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ABSTRACT

This paper offers a critical and theoretical exploration of the contemporary use of standards in assessment in higher education. It outlines three discourses of assessment standards. Each perspective foregrounds particular realities and backgrounds others, and so influences practice in particular taken-for-granted ways. The assumptions of these perspectives are identified, and the advantages and disadvantages of each of the existing discourses discussed. The dominant perspective prompts educators to make standards 'transparent' for students, inferring stability through a written explication. The sociocultural perspective highlights a tacit and more dynamic view of standards, suggesting that standards are built by expert consensus and students must learn to meet this community expectation. The sociomaterial perspective also infers a dynamic view, but one that is co-produced through social and material assemblages. Thinking about standards as performance, a dynamic and shifting human-material activity, encourages a focus on emergent activity in the design of standards, moderation and assessment.

Introduction

Standards are ubiquitous in modern-day higher education. Indeed, it could be said that they are taken for granted; but what effects do they have? In particular, how do these many and various standards influence learners, teachers and institutions? Standards can be beneficial; they allow us to benchmark as part of quality assurance activities and also provide a means for judging students based on attainment rather than socioeconomic status. However, they do not always fulfil beneficial functions. In some instances, assessment standards have deleterious effects on teachers (Mulcahy 2011) and students (Norton 2004; Torrance 2007). There are concerns about oversimplification of complex, tacit and dynamic forms of practice (Ajjawi and Bearman 2018; Bloxham et al. 2016; O'Donovan, Price, and Rust 2004; Bell, Mladenovic, and Price 2013) with concomitant attempts to

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overly control learning and teaching. There is a need, therefore, to re-examine the role of standards in higher education assessment, in order to consider how these influences might promote worthwhile teaching and learning practices while minimising deleterious effects.

Assessment standards describe – through words, symbols or diagrams – expected levels of attainment (Sadler 2014) and thereby order our assessment practices. We take here a broad view of standards as agreed-upon rules for the production of textual or material objects (Bowker and Star 1999), and therefore make no distinction between standards and criteria as, in their written form, they both constitute the production of assessment artefacts that are enforced by assessors. University assessment standards are codified in various forms. These include rubrics, marking guides, learning outcomes, grade descriptors or competency frameworks. Much has been written about these codifications, which share expected levels of attainment among various key stakeholders such as learners, academics and accreditation agencies. This paper seeks to bring together the discourses of standards represented in the scholarly literature to examine the relative merits of different perspectives with respect to assessment in higher education. In particular, it extends the higher education standards conversation to include the sociomaterial, which emphasises how standards are enacted.

Kenneth Burke (1954, 154) said that 'every way of seeing is a way of not seeing'. In other words, every discourse foregrounds particular realities, and backgrounds others, and so influences practice in a particular way. Our strategy, therefore, is to systematically review various discourses of assessment standards in higher education. We start by highlighting the role of standards in contemporary higher education. We then describe and critique the two dominant theoretical perspectives on standards, the representational and the sociocultural, with a particular emphasis on assessment. We then offer a third, less familiar, discourse: the sociomaterial, which can provide valuable insights by thinking of standards as dynamic and emergent enactments. Finally, we offer some practical implications of a performative shift in framing to inform the design of standards, moderation and assessment.

Standards in contemporary higher education

Standards fulfil a variety of purposes. These range from acting as a yardstick to judge the particular output of a student in response to a specific task, and to provide an indication of the level of a particular course or programme. Standards cannot be thought of in the same way in all circumstances as, while they may appear to take a common form to indicate a level of performance, they can often satisfy differing requirements for different audiences.

