

**Assessment matters: a critical appraisal
of assessment practice in higher
education with a particular focus on
enhancing student understanding of
standards and criteria**

by Berry Margaret O'Donovan

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The process of pulling together a submission for a PhD by published work has been a valuable endeavour. Revisiting papers and gaining new insights from them has been a thought-provoking and interesting exercise that has encouraged my further engagement with the wider literature on assessment and feedback and consideration of my own position and perspectives within it.

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Abstract

Eight publications are presented in this thesis with the first published in 2001 and the last in 2018, all are peer reviewed. This body of work is drawn from a wider contribution to pedagogic research and together the papers constitute a coherent programme of study. The papers trace a research journey developed over seventeen years that focuses on how assessment and feedback are both conceptualised and practised within higher education, with a particular emphasis on how students 'come to know' what is being sought in assessment in terms of academic standards and the attributes of high quality work. The papers are both conceptual and empirical.

The research journey is divided into three main phases. The first phase of papers challenge objectivist assumptions of assessment, and thereby how academic standards and attributes of quality can be best shared with learners (papers 1, 2 and 3). These papers focus on improving learner achievement through enhancing their understanding of academic standards and the attributes of quality sought by assessors. The papers challenge the sometimes taken-for-granted assumption that standards and marking criteria can be fully articulated. Secondly, the papers conceptualise the deeply tacit nature of academic standards and marking criteria, and both theorise and empirically investigate how students gain tacit understandings.

The second phase of publications (papers 4, 5, 6) contributes to a reconceptualisation of assessment as socially situated and constructed, and gives more emphasis to social, participatory processes and relationships in the sharing of standards and criteria. They are founded on the premise that for students to produce high quality work they must align with, and participate in, the ways of thinking and practising of the academic community in which assessment standards and practices are constructed.

The third and final phase of publications (papers 7 and 8) refocuses on the individual, examining students' epistemic beliefs and ways of knowing and how these influence student perspectives on and approaches to assessment and

feedback, and in so doing highlight the diversity of individual perspectives and some of the limitations of the culturalist assumptions of situated learning approaches.

In the final chapter the contribution to knowledge is examined. The body of work contributes to knowledge in four main ways: i) outlining the challenges to prevailing objectivist assumptions of assessment; ii) conceptualising the nature and role of tacit knowledge in developing understandings of assessment criteria and standards; iii) providing a reconceptualisation of the nature of assessment and feedback as socially constructed and situated; iv) outlining the influence of individuals' epistemic assumptions on their perspectives on, and approaches to, assessment and feedback. Contributions to practice are outlined at both at national and institutional level.

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Chapter 1: Description of the overall programme of research, its objectives and context

1.1 Introduction

This submission for a PhD by published work is based on a collection of eight peer-reviewed articles from 2001-2018 that embodies a theoretical and practical journey towards understanding assessment and feedback practice within higher education. Within this wider context, the publications form a coherent body of work that reveals both a practitioner concern to improve students' assessment performance and future learning development, but also an ongoing theorisation of 'what is going on?' Particularly, how students come to know assessment expectations in terms of the standards and attributes of quality embodied in evaluative judgements. The publications are both empirical and conceptual and contribute to a fundamental reconceptualisation of the nature of assessment and feedback. The early papers challenge prevailing objectivist perspectives, whilst later papers reconceptualise the nature of assessment and feedback as socially constructed and situated, and examine the implications for practice. The final two papers extend and elaborate socio-constructive perspectives through an exploration of the epistemic assumptions of students and their influence on their assessment expectations and behaviours.

1.2 Aims and objectives of the research

Few researchers in the field would dispute the assertion that assessment lies at the heart of the student experience and is a dominant influence on student behaviour and their approach to learning (see for instance, Ramsden, 1992; Brown and Knight, 1994; Gibbs and Simpson, 2004; Bloxham and Boyd, 2007). The literature is equally clear that the feedback a student receives is *potentially* the most powerful influence on their future learning (Hattie, 1987; Black and Wiliam, 1998; Carless et al., 2011). It is therefore of concern that despite an intensive focus on enhancing assessment and feedback practice in higher education (Brown, 2010) student evaluation of the quality of their assessment and feedback provision remains intransigently low (Carless et al., 2011; O'Donovan et al., 2016; Bearman et al., 2017) and assessment

practices and standards increasingly questioned by all stakeholders (Crossouard, 2010; Bloxham and Boyd, 2012). Consequently, this programme of study focuses on an area of keen concern to the higher education sector.

Research Aim

To critically appraise the nature of assessment and feedback in higher education, and how assessment expectations, particularly the criteria and standards applied in evaluative judgements, can be effectively communicated and shared.

Objectives

In working towards this aim the following objectives are pursued. Specifically:

- I. to understand the nature of assessment and feedback in higher education;
- II. to investigate how students come to know assessment expectations, particularly the standards and criteria used in assessment judgements, and thereby how such understandings can be improved;
- III. to surface and examine students' epistemic beliefs and how these influence their perspectives and approaches to assessment and feedback within the context of higher education.

1.3 Structure

- Chapter 1 identifies the scope and context of the research and sets out its aims and objectives.
- Chapter 2 lists the submitted publications, outlines their relationship to each other and the place of each in the overall programme of research along with the candidate's contribution to each multiple-authored publication.
- Chapter 3 reviews the literature in the field, identifying key themes and sets the papers presented in this submission within the context of the wider literature.
- Chapter 4 highlights the principal contributions of the programme of research, including the areas in which the submitted publications have extended knowledge and understanding and re-orientated research and

practitioner approaches.

- Appendices - the submitted papers are appended to this critical appraisal.

1.4 Research context

The research context of the body of work presented is the UK higher education sector. However, many of the characteristics of UK higher education (HE) are not unique and are mirrored elsewhere (O’Byrne and Bond, 2014). Consequently, the publications are placed within an international pedagogic research arena, particularly involving journals that attract contributions from Scandinavia, Australia, the Netherlands and, to a lesser extent, the U.S. This mirrors the geographical sources of articles in Evans’ systematic review of the literature on assessment feedback from 2000-2012 (Evans, 2013). During the publication period of this programme of study (2001-2018) assessment and feedback practices have come under intense scrutiny and pressure as the higher education sector, particularly in the UK, has undergone a time of uncertainty and change.

UK higher education has both massified and diversified. According to Trow’s (1970) classification system the UK higher education sector became a ‘mass’ one in 1988 (Becher and Trowler, 2001). More recently, Universities UK has identified that there were 2.32 million students in UK higher education in academic year 2016/2017 of which, despite challenging visa policies and the UK’s future exit from the EU, 13% of undergraduate students, 38% of postgraduate students and 28% of academic staff were from outside the UK (UUK, 2017). Participation from non-traditional backgrounds has widened with 22% of 18-year-olds from the areas of lowest higher education participation in England applying to university in 2016 as compared to 12% ten years ago (UUK, 2017). One result of these changing demographics is that students are more diverse and likely to be less well prepared for university than was previously the case (O’Byrne and Bond, 2014) and this in turn implies that the provision of better support, particularly in terms of clarifying what is being sought in assessment, has become more important.

Against this backdrop the UK has ‘witnessed several decades of increasing regulation and accountability regarding academic standards’ (Bloxham and Boyd,

2012: 615), fuelled by concerns in the media about 'dumbing down and grade inflation' (Crossouard, 2010: 247). Such concerns have dramatically increased scrutiny and regulation of teaching and assessment practices - a movement that Harvey (2005: 271) terms 'the British quality juggernaut'. Since 2010 two higher education white papers (focused on England) and the introduction of the Teaching Evaluation Framework (TEF) in 2016 have had far-reaching implications for the whole of the UK higher education sector (UUK, 2017). A more market-orientated and competitive sector has been set in motion, particularly with regards to teaching provision and the introduction of student fees, that has 'fundamentally altered the relationship between students and institutions' (UUK, 2017: 11). Institutions are focusing on students and their expectations in ways not seen in UK higher education before (UUK, 2017). Students are paying more for their studies and expect a more lucrative return for their money 'whether in academic quality, employability or the facilities offered to them' (Grove, 2015). The achievement of an upper second class degree has become increasingly important to land a graduate job (Snowdon, 2012) and this has fuelled a commensurate intensification of student instrumentality in terms of the achievement of high marks and 'good' degrees (Dean and Gibbs 2015). Consequently, Arambewela and Hall (2013: 1), amongst others, argue that nowadays to attract and retain students, universities are 'compelled to pursue market orientation strategies placing greater emphasis on meeting student expectations'.

The commercial imperative to enhance student satisfaction with their university experience is nowadays seemingly accepted across the international higher education sector (Guolla 1999; Mark 2013). In tandem with this increasingly commercial and consumerist orientation, and arguably in part as a response to it, UK higher education institutions (HEIs) have become increasingly managerial with growing regulation and control through quality frameworks as HEIs strive to compete in a more hostile environment (Harvey, 2005; O'Byrne and Bond, 2014). Such an approach puts more trust in transparent processes that can be monitored (Strathern, 2000) and less in the professional judgement of skilled employees such as academics (Tsoukas, 2003).

