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A framework for understanding assessment practice in higher education

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ABSTRACT

A source of contestation in higher education curricula is the multiplicity of demands they serve and purposes they seek to fulfil. In this paper, we see this contestation as actively shaping assessment theory and practice, resulting in paradoxes of valorisation and vilification of everyday assessment practices. We address the plethora of contestations in higher education assessment through the disruption of dichotomies in assessment discourse by re-querying assessment *autonomy*, *logic* and the *basis* of success. To this end, we apply Legitimation Code Theory to construct a new holistic framework for assessment inquiry, contributing to both extant and developing assessment theory by proposing a single sociological framework to analyse assessment practice cross-discipline, institution and geographical boundaries.

Introduction

Competing demands to which higher education responds have led to a proliferation of perceived purposes of higher education globally. Our concern in this paper is with the ways in which this broad segmentalism of higher education has implications for assessment. The field of assessment remains a contested space, both in its theories and practices. In response to the proliferation of purposes over recent decades, the field of assessment scholarship has issued cross-disciplinary calls to rethink (Boud and Falchikov 2007); re-engineer (Nicol and Owen 2009) and revitalise (Norton, Norton, and Shannon 2013) assessment practice. Notwithstanding a small number of contributions (Boud, Dawson, et al. 2018), the scholarly discourse is relatively silent in respect of the underlying generative mechanisms or conceptual bases by which change can be achieved. Evidence of a holistic theory of assessment is largely absent in the literature, and potentially such a ubiquitous theory is untenable (Goldstein 2017). Indeed, claims that assessment constructs (e.g. *assessment as learning*) are under-theorised (Yan and Boud 2022) arguably extend to assessment at a broader level.

Despite the breadth of theoretical contributions on the topic (Nieminen, Bearman, and Tai 2022), the field of research on assessment continues to represent what Knight and Yorke (2003) referred to as a *cottage industry*, lacking a systematic theoretical basis, with attempts to enhance assessment practice built on sand. Theoretical contributions to the field are claimed to require reflexivity on, and engagement with, theory, to avoid empirical saturation and a further 'siloing' of assessment research (Nieminen, Bearman, and Tai 2022). Whilst individual theoretical contributions remain an important resource for the field, the lack of robust meta-theories of

assessment (Bevitt 2015) makes it challenging to coherently weave together the various theoretical threads available by which assessment practices can be understood.

In this paper, we present a framework for analysing the principles underlying assessment practices to support robust meta-theoretical design and enactment of assessment in higher education. Taking earlier work by Shay (2016) as our starting point, we employ Legitimation Code Theory (LCT) (Maton 2014) to expose dichotomies embedded in assessment discourse, and reconcile these with the offering of multi-positioned, mutually-inclusive assessment practices. We then suggest ways to extend our framework for mapping out socially-contextualised, idealised positions as a means to facilitate strategic institutional change.

Interpretation of the problem

Higher education assessment practices serve competing purposes including certification, progress and transfer, accountability and supporting learning. We understand this competition as symptomatic of what Shay (2016) characterised as an *outward pull* on higher education; an 'unprecedented pull on universities from external constituencies with the effect of weakening the boundaries that historically demarcate university autonomy' (768). These 'pulls' manifest themselves in assessment under many guises – e.g. varying degrees of acceptance of employability as a purpose for higher education (Sin, Tavares, and Amaral 2019) – and thus varying degrees of support for adopting authentic assessment principles. The influence of professional, statutory and regulatory bodies in assessment may constitute disciplinary collaboration or, conversely, a power struggle constraining academic freedom. Student performativity emerging from the increased demands of a neoliberal accountability and audit culture could also be argued to have facilitated a rise in assessments that involve monitoring, surveillance and governance to provide assurance over student performance. Often these materialise in the form of attendance requirements, class contribution grading and the assessment of peer learning groups (Macfarlane 2015).

At the crux of these contestations are actual people, both academics and students. We thus place emphasis on assessment as a social practice (Filer 2000), one that exerts a powerful influence over the experience of multiple actor groups in higher education. It is therefore necessary that we continue to seek more useful ways of understanding the purposes and paradigms of assessment, such that the mechanisms underlying their contestation can be brought more clearly into view

These paradigms can be conceived of including three primary concepts of *assessment of learning* (AoL), *assessment for learning* (AfL) (Sambell, McDowell, and Montgomery 2012) and *assessment as learning* (AaL) (Yan and Boud 2022). Whilst this neat theoretical triumvirate is theoretically appealing on the surface, in practice 'the notions are unclear constructs to comprehend, as both their definitions and their practice are used inconsistently in educational research' (Schellekens et al. 2021, 1). Clustered around these paradigms are other models, including, *learning-oriented assessment* (Carless 2007) and *sustainable assessment* (Boud and Soler 2016), underpinned by a general tendency towards *socio-constructivist* approaches to assessment (Shay 2008).

The AoL conception has traditionally been aligned with purposes of certification, accreditation and strategies of summative assessment, whilst AfL and AaL conceptions tend to align with notions of progressive, transformative and strategies of formative assessment; albeit these latter conceptions have attracted critique for engendering 'criteria compliance' and instrumentalism (Torrance 2007). Assessment strategies associated with AoL are commonly generalised as including traditional modes of assessment such as timed examinations or essays (Lam 2016), whereas AfL and AaL have been associated with more innovative approaches such as collaborative groupwork, holistic or portfolio-based assessment, and self and peer assessment (Stančić 2021; Yan and Carless 2022). Discourses of student agency and co-creation (Doyle, Buckley, and Whelan 2019), self-regulated learning and evaluative judgement (Boud, Ajjawi, et al. 2018), an emphasis

on employability skills and authentic assessment (Villarroel et al. 2018) also characterise AfL and AaL paradigms.

