTRODUCTION

For many years, analysis of what goes on in the classrooms and tutorials of our schools and colleges has been concerned with *teachers* and what *they do*; the agenda seemed totally fixed

on describing their *work*. Whilst it is not possible to disaggregate the teacher from the learning-teaching environment, it seems curious that the focus was so much slanted in this direction. What is noticeable now is the way that teacher impact on *learning* is being scrutinised as the

vital component to understanding how learning occurs and can be improved. Having said this, the picture is not entirely positive. Unfortunately, all too often what teachers do is separated out from what teachers think and believe; technical competence sometimes seems to be uppermost in the minds of policymakers. This is somewhat understandable: observable behaviours do help form an impression of any situation, and in this respect teaching is no exception. There is no doubt that being a positive role model is an important feature of professional requirements. However, how one presents oneself must, to some degree, reflect underpinning ideas, concepts, and values. We all have our views, and these *do* influence the way we act and think.

If contemporary attempts to analyse and improve learning are to continue, then it would seem pertinent to spend time considering the foundations upon which learning occurs; this is what this chapter is about. What is presented here concerns ways of thinking about knowledge and pedagogy, how these influence the construction of teacher identity, and the ways in which such constructions are both influenced by and in turn influence learning-teaching interactions. What I propose is a realignment of the learning-teaching interaction along constructivist principles. At the heart of such moves is a need to paradigmatically alter the very concept of teacher, pupil, and learning. A consideration of the use of new technologies through the analysis of fictional vignettes demonstrates how teacher-knowledge discourse, teacher-process interaction, and teacher-pupil relationships are crucial in understanding the place and location for technological application and how such tools cannot themselves alone be viewed as providing structure for a constructivist learning environment. To start then, consider these three fictional cameos.

## CASE STUDY ONE

Michael (aged 14) is following a distance-learning information and communications technology (ICT) course. He still attends his local community college<sup>1</sup> for other subjects, but has been placed in this course, as it offers an easy way for the college to meet the requirements whilst still maintaining control over the quality of the work that is produced. The course uses a Virtual Learning Environment (VLE) to deliver the substantive course content. This is supported by group tutorials delivered by the college's own ICT teachers where students come together to discuss the information presented to them, share thoughts and ideas, and highlight any confusion they might have. The rest of the time is spent engaging with the various activities and readings presented by the VLE tutors. In this way, students are responsible for negotiating their own timetable. Even though they are required to work to externally set targets and timescales, essentially they are responsible for charting their own learning progress. The course is part coursework and part examination. Both have been pre-written to meet the requirements of the responsible examining board, requirements that have been established by individuals in the examining organisation.

## CASE STUDY TWO

Sarah (17) is watching a DVD she has been given by her tutor to help her explore an aspect of her A2<sup>2</sup> maths course that she does not understand. She has been asked to view the material, make notes about what she has seen, write down anything she feels she does not understand, and come to the next individual tutorial armed with these responses. To aid her note taking, Sarah has been provided with a

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