Arguably, nowhere are the tensions between a more consumerist student body and a burgeoning managerialism versus the integrity of knowledge and academic standards so intense as in the arena of assessment. It is assessment, from the student perspective, that defines their learning experience not learning outcomes or activities (Bloxham and Boyd, 2007; O'Donovan, 2017). This is likely the reason why in student experience surveys, the quality of assessment and feedback practices and processes attracts more critique than any other aspect of the student university experience (O'Donovan, 2016). The use of surveys to gauge student perspectives on, and satisfaction with, their higher education experience is nowadays ubiquitous across the international HE sector (Bedggood and Donovan 2012), and the UK is no exception. The UK's National Student Survey (NSS) in which student perspectives on the quality of higher education are made transparent to all stakeholders is now a potent fixture in course and institutional rankings. Some stakeholders, such as the UK National Union of Students (NUS), have welcomed the enhanced influence of student perspectives on their university experience. Indeed, the NUS suggests this has compelled UK higher education institutions to make positive changes to their provision including improvements to assessment and feedback practices (NUS 2008). However, whilst Gibbs agrees that UK institutional and departmental processes and behaviours are driven by student satisfaction data to 'an unprecedented extent', he cautions that measures of student satisfaction are not always good indicators of educational quality (Gibbs 2010; 14) and can reflect relatively uninformed views and less sophisticated epistemic assumptions that strongly influence individuals' evaluation of assessment and feedback practice (O'Donovan, 2017).

1.5 Concluding observation

And there we have it - a context in which assessment practice and policy has become both increasingly important and under mounting scrutiny. Assessment and feedback practices are undertaken in the spotlight of conflicting contextual influences and stakeholder agendas, and yet, not really understood by many practitioners and policy makers (Sadler, 2014). Within this context the work presented makes a solid contribution to understanding assessment and feedback in

higher education, both conceptually and in practice, with a particular focus on student understandings of academic standards and criteria and how such understandings may be enhanced.

Chapter 2: The publications and where they fit in the overall programme of research

2.1. Overview

Eight peer-reviewed publications are presented as part of this thesis with the first published in 2001 and the last in 2018. This body of work is drawn from a wider contribution to pedagogic research, and constitutes a coherent programme of study that is sharply focused on understanding the nature of assessment in higher education and how students come to know the academic standards and quality attributes of high level and complex work. This chapter briefly overviews the papers and their place within the programme of research. The papers trace a developmental journey in which the fundamental nature of assessment and feedback in higher education is reconsidered and conceptualised. The papers are both conceptual and empirical. The empirical research is largely action research as conceived by Carr and Kemmis (1986) as a form of enquiry undertaken by participants in social situations to improve practice, the understanding of practice, and the context in which practice takes place. A PhD by published work is awarded to an individual and yet most of the research presented here is collaborative. Consequently, in this chapter a brief overview of the individual contribution to each collaborative publication (6 of the 8 presented with 2 papers being sole-authored) is also outlined.

The first phase of papers challenge objectivist assumptions of assessment, and thereby how academic standards and attributes of quality can be best shared with learners (papers 1, 2 and 3). These papers focus on improving learner achievement by enhancing their understanding of standards and the attributes of quality sought by assessors. The papers challenge the taken-for-granted assumption that academic standards and marking criteria can be explicitly articulated. Secondly, the papers conceptualise the deeply tacit nature of standards and criteria and both theorise and empirically investigate how students gain a 'sense of the game' (Bourdieu and Wacquant 1992).

The second phase of publications (papers 4, 5, 6) contributes to a

reconceptualisation of assessment as a socially situated and constructed, and gives more emphasis to social, participatory processes and relationships in the sharing of academic standards and marking criteria. They are founded on the premise that for students to produce high quality work they must align with, and participate in, the ways of thinking and practising of the academic community in which academic standards and assessment practices are constructed (McCune and Hounsell, 2005; Sadler, 2014).

The final two empirical papers refocus on the learner, investigating learners' fundamental epistemic beliefs and assumptions and how these influence their approaches to, and satisfaction with, assessment and feedback both within (paper 7) and across academic disciplines and departments (paper 8).

2.2. Summary of publications and author contribution

Phase 1: The early days - challenging objectivist assumptions of the nature of assessment academic standards and evaluative judgement		
Publication number and name and citations	Nature of publication	% and nature of author contribution
<p>Paper 1 O'Donovan, B., Price, M. and Rust, C. (2001) 'The student experience of the introduction of a common criteria assessment grid across an academic department', <i>Innovations in Education and Teaching International</i>. (38)1, pp. 74-85. Citations: 126</p>	<p>Empirical Collaborative</p>	<p>60% contribution involving literature review, writing the first draft and subsequent reworking of paper based on reviews by collaborating authors and external reviewers. Input into collaborative thematic analysis of focus group transcripts.</p>
<p>Paper 2 Rust, C., Price, M. and O'Donovan, B. (2003) 'Improving students' learning by developing their understanding of assessment criteria and processes', <i>Assessment and Evaluation in Higher Education</i>. (28)2, pp. 147-164.</p>	<p>Empirical Collaborative</p>	<p>40% contribution involving undertaking project organisation, authoring exemplar assignments, data collection and conceptualising the tacit</p>

Citations: 654		nature of standards and criteria which framed the literature review and discussion.
Paper 3 O'Donovan, B., Price, M. and Rust, C. (2004) 'Know what I mean? Enhancing student understanding of assessment standards and criteria'. <i>Teaching in Higher Education</i> . 9(3), pp. 325-336. Citations: 296	Conceptual Collaborative	80% contribution involving writing the first draft and subsequent redrafting of the paper in response to internal review by collaborating authors and external reviews.
Phase 2: Reconceptualising assessment: socially situated and constructivist learning approaches to assessment and feedback.		
Publication number and name and citations	Nature of publication	% and nature of author contribution
Paper 4 O'Donovan, B., Price, M. and Rust, C. (2008) 'Developing student understanding of assessment standards: a nested hierarchy of approaches', <i>Teaching in Higher Education</i> . 13(2), pp. 205-217 Citations: 108	Conceptual Collaborative	70% contribution involving model development and first drafting and redrafting of paper in response to internal review by collaborating authors and external reviews.
Paper 5 Price, M., Handley, K., Millar, J. and O'Donovan, B. (2010) 'Feedback all that effort but what is the effect?' <i>Assessment & Evaluation in Higher Education</i> , 35(3), pp. 277-289. Citations: 494	Conceptual & empirical Collaborative	15% contribution involving input into the underpinning research project and review of drafts as collaborating author.
Paper 6 O'Donovan, B., Rust, C. and Price, M. (2016) 'A scholarly approach to solving the feedback dilemma in practice'. <i>Assessment & Evaluation in Higher Education</i> . 41(6), pp.938-949. Citations: 37	Conceptual Collaborative	50% contribution involving a reworking and updating of a first draft of a paper initially written by Prof. Chris Rust.

Phase 3: Phase 3. Refocusing on the individual learner: the influence of epistemic beliefs and assumptions on students' approaches to, and satisfaction with, assessment and feedback		
Paper 7 O'Donovan, B. (2017) 'How students beliefs about knowledge and knowing influence their satisfaction with assessment and feedback'. <i>Higher Education</i> . 74(4). pp. 617-633. Citations: 3	Empirical Single authored	100%
Paper 8 O'Donovan, B. (2018) 'Patchwork quilt or woven cloth? The student experience of coping with assessment across disciplines. <i>Studies in Higher Education</i> . Published online April 2nd.	Empirical Single authored	100%
Total Citations: 1718 *Google Scholar as of 26/7/2018		

2.3. Phase 1

The early days: challenging objectivist assumptions on the nature of academic standards and evaluative judgement

This body of research started with a clear aim - to improve student assessment performance through enhancing their understanding of assessment standards and criteria. This was an important endeavour in the 1990s and remains so today. Initially in the 1990s criterion-referenced assessment rubrics with explicit level descriptors were seen as a means of establishing, benchmarking and maintaining common assessment standards (Otter, 1992; HEQC, 1996). Within this objectivist paradigm, Price and Rust (1999) developed a 'common criteria grid'. The grid or rubric had commonly used criteria (such as 'analysis' or 'evaluation') plotted in matrix format against grades resulting in 'grade descriptors' detailing threshold performance for each criterion at each grade. The grid was trialled and the staff perspective evaluated. Findings from this antecedent study indicated that the

objectively-developed explicit descriptors did not adequately communicate standards. The same level descriptors had been used in both first year undergraduate and postgraduate courses with seemingly little difficulty from the perspective of the assessors. The first study presented in paper 1 built on this research, and here began a research journey into the nature of assessment and how best to develop student understanding of what is being sought and valued in assessed work.

2.3.1 Paper 1

O'Donovan, B., Price, M. and Rust, C. (2001) 'The student experience of the introduction of a common criteria assessment grid across an academic department', *Innovations in Education and Teaching International*. (38)1: 74-85.

Paper 1 explores the *student experience* of the common criteria grid (rubric) that Price and Rust (1999) had developed. The research focuses on how to improve the grid, as educators we wanted to find out 'what works', and the epistemological approach of the paper is largely a-theoretical and practice-based, Tight (2004) suggests that this was the prevalent research approach in educational research and publication at the time. The study utilises a mixed method approach commencing with a survey to identify broad issues and themes that are subsequently explored in more depth within three focus groups.