As is often the case in educational research, conceptions or paradigms are frequently presented as dichotomies, polarising the discussion. Despite arguments for the mutual justification of the paradigms and 'double duty' performed by assessment (Boud 2000), calls for paradigmatic shifts from AoL to those of AfL and AaL (Yang and Xin 2022) remain prevalent. Through conflation of summative and formative process and function (Taras 2009), much of this dichotomisation reinforces a formative-good-summative-bad sentiment (Lau 2016). We see false dichotomies as unhelpful, obfuscating inquiry into assessment practice.

Methodology

Theoretical framework

To understand the principles underlying the contesting positions around assessment practices, we apply LCT as a sociological, explanatory theoretical framework. LCT is gaining traction in assessment research (Van Heerden 2020; Monbec et al. 2021). As a multidimensional toolkit, LCT enables the organising principles of practice to be made visible via the concept of *legitimation codes*. These codes ultimately 'conceptualise organising principles of practices, dispositions, and contexts' (Maton 2016, 240). LCT *dimensions* are a means of denoting specific types of legitimation codes.

In this study, we apply three dimensions of LCT as a means of understanding the *languages of legitimation* underlying assessment practices, which are the ways in which practices and beliefs are construed to reflect messages of legitimacy (Maton 2016). The LCT dimensions of Autonomy, Semantics and Specialization offer a means of 'seeing' how practices are legitimated. Together, they allow us to question assessment *autonomy* at the macro level (Autonomy applied to the field of assessment practice), assessment *logic* at the meso-level (Semantics applied at the level of the discipline) and the *basis* of success in assessment at the micro-level (Specialization applied at the level of assessment tasks). Each dimension comprises independent sets of principles and constitutive relations that generate legitimation codes. These codes can vary in strength being stronger or weaker (represented symbolically by '+' and '-' signs), hence each dimension of LCT results in four code modalities, as demonstrated in Table 1.

Table 1. Overview of three LCT dimensions adapted from Maton (2016) and Maton and Howard (2018).

| Dimension of LCT	Our object of study	Premise of LCT dimension	Aspects of this dimension	Legitimation code modalities
Autonomy	Assessment *autonomy*	Any set of practices comprises constituents that are related together in particular ways	*positional autonomy (PA)* *relational autonomy (RA)*	*Sovereign codes* (PA+, RA+), *exotic codes* (PA−, RA−), *introjected codes* (PA−, RA+), and *projected codes* (PA+, RA−).
Semantics	Assessment *logic*	Practices, dispositions, and contexts can be explored through notions of context-dependence and complexity	*semantic gravity (SG)* *semantic density (SD)*	*Rhizomatic codes* (SG−, SD+), *prosaic codes* (SG+, SD−), *rarefied codes* (SG−, SD−), and *worldly codes* (SG+, SD+).
Specialization	*Basis* of success in assessment	Every practice is about or oriented towards something and by someone	*epistemic relations (ER)* *social relations (SR)*	*Knowledge codes* (ER+, SR−), *knower codes* (ER−, SR+) *élite codes* (ER+, SR+) and *relativist codes* (ER−, SR−).
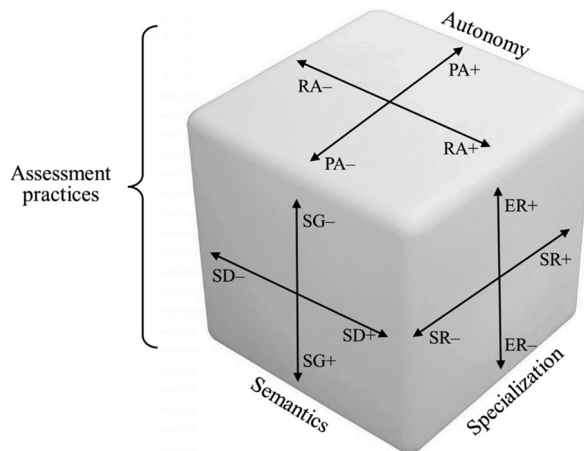
Figure 1. Visual representation of a framework for assessment inquiry.

Operationally, LCT conceptualises the code modalities in each of these dimensions on cartesian planes which visually depict positionality generated through intersections of relations. These interactions provide bases for theoretical legitimation codes.

Visualisation of the framework for assessment inquiry

By triangulating the three LCT dimensions as interpreted for our objects of study, we develop a framework for assessment inquiry represented visually, using multiple cartesian planes, in Figure 1. Here, assessment practice is enacted within a three-dimensional space. The framework provides coordinates to locate or 'map' a specific practice within the wider space of possible assessment practices. Each dimension contributes an additional set of datapoints for profiling the practice from a different angle. This framework offers flexibility in that assessment practice can be positioned both within and across one plane, but also as the intersections across various dimensions and their respective legitimation codes.

In the following analyses, we set the field or context, i.e. our object of study, as the field of assessment practice in higher education, and present how empirical data has informed our interpretation of the three LCT dimensions with reference to our object of study.

