

Constructing meaning in educational assessment: a theoretical and empirical study in the context of high-stakes examinations in the UK

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UK GCSE and A-level examinations have a strong emphasis on using questions that require extended, constructed responses such as essays, drawings, spoken presentations, etc. Students' performances are valued to the extent that they exemplify certain attributes that are taken to be indicative of what 'good' looks like, for the curriculum area in question. These attributes derive from the so-called assessment objectives for each subject, which are developed by the government, in consultation (to varying degrees) with various stakeholders, and which marking schemes and mark aggregation procedures attempt to encode fairly.

The style of assessment that has developed historically in the UK contrasts, therefore, with the development of tests based on traditional psychometric theory, where assessment instruments have tended to consist largely of short-answer or 'right or wrong' questions.

The idea of educational assessment in the UK paradigm as being fundamentally about what it *means* to have learned, suggests, I will argue, that some of the models that have been applied in fields such as knowledge representation and formal semantics may be as useful as more traditional psychometric models, for the purposes of analysing notions such as validity, reliability and comparability of assessments in this context.

The aim of this research project is to examine what such models could look like, and whether they can help appraise some of the philosophical underpinnings of assessment theory, and account, to some degree, for what assessors do when they construct accounts of what 'good' looks like in an assessment domain, and decide the extent to which particular performances meet the standards they have constructed.

I am at an early stage in this research, and in this session I will discuss some of the relevant material from the literature on measurement theory, cognitive science, and knowledge representation. I will examine the notion of an educational construct in two ways: through a formal lens (the methodology of formal concept analysis) and through a psychological lens (the prototype theory of concepts). I will explore the prospects for using insights from both of these approaches in the design of high-stakes assessments.