The rise of interest in recent years in standards in higher education has been driven by purposes well beyond the individual subject or unit. As promoted over many years by the Organisation for Economic Co-operation and Development (OECD), standards in the form of course learning outcomes and competencies are seen as a key for the international mobility of graduates. Aspirationally, if students graduate in a given discipline in one country, there must be an equivalency of standards such that their qualification is not only recognised in another OECD jurisdiction where they may seek employment, but also that core aspects of what they can do must be known. This does not mean that courses should be uniform, but that there needs to be a set of minimum learning outcomes attained in all courses no matter where they are conducted. Standards beyond these

thresholds would be expected to vary to represent characteristics of particular countries or institutions. This approach to standards has developed through international initiatives such as the Tuning Educational Structures in Europe project, which has been operating since 2001, and between 2010 and 2014, the Assessment of Higher Education Learning Outcomes (AHELO) (2014) project which sought to 'see if it is practically and scientifically feasible to assess what students in higher education know and can do upon graduation'.

This focus on standards as part of a global economy has been accompanied by a move towards explicitness and public accountability at national levels and, with respect to particular professions, cross-nationally. Claims by institutions or by courses need to be transparent, so that they can be judged to do what they say they do. For example, in the UK this transparency has taken the form of sets of Subject Benchmark Standards, articulated by the Quality Assurance Agency (QAA), which

> describe the nature of study and the academic standards expected of graduates in specific subject areas … They provide a picture of what graduates in a particular subject might reasonably be expected to know, do and understand at the end of their programme of study.

In Australia, this emphasis has recently been taken further by the adoption in the legislation of a Higher Education Standards Framework (HESF) that represents the 'minimum acceptable requirements for the provision of higher education in or from Australia by higher education providers' (2015). With regard to standards and assessment, the requirements are very precise:

> The expected learning outcomes for each course of study are specified, consistent with the level and field of education of the qualification awarded, and informed by national and international comparators.

And that,

> [M]ethods of assessment are consistent with the learning outcomes being assessed, are capable of confirming that all specified learning outcomes are achieved and that grades awarded reflect the level of student attainment. On completion of a course of study, students have demonstrated the learning outcomes specified for the course of study, whether assessed at unit level, course level, or in combination. (HESF 2015)

In parallel with national standards, professions have established their own international processes, some for many years. The best known of these beyond particular geographical regions is the accreditation sought by business schools from the Association to Advance Collegiate Schools of Business (AASCB), which first articulated standards in 1919.

It is important to note that the notion of standards in all of these cases is an absolute one that does not allow for variation by student cohort. This thereby precludes the use of any form of norm-referenced testing which involves judging students against one another, as might have been common in the past and is still used in some secondary school systems.

Standards have been found useful in considering the comparability of courses, but at the same time standards can have different levels of applicability. They work through coordinating global or national frameworks to course standards (in the form of course learning outcomes) and unit-of-study standards (in the form of subject learning outcomes). What may work well at a collective level for interoperability and student mobility may not be the same as what is needed to guide individual students in their work at a unit-of-study level. We now consider assessment standards specifically in relation to the two common

discourses: assessment standards as knowledge representation and assessment standards as sociocultural practices. Next, we offer sociomateriality as an alternative discourse. We then explore the implications of a sociomaterial perspective for research and practice.

Assessment standards as knowledge representation

The dominant view in assessment is that standards-as-written represent knowledge or skill. This is nowhere more evident than in the transparency agenda, where it is generally considered desirable for assessment standards to be 'transparent' (Jackel et al. 2017). In this sense, transparency means that students can see through the standards to the knowledge held by teachers about their expectations for assessment and what needs to be achieved (Jönsson 2014). Transparency is often 'assured' through the explicit documentation of standards, which are then shared between students, educators and administrators (Bearman and Ajjawi 2018b). These codifications have a number of advantages.

Advantages

Assessment standards – for example, those codified in the form of learning outcomes – offer guidance on navigating the learning landscape, which can lead to improvements in student learning (Andrade and Valtcheva 2009; Panadero and Jonsson 2013; Jönsson 2014; Reddy and Andrade 2010). The suggested mechanism here is one of increased transparency for learners, much like a road map. This ensures that all students have an equal footing regarding expectations, overcoming potential differences in prior experiences and cultural capital gained from professional parents or through their social networks. Explication of expected standards aims to promote equity across students at the same stage of study. Standards can be adjusted according to the level of the course so that those for the first year can be quite different for later years, which can be different again from workplace or professional standards. Finally, knowledge of standards is necessary to have effective feedback conversations, through which students come to know the quality of their performance in relation to the standards they are seeking to meet and thus where to improve (Sadler 1989).