Empirical development

LCT is a practical theory (Maton 2014); thus we develop our conceptual model by allowing empirical data from fieldwork to 'speak back' to theory (Maton and Chen 2016). The empirical data informing this study were collected in late 2021 as part of a doctoral project undertaken by the lead researcher and granted ethical approval by Cardiff University (Reference: 2410). This data comprises semi-structured interviews with 28 academics teaching on accounting and business management programmes undertaken at a UK Business School in an elite, research-intensive university, anonymised as 'Case University'.

The interviews were designed not only to collect data regarding 'on the ground' assessment practice at the micro-level, but to also explicitly consider assessment in a social context, both the macro higher education landscape and the meso-level of the institution and relevant disciplinary practices. Each interview was conducted via Zoom and lasted 1–1.5 hours. Participants were identified after a process of selective sampling to ensure the resultant sample was representative of the wider population of academics teaching across all accounting and business management courses. Gender,

seniority and breadth of both research and teaching-focussed activities were thus considered. Assessment details and biographical information procured from Case University aided in this selection process. The resultant sample comprised: female: 46%, male 54% and non-senior (lecturer/senior lecturer): 61%, senior (reader/professor): 39%. Participants ages were not disclosed, however length of teaching experience ranged from 2 years to 20 years. Several disciplines were represented in the sample including accounting, finance, statistics, marketing, logistics and management.

The Business School and disciplinary context is pertinent for this paper, being particularly exposed to the '*outward pull*' due to the 'applied' nature of such disciplines. Illustrative examples are used to demonstrate our conceptual model in this paper.

Using three LCT dimensions to build a framework for assessment inquiry

Autonomy: querying autonomy in assessment

In LCT, autonomy codes are a means of conceptualising ways in which *insulation* between aspects of practices underpins boundaries within those practices. The Autonomy dimension concerns boundaries underpinned by the relative insulation of constituents of practices (e.g. actors, ideas, artefacts, etc.), and the means by which these constituents are *related together* (e.g. ways of working, beliefs, etc.) (Maton and Howard 2018). Positional autonomy (PA) describes the nature of *relations between positions* (Maton 2005); more specifically 'between constituents positioned within a context or category and those positioned in other contexts or categories' (Maton and Howard 2018, 6). Positional autonomy can thus be used to analyse boundaries between actors inside higher education and those outside (Maton 2005), being stronger (PA+) if control resides with 'insiders' within higher education, and weaker (PA-) if control emanates from 'outside' the field, for example industry, the state, or the market. In this way positional autonomy can be utilised to understand power relationships and dominance in a field.

Relational autonomy (RA) describes *the relations between the ways of working or beliefs/principles* (Maton 2005) or 'between relations among constituents of a context or category and relations among constituents of other contexts or categories' (Maton and Howard 2018, 6). For example, when ways of working in higher education are relatively autonomous and distinct from those outside, e.g. the field of economic production, relational autonomy can be considered stronger (RA+). When principles are heteronomous, e.g. they emanate from outside higher education, relational autonomy may be considered weaker (RA-). Hence relational autonomy enables us to see the specificity or distinctiveness of knowledge practices being undertaken in a field. In this way, the Autonomy dimension enables associations of 'power' from positions in the assessment field to be disaggregated from the knowledge 'practices' of assessment itself. Ways of seeing assessment practice, e.g. the underlying purposes of assessment and beliefs of what assessment 'should be', can then be analysed distinctly from agency and control in assessment.

For us, the Autonomy dimension addresses the contestation of academic freedom in assessment practice. We interpret positional autonomy as the degree to which actors, namely academics, as constituents from inside the field of assessment practice in higher education, are insulated from actors outside of the field. Relational autonomy refers to the strength or distinctiveness of *relations* between these actors, which include the ways of working (assessment methods or strategies) and underlying principles or beliefs (purposes of assessment). We construe these *relations* as being either educational (autonomous) or for other purposes (heteronomous). Using these interpretations we present an external language of description, or a 'translation device' (Maton and Howard 2018) to interpret anonymised interview participants comments in terms of Autonomy, as shown in Table 2.

The data can then be mapped onto a cartesian plane to generate four approaches to classifying assessment, each representative of a legitimation code as shown in Figure 2.

As this is a descriptive, rather than evaluative, framework, no moral judgements are implied in the use of + and –; the symbols only depict relative strength of PA and RA. However, the

Table 2. Autonomy translation device for assessment.

Autonomy	Interpretation	Examples from the empirical data
PA+	Source of influence or control of assessment practice derived from actors inside field of higher education	*Eskiva*: I just try to emulate the lecturers I liked as an undergraduate student.
PA-	Source of influence or control of assessment practice derived from actors outside of the field of higher education	*Joanne*: Well, I think that they [accreditation bodies] already influence our assessment
RA+	Purpose and practices of assessment are primarily considered autonomous to higher education, i.e. educational	*Dorian*: Assessment, it should be about trying to think about, you know, what has happened, by what extent has a student's sort of educational capital increased?
RA-	Purpose and practices of assessment are considered heteronomous, i.e. for pragmatic or utilitarian purposes	*Madeline*: Assessment is part of the categorisation mechanism *Mahir*: So much of our institution is geared towards certification rather than learning
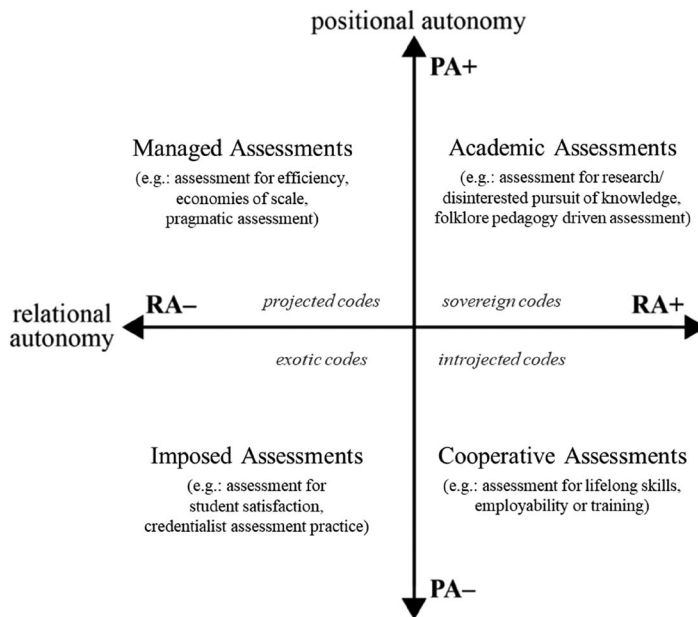
Figure 2. A framework for assessment inquiry Autonomy plane, adapted from Maton and Howard (2018).