Place within the programme of research:

Although it was not initially conceived as the first stage of a programme of research, paper 1 provides the foundation for subsequent work by identifying inherent limitations in the use of assessment rubrics. The study begins to question the dominant logic of higher education - that academic standards can be communicated, shared and assured through tools that attempt to explicitly articulate academic standards and marking criteria - a theme that runs across the next five papers. At the time of publication the paper made an important contribution through examining the use value of rubrics from the student perspective. Findings suggest that they are of limited value unless accompanied by

discussion and explanation. Indeed, findings suggest that explicit descriptors can confer a delusion of technical accuracy that student participants considered as *masking* multiple interpretations of key words and markers' subjective understandings of standards. These findings were later confirmed in papers 2 and 3 and in the work of international assessment scholars such as Royce Sadler (2009). Explicit in paper 1 was the future intention to '*introduce the grid [rubric] within a framework of explanation, practice, discussion and exemplars*' (O'Donovan et al., 2001: 84) as investigated in paper 2. The journey towards understanding the nature of assessment and feedback and how best assessment expectations, standards and criteria can be shared had begun.

2.3.2 Paper 2

Rust, C., Price, M. and O'Donovan, B. (2003) 'Improving students' learning by developing their understanding of assessment criteria and processes', *Assessment and Evaluation in Higher Education*. (28)2: 147-164.

Paper 2 is based on a quantitative, empirical study that statistically measures the effect on student achievement of their participation in a workshop intervention in which first year undergraduates marked and discussed exemplar assignments using pre-set marking criteria. The impact of the intervention was statistically significant and shown to have sustained one year further on, whilst baseline data, drawn from the assessed performance of participants and non-participants on a cognate assessment task *before* the intervention took place demonstrated no significant difference in achievement.

Place within the programme of research:

Paper 2 is again situated in the 'what works' approach to educational research, and the paper attracted significant interest from both practitioner and research communities because of its potential to improve students' assessed performance. Currently this paper has over 600 citations (Google Scholar, 26/7/2018). Whilst the paper's focus and key contribution was to improve practice, the paper also makes a key theoretical contribution to how students 'come to know' academic standards

and marking criteria. Drawing from the work of Polanyi (1958/1998), Nonaka (1991) and Tsoukas (2001) the paper begins to unpack the role that tacit knowledge plays in the transmission of assessment knowledge. The article conceptualises knowledge of the standard and attributes of complex and discursive student performances as experience-based. Drawing on understandings from the field of knowledge management (Nonaka, 1991; Baumard, 1999) and findings from the empirical study, the paper suggests that knowledge of assessment standards and attributes requires shared experiences involving observation, imitation, dialogue and practice rather than from explication alone.

Professor Graham Gibbs highlighted the contribution of this paper as 'most useful' in a keynote in an international conference in 2001, and subsequently published that such measurable and evidenced contributions to student learning are very rare in education (Gibbs, 2002).

2.3.3 Paper 3

O'Donovan, B., Price, M. and Rust, C. (2004) 'Know what I mean? Enhancing student understanding of assessment standards and criteria'. *Teaching in Higher Education*. (9)3: 325-336.

Drawing on seminal texts on knowledge management (Nonaka, 1991; Baumard, 1999; Tsoukas, 2001; Polanyi, reprinted 1998) and educational research on assessment (Sadler, 1987, 1989; Ecclestone, 2001) this work is a conceptual exploration of how academic standards and marking criteria are shared and communicated.

Place within the programme of research:

This paper was prompted by a desire to broaden the scope of the research from purely practice-based, empirical studies. The paper is central to the topic of exploring how students come to know academic standards and criteria, but moves on from practice-based research to theorise the limitations of tools based on explicit articulation (such as rubrics, outcomes, level descriptors etc.) in communicating standards and assessment criteria. It explores why explicit

articulation is likely to always fall short of usefully communicating academic standards and criteria, and why attempts to achieve greater precision are self-defeating unless key benchmarks or anchor points have been determined and shared.

The paper complements the earlier papers, and provides a conceptual critique of the 'explicit model' of sharing academic standards, theorising the deeply tacit nature of standards, criteria and decisions. Building on the work of Vygotsky (1978), Sadler (1987), and Spender (1996) it explores how assessment is part of a complex, tacit context of social and organisational praxis and moves towards understanding assessment as a social practice. It also puts forward a spectrum of processes that support the social construction of standards and criteria involving both tacit and explicit transfer processes. Analogous to the spectrum of visible light, the paper suggests that for students to 'see' or meaningfully understand academic standards and marking criteria they need to engage with both explicit and tacit knowledge transfer processes. This idea is taken forward in paper 4 in which a matrix of approaches for sharing meaningful knowledge of standards is presented as a nested hierarchy resonant with Lea and Street's seminal work on approaches to academic writing (Lea and Street, 1998).

2.4. Phase 2

Reconceptualising assessment: socially situated and constructivist learning approaches to assessment and feedback

Acknowledgement of the deeply tacit nature of academic standards and marking criteria encouraged an epistemological shift away from a techno-rationalist or psychometric paradigm of assessment, dominant in much of the twentieth century (Shay, 2005) towards a reconceptualisation of assessment as a social practice. Drawing on social-constructivist and situated learning theories that foreground knowledge acquisition and assessment as relational, situated and experiential, papers 4-6 give emphasis to social, participatory processes and relationships.

2.4.1 Paper 4

O'Donovan, B., Price, M. and Rust, C. (2008) 'Developing student understanding of assessment standards: a nested hierarchy of approaches', *Teaching in Higher Education*. (13)2: 205-217.

This conceptual paper draws together and extends arguments from prior publications. It presents a nested hierarchy of approaches to communicating and sharing meaningful knowledge of assessment standard and criteria, culminating in a community of practice approach. It also suggests ways in which such an approach may be cultivated.

Place within the programme of research:

This paper continues a trajectory towards understanding of standards and criteria as provisional, mediated and socially situated. A key theoretical contribution is a model that identifies four nested approaches to clarifying and communicating assessment criteria and standards: laissez-faire; explicit articulation; social constructivist; community of practice. Here, arguments for, and challenges to, explicit articulation and social constructivist approaches are rehearsed and an argument made that they are not necessarily mutually exclusive but form a nested hierarchy culminating in a 'cultivated communities of practice' approach based on situated learning theory. On making the case for assessment practice as not only socially constructed but also socially situated, the paper then proceeds to focus on how a community of assessment practice, inclusive of students and staff, might be cultivated.

Using Wenger's (1998) conceptual framework, three main characteristics of a community of practice are explored within the context of assessment: mutual engagement; a sense of joint enterprise; and a shared repertoire of resources. Wenger (1998) argues that communities are built on relationships and activities that matter to their members and encourage a density of mutual engagement activity. The paper's contribution to practice is to outline practical ways that enable learners to more fully participate in assessment practice, beyond a passive role of

the 'assessed'. It proposes that more central participation could be facilitated by providing: physical and virtual affinity space (Gee, 2006), now more usually known as social learning space; social learning processes, such as peer review; and finally learning activities that develop student understanding of learning, teaching and assessment so that they may input into assessment practice in more informed and meaningful ways. This latter was later redefined under the umbrella term 'pedagogic literacy' in paper 5 and then focused and redefined again as 'assessment literacy' which was later promulgated and explored in a book of that name (Price et al., 2012) and in papers 6 and 8.

2.4.2 Paper 5

Price, M., Handley, K., Millar, J. and O'Donovan, B. (2010) 'Feedback all that effort but what is the effect?' *Assessment & Evaluation in Higher Education*, (35)3: 277-289.

This paper is the output of a three-year research project into student engagement with feedback funded by the Higher Education Funding Council. The paper puts forward the main outcomes of the project including a review of the relevant literature on assessment feedback and the findings from empirical research with students and academic staff within a multi-method research design. The paper argues for a social constructivist and situated view of feedback, in which feedback is viewed as a relational process that involves loops of dialogue situated within the learning context. This is by contrast to the cognitive and corrective view in which feedback is considered as a product gifted by the teacher to the learner (Askew and Lodge, 2000) and in which there is usually no expectation of learner engagement beyond that of passive reading (Price et al., 2010).

Place within the programme of research:

The paper continues a trajectory within the programme of research towards framing assessment practice as socially constructed and situated. In so doing, the work questions the focus of improvement activity, and thereby the challenges to measuring the effectiveness of assessment feedback are highlighted and explored.

Such challenges include feedback's multiple purposes and temporal nature as well as the difficulty of evaluating actual impact, and the distorting effect of any alternative proxy measures that could be adopted. Essentially, a key contribution of the paper is that these challenges render accurate measurement of feedback effectiveness extremely complex, even perhaps impossible. The paper suggests that it is the student who is in the best position to judge the effectiveness of feedback, but students may not always recognise the benefits it provides neither its purposes nor its limitations dependent on their personal beliefs and assumptions later explored in paper 7. A contribution to practice is the outlining of a clear case for developing students' understanding of the purpose and process of feedback, understandings which would later be incorporated into a case for the development of the 'assessment literacy' of student and staff (Price et al., 2012; O'Donovan, 2018).

2.4.3 Paper 6

O'Donovan, B., Rust, C. and Price, M. (2016) 'A scholarly approach to solving the feedback dilemma in practice'. *Assessment & Evaluation in Higher Education*. 41(6), pp.938-949.

This paper was initiated by the continued spotlight on assessment feedback driven by UK National Student Survey results which highlight feedback as the facet of the student experience with the lowest student satisfaction scores relative to other aspects across the UK higher education sector (HEFCE, 2014). It sets out evidence-based guidelines to support the 'many colleagues struggling to enhance feedback in practice' (O'Donovan et al., 2016: 940) based on an innovative analytic induction methodology.