Beyond students, written standards are portable across classes, campuses and countries, and can be shared and replicated year after year as required. Further, the act of writing particular standards permits scrutiny and debate among teaching and quality enhancement teams. Standards also communicate to employers and the public a minimum level of expected achievement.

Critique

The work of standards described so far belies a level of complexity in their application. The underpinning assumption is that standards are stable and durable entities that describe particular realities of practice (Mulcahy 1999), which students acquire as represented. Such representations aim to capture the knowledge, values and competencies of a profession or discipline by simply offering their content to the reader. These 'gold' standards are therefore seen to be independent of context, inferring transparency, equitability and auditability (Bloxham and Boyd 2012). In other words, a representational epistemology

holds that knowledge is something that is separate from the knower and untainted by culture, values or power (Mulcahy 2014); knowledge can thus be 'reconstituted' at a later time, in a different place or by a different group of individuals (Sadler 2014). Within this 'techno-rational' representative view, the standard is 'freestanding' and fixed and performance can be measured against it (Orr 2007).

Yet it cannot be so. When we read standards, we make interpretations and negotiate meaning based on the frames of reference we bring to the text and our relevant social, cultural and historical milieu (Tummons 2014b). For example, students often cannot make appropriate sense of assessment artefacts, such as rubrics (O'Donovan, Price, and Rust 2001). The appreciation of a standard often comes only after the development of considerable expertise, which may well be beyond that of a student encountering a set of standards in a new subject. This also rings true for feedback comments, which have been described by students as akin to 'learning a foreign language' (Sutton and Gill 2010, 8). This phenomenon is not unique to students who, it may be argued, are naïve readers of standards. Examiners also interpret and apply the same standards differently when reviewing others' curricula (Bloxham and Boyd 2012). They apply standards with reference to local codifications (Hudson et al. 2017).

In an attempt to overcome ambiguity (and thus ensure transparency) some researchers and educators have resorted to codifying learning into ever-more-tightly atomised units that result in analytical or checklist-type rubrics. Torrance (2007) describes this as leading to instrumentalism, where 'learning' is replaced by 'compliance'. Students may view assessment materials as a 'recipe' book for achieving lecturer expectations (Bell, Mladenovic, and Price 2013) or as atomised 'bits to be swallowed one at a time – and for each bit, once only' (Sadler 2007, 390). However, successfully doing what you are told can be paradoxically disempowering for students (Nelson 2018). Furthermore, when marking assessments assessors make holistic rather than analytical judgements (Bloxham and Boyd 2012). Surely this is something we should also desire for our students.

Another risk perpetuated by the representational discourse arises from the assumption that, if they are written clearly enough by academic staff, standards will necessarily be understood by others. However, students may only recognise the meaning of a standard once they have already mastered the material to which it refers. Students' comprehension of standards is not commensurate with the time or effort invested in writing them; rather, it lies within pedagogical opportunities created by activities that allow students to appreciate what a standard signifies.

This critique of the techno-rational view highlights that knowledge cannot exist independent of the knower and their interpretations, which are determined locally (Tummons 2014a). Maintaining the pretence of a stable standard as representative risks tunnel vision on measuring standards as proxies for quality practice (Gorur 2016). Therefore, we risk conflating the 'standardised' portable assessment artefact with quality of practice and, furthermore, that some may see providing assessment artefacts as sufficient for developing a notion of quality. Yet quality is complex. Many aspects of quality cannot be communicated through explicit standards, regardless of the level of detail or 'transparency' aimed for (Hudson et al. 2017). Indeed, researchers challenge the notion that it is possible to make explicit the tacit knowledge involved in assessment decisions and have instead argued for a more interpretive or sociocultural view of standards (Sadler 2005, 2009; O'Donovan, Price, and Rust 2004; Bloxham et al. 2016).