model demonstrates that educationally and non-educationally driven assessments (e.g. pragmatic purposes) are not necessarily dichotomous, but can be located relative to one another within a space of possibilities in degrees of emphasis, to comprise at least four distinct quadrants.

Sovereign codes (PA+,RA+): Using our translation device we see this modality as representing '*academic assessments*'. Here legitimacy is derived from internal control or influence and educational practices/principles. Academics, disciplinary communities of practice, management or students as co-creators exert influence (PA+). The purposes are those of an academic education, e.g. academic excellence, assessment that valorises liberal humanist ideas, assessment is deemed as 'educational', potentially in its most traditional sense. This quadrant may align with learning for interest as derived from an inner academic habitus:

> **Madeline**: I think of assessment how I would like my children to be assessed, to remember the bits they found interesting (RA+), not just get into 'gaming' to get results but to actually enjoy it. It comes from inside me like 'hope' for the future for my children. (PA+)

In contrast, *exotic codes* (PA−,RA−) may represent what we term '*imposed assessments*' where legitimacy emanates from external control or influence and other practices/principles. Assessment

may be subject to external governance, e.g. by professional, statutory or regulatory bodies, government, industry or the market (PA-). Principles may be derived from the economy or the marketplace where assessment is construed as a return on investment for paying customers (RA-):

> **Angharad**: I think we've lost somewhere that idea of the love of learning and the curiosity of learning, I think that gets lost. It all becomes terribly financialised and strategic (RA-) … students as consumers (PA-) want things packaged up and neat and easy to digest… they just want to be spoon fed… They just want predictability because they view it as currency.

Introjected codes (PA−,RA+) we translate as '*cooperative assessments*,' these may refer to situations where influence emanates from outside, e.g. industry (PA-), but for intrinsic educational purposes, e.g. skills development (RA+). Actors within the field work with external influences due to their co-alignment of goals and purposes. For example, assessment as influenced by 'real-life' industry to facilitate learning:

> **Eskiva**: So, what we did was to get the [company] who were initiating this (PA+) into the lecture theatre, told all the students what they'd like to do. And we set students off for the task of researching schemes… what would suit this particular [company] (RA+)… And then the best 10 projects I then sent off to the [company] and they implemented some of the student's ideas.

The projected codes (PA+,RA−) we interpret as '*managed assessments*' referring to internal influences (PA+) orientated to other/outside purposes (RA-). Academics or management retain control (PA+) but purposes are either non-educational, e.g. for economic gain or instrumental in orientation, or purposes are pragmatic (RA-). Legitimacy here can stem from the need for self-preservation. Assessment practices construed as non-educational, such as grade-inflation or those premised on an efficiency purposes may be internalised, ultimately to survive:

> **Tao**: if you're the only person in the exam board, who is in the 50s and everyone else (PA+) is in the 60s and 70s, you can't carry on doing that for long it's just too uncomfortable and you don't. Why? Why? Why would you persistently mark another 50 or 60 essays during the summer when everyone else just goes off and has their holidays, just because you failed them, why would you do that? I'm resolving to soften up. (RA-)

In summary, the value of this Autonomy interpretation rests with its ability to inquire into, and map out, both influences on assessment and the purposes underpinning assessment.

Semantics: querying logic of assessment

The Semantics dimension of LCT comprises two aspects, semantic density (SD) and semantic gravity (SG), and addresses the contestation of theory and practice, or the conceptual and the contextual, respectively. *Conceptual coherence* is characterized by semantic density; the degree of condensation of meaning within symbols and the degree of simplicity or complexity (Maton 2011). In the context of higher education, stronger semantic density describes concepts that are strongly integrated while weaker semantic density (SD-) describes concepts that are more segmented and loosely integrated. Semantic gravity characterizes *contextual coherence*, or the degree to which meaning relates to its context (Maton 2011). When stronger, semantic gravity (SG+) refers to meanings (e.g. curriculum aims, learning outcomes, content, or in our case assessment) that are more dependent upon practice or the workplace, for example. Weaker semantic gravity thus refers to meanings that are distant from the context of application. Semantic codes can thus acknowledge how assessment need not be 'either conceptually coherent or contextually coherent but they can be both or neither' (Shay 2016, 773).

