Rethinking Graduateness? How students’ relations to knowledge change over the course of their Chemistry and Chemical Engineering degrees

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In contemporary times characterised by economic difficulties, dynamic social relationships and future uncertainty, there is a fresh interrogation of the purposes of an undergraduate education. Another contemporary focus in higher education is on the economic rationale of universities and on the special role of STEM disciplines, which are seen as lucrative for graduates’ career success as well as for the development of national economies. What is less emphasised and less understood is the transformational impact of these disciplines in terms of the ways in which they transform students’ sense of identity as they engage with disciplinary knowledge. This is a key element of ‘graduateness’ that is characteristic of higher education. In this paper, we will examine how students studying Chemistry and Chemical Engineering in South Africa, the UK, and USA are changed by their engagement with knowledge over the course of their undergraduate degrees. This will provide new understandings of graduateness in these areas and the paper will explore the implications for policy and practice of these new understandings.