Assessment standards as sociocultural practices

Sociocultural theories posit that, to make sense of phenomena, one must take social and cultural elements into account rather than privileging abstract knowledge (Rogoff 2003). Taking a sociocultural perspective necessitates a focus on context and social and cultural relations when considering meaning-making (Bloxham and Boyd 2012). Multiple perspectives can be brought to bear on a single object: the standard. Standards do not exist outside a context but may be deliberately constructed and revised as practices change. Thus, standards reside in, and are formed by, the practices of academic and professional communities, underpinned by tacit and explicit knowledge (O'Donovan, Price, and Rust 2004). Once prescribed through expert consensus, they are often set and sustained over time until they are next refined and revised. They are then viewed as comparable across time and space, but are often manifested differently for different assessment tasks, courses and disciplines (Sadler 2009). Standards from this perspective are less durable but more representative of tacit and explicit knowledge held by the community.

Advantages

The sociocultural perspective is supported by research that shows how assessors come to know standards through 'practical mastery', and that standards only take on meaning once educators interpret them through their personal frameworks (Bloxham et al. 2016). A sociocultural perspective recognises that quality, as represented in a standard, can be shifting, subjective and practice-based. Orr (2007, 647) describes standards as 'socially constructed, relative, provisional and contested … where multiples subjectivities and contingencies affect the ways that judgements are made'. Here, the focus is on individual interpretations of the standard within particular socio-political contexts. Shay's (2005) research into assessment moderation also shows how assessment is a situated interpretive act, where assessor positionality shapes their interpretations of complex student performances. Moderation thus serves as an ongoing community process of evaluating the soundness of interpretations.

The sociocultural discourse of standards highlights to students that practices shift and change. The expectation is that students come to know the standard as shaped by the assessors and context of the assessment, not only by what is represented in the written materials of assessment. Students make sense of standards through interpretations influenced by their frames of reference and engagement with pedagogical activities; however, the standard remains one that is dictated from above.

Critique

The sociocultural discourse downplays the role of the standard-as-written. Regardless of the contextual understandings of those who wrote the standards, the need to write standards in a tight form – to span time, space and people – renders them devoid of the social, cultural and historical framing of practice. In a study of continuing professional learning, Reich, Rooney, and Boud (2015, 139) show that standards

> largely exist independent of the contexts in which practitioners operate and this means that
> [they] struggle to find ways of addressing the requirements of actual work. These frameworks

resist particular professional practice because they exist to transcend it. However, by doing so they become disengaged and less relevant to working professionals.

We suggest, therefore, that the standard-as-written cannot 'accurately' capture practice any more than a consensus can capture an external and objective list of what constitutes quality. Instead, standards offer a normative snapshot of what is required at the time the standards are constructed (Reich, Rooney, and Boud 2015) and have constitutive effects that become separated from the shifting and emergent contexts of practice (Fenwick 2009).

Sadler (1989, 121) points out that an indispensable condition for improvement in student learning is that 'the student comes to hold a concept of quality roughly similar to that held by the teacher'. However, this replication of quality does not adequately allow for notions of co-production, where students and teachers together transform practices and, thus, quality. In this way, the sociocultural construction of standards does not take into account the perspectives of the student or novice, who brings alternative views from outside dominant ways of knowing which can change the standard. Furthermore, this perspective does not adequately account for the constitutive effects of standards; that is, that they produce and constrain the work itself. Each standard 'valorizes some point of view and silences another. This is not inherently a bad thing – indeed it is inescapable. But it is an ethical choice, and as such it is dangerous – not bad, but dangerous' (Bowker and Star 1999, 5–6).

