

Chapter 2

Inclusive Frameworks in Online STEM Teaching and Learning

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ABSTRACT

In recent years, many higher education providers have looked to audit the inclusivity of their learning and teaching through the use of an inclusive curriculum ‘framework,’ ‘charter,’ or ‘toolkit.’ The development and implementation of just such a ‘toolkit’ is one of a suite of measures the Open University is using to address issues around the degree awarding gaps which have been identified as priority areas in our access and participation strategy (APS). The ICT’s three principles are: 1) Is the material accessible to diverse groups of students; in terms of the language and images used)? 2) Will diverse groups of students see themselves reflected in the material? 3) Does the material equip students to participate in a global and diverse world? This chapter will share the learning from use of the ICT in STEM, its limitations as an auditing tool, the transformative effect on practice it has had on reviewers, and critical perspectives on the extent to which it enables or inhibits broader inclusivity approaches such as decolonisation.

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INTRODUCTION

In recent years, many UK Higher Education providers have been concerned with the evaluation and improvement of the inclusivity of teaching and learning. One popular approach to achieve this is via the use of an inclusive curriculum ‘framework’ (Kingston University, n.d.), ‘healthcheck’ (University College London, n.d.) or ‘toolkit’ (Manchester Metropolitan University, n.d.). This chapter will outline a case study in the Faculty of Science, Technology, Engineering and Mathematics (STEM) at the UK’s Open University: a pilot of the use of a bespoke framework – the ‘Inclusive Curriculum Tool’ – for auditing the inclusivity of online, distance learning and teaching materials.

We present our findings as a linear narrative, tracking the way in which our understanding of key concepts such as ‘inclusivity’ and ‘curriculum’ changed as the complexities of what we were trying to achieve became apparent to us. Through our example, we offer readers an instructive case study, focusing on the lessons learned from such an approach, which we hope will guide their own research, design and practice in inclusive online teaching and learning.

In particular, we highlight discipline-based considerations in STEM, and raise the fundamental question: ‘What does an inclusive STEM curriculum look like?’ In seeking to answer this question, we first present the common principal themes which emerged from the Inclusive Curriculum reviews. We then present a meta-evaluation of the review process by centering the voice of practitioners – the auditors who undertook reviews using the Inclusive Curriculum Tool. We present the practitioner voice collected via reflective journals and one-to-one interviews. We discuss critical perspectives on the extent to which the Inclusive Curriculum Tool, and, by extension, inclusivity frameworks in general, can achieve a truly inclusive curriculum. We conclude with some recommendations for practitioners looking to undertake inclusivity reviews using an inclusivity framework.

BACKGROUND

Defining ‘Curriculum’: Teaching and Learning in an Online and Distance Context

The Open University is Europe’s largest distance Higher Education provider, with over 50 years of experience in designing and delivering distance education. The structure of distance teaching and learning at The Open University differs from most other Higher Education providers. Students are provided online learning materials through a Virtual Learning Environment and, for some modules or to students with accessibility needs, in print materials. These learning materials are the primary source of student teaching and learning, effectively forming a ‘digital textbook’ (including multimedia audio-visual, interactive and assessment elements), subdivided into ‘study weeks’ of equal time-commitment. They are generated by ‘module teams’ consisting of academics, academic developers, learning designers and curriculum support staff.

Each student on a module is additionally supported by an Associate Lecturer (AL) who will offer personalized academic and pastoral support primarily by email and phone, facilitate synchronous group learning events and forum activities which support the written materials, and provide distance ‘correspondence’ teaching via extensive feedback on assignments.

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