For this study, semantic gravity represents the degree to which assessments have 'real world' relevance or are rooted in practice. Thus, assessment logic can be orientated towards assessment that is embedded in concrete particulars of specific situations, cases or examples (a strengthening of sematic gravity), or conversely may be orientated towards more generalised situations and

Table 3. Semantics translation device for assessment.

| Semantics	Interpretation	Examples from the empirical data
SG+	Assessment is based on concrete real-life examples, oriented to the workplace.	*Leni*: I think it [industry and real life] should influence definitely more, … even assessment of getting graduate jobs, what is required, what kind of questions are asked?
SG-	Assessment is based on abstract theory or downplays real-life.	*Madeline*: No, I don't want to feel like I'm driven by the world of work because I don't feel that way, I would like students to challenge the world of work, not just to conform to 'these are the things that work practices do'
SD+	Assessment practices draw from multiple origins or assess complex specialised concepts.	*Angharad*: It's very theoretical in the second term, you're looking at [accounting] and sociology, and interdisciplinary aspects
SD-	Assessment practices represent discrete tasks or assess simple, factual, or everyday concepts.	*Garfield*: If you're using multiple choice, you're going to get higher marks because you are assessing lower levels of learning *Karl*: A lot of the very basic materials, definitions, numerical examples, are done quite efficiently online
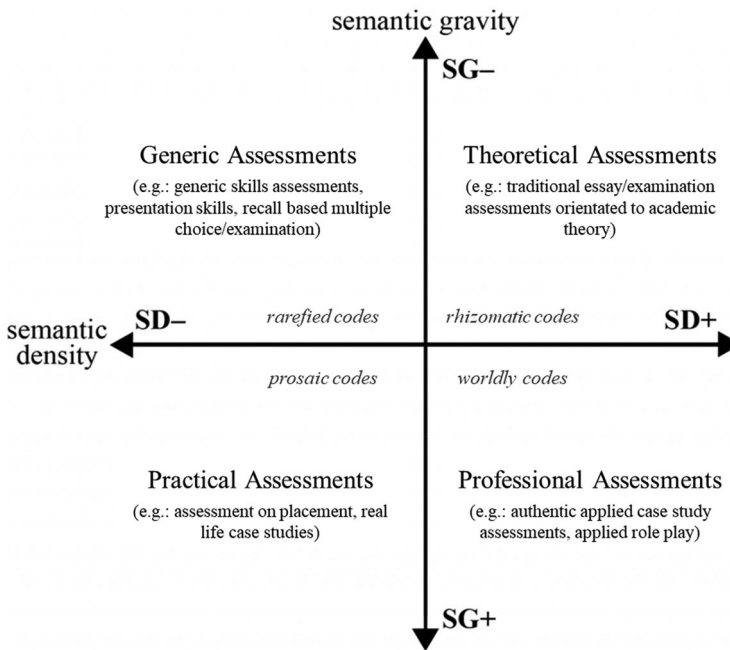
Figure 3. A framework for assessment inquiry Semantic plane, adapted from Maton (2014).

abstract theoretical ideas (a weakening of semantic gravity). Semantic density we interpret in two respects: language and task. Firstly, representing the extent of condensation of meanings that are invoked by the assessment requirements; for example, whether assessment is dense and relies on specialised uncommon sense disciplinary language and practice or whether assessment is segmented and loose and relies on everyday interpretations. Secondly, the extent of condensation of the task itself, that is, the extent to which assessment is integrated, continuous and holistic, or whether it is disparate and discrete. For example, capstone assessments or portfolio assessments requiring interlinkages of concepts across modules may represent stronger semantic density. Following the same approach taken with Autonomy, our conceptualisation of Semantics is shown in term of a translation device and a cartesian plane in Table 3 and Figure 3 respectively.

We interpret *rhizomatic codes* (SG-,SD+) as being '*theoretical assessments*' demanding abstraction and complexity. The focus is on theoretical disciplinary knowledge and complex specific

academic theory that spans modules/syllabi and uses densely constructed concepts. Assessments lack application to 'real life' prioritising the conceptual over the technical. Traditional modes, potentially emphasising the written word, are suggested as the most common means of achieving this 'theoretical' pursuit:

> **Owen**: I think it (innovative assessment) has a place, but I wouldn't see it as a substitute for an assessment of logical and critical thinking (SD+,SG-), and I suspect unless there are, unless I'm unaware of, other types of assessment that can really do that, I do think the essay does serve a very good purpose.

In contrast *prosaic codes* (SG+,SD-) we see as '*practical assessments'* that are concrete and less dense. Assessment values practical knowledge and real-life events, free of formal theories. Discipline specific, practical and innovative means of assessment can be legitimated due to alignment with varied 'real-life' practices:

> **Xinyi**: I don't like academic assessment (SD-), as in, you know, read this article and tell me what you think – all of my assessments are practical based. So, some of my students do live case study work, they actually work with real problems in the marketplace. (SG+)

Assessments in the *worldly code* (SG+,SD+) we have termed as '*professional assessments'* for they are concrete yet maintain their academic applicability and complexity. Assessments that emerge from problem-based learning or enquiry-based learning pedagogies may be representative here. Professional, specific, technical or practice-oriented terms and practices are applied to real life scenarios in conjunction with relative theoretical knowledge as a pre-requisite:

> **Angela**: a lot of what we do actually refers to the real world (SG+), and I start every session talking about how that topic applies to the real world, but then there's always academic papers (SD+) that apply to the session as well.