An alternative: assessment standards as sociomaterial enactments

Sociomateriality is an umbrella term for theories that assume an 'entanglement' between the individual and the social and material. From this view, practices such as education come together in 'networks of humans and things through which teaching and learning are translated and enacted' (Fenwick and Edwards 2013, 54). This entanglement suggests that practices and their constituents cannot be readily separated. Rather than being acquisitive of or participatory in others' practices, learning is expansive, unpredictable and located in provisional networks of people, activity and objects rather than in individual heads or bodies (Fenwick 2009). The materials (e.g. lecture theatres, campuses, computers, software and their arrangements) and the people (e.g. students, lecturers, administrators, the executive and their arrangements) together form what we think of as higher education. In particular, sociomateriality – as indicated by the name – takes account of the *material*. The work of the concrete representation of standards has been mostly ignored in current representations.

From a sociomaterial perspective, standards are a concrete artefact that can mobilise or constrain human action. Consider the example of standards encapsulated in assessment criteria. In the sociomaterial discourse, the assessor, looking over the rubric on the screen while marking, is not just reading a series of ideas. As the assessor reads the rubric, they are prompted to notice some things and, in doing so, are equally prompted to forget others (Bearman and Ajjawi 2018b). The rubric will be used differently, depending on whether it is on the screen or on paper (the former can be easily shared and monitored, while the latter tends to remain private). Moreover, as the assessor works with the rubric in association with a particular piece of work, they may slightly change their views

of the standard. Similarly, the student performs to the same written standard, paying attention to particular items depending on their weighting or prominence and their interpretations of the assessor's expectations. In this way, standards are constituted through, and enacted by, people and material in complex social arrangements (Mulcahy 2012). In other words, standards are not just internal cognitive representations or social practices but constitute an *activity* in which people might participate (Bearman and Ajjawi 2019). The underpinning notion that reality is constructed through enactment is referred to as a 'performative ontology' (Fenwick and Edwards 2013).

A performative ontology challenges assumptions about the stability of standards across space, time, people and materials. Unlike the representative view, which suggests that standards are stable and durable, or the sociocultural view, which suggests standards are stable but less durable, a performative view suggests that standards are dynamic and ephemeral but coordinated across time and space. In this way, the material form of the standard incites action at a distance. For example, a rubric prompts a cohort of enrolled students to shape their assignment in particular ways as well as prompting their assessors to mark in certain ways. However, each enactment of standard results in a new performance as individuals engage with it, making their own meanings and constructing their own usage.

How then can standards be 'standard' if each enactment is a unique performance? Microadjustments – or small scale adaptations, often referred to as 'tinkering' – necessarily shift the standard as required by the local context and purpose, but do not adjust so far that the standard is no longer recognisable (Mol 2009). This is the type of work any assessor does with a rubric where a student's work does not quite match the textual description; the assessor weighs up the situation and draws on professional expertise to award a grade and provide feedback information. Here the standard is co-produced by the student, the assessor and the rubric (amongst other things) as this performativity necessarily shifts the tacit notions of quality with every enactment. The notion of tinkering helps to explain how practice itself changes and adapts to the local context over time.

There are times, however, when tinkering goes too far, and the standard is so distorted the relationships around it can no longer hold and it can no longer be enacted. We follow Law (2009) and call this 'rupturing', when the relationships that sustain the enactments are no longer possible. For example, a rupture might occur if an assessor thinks the rubric is so inappropriate, they don't refer to it. Indeed, it can be argued that all standards will be ruptured at some point, as standards are in continuous play as long as they are being enacted.

The standard is, in other words, constantly being made and remade, and through this process, it is maintained and eroded at the same time. To draw from our example, assessors are constrained by the standards held within the rubric, but they also simultaneously adjust the standards to fit the particular work. The next assignment to be graded might, therefore, look slightly different, as a consequence of this previous enactment. In a study of teacher practice, Mulcahy (1999) found that teachers tinkered with the standards in an attempt to manage the 'representational ambiguity' between the formal and the enacted standard (i.e. the alignments and differences between what was written and what they did). The teachers had to enact the standard or translate it to the local context while preserving some semblance of its global meaning. In this way, standards do double work; they work globally through ordering practice at a distance, but are enacted locally through judgements and microadjustments. Thus, 'using any kind of

representation is a complex accomplishment, a balance of improvisation and accommodation to constraint' (Bowker and Star 1999, 294).

