

What kind of contextualisation is appropriate for assessing application of knowledge? Towards a more comprehensive framework for embedding examination questions in context

Conference abstract

Filio Constantinou

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Author contact details:

Filio Constantinou
Assessment Research and Development,
Research Division
Shaftesbury Road
Cambridge
CB2 8EA
UK

filio.constantinou@cambridge.org
<https://www.cambridge.org/>

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Abstract

One of the key missions of education is to equip students with the skills required for succeeding in later life. One such skill is the “capacity to act wisely, decisively and effectively [...] in context” (Wiggins & McTighe, 2007, p. 13). This involves, or presupposes, being able to transfer, or apply, subject knowledge to real-life situations. To determine the extent to which this skill is adequately developed through schooling, it is important to identify appropriate ways of assessing it. While authentic, performance-based tasks resembling processes normally encountered in real life constitute a useful assessment approach (see e.g., Koh, 2017; Villarroel et al., 2018), they do not always represent the preferred measurement option. This is mainly due to the various administrative and scoring challenges involved in employing such tasks. More conventional modes of assessment, such as written tests, are proving more popular, particularly in high-stakes assessment contexts. In England, for example, A level qualifications (i.e., qualifications normally taken by 18-year-old students and used for admission to university), have been reformed and are now “in principle exam-only” (Long, 2017, p. 4). Internal assessment, which used to take the form of projects and practical activities, has been substantially reduced, resulting in written tests becoming the primary and, in most cases, the sole mode of assessment in these qualifications. Informed by the findings of an exploratory study, this paper will discuss how application skills can be more appropriately assessed via conventional written tests. It will focus specifically on contextualisation, that is, the process of embedding tasks (or questions) in contexts (or scenarios).

The study differentiates between two conceptualisations, or interpretations, of context appropriateness in assessment, both of which are related to validity: (a) the extent to which the context allows students to demonstrate their true knowledge and skills (Interpretation 1), and (b) the extent to which the context is consistent with the specific aims (or claims) of the course/qualification of which the assessment is part (Interpretation 2). While the former interpretation has been extensively researched, the latter is less – if at all – explored or even acknowledged. This study focused on the latter interpretation.

Overall, the research involved analysing a set of examination questions that claimed to assess students’ application skills. The questions were obtained from examination papers developed as part of the legacy Functional Skills qualifications in England. According to the Office of Qualifications and Examinations Regulation (Ofqual) (2015), Functional skills are “applied qualifications in English, mathematics and Information and Communications Technology (ICT)” that “allow students to demonstrate that they have achieved practical skills in literacy, numeracy and IT that help them to live and work confidently, effectively and independently.” (p. 5). The study focused specifically on the mathematics component of Functional Skills (henceforth Functional Mathematics). In line with Interpretation 2, it investigated the extent to which the context in which Functional Mathematics questions were embedded was consistent with the aims, or claims, of the qualification.

Overall, 527 mathematics questions were analysed. These were obtained from 37 papers developed by three major providers of Functional Skills qualifications in England. They spanned all levels of difficulty at which Functional Skills are available: Entry Level, Level 1, and Level 2. The questions were subjected to a two-stage qualitative analysis. The first stage involved a description of the contextualisation used in the papers, focusing specifically

on the amount and type of scenarios used. This was followed by an evaluation of the extent to which this contextualisation fulfilled the criteria of context appropriateness as deduced from the “manifesto” of the qualification.

The analysis resulted in the development of four principles for embedding questions in context: deep contextualization, context balance, context unpredictability, and context purposefulness. This presentation will introduce and exemplify the four principles, and will discuss how they can be used to guide the development and/or evaluation of tests that aim to assess students’ application skills. It will then combine the two conceptualisations, or interpretations, of context appropriateness (see Interpretations 1 and 2 above) to propose a more comprehensive framework for assessing students’ application skills.

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For more information about this research, please see the relevant published journal article:

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