Chapter 6
Exploring Datafication for Teaching and Learning Development:
A Higher Education Perspective

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ABSTRACT

The scale, magnitude, and diversity of higher education teaching/learning and higher education institutions (HEIs) have resulted in corresponding diverse datafication representations. Contrary to conventional datafication, where the objective is profitability (e.g., adopting facial recognition for improved policing), the datafication of HEIs should be analysed, understood, and interpreted for its unique diversity, practice, and consequences. The result of the COVID-19 pandemic has forced a paradigm shift from conventional/traditional classroom-based teaching to online teaching, which has resulted in enhanced data collection. Taking a post-digital perspective on modern practices in higher education literature, this chapter argues for an organic view, in which the datafication must consider the aspects of teaching, learning, and educational context that are absent in digital data. The findings from the discussion lead to the conclusion that datafication can complement expert judgement in HEIs when informed by the unification of pedagogy and technology.

INTRODUCTION

The notion of datafication refers to rendering the social and natural world in machine-readable format. It involves the continuous transformation of the social, material elements and activities in our world to digital data. Furthermore, this transformation is succeeded by the transformation/analysis of the resulting data as comparable to its original source. Datafication is a prevalent phenomenon throughout society and humanity, in general (Beer, 2016). Besides influencing our comprehension and perception of healthcare, the military, commerce, tourism, etc., datafication has quickly permeated the teaching and learning in

education, as well as the higher education teaching and learning. The main objective of education is the impartation of quality teaching and knowledge in the mind of the learner that can be reproduced whenever called upon. However, a measure of teaching quality is not easy to come by and perhaps might be elusive due to its simplicity. According to Beer (2016), a prerequisite to the datafication of any element, component, or activity is the construction of a unit of measurement. Furthermore, while there exist many forms of measuring teaching quality, for instance, by measuring student engagement. Within literature, there is not a consensus about the definition of student engagement. There exists diverse interpretations of what student engagement can be referred. Conventionally, student engagement typically denotes the accumulation of students in higher educational institutional groups or boards, and their respective active/on-going involvement in the activities that occur in the institutions (Kuh & Hu, 2001). A recursive definition of student engagement can be found in Trowler, (2010) where the author described student engagement as the field of research "…concerned with the interaction between time, effort and other resources invested by both students and their HEIs intended to enhance the student experience …". This definition implies that student engagement is the product of a partnership/collaboration between the tutors and learners in their HEIs.

In recent times, there is a gradual, yet consistent, datafication of higher education teaching and learning. For instance, activities, learning outcomes and formative/summative feedback relating to teaching and learning are continually being 'datafied' and the resulting digital signatures are analysed and collected in the form of marks, student satisfaction scores, surveys, attendance monitoring, sickness absence reporting, administration, teaching enhanced learning, technology-led student feedback, marking turnaround times, learning analytics, and more. The consequences of this datafication extend way beyond education and pedagogy, into issues of politics, economics and social fairness, as can be perceived through a thorough investigation of two measurement paradigms – outcomes and student satisfaction. The outcomes of pedagogy (for instance, grades, work and salary) and student satisfaction surveys both deliver valuable information as a subset of a universal picture that can be used to develop a true picture of the quality of education or educational quality delivered. However, these measures are arguably unsuitable when considered as segregated substitutions for quality. First, the outcome measures focus on the result without interrogating if the efforts applied towards achieving these are concentrated in a desirable path (Biesta, 2009). In other words, the outcome measures neglect the value of exploration and critical thinking, and arguably the process of pedagogy, including teaching and learning and how this integrates with the specific needs of the students, or the societal current/prevalent needs (Naidoo & Williams, 2015). Furthermore, these metrics tend to be positioned towards measuring short-term goals rather than long-term solidity. The tutors consequently experience these pressures in the form of a persistent drive to "improve teaching standards" and whilst these test scores or outcome scores were generated to measure the output, they are in turn used as a performance yardstick to compare teachers against themselves, create league tables for schools and, gradually, ranking nation against nation (Steiner-Khamsi, 2003). A vital component that influences these advances is the transformation of complex educational procedures into digital (data) signatures, which can be used to sort, order, benchmark, compare and rank.

From the foregoing, the focus of this chapter is to discuss the role of datafication in pedagogy, as well as critically articulate the approaches to understanding tutelage and the apparent resistance triggered by the resultant 'theoretical' polarity within critical traditions. In using frame theory, this chapter argues that it is possible to seam together competing perspectives, and thereby develop a theoretical diversity necessary for understanding contemporary developments in teaching and learning in higher education institutions.

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