Place within the programme of research:

This paper updates and expands on Papers 4 and 5 and challenges the critique of educational research as irrelevant to policy and practice (see for instance, Hammersley, 2001; Hillage et al., 1998). It is based on the experience of facilitating over 80 workshops that the authors had undertaken with practitioners on key

assessment feedback concepts and practices. During these workshops such concepts and practices had been intensively evaluated with their practical relevance honed by practitioners working within varied higher education contexts. The outcome of this practitioner scrutiny was the distillation of a suite of practical recommendations which together form a process in which students prepare for, engage with, and subsequently act upon feedback. The recommendations are orientated and framed within a model of the assessment cycle based on a social constructivist view of learning that the authors had previously proposed (see Rust et al., 2005). Based on this approach the paper argues whilst social constructivist approaches are widely espoused within higher education (Brown and Duguid, 1991) there is little emphasis on the agency and activity of students in the feedback process, with some notable exceptions such as Orsmond et al. (2013) and Sambell (2013) and later addressed by the candidate in Phase 3 of this programme of study.

This paper draws together prior research into assessment feedback and challenges some accepted practices and assumptions and re-orientates feedback practice to focus on how it is received, attended to and acted upon. Whilst based on evidence drawn from the literature, the work was written with practitioners and institutional policy makers in mind and offers practical ways to enhance the feedback process.

2.5. Phase 3

Refocusing on the individual learner: the influence of epistemic beliefs and assumptions on students' approaches to, and satisfaction with, assessment and feedback

In contemporary HE research on assessment and feedback the dominant theoretical assumption is that understanding and knowing are socially-constructed and situated; it is the group that makes meaning, socially constructing understandings of their practice (Brown and Duguid, 1991). Within this paradigm for students to produce high quality work they must align with, and participate in, the ways of thinking and practising of the academic community in which the academic standards and assessment practices are constructed (McCune and Hounsell, 2005; Sadler, 2014). However, this does raise questions in terms of learning across

multiple disciplinary communities and the agency, motivations, beliefs and assumptions of individuals. The final two papers highlight these challenges particularly the influence of students' epistemic assumptions and beliefs on their perspectives on, and thereby student satisfaction with, assessment and feedback practices and their experience of coping with assessment across disciplines.

2.5.1 Paper 7

O'Donovan, B. (2017) 'How students beliefs about knowledge and knowing influence their satisfaction with assessment and feedback'. *Higher Education*. 74(4), pp. 617-633.

This paper draws and expands upon a previous publication (O'Donovan, 2010) that identified the 'ways of knowing' of 200 undergraduates on entry to university using Baxter-Magolda's (1992) protocol 'The Measure of Epistemological Reflection' as a short-answer essay questionnaire.

'Students interpret, or make meaning of, their educational experience as a result of their assumptions about the nature, limits, and certainty of knowledge. Such assumptions referred to by researchers as epistemic assumptions, collectively form "ways of knowing".'

(Baxter Magolda, 1992: 3)

In the antecedent paper (O'Donovan, 2010) student ways of knowing were categorised from 'absolute' knowing through 'transitional' and 'independent' stages onto 'contextual'. Such categories represent the personal epistemological perspectives held by students. For example students with absolute epistemic beliefs view knowledge as certain, teachers as expert, and learning and assessment about memorisation and reproduction. By contrast students holding more pluralist epistemic beliefs categorised as holding 'independent' or 'contextual' ways of knowing acknowledged the contestability of knowledge and the legitimacy of multiple perspectives and the significance of context on knowledge and understanding. From these latter viewpoints learning is not solely about the reproduction of received understandings but the development of trains of

reasoning that explain and justify perspectives. The original paper reduced the student responses to quantifiable stages and arguably lost the complexity of the narratives and the constructivist roots of Perry's (1970) original work on which Baxter Magolda's (1992) protocol was based. Paper 7 revisits these student narratives and, acknowledging Baxter Magolda's (2001) constructivist revision of the Measure of Epistemological Reflection, thematically analyses this data, providing richer and more detailed interpretations of student perspectives on assessment and feedback linked to their epistemic assumptions and beliefs. This sole authored paper teases out both conceptually and in practice the implications of these perspectives for students' satisfaction with their assessment and feedback experience.

Place within the programme of research:

Following on from paper 5 in which students were judged to be best *placed* to evaluate the effectiveness of feedback, but perhaps not best *informed* (Price et al., 2010), this paper's key contribution is through the examination of student perspectives on assessment and feedback within the context of their epistemic beliefs and assumptions. The paper provides rich empirical data that underpins discussion of student perspectives of assessment and feedback, and questions the validity of student satisfaction as an indicator of assessment quality. Findings indicate that student perspectives on assessment are strongly influenced by their beliefs on the nature of knowledge and learning. Difficulties in communicating and aligning understandings of quality and standards are enhanced when students' fundamental epistemological beliefs are discordant with the beliefs of their tutors. Faced with assessment tasks that move beyond established facts and demonstrable theories it is suggested that it may only be students who view knowledge as relative and mutable that will be completely satisfied with their assessment and feedback experience when presented with high level, complex and discursive assessment tasks designed by tutors holding pluralist beliefs (O'Donovan, 2017). The paper concludes that it may be more productive to refocus assessment and feedback enhancements away from the traditional emphasis on improving techniques and processes to sharing and developing understandings of the epistemic assumptions

implicit in assessment tasks and held by students and staff.

2.5.2 Paper 8

O'Donovan, B. (2018) 'Patchwork quilt or woven cloth? The student experience of coping with assessment across disciplines. *Studies in Higher Education*. Published online April 2nd.

The final paper explores the assessment experience of undergraduates studying across disciplines. Within a participatory research design students as researchers were involved in both data collection and its interpretation, consequently enabling the student lens to be brought to bear on the experiences of academically successful final-year students and their strategies for negotiating assessment across disciplinary departments.

Place within the programme of research

Price et al. (2012) in developing the concept of assessment literacy assert that

'for students to reach their potential in terms of their assessed performance they need to become "assessment literate" in terms of developing an aligned understanding of assessment standards, criteria, techniques and the relationship of assessment to learning.'

(Price et al., 2012:7)

The previous papers from different standpoints highlight the importance of assessment literacy (although not necessarily termed as such) in enhancing student achievement in assessment. However, if assessment and feedback practices are viewed as socially situated and constructed and thereby representative of the educational values and practices of disciplinary learning communities within which assessment is enacted (Shay 2008; Crossouard 2010) then the development of assessment literacy across disciplines is problematised. This area is arguably under-researched and represents a significant gap in assessment research considering not only the number of students taking combined honours degrees, but also those

taking multidisciplinary degrees, common in both vocational and social science courses.

This paper was the outcome of a teaching development project funded by the Higher Education Academy. The intention of the project was threefold: firstly, to address the paucity of literature on the student experience of assessment and feedback across disciplines; secondly, to take a participatory research approach to the student experience of assessment in which four student research assistants were involved in both data collection and its interpretation; thirdly, to investigate the assessment experience of academically successful students not only to gain a rich picture of the experience, but also to contribute to practice in terms of the strategies they employed to cope effectively with diverse disciplinary assessment standards and quality attributes that might be replicated by others.

Overall, findings indicate that students' assessment experiences are characterised by structural, cultural and epistemic diversity and fragmentation which high-achieving students overcame through persistent, formal and informal dialogue with tutors and peers about assessment expectations. Such students recognised the necessity of both finding out about and adopting different assessment strategies across different parts of the course representative of different pedagogical regimes and disciplinary assumptions. They desired coherence across disciplines, but ultimately viewed disciplinary diversity as legitimate. Faced with accounts of fragmented and isolated assessment experiences the candidate argues against attempting to attain coherence across a multidisciplinary course because of the difficulty in achieving the ideological consensus that this would require, or as Moore describes it 'a shared social epistemology of the curriculum'. (Moore, 2000: 188). Instead, the paper recommends that staff are supported to recognise and identify their own epistemic assumptions and how best to communicate these to students.

2.6. Concluding observation

The papers outlined sit within a coherent programme of study on the nature of assessment and feedback in higher education. The eight papers trace an ongoing

research journey undertaken over 17 years divided into three distinct phases. The body of work is focused on how assessment and feedback processes are both conceptualised and practised within higher education, with a particular emphasis on how students come to know what is being sought from them in assessment. The work develops from initial challenges to the dominant objectivist assumptions about assessment and feedback through to the exploration of social constructivist and situated approaches, with the final two papers refocusing back onto the beliefs and assumptions of individuals. The work has been part of a wider research movement that is now outlined in Chapter 3.

Chapter 3: Literature review - setting the papers within key themes and debates

This chapter situates the eight papers within a review of the extant literature on the nature of assessment judgements, criteria and standards in higher education, how learners come to know assessment expectations both within and across disciplines, and the influence of learners' personal epistemological assumptions on their beliefs about and approaches to assessment.