This is a radical shift from the sociocultural framing of standards, as it is about not perspectives or constructions but what is done by both people and objects. This changes how we view standards: not as a single 'thing' seen through multiple eyes, but as something enacted in different activities where the object in question varies from one stage to the next (Mol 2002). In this view, we are not concerned about the multiplicity of views but the multiplicity of worlds (Fenwick 2010), which are different but still related. Agency, then, does not just belong to humans but is a distributed effect produced in material webs of human and non-human assemblages (Fenwick, Nerland, and Jensen 2012). We can in fact think of the artefacts of standards as being mutually constitutive both in and of the social world (Bearman and Ajjawi 2018a).

Implications of a sociomaterial perspective for assessment practice

In this section, we explore how a sociomaterial framing might complement how we approach assessment. We start by asking the question: why do we need a sociomaterial perspective for practice?

Taking the specific example of the learning outcome may be useful. At face value, the representative view of the learning outcome is that it represents the absolute standard that the students must attain. However, if a learning outcome is taken only at face value, we can foster instrumentalism and inauthentic practice, as assessment becomes simply a way for students to 'meet' the learning outcome – not to learn in a more holistic sense or to possibly go beyond what is required. Moreover, we risk only seeing (and possibly only valuing) learning that is easy to represent. The sociocultural view provides some means to redress these concerns: the academic community develops texts that, in some ways, encapsulate the tacit sense of what quality practice should be. However, the learning outcome is predicated on students coming to the same standards as teachers. This can lead to the narrowing of curricula and potential reproduction of undesirable practices. Our social views of what is acceptable constantly change, and we want our standards to reflect our communities and our students, not only an insular group of academics. A sociomaterial perspective allows for emergence, and it does so through a focus on *materials* rather than intentions. These materials constrain and enable; they are partners in any enactment. In this case, we can think of the learning outcome as a material piece of text that works with students, educators and assessors to enact learning or assessment practices. Each enactment is unique and generative, rather than fixed. In this way, the standards are not 'set' and 'met' but are constantly tinkered with. Thinking about standards as performance – a dynamic and shifting human-material activity – encourages a focus on emergent activity in assessment practice. In this instance, the learning outcome is less about setting a fixed point than it is about providing an invitation to a 'productive space' (Bearman and Ajjawi 2018b).

If we acknowledge that tinkering is how all standards are enacted, then we can take this into account when designing standards. That is, our standards can be designed to be *explicitly enacted* rather than *explicitly stated*, in ways resonant of Elliot Eisner's 1967 notion of expressive (flexibly purposive) objectives (2002). There is an example from the assessment literature. Hamilton (2009) describes a formative assessment tool for adult literacy, which

deliberately seeks to provide 'permissive guidance'. As a sample of this approach, the design of the form is local and the (permissive) guidelines state: 'Your design will depend on your learners, your programmes, the uses to which you will put your [tool] and what is manageable within your organisation' (232). In other words, the materials deliberately provide affordances for the educators and the students to enact the assessment. Standards design can learn from this approach. Firstly, written standards can be deliberately holistic and implicit, leaving space for the educators and students to make their own meanings together. Secondly, the materials can prompt explicit enactments by providing opportunities to extend the standards' artefacts. For example, they may suggest that educators and students develop – or possibly even co-create – a range of associated artefacts. This might be a local, co-created rubric, or the standards document might include a range of examples or exemplars, which both educators and students can incorporate into the standards artefacts.