Rarefied codes (SG-,SD-) may represent '*generic assessments'.* This modality is suggestive of abstraction, that is not tied to context/practice. Assessments that focus on soft, generic skills or basic everyday terminology feature. Communication or teamworking skills assessed through presentations or groupwork respectively may constitute generic assessments that are devoid of disciplinary alignment, or are perceived as a 'medium' or 'channel' only:

> **Tamara**: I've tried to bring in some criteria that relate to the actual medium of the assessment… it's good for them to kind of experiment with different media, different channels of communication, but ultimately independent of the channel (SG-, SD-) what they need to be able to do is put across a coherent argument.

Traversing each of the semantic quadrants can promote assessment diversity and address the myriad of contestations that feature in programmatic assessment design, for example dichotomised perspectives of liberal versus vocational/professional.

Specialization: querying the basis of success in assessment

Specialization identifies what is considered legitimate knowledge (epistemic relations) and who can claim to be a legitimate knower (social relations) (Maton 2014). Each relation can be stronger or weaker, therefore claims to legitimacy are specialised by epistemic relations (ER), social relations (SR) or both, or neither (and can change over time, i.e. a 'code shift'). The *basis* of achievement and conceptions of what is valued in a discipline are fundamental to assessment, for contestations can arise in recognition of claims that social constructivist approaches to assessment have 'eclipsed' disciplinary knowledge (Shay 2008).

For us, Specialization addresses the contestation of knowledge (product) or knowing (process) in assessment. A vehicle for communicating this basis of success, or what is valued in assessment, is often communicated through the contested notion of rubrics. Often, assessment

Table 4. Specialization translation device for assessment.

| Specialization	Interpretation	Examples from the empirical data
ER+	Emphasis on content knowledge/ procedures/skills. Explicit evaluation criteria	*Lisa*: I think content knowledge is fundamental for any type of academic success
ER-	Content knowledge/ procedures/skills are downplayed. Implicit evaluation criteria	*Joanne*: So, for me, it's not about having prior knowledge. It's just that students need to understand that they need to practice
SR+	Personal knowledge, experience, and development emphasised	*Bob*: I don't think anyone wants to just employ a number cruncher; we want someone with a bit of charisma as well
SR-	Personal knowledge, experience, and development downplayed	*Dorian*: I'm not sure we can assess character or should be assessing character
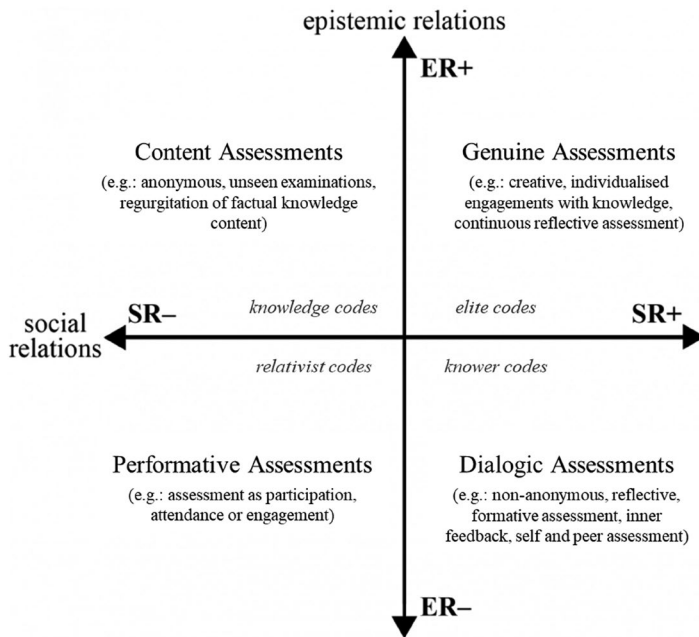
Figure 4. A framework for assessment inquiry Specialization plane, adapted from Maton (2014).

underperformance may be attributed to a lack of transparency and tacit understandings (O'Donovan, Price, and Rust 2004), obfuscated by low levels of assessment literacy. More compelling rationale may constitute differing *languages of legitimation* (Chen 2010) whereby '*code clashes*' exist between students legitimating a focus on epistemic relations (knowledge) whilst teachers emphasised social relations (knowers).

We conceptualise Specialization as the extent to which assessment rewards specialised disciplinary knowledge or values the dispositions and attributes of the knower. Epistemic relations represent assessment practices that align with a focus on knowledge irrespective as to the actor undertaking that assessment. Social relations entail assessments that value dispositions and attributes of the actor engaged in the assessment. The means of communicating 'value' in assessment are construed as assessment criteria that attempt to articulate the basis of achievement as discussed in Table 4. The Specialization plane is also shown in Figure 4.

We see *knowledge codes* (ER+,SR-) as realised through an emphasis on content, thus this modality represents '*content assessments*'. These place value on knowledge or principles and procedures whilst the attributes of the individual are underplayed. Assessments mobilise the testing of knowledge as their fundamental goal:

> **Leni**: I think understanding the major concepts or major topics is key (ER+). So whether I ask a student to write an essay about a particular question, I don't think there should be much of a difference, if a student knows I should be able to see it regardless of how the question is asked (SR-).