3.1. Defining assessment

It is arguably useful to begin with how assessment and assessment feedback are defined and understood in the educational literature. Sometimes the simple questions are the most difficult to answer! Evans (2013) in her systematic review of assessment feedback asserts there is no generally agreed definition of assessment, its nature and purpose, and few studies have systematically investigated the meaning of assessment feedback. The purposes of assessment and feedback are multiple and often blurred, but can generally be separated into two distinct overall intentions, firstly that of measurement and the justification of marks awarded, secondly as vehicles for learning development (Lau, 2016). In relation to assessment these two purposes are often labelled 'summative' and 'formative', terms introduced by Bloom et al. (1971). Bloom et al., describe summative assessment as judging, grading and certifying what a learner has achieved at the end of a course or programme, and formative assessment as supporting 'both the teaching and learning process... while they are still fluid and susceptible to modification' (1971: 20). Since the 1990s, formative assessment practice and its associated feedback or feedforward has gained prominence (Carless, 2006) often in the guise of 'assessment *for* learning' in which assessment is framed as a learning activity (Sambell et al., 2013). However, some scholars suggest that the 'learning' distinction between formative and summative assessment is too starkly drawn. Lau (2016) states that summative assessment has been undervalued over the last two decades, and citing Taras (2005) asserts that summative assessment and its associated feedback can also motivate and support students' learning. However, Price et al.,

(2010) in paper 5 drawing on empirical research and the seminal work of Black and Wiliam (1998) counter that the formative learning function of assessment and feedback can be obscured by summative assessment's measurement function. Here we argue that the mark is so powerful that it can divert student attention and engagement away from any associated feedback (Black and Wiliam, 1998: Price et al, 2010, paper 5) highlighting one of the many tensions between assessment's functions. As Sambell et al., (2017) assert one of the most troublesome aspects of assessment is that it is expected to fulfil concurrent multiple functions that are often in tension with one another.

That assessment is a key driver of student learning behaviours and largely defines their learning experience is less disputed, see papers 1, 2 and 7 (and also Brown and Knight, 1994; Gibbs and Simpson, 2004; Bloxham and Boyd, 2007). Paper 1 (O'Donovan et al., 2001) highlights students thirst for clarity on assessment requirements, standards and marking criteria, and Brown, Bull and Pendlebury's assertion from the 1990s remains relevant today:

'Assessment defines what students regard as important, how they spend their time and how they come to see themselves as students and then as graduates... If you want to change student learning then change the methods of assessment.'

(Brown et al., 1997: 7)

Beyond driving student behaviours there are many that argue that assessment distils the values of educational systems and highlights the reality behind espoused pedagogic approaches and learning outcomes.

'If you wish to discover the truth about an educational system, we must look to its assessment procedures.'

(Rowntree, 1987: 1)

For many students, good teaching is seen as effective preparation for summative assessment (see for instance O'Donovan, 2017, paper 7), indeed, it can be

challenging to distinguish formative assessment practices from teaching. As Black and Wiliam state:

'all [classroom] work involves some degree of feedback between those taught and the teacher, and this is entailed in the quality of their interaction which is at the heart of pedagogy'.

Black and Wiliam, 1998: 16.

The intensification of student demand for high marks has been highlighted by scholars over the last three decades (Ramsden 1992; Ecclestone, 2001; Dean and Gibbs 2015) and this has influenced how stakeholders view assessment. High marks not only determine student degree awards, but also by association their employment prospects (Snowden 2012). It is therefore perhaps unsurprising that, when evaluating their assessment and feedback experience, the candidate's research has shown the majority of students view good assessment as involving clear and unambiguous guidance on how to achieve high marks, guidance that is subsequently embedded in 'correct' and objective marking (O'Donovan, 2017, paper 7). Despite the influence of assessment on learning behaviours, the dominant understanding of assessment held by practitioners is one of objective measurement (Crossouard, 2010) and feedback as written commentary on what a learner knows, understands or can do within the context of a predetermined task (Price et al., 2010, paper 5).

3.2. The nature of academic standards, marking criteria and evaluative judgement in higher education

Marking is important and academic standards lie at the heart of evaluative judgements (Bloxham, et al., 2011). Sadler suggests that few attempt to explain, or even question, what is meant by 'academic standards', perhaps because as many scholars suggest standards are both conceptually complex and challenging to define (Coates, 2010; Bloxham, 2012). Sadler (1989: 129) describes academic standards as the 'designated degree or level of performance'. Bloxham agrees with this output approach, pointing out that it is one that is also held by Australian and UK higher

education quality agencies who relate academic standards to prescribed levels of student attainment (Bloxham, 2012). Here, standards are considered to be embodied in outputs and arguably only fully revealed in a combination of valid assessment tasks, marking criteria and learners' actual performance (Sadler, 2013; Boyd and Bloxham, 2014). This is by contrast to quality standards that are based in process measures such as adherence to regulations and policies as well as inputs such as staff qualifications or library resources, etc. (Boyd and Bloxham, 2014).

In the UK the massification and marketization of higher education has enhanced the public accountability of institutions and intensified calls for process transparency to assure academic standards (Crossouard, 2010; Bloxham et al., 2011). The credibility of higher education degree awarding institutions relies on the assurance of academic standards. The percentage of 'good degrees' (considered in the UK to be upper second or first class degree classifications) has risen from 39% in the 1950s (Richardson, 2015) to 75% in 2016-2017 (Higher Education Statistics Agency, 2018), consequently concern over standards may be justified.

In an effort to assure academic standards and evaluative judgements, the sector has developed and uses a raft of quality assurance frameworks and practices (Harvey, 2005) underpinned by techno-rationalist approaches (Orr, 2007; Bloxham and Boyd, 2012). Approaches that involve a range of assessment codifications that have become the backbone of standards assurance, involving:

'rubrics, criteria-standards matrices, marking guides, scoring schemes, grade descriptors, minimum (threshold) standards, subject or benchmark statements, and graduate attributes'

(Sadler, 2014: 274-275).

What is being sought is that, no matter the context, two pieces of work with the same qualities receive the same grade. As such, reliance on explicit codifications is seen by many as beneficial when viewed from an objectivist perspective. Firstly, as traditional assessment practices in which standards are largely tacit, and as such undefined, are often considered untrustworthy (Stowell, 2004; O'Donovan et al.,

2008, paper 4). Explicit codifications can *seem* to diminish reliance on individuals' tacit understandings and thereby 'untainted by values, culture or power' (Bloxham and Boyd, 2012: 617). Secondly, explicit codification enables effective auditing and accountability of process (Bloxham, 2012; Hudson et al., 2016) in an era wherein external control of higher education and the marginalisation of academic voice and control is flourishing (O'Byrne and Bond, 2014). Consequently, the explicit codification of marking criteria and standards has become ubiquitous in the UK (Handley et al., 2013), and 'criterion-referenced' evaluative judgement has gained an almost moral ascendancy over norm-referenced evaluative judgement in which learners' performances are measured against each other and ranked accordingly (Sadler, 2014).

However, whilst assessment judgements may represent 'untainted' objective measurement when enacted in contexts wherein a learner's work can be reliably evaluated as correct or incorrect against a model answer, i.e. based on factual knowledge and demonstrable techniques, it is argued that this is not the case for high-level and complex work (Sadler, 2014). Scholars suggest that the evaluative judgements of complex tasks, those that embrace divergent responses from students and where two distinctly different assignments could gain the same mark, are always interpretative and socially situated (Shay, 2004; Sadler, 2009, 2014). Papers 3, 4 and 6 contribute to a growing body of work based on sociocultural perspectives from which it is asserted that standards cannot be established independently from the individuals who are using them in their evaluative judgements (see for instance Shay, 2004, 2005; O'Donovan et al, 2004, 2008, 2016, papers 3, 4 and 6; Sadler, 2009, 2014; Crossouard, 2010; Bloxham and Boyd, 2012). This represents an ontological shift in how assessment and feedback are positioned within the literature (Dawson et al., 2018) in which the nature of assessment, both the marking of and feedback on complex work, is conceived as a social practice (see for instance, Rust et al., 2005; Shay, 2008; O'Donovan et al., 2008, paper 4; Orr, 2007; Boyd and Bloxham, 2014; O'Donovan et al., 2016, paper 6). This signifies a strong move away from objectivist assumptions that draw on scientific paradigms and view academic standards as fixed and 'free standing of context' (Orr, 2007:

646).

Scholars of assessment practice suggest there are a multiplicity of influences that form the academic standards internalised and used by individual assessors, including: disciplinary knowledge structures and values (Neumann et al., 2002); specialist knowledge (Shay, 2005); socialisation processes (Shay, 2004), and; the other social worlds they inhabit (Handley et al., 2013). Accordingly, differences in the evaluative judgements of individual assessors perhaps *should* be expected (Bloxham, 2012). Drawing on the work of these researchers, academic standards and evaluative judgements in the words of Shay (2004: 323), ‘can be understood as context dependent, experience-based and situational judgements’. Ignoring the prevalence and power of internalised ‘teachers’ conceptions of quality’ (Sadler, 1989: 27) or as Shay puts it ‘assessor’s interpretative frameworks’ (2005: 665) may even hinder the assurance of standards. O’Donovan et al. (2008, paper 4) assert that a single-minded techno-rationalist focus on assessment and feedback processes and techniques can undervalue the agency of assessors and the influence of informal participatory practices in relevant assessment communities.

The body of work challenges that it is possible to make fully explicit the tacit knowledge involved in assessment decisions (O’Donovan et al., 2004, 2008, papers 3 and 4), and there is overwhelming evidence that inconsistency in marking exists (Bloxham 2009). It can be argued that the explicit codification of marking criteria and standards merely obscures reality, and essentially confers an illusion of precision and consistency, or as Shay describes this ‘a myth of objectivity’, (Shay, 2005: 676). Building on the work of Bourdieu (1989), Delandshere asserts assessment practices are generally founded on unacknowledged epistemic assumptions in which knowledge is understood as certain, static and universal, and such assumptions mask the real nature of evaluative judgements:

‘The system of beliefs, values and purposes in which the agents involved are participating is rarely discussed. The perspectives taken when stating evaluative judgements are often assumed to be understood and agreed upon, when in fact they are rarely explicit or public, and hence, not open for

scrutiny or discussion.'