Another area where the sociomaterial perspective may assist practice is in rethinking the moments of enactment in the design of moderation activities. Assessment moderation provides a very useful opportunity for educators to enact standards, by bringing marking teams to a shared understanding of the standard through multiple enactments. This is one of the main ways that educators accommodate tinkering: through moderation, assessors come to a sense of how they can enact the rubric. One way that we can include a sociomaterial perspective is by a deliberate calibration of how much tinkering can be tolerated within moderation meetings, with an eye to pinpointing moments of rupture. In this way, moderation does not seek to make everyone's judgement the same, but to qualify the differences. Giving students the productive space to enact a standard in different ways and in different contexts (and to engage with others' enactments) allows them to develop a deeper understanding of notions of quality for a particular standard, as well as working out where the boundaries are before a standard is ruptured (Bearman and Ajjawi 2019) – in other words, how much bend or elasticity there is within a particular standard given the particular context.

Assessment moderation of the type we have proposed could be usefully extended and explained to students. Hence, the focus is on not explaining the grade but describing the multiple means by which the assessor, rubric and task enact the standard; in particular, this description should include the inevitable variations of views. In this way, the dynamic nature of the standard is exposed, as well as the subjective multiple nature of the standards. It refocuses students from an uninterpretable representation of quality, the grade, to that which embodies it. This responds to Bloxham et al.'s (2016) refrain of stopping the pretence of consistent marking by strengthening shared norms and processes that include students.

As mentioned, learning outcomes and other assessment standards can usefully invite students into a 'productive space' (Bearman and Ajjawi 2018b). Assessment designs might therefore invite students to show for themselves how they can meet a represented standard within a particular context, rather than the process being specified and unnecessarily standardised for them. For example, students may be encouraged to outline features of their assessment that compare and contrast with a series of exemplars. Student diversity then becomes valued, and teachers might meaningfully adapt their feedback practices to support students' understandings of the standard and the associated work.

Implications of a sociomaterial perspective for research

Adding a sociomaterial discourse opens up the field of research in assessment in higher education to ask different research questions. A sociomaterial view of standards invites a focus on the performances rather than the representations. This includes the minute negotiations that occur at the points of connection between educators, material representation of the standard, and students. Studies that focus on what happens at these moments may usefully attune us to the 'spaces and disjunctures that open between a formal standard and the press of everyday demands and priorities in educational practice' (Fenwick 2010, 123). Through this, we can learn about how tinkering takes place in practice, with insights potentially influencing what educators do, how material artefacts are designed and the productive opportunities that are presented to students. It allows us to uncover how standards may fulfil certain agendas or block others. It also helps us incorporate an understanding of how assessment practices unfold for both teachers and students within local contexts, by considering how the materials of the standards interact with other actors.

Standards are not just representations or descriptions of existing realities, but they participate in the production of reality, often in unpredictable ways. Popkewitz (2004, 246) argues that in education, as in most aspects of governing modernity, standards fabricate 'kinds of people so that some action can occur'. All academics have to work with various standards – departmental, institutional, professional, national and, occasionally, supranational. This is time-consuming but taken for granted, part of the 'busy work' that comes with the job. This ignores both the effort and the invisible effects of standards. It is our responsibility to explore how standards are constituting individuals and practice. Empirical research would seek to study the effects of enactment, including how materials and students constitute standards through performances rather than as abstract notions that must simply be attained. We also need to explore what constitutes legitimate compromises in enacting a standard.

Conclusion

In this paper, we have highlighted the advantages and disadvantages of three discourses on standards. Each discourse privileges particular practices and is needed for particular purposes. It is useful to be familiar with the differences between these perspectives and to draw on appropriate views when designing academic achievement standards and assessment activities and materials. The representative view gives life to the standards which otherwise remain hidden; the sociocultural view alerts to the dynamic and tacit, which we can never come to fully know; and the sociomaterial view highlights the entanglement between the individual, the social and the material in constituting the standard. This then invites different practices, new problems and an emergent research space.

Disclosure statement

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