Conversely, the *knower codes* (ER-,SR+) we term '*dialogic assessments*'. Assessment here embraces the individual as integral to assessment itself; individual dispositions or attributes are foregrounded. Socio-constructivist perspectives focussed on the process of learning dominate in this quadrant whilst issues of 'what' content is assessed are marginalised. For example, Eskiva utilised reflective assessment as a means of developing the knower, valuing students' reflections (SR+) and downplaying the emphasis on the experts (ER-):

> **Eskiva:** So the question is reflective… I ask them to write it in the first person because I really want them to give me their opinion (SR+), which is something they don't get the chance to do necessarily in academia. But I think having your opinion… is quite challenging because they tend to want to tell you what the experts know, but hold back from saying what they think (ER-)

For assessments in the *elite codes* (ER+,SR+) we utilise the term '*genuine assessments*'. These valorise both knowledge and knowing. Assessments that are authentic to the self, and meaningful to the learner or involve co-construction of assessment criteria, may be emphasised to allow for knower engagement with knowledge. Continuous reflective blogs that compliment a focus on accumulation of specialised knowledge and personal reflection may be deemed legitimate in this quadrant. Assessment here performs a double duty:

> **Angela**: So learning the techniques of accounting is one aspect (ER+), but I think it's about becoming a rounded individual, somebody who can think independently and think critically… people in life who can actually make those changes and challenges for society as a whole, you know to call out inequality, racism or whatever, these are things that should very much be part and parcel of them (SR+).

Conversely in the *relativist code* (ER-,SR-) we see '*performative assessments*', pertaining to the generic category where neither knowledge nor individual is emphasised. Here 'anything goes' and anyone can learn, thus trainability is emphasised. Notions of spoon-feeding and assessment as rewarding attendance may be suggestive here:

> **Joanne**: So it doesn't really matter whether they have this knowledge, it's whether they want to practice (ER-)… so, I don't think accounting is rocket science, so you can learn even if you are from a completely different background (SR-).

Specialization can provide a means of both enabling assessment inclusivity and diversity via emphasis on learner attributes, and permit transparency in assessment standards by explicit reference to the basis/es of achievement in a context.

Application of the framework

Given these interpretations, the holistic 3D framework for assessment inquiry can map assessment practice both from a person-centred approach or wider institutional/international perspectives. Clustering of data (e.g. beliefs/perceptions/assessment tasks) may ascertain assessment 'cultures' in a given context.

To demonstrate the generative power of the framework, a person-centered approach is illustrated drawing on one data extract:

> *Bob*: I think the students are very focussed on what the criteria is (ER+) and what's going to be in the exam and what they need to learn for the exam. And everything else often falls by the wayside.

> *Interviewer*: And what's in the exam is that more content or knowledge focussed rather than these softer skills?

> *Bob*: Well, yes, I guess so (ER+). Especially the [accounting] module although what's made me really rethink things has been the fact there's been open book (RA+) this year (PA-) and you can't just focus just on the technical skills (ER-). That's too easy, they can just get that from their notes. So, this year, with open book
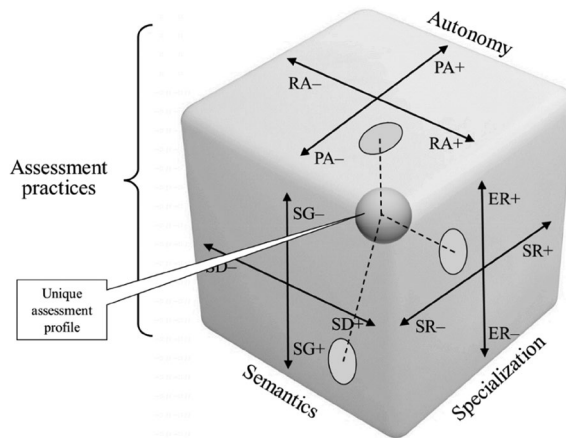
Figure 5. An example of a framework for assessment inquiry applied at the person level.

being in mind, I have started to change the exam a bit more (PA+) to them having to reflect on concepts (SR+) and discuss concepts (SD+) or think about situations where that concept might be used (SG+) (RA+) whereas before I never really got them to write anything (ER+,SR-). So, I suppose there's a little bit of change happening

Interviewer: to incorporate more reflection because that's more valued for success?

Bob: just that it requires them to think about the topics as opposed to just do some [technical accounting] (ER-) where they can just copy out what I put on the slide basically (SD-), but maybe give them a scenario where someone could use the [theoretical] concepts (SD+) and they have to identify that that's what's happening and explain it a bit more to try to give them a bit more of a business scenario (SG+).

At the micro task level, the extract positions assessment in accounting as moving within the *content assessment* quadrant (ER+,SR-), corroborating Myers (2017) suggestions of accounting practices dominated by a 'knowledge' code. Emphasis rests initially on the strength of epistemic relations, i.e. technical content knowledge, yet ER weakens and SR strengthens as reflection is introduced. Despite this strengthening, the basis of legitimation still rests with strong epistemic relations. From a meso disciplinary assessment perspective semantic density is strengthened (SD+) as students engage with complex concepts, whilst the business scenario emphasises context and strengthens semantic gravity (SG+), representative of a *professional assessment* (SG+,SD+). At the macro level, assessment change was instigated by external forces i.e. Covid (PA-) and the imposition of an open book examination in response was deemed as educational (RA+), thus a *cooperative assessment* (PA-,RA+). In utilising the framework for assessment inquiry, an individual assessment profile would appear as per Figure 5.

This visualisation of positionality allows for transparency and comparison of practice across contexts, for example, comparisons of colleagues, programmes or disciplines. The framework offers a means of understanding, validating, evidencing or comparing the complexities of assessment practice, whilst not valorising or demonising one position over another. Through this understanding of legitimated assessment practice in a context comes the potential for change of such practice through evidence-led assessment reforms that acknowledge the complexities of praxis.