(Delandshere 2001: 121)

Such epistemic assumptions remain both unquestioned and under-researched within assessment practice (O'Donovan, 2017, paper 7). As Sadler (2014) suggests the quality frameworks, processes and techniques we rely on to assure standards may give us a sense of trust in the system, but they do not have the backing of empirical evidence that one might have assumed. Here, there is a broader point to be made in terms of the nature of trust in higher education, as Tsoukas (2003) asserts:

'Modernity has come to mistrust intuition, preferring explicitly articulated assertions, it is uncomfortable with ad hoc practices, opting for systematic procedures, it substitutes detached objectivity for personal commitment.'

(Tsoukas, 2003: 411)

It is implied that the quest for transparency and accountability in evaluative judgements is as much about the increasing managerial culture of higher education as it is about a quest for reliable and fair measurement and clarity on expectations (Orr, 2007; O'Byrne and Bond, 2014). Indeed, Strathern (2000) suggests that there is a tyranny in transparency that undermines trust in professional judgement. Over-reliance on documentary evidence and auditing processes can not only undermine trust, but can also distort understanding of what is going on within an organisation, concealing as much as revealing the authentic lived experience of stakeholders (Strathern, 2000). As Hudson et al., state, trust is necessary for an expert system to function effectively (Hudson et al., 2016).

3.3. How students come to know academic standards and marking criteria in practice

So far the nature of academic standards and marking criteria has been theorised, this section turns to the more pragmatic consideration of how assessment expectations, standards and attributes of quality are or may be communicated,

particularly to students who are eager for clarification on what is expected from them in assessment tasks (O'Donovan et al., 2001, paper 1).

Whilst explicit codification remains the dominant logic of communicating marking criteria (quality attributes) and standards (level of performance) (O'Donovan et al., 2008, paper 4; Hudson et al., 2016) there are many issues that undermine precise communication in practice. In his seminal paper Sadler (1987) eruditely argues that verbal descriptions of standards are always *context dependent* and somewhat vague, often a matter of degree, and indicative of relative rather than absolute positions. O'Donovan et al. (2004, paper 3) explain what is regarded, for instance, as 'highly analytical' depends both on the assessor's interpretation of the meaning of 'analysis' and the standard that is considered 'high', the latter being largely dependent on the social and cultural context. Consequently, whilst a piece of work assessed as 'highly analytical' would be expected to embody a different level of analysis at first year undergraduate level than at masters level, the verbal description might well remain the same (ibid). The assessment criteria themselves are also subject to multiple interpretations by both individual staff members and students (O'Donovan, et al., 2004, paper 3; Sadler, 2009), and as Sambell and McDowell comment from a study in 1998:

'Ostensibly the same assessment is interpreted differently not just by "staff" and "students" but by individuals'.

(Sambell and McDowell, 1998: 391)

Questioning the assumption that there are stable, transparent meanings for words describing marking criteria does problematise assumptions about shared interpretation and understanding through written language alone (Trowler, 2008). Nevertheless, a common response to these difficulties is to seek to more tightly specify written criteria and level descriptors (Rust et al., 2003, paper 2). However, this can be challenging as relative terms require a benchmark or anchor point to communicate definitive standards (Sadler, 1987), and in practice construction of ever more comprehensive and precise anchor definitions can quickly become self-

defeating (O'Donovan et al., 2004, paper 3). The very precision of language and terminology can make explication less accessible to novice students (O'Donovan et al., 2001, paper 1; O'Donovan et al., 2004, paper 3), and realising a workable balance between achieving the necessary explanatory precision and utility for students can be uneconomic in the long term (Yorke, 2002). As Snowdon (2002) acknowledges, there is a cost (in terms of time and resources) to codifying knowledge effectively that comes from the need to create a shared context and that this cost increases the more diverse an audience's experience and language.

Sadler (2009) points to other practical problems in the use of the explicit articulation of criteria and criterion-referenced marking. Teachers using a selection of criteria, often embodied in a 'rubric', to mark work find that their global impression of the work is often different from the sum of their grading of each criterion. A work considered 'excellent' by a marker may not be outstanding in all criteria and vice versa. Sadler (2009) suggests this anomaly is due in part to the predetermined selection of criteria. It may seem during the assessment design process that the most relevant and significant criteria have been comprehensively selected. However, selection means, a restricted selection, and can never be completely comprehensive, and there will be many valid criteria that are not selected (Sadler, 2009). Consequently, during the marking process a salient criterion (or more than one) that was not predetermined can emerge (ibid). Even if the pre-set criteria appear appropriate, their boundaries are fuzzy, sometimes merging into each other and it becomes difficult to disentangle them from each other. As Sadler states:

'Criteria which may appear to be distinct in the abstract are often found to overlap, and occasionally even to interfere, with other criteria when an attempt is made to apply them meticulously.'

(Sadler, 2014: 217)

Whilst it is difficult to explicitly articulate marking criteria and standards in the abstract (Sadler, 2014), Rust et al. (2003, paper 2) suggest that standards and

marking criteria are embodied and can be discerned within exemplar pieces of work. Active engagement with a spectrum of work involving marking practice and discussion can support learners to construct shared conceptions of quality and standards as shown empirically in Rust et al, 2003, paper 2, and conceptually discussed in O'Donovan et al., 2004, paper 3. And perhaps this is unsurprising, as such marking practice and discussion is how most assessors develop their conceptions of quality (Bloxham, 2012). Exemplars concretise abstract criteria (Sadler, 2014), although they do not constitute standards, standards are embedded within them, but as such they can support insights into standards (Handley et al., 2013). However, Handley et al. (2013: 3) caution that 'exemplars by themselves are insufficient - they need to be interpreted', consequently participative activities that support the sharing of interpretations is of key importance. An effective alternative to seeking ever greater precision in explicit codification of assessment criteria and standards is to actively engage learners in discussing and applying the standards enabling them to participate in the assessment practice of their disciplinary community, an approach that is examined conceptually in O'Donovan et al, 2008, paper 4. Such activity resonates with the 'academic literacies' approach to enhancing students' understandings of academic requirements as put forward by Lea and Street (2006) which embodies a more relational and situated view of how students 'come to know'. However, this does raise questions on how students are acculturated into different understandings held by diverse disciplinary communities (O'Donovan, 2018, paper 8).

Situated learning theory views learning as a 'pervasive embodied activity involving the acquisition, maintenance and transformation of knowledge through processes of social interaction' (Contu and Willmott, 2003, p 285). It focuses 'less on cognition and what goes on in individual heads, and more on what goes on in the practices of a group' (Weick and Westley 1999: 442). Within this theoretical framework it is the group not the individual that makes meaning, participants socially construct understandings of their practice (Brown and Duguid, 1991). 'To know' is to be capable of effective participation in the relational web of people and activities (Gherardi, 2000). Indeed, Lave and Wenger (1991) in their introduction to the

concept of communities of practice state that there is no learning activity that is not situated. Their formulation of the concepts of situated learning and communities of practice provide a relational view of learning which 'emphasizes the relational interdependence of agent and world, activity, meaning, cognition, learning and knowing' (Lave and Wenger, 1991: 50). Here, learning is not solely understood as the transmission/acquisition of information or skill but inter alia involves acculturation of new members including 'the construction of identities' (Lave and Wenger 1991: 53). Through participation and immersion newcomers share the tacit and implicit understandings embedded in the actions of more experienced members of an assessment community (O'Donovan et al., 2008, paper 4). Such a process of acculturation can take a considerable period of time (McCune 2009; O'Donovan et al., 2008, paper 4). However, O'Donovan et al. (2008, paper 4) conjecture that acculturation and enhanced participation in assessment praxis can be speeded through activities and approaches that encourage and support development. They suggest approaches including the provision of social learning spaces, both physical and virtual, an intentional emphasis on social learning and collaborative assessment practices, such as peer review and group marking activities that facilitate the development of assessment literacy (ibid).

This view of learning is based on fundamentally different epistemic assumptions from a view of knowledge as a reified entity that can be acquired and exchanged. Here, knowledge is not something a person possesses but a situated, culturally embedded, socially mediated practice (Wegner and Nuckles, 2015). Learning is not about acquiring knowledge but a process of becoming a part of a community of practice whose members share a joint interest, interact regularly and share a common repertoire of resources including language and discourse (Wenger et al., 2002; Northedge, 2003). Situated learning perspectives view 'knowledge and skills as evolving facets of socially and culturally constructed worlds' (Anderson and McCune, 2013: 289). From this epistemic viewpoint, the role of participation and dialogue becomes more significant in a *process* of coming to know what is considered a high quality piece of work (O'Donovan et al., 2004, paper 3; O'Donovan, 2017, paper 7) or even to come to understand and use feedback (Price

et al., 2011, paper 5, O'Donovan et al., 2016, paper 6). This perspective builds on social constructivist approaches in which formalised, activity-based, social learning processes are devised by tutor-experts to help student-novices learn the literacies of a module or course, and centres on how students and teachers input into, and become part of, the ways of thinking and knowing and the assessment praxis of their disciplinary community (O'Donovan et al., 2008, paper 4; Anderson and McCune, 2013). The relational view of coming to know, however, arguably complicates how students may come to know assessment expectations and understand feedback (O'Donovan et al., paper 6). If knowledge of standards and criteria is *not* viewed as a reified commodity that can be readily absorbed by students, it is arguably easier to understand why students may struggle to grasp what makes for high quality academic work (Cotterall, 2011; O'Donovan et al., 2018, paper 8). Within this paradigm for students to produce high quality work they must be able to participate effectively in the ways of thinking and practising of the academic community in which the academic standards and attributes of quality are understood (McCune and Hounsell, 2005; O'Donovan et al., 2016, paper 6).

There are, perhaps, inevitably, critiques of the community of practice concept including the relative insignificance attributed to the nature and effects of power relationships (Contu and Willmott, 2013). For example, Anderson and McCune (2013: 285) assert that the literature has given 'scant consideration to the role of lecturers as assessors and gatekeepers', and O'Donovan et al., (2008 paper 4) argue that whilst standards are socially constructed within the community in which they are used, the voice of assessors still dominates. The nature of community within the academic context is often depicted as disciplinary (Lattuca, 2001; Trowler, 2008) and portrayed as embodying more homogeneous views and membership than in reality (Trowler, 2014). However, whilst the extent of the uniformity of characteristics of disciplinary learning communities in different localised contexts is questioned (Trowler, 2014), most authorities agree, often referring to the work of Biglan (1973a; 1973b), that certain particularities of disciplinary communities can be discerned. Trowler (2014) likens this to Wittgenstein's (1953) notion of family resemblance where each discipline may display similar characteristics but not all

'family members' will necessarily share all features. Studies suggest that the variant characteristics of disciplinary communities acutely influence the epistemic beliefs and assumptions of academic staff and their teaching and assessment methods (Becher and Trowler, 2001; Neumann, Parry and Becher, 2002), and in turn the epistemic beliefs and assumptions of students (Paulsen and Wells, 1998). However, this is problematic for learners who study across diverse disciplinary communities either within combined or multidisciplinary degrees (O'Donovan, 2018, paper 8) and this aspect of 'coming' to know' is seemingly under-researched in the assessment and feedback literature. O'Donovan (2018, paper 8) in an empirical study of academically successful undergraduates studying joint-honours or combined honours degrees explores their feelings of 'homelessness' as well as their practical endeavours to surface disciplinary expectations and approaches to assessment.

3.4. Learners' epistemic beliefs and assumptions: implications for assessment literacy

So far the nature of assessment and feedback, standards and marking criteria and different perspectives on how these are communicated and shared have been explored through a shifting research landscape moving from techno-rationalist to sociocultural approaches. Here, the focus again shifts onto the learner, their assessment perspectives, assumptions, expectations and literacies.

Over the last twenty years how learning is characterised in higher education has conceptually refocused from a simple acquisition process to a conception of learning in which students construct their knowledge and skills (Nicol and Macfarlane-Dick, 2006). This conceptual shift amplifies the role of the student within the learning process. Students construct their understandings of assessment and feedback influenced by their personal web of beliefs and understandings (O'Donovan et al., 2004, paper 3; O'Donovan, 2017, paper 7) as well as the social practice of the assessment community(ies) they inhabit (Shay, 2005, 2008; Rust et al., 2005; Bloxham and Boyd, 2012).

Students' beliefs about the nature of knowledge and knowing frame how they interpret their educational experience and their approaches to, and perspectives

on, learning, teaching and assessment (Baxter Magolda 1992; Hofer 2004; Cano 2005; Lucas and Tan 2013). Ways of knowing represent how student view truth, knowledge and authority and are bound up with identity (Lucas and Tan, 2013). The beliefs of many new college students are depicted by Perry (1970) as 'dualistic' and by Belenky et al. as 'received' (1986), and 'absolute' by Baxter Magolda (1992). Students with such assumptions believe that there are correct answers that infallible authorities distinguish from those that are incorrect. However, as students develop intellectually their epistemic beliefs become increasingly relativist as students recognise the contestability of knowledge and the legitimacy of multiple perspectives (Perry 1970; Baxter Magolda, 1992), and thereby the inherent issues in the marking of complex assignments in contested and situated knowledge domains (O'Donovan, 2017, paper 7). Knowledge is seen as procedural and constructed rather than received (Belenky et al. 1986), contextual in nature (Baxter Magolda 1992) and increasingly complex and contested (King and Kitchener 1994).

There are critiques of Perry's model, Chickering (1969) for example views epistemological development as just one aspect of personal growth and Schommer (1994) challenges the sequentiality of the staged development model. However, most scholars agree that individuals hold different conceptions of knowledge and knowing and these influence their learning approach and perspectives on what counts as quality in learning and teaching and assessment (Baxter-Magolda, 1992; O'Donovan, 2010; Lucas and Tan, 2013; O'Donovan, 2017, paper 7). O'Donovan (2017, paper 7) thematically analyses the different perspectives of students with primarily dualistic/absolute beliefs with those holding more relativist epistemic assumptions and highlights the link between epistemic assumptions and assessment and feedback expectations and perspectives. Findings from this study indicate that students with dualistic assumptions hold a deep-seated authority dependence, regarding good assessment as marking undertaken by 'expert' assessors, good teaching as preparation for assessment, good feedback as specific and corrective (O'Donovan et al., 2017). By contrast students holding relativist assumptions considered assessment and feedback as intertwined with learning, and at their most effective in terms of learning development when discussed with

assessors, recognising that different markers can sometimes legitimately, hold different views on awarded marks, particularly when markers are situated in different disciplines or subject domains (ibid). Price et al. (2012) and Sadler (2009) highlight the importance of alignment between student and assessor understandings of the attributes of a high quality piece of work. They assert that an *indispensable condition* for students to gain high marks, in whatever context they are assessed, is that the instructional design should enable students to understand the assessment standards and attributes of quality being sought. Price et al. suggest that

‘for students to reach their potential in terms of their assessed performance they need to become “assessment literate” in terms of developing an aligned understanding of assessment standards, criteria, techniques and the relationship of assessment to learning’

(Price et al., 2012: 7)

Such assessment literacy is built up over time within a learning community (Price et al., 2012). Carless (2015) learning-oriented assessment model suggests relationships between disciplinary assessment tasks, developing student evaluative judgement and student engagement with feedback. Bearman et al. (2017: 61) posit that because of the abstract nature of academic standards and judgements it may be useful for educators to focus on disciplinary understandings, suggesting that ‘thinking and writing like a historian is more immediately meaningful’ to students. Price et al., (2012) also make practical suggestions as to how assessment literacy can be developed through, for example, student-to-student and student-to-staff dialogue, marking practice, and peer and self-assessment, however there is little consideration for the challenges posed for students who study across different communities (O’Donovan, 2018, paper 8). Students who operate effectively within two or more disciplinary communities, successfully navigating their different assessment practices, may need to bring different assessment literacies to bear in each field as well as the ability to successfully navigate between disciplines (O’Donovan, 2018, paper 8). This can be likened to language literacy where a

bilingual person will apply different grammatical rules, vocabulary and cultural mores in the successful deployment of two different languages.

Morrison and Collins define the concept of 'epistemic fluency' as:

'the ability 'to identify and use different ways of knowing, to understand their different forms of expression and evaluation, and to take the perspective of others who are operating within a different epistemic framework'

(Morrison and Collins, 1996: 109)

Goodyear and Zenios (2010) argue that students can benefit from induction into more than one disciplinary community, in that they have the opportunity to engage in the academic practice of each community involving the recognition that different communities have different ways of thinking and practising, including their assessment practices. Indeed, O'Donovan (2018, paper 8) proposes that operating across two different sets of assessment cultures and practices may even serve to highlight and define the individual expectations and requirements of each. This can be likened to a linguist fluent in two or more languages who gains increased expertise in each from being able to compare, contrast and find synergies between grammatical rules and idiomatic expressions, etc. (O'Donovan, 2018, paper 8). However, learning across disciplines does problematise the development of evaluative judgement and indeed learners' sense of belonging to the academic community (O'Donovan, 2018, paper 8). Whilst students studying across subjects will of necessity negotiate between the different assessment literacies bound up in different disciplinary cultures and practices, this is arguably less the case for many academics who are likely these days to be more specialist (Macfarlane, 2011; O'Donovan, 2018, paper 8) and embedded in departments, the underpinning organisational structure for which is commonly the discipline (Lattuca, 2001).

3.5. Concluding observation

The literature demonstrates an evolving landscape in which research into assessment and feedback demonstrates a shift from techno-rationalist to socio-

constructivist approaches, and one in which the papers presented have played a key part. However, this movement has not been as uniform as at times depicted. As Kundera suggests there is an increasing oscillation in the progress of ideas in the postmodern world:

'The word change, so dear to our old Europe, has been given a new meaning: it no longer means a new stage of coherent development (as it was understood by Bico, Hegel or Marx), but a shift from one side to another, from front to back, from the back to the left, from the left to the front.'

(Kundera, 1989: 129)

There is not only a widening gulf between how practitioners approach, perform and assure quality in assessment and feedback practices in higher education and how researchers theorise effective practice (Sadler, 2014), but also an oscillation and fragmentation in the focus and understandings of educational research itself (Oancea, 2005). This has meant that the shift is not uniform across either the research or practitioner community. Indeed, it should be noted that a central argument in this body of work is not to completely gainsay the effectiveness of techno-rationalist approaches to assessment practice including the use of explicit codifications in sharing assessment understandings. Codifications are still useful tools that can focus discussion and activity within the social practices of assessment communities, but their effect is compromised if they are left to 'speak for themselves'!

Chapter 4: Contribution, reflection and future direction

Oancea (2005: 158) suggests educational research can focus on either delivering immediate answers on ‘what works’ or a longer term focus on producing ‘localised and transferable knowledge’. This programme of study commenced in an era where the dominant intention of research into assessment and feedback has sought the former: to deliver outcomes that address issues of concern to key stakeholders in the higher education assessment process. However, this chapter argues that despite barriers that hinder the transfer of research into practice, collectively the programme of study *has* played a significant role in reconceptualising the nature of assessment and feedback, and has also made a significant contribution to policy and practice at national and institutional level.

The contribution of the body of published work falls into two main areas (theoretical and practical) that align with the three objectives as set out in Chapter 1:

- I. to understand the nature of assessment and feedback in higher education;
- II. to investigate how students come to know assessment expectations, particularly the standards and criteria used in assessment judgements, and thereby how such understandings can be improved;
- III. to surface and examine students’ epistemic beliefs and how these influence their perspectives on, and approaches to, assessment and feedback within the context of higher education.

4.1. Theoretical contribution

4.1.1 Contribution 1 - Challenging prevailing objectivist understandings of assessment [Objective 1]

Research and publication can make a new contribution to the extant literature - new perspectives, knowledge, etc., but they can also refute and/or re-orientate. Papers 1, 2 and 3 challenge the dominant objectivist paradigm in which consistent and ‘correct’ assessment judgements are considered to be based on explicit codifications such as rubrics, grade descriptors, subject benchmark statements etc. (O’Donovan et al., 2001; Rust et al., 2003; O’Donovan et al., 2004). The limitations

of explicit articulation of assessment criteria are put forward drawing from:

- qualitative, empirical research on the student experience of, and perspectives on, the use value of marking rubrics (paper 1);
- quantitative, empirical research on the effect of student marking and discussion of exemplar assignments on their subsequent achievement (paper 2);
- an alternative conceptualisation of the nature of standards and criteria and how understandings can be communicated (paper 3).

In these three papers the proposition that standards can be *usefully* articulated is found flawed. Explicit articulation is compromised by multiple interpretations of key words as well as the tacit and relative nature of standards that impedes precise articulation of achievement levels. This is an important contribution in an increasingly consumerist higher education sector (O'Byrne and Bond, 2014), within which key stakeholders, government, students and parents, increasingly demand the assurance of standards and assessment judgements through reliable and transparent processes and techniques (Orr, 2007; Bloxham, 2012). The sector increasingly mistrusts tacit professional judgement (Tsoukas, 2003) and seeks to assure marking reliability through systematic, transparent processes and explicit codifications, consequently, this research contributes a valuable theoretical critique of the effectiveness of such tools and processes in the context of complex assessment tasks. The work provides a re-orientation to the role of explicit codifications, demonstrating that the tools by themselves do not meaningfully share standards and marking criteria, but *can* be valuable instruments for centering discussion and activities focused on sharing tacit understandings of assessment criteria and standards within social practice.

These three papers have had an impact on research and practitioner communities with a total citation count of 1,076 (Google Scholar as of 26/7/2018).

4.1.2 Contribution 2: Theorising the nature and role of tacit knowledge in developing understandings of assessment quality criteria and standards [Objectives 1 & 2]

Rebutting the effectiveness of explicit codifications in sharing assessment understandings problematises how students come to know the expected standards and attributes of high quality work. A key contribution to knowledge is the theorisation of the tacit nature of academic standards and assessment criteria and how understandings can be developed and shared (paper 3 (O'Donovan et al., 2004). This work draws on Polanyi's seminal thesis on tacit knowledge (1958/1998) and Nonaka's (1991) research on how tacit knowledge can be developed and shared through practical experience involving imitation and observation and discussion, the latter often utilizing metaphor and analogy. Paper 3 provides a framework for the sharing of knowledge of assessment criteria and standards that encompasses a spectrum of tacit and explicit transfer processes. Key processes from which, including the marking of exemplar assignments, are piloted and statistically evaluated in an empirical research study published in Paper 2 (Rust et al., 2003). International scholars have cited and written about this work. Shay writes in her article 'Beyond social constructivist perspectives on assessment: the centring of knowledge' in Teaching in Higher Education (2008):

'Other authors are more explicit that the problem with our assessment criteria is a knowledge problem - I focus specifically here on the collection of articles by O'Donovan, Price and Rust... O'Donovan, Price and Rust (2004) begin by noting the move away from the positivist view of knowledge as an "objectified and monistic absolute truth" (328) in contrast to a more social-constructivist approach where learners' actively make sense of new knowledge and integrate this knowledge with previously held understandings' (329). Central to their argument is Polanyi's well-known distinctions between explicit and tacit knowledge - "the former refers to knowledge that can be captured and codified into rules, procedures, manuals ... easy to disseminate", the latter to refers to "knowledge which is learned experientially... cannot be easily articulated and is elusive" (O'Donovan, Price

and Rust 2004, citing Polanyi 1958). They argue that the problem inherent in articulating assessment standards and criteria is the tacit nature of knowledge (329). The focus of their concern, however is not disciplinary knowledge but knowledge of assessment and its largely tacit dimension. Having identified the tacit nature of assessment as the problem, the suggested solution focuses on the processes which academic communities can embark on to disseminate this tacit knowledge to one another and to students through a range of knowledge transfer processes (O'Donovan, Price and Rust 2004).'

Shay, S. (2008)

4.1.3 Contribution 3: Reconceptualising the nature of assessment and feedback as socially constructed and situated [Objective 1]

The contribution moves beyond deconstructing the tacit nature of assessment to reconceptualising the nature of assessment and feedback as socially constructed and situated. Again this is a significant contribution as the alternative to objectivist, techno-rationalist approaches to assessment is often considered as partial, subjective judgement (Orr, 2007) and as such untrustworthy (Stowell, 2004). The work presented takes the debate beyond relativism, papers 4 and 5 contribute to, and extend, situated learning approaches to assessment and feedback, giving further emphasis to social, participatory processes and relationships. Building on the situated learning approach of Lave and Wenger (1991) and Wenger (1998), Paper 4 theorises how assessment judgements are situated in local, disciplinary, communities of practice, their academic values, commitments and ways of thinking and practising (O'Donovan et al., 2008). A key contribution is a theoretical model, framing a *nested hierarchy* of four different approaches to sharing academic standards and marking criteria. Here, processes of explicit articulation (e.g. rubrics or descriptions of learning outcomes) are not *abandoned* because of their limitations but *augmented* by social constructivist practices such as focused dialogue and marking practice and situated learning practices involving the mutual engagement and interaction of members of the academic community. This paper has 108 citations (Google Scholar, 26/7/2018).

Paper 5 (Price et al., 2010) offers a further theoretical contribution drawing from empirical research within a three-year, externally-funded, study focused on student engagement with feedback. Assessment feedback is reconceptualised as a relational, situated and temporal *process* rather than a technical product and at its most effective when dialogic. In terms of impact, this was Routledge's most downloaded paper in 2011 with 459 citations (Google Scholar, 16/7/2018). Focusing on assessment feedback, Dawson et al., (2018) state that there has been a strong ontological shift in the literature over the past decade towards understanding feedback as a social process but questions whether practitioners involved in assessment and feedback have been brought along with such changed perspectives.

4.1.4 Contribution 4: Understanding the influence of individuals' epistemic beliefs and assumptions on their perspectives on, and approaches to, assessment and feedback [Objective 3]

Paper 4 (O'Donovan et al., 2008) concludes that for students to produce both high quality work and to be satisfied with their assessment and feedback experience they must be able to participate effectively in the ways of thinking and practising of the academic community in which academic standards and marking criteria are understood. However, a key critique of situated learning is that communities are portrayed as embodying a more homogeneous membership than in reality and that the diversity and agency of individual members is largely overlooked (Anderson and McCune, 2013). Paper 7 draws from theoretical understandings from psychology on the cognitive development of students (see for instance, Perry, 1970; Baxter Magolda, 1992) and situated learning theory (Lave and Wenger, 1991; Wenger, 1998). A key theoretical contribution is outlining the relationship between the epistemic assumptions and beliefs of individual learners and their perspectives on, and approaches to, assessment and feedback. Unless students view knowledge as relative and mutable they are likely to find it challenging to understand and appreciate the assessment discourse and standards embedded in the academic communities of higher education, and challenging to value and engage with socialisation processes (such as marking exemplar assignments) engineered to align their assessment understandings with those of their tutors. In such contexts,

students with absolute beliefs want to know ‘correct’ understandings, and are likely to be dissatisfied with assessment practice, and question why assessment and feedback does not embody clear, unambiguous dualistic (right/wrong) criteria and feedback. This is an under-researched insight on student satisfaction with assessment and feedback practices and it is posited within an era in which student satisfaction with their tertiary educational experience is becoming increasingly important (Arambewela and Hall, 2013), but alongside which there is increasing concern over student satisfaction as a measure of quality (Gibbs 2010; Bedggood and Donovan 2012). Paper 8 (O’Donovan, 2008) extends and elaborates this work through surfacing the socialisation strategies that high-achieving students embrace, such as peer review and assessment discussions with tutors, to enhance their understanding of what is being sought in assessment across disciplines.

4.2 Contribution to policy and practice

The work has had significant impact on policy and practice at national, institutional and local level.

4.2.1 National Level: Professional Development of External Examiners

The understandings that underpin papers 2, 3 and 4 have directly contributed to a reconsideration of external examiner processes at national level and the professional development of UK external examiners. Reconceptualising the nature of assessment standards and criteria has called into question the reliability of the UK’s external examiner system. In response the Higher Education Funding