Chapter 1

The Impact of Web 2.0 and Web 3.0 on Academic Roles in Higher Education

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ABSTRACT

This chapter discusses major changes in the traditional roles of teachers in Higher Education triggered by digital transformation in learning and teaching by Web 2.0 and Web 3.0. The purpose of university teaching is explored, together with the key characteristics of digital learning technologies associated with Web 2.0 and current and prospective changes linked to the notion of Web 3.0. Role labels found in the literature are reviewed against these changes and four dimensions of role change are identified, together with suggestions for preparing teachers for these changes.

INTRODUCTION

Since the 1970s, when Paulo Freire was writing about the need to change the role of educators, shaking up the traditional conception of a teacher who encourages conformist behaviour in students and advocating for an equality between learner and teacher, there has been significant re-examination of teaching in both compulsory and post-compulsory education. However this re-examination has been in the realm of pedagogy and philosophy of education; many university teachers are all too aware that there remains a fallback position for their profession which relates back to their own education, their understanding of what teachers at university did and still do, which has more in common with the idea of the student as a vessel waiting to be filled, than an equal partner in the dance of learning.

For many university teachers, it has taken more than discussions on pedagogy and philosophical debates to stimulate a sea-change in practice. It has taken the explosive advent of web-based technology to force us to face the fundamentals of the teaching role. It is not that teachers have been blindly following traditional practice, so much
as the combined pressures of greatly increasing student numbers, driven by Government policies which demand wider educational opportunities for the majority of the population, and a pervasive paradigm in university teaching which holds that teachers at this level do not need to examine their teaching, so much as maintain and develop their scholarship. Provided we are making original contributions to knowledge through research, students will somehow benefit.

This last point held good for generations; it comes from an understanding that universities are for the development of new knowledge, a late 19th century idea, rather than for the service of their communities or the development of students who can take an effective and leading role in society (Bourner 2008). However several factors have begun to change this over-riding emphasis on the advancement of knowledge as the main purpose of the university: they include global economic difficulties which have constrained opportunities available to graduates forcing a greater emphasis on fitting students for employment, and the ubiquity of Web 2.0 which is giving students voice and choice in how they achieve their learning and the growing drive of Web 3.0 synchronising data and meaning to provide complex responses beyond the reach of individual teachers.

The re-examination of the teacher’s role appears as we find ourselves once more pressed by external factors: namely the need to provide clear value to students, who pay increasing amounts for the opportunity to study. As students try to work out the potential benefits of Higher Education, when faced with debts reaching into their future in exchange for this experience, the increasing availability of online and blended learning opportunities world-wide, particularly manifested currently in MOOCs, seems to give them an alternative. Why pay to study at a particular university, when the world-wide web offers some of the best faculty world-wide; why settle for less than the best teachers and a regime of set learning outcomes and passive consumption of knowledge, when Web 2.0 offers the chance to construct a bespoke learning package available at the student’s convenience? Why not just ask complex questions of the semantic Web and solve problems in a just-in-time, need-to-know-now fashion? Papert and Harel’s constructionism (1991), putting a focus on learning rather than teaching, and learners who are supported to build ideas in public view, or at least in social view, seems to start to address these external pressures. Here is a pedagogy which supports the active role of the learner in their Higher Education, which is now enabled effectively by digital technology fostering sharing and collaboration in social learning networks and contexts.

This chapter will review the evidence of changing academic roles and changing notions of learning in a world of machine-generated or peer-generated answers. A literature review will be included which explores technology related journal articles on this topic since 2006, looking at drivers for change in academic roles, current and developing online pedagogies, and particularly at the rather haphazard way in which academic roles in Higher Education are categorized and looking for pointers to the impact of Web 3.0 on classroom and online learning practice.

The aim of the chapter is to explore a series of questions, beginning with the kinds of technology available to teachers, exploring how Web 2.0 has marked a step change. We will review the traditional understanding of the roles of teachers in Higher Education, and determine the characteristics of Web 2.0 which have forced change in teachers’ roles. From this point in time we seek to question whether Web 3.0 is sufficiently different to warrant further changes in teaching and learning behaviours. Finally we consider the transformation of teacher roles, looking for opportunities and challenges for both staff and students, and we question how HE teachers may be prepared to deal with these changes.