To compliment practical applications, the framework extends to theoretical positioning if warranted. For example, this quote encapsulates much of what is perceived as assessment 'best practice':

assessment should be an integral (SD+) component of instruction, located within collaborative learning environments (RA+) that engage students as active participants in the assessment and feedback process (PA+), foster meaningful, authentic engagement (SG+) with the discipline, and support students in the development of evaluative expertise (SR+).
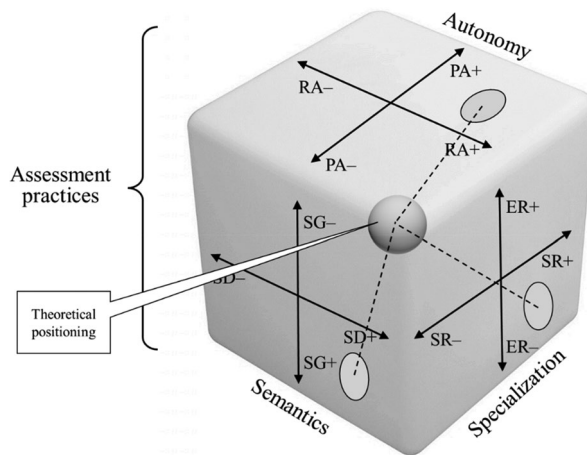
(Adapted from Sadler and Reimann 2018, 132)

Figure 6. An example of a framework for assessment inquiry applied to theoretical positioning.

For illustrative purposes, application of the framework to the quote may suggest leading paradigms of assessment can be legitimated in terms of being realisations of the *academic assessment* quadrant (Autonomy), the *professional assessment* quadrant (Semantics) and the *dialogic assessment* quadrant (Specialization) as shown in Figure 6.

The framework thus enables both extant and theoretical, idealised positions to be ascertained.

Discussion

The framework for assessment inquiry is the result of both empirical and conceptual development. It is grounded in data and conceptually the external languages of description for all three dimensions can align with extant assessment literature.

Autonomy enables a nuanced understanding of how discourses characteristic of the 'outward pull' influence assessment. 'Profane' concepts (Macfarlane 2022) that infiltrate assessment thinking such as managerialism, consumerism and neoliberalism (Raaper 2016) can now be analysed by differentiating between positions (PA), or relative power exerted by internal and external sources, and their corresponding position-takings, or knowledge practices (RA). In this way false dichotomies that may influence assessment thinking and practice, for example that of collegiality and managerialism (Tight 2014), can be deconstructed. More 'sacred' assessment concepts of academic freedom, the student as co-creator (Doyle, Buckley, and Whelan 2019) and student agency (Nieminen and Tuohilampi 2020) can also be captured. Competing paradigms of AoL/AfL/AaL can be viewed as mutually coexisting through varying strengths of relational autonomy, thus exposing and reconciling prior dualisms. Ultimately the Autonomy model provides a blank canvas for mapping the contested 'pulls' in assessment and their corresponding implications for practice.

Semantics enables discourses of liberal learning, employability and authentic assessment to be conceptualised. Contestations of contextual versus conceptual can be seen and dichotomies exposed. Authentic assessment discourse that exemplifies workplace authenticity (Villarroel et al. 2018) can be propositioned as not an 'either/or' but as an omnipresent component that can weaken or strengthen across an assessment programme flexibly and purposefully. Contestations around discrete or continuous assessment can also be understood from this perspective to address the low/high stakes debates in assessment discourse (Pitt, Bearman, and Esterhazy 2019).

Specialization can capture legitimation attributed to processes that emphasise the 'knower', e.g. dialogic or inner feedback (Nicol and McCallum 2022), reflective practice, and self and peer assessment (Stančić 2021; Yan and Carless 2022). An understanding of emphasis on social relations may align with inclusivity agendas in assessment (e.g. universal design for learning). Dichotomies that

demonise summative assessment (Taras 2009) can be contested in light of '*genuine*' and '*performative*' modalities, exposing 'formative versus summative' binaries, or emphasis on *who* is being assessed and *how* (social relations), versus *what* is being assessed (epistemic relations) respectively.

Conclusion

The framework for assessment inquiry makes a unique contribution to assessment and LCT literature by its holistic 3D offering. The framework is a response to calls for a deep engagement with theory in assessment research (Nieminen, Bearman, and Tai 2022). It enables productive dialogue by distinguishing between the different LCT dimensions of debates surrounding assessment, whilst acknowledging the multidimensional nature of each approach. It reconciles polarized positions on assessment practices that paralyse the development of an integrated theory of assessment, by revealing the complexities underlying them through intersecting continua on a cartesian plane. Opportunities for targeted assessment policy and reform are also afforded through the ability to map both current and strategic positions.

A limitation of the framework's ability to capture complex social assessment practices may be implied by the empirical context of development. However, we suggest the framework boasts generalisability via its engagement with both empirical data and conceptual theory. We suggest further research applying the framework in different contexts is undertaken to bolster this generalisability.

This framework enables the contested field of assessment practice in higher education to be seen, not only as an arena of struggle for educators but for others exposed to the field, our students, those who attempt to navigate this field of competing languages of legitimation. Thus, uncovering the structuring principles of assessment practice is not only critical for pedagogic development but crucial for both educators and students alike as both are mutually entangled in such practice.

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Disclosure statement

Ethical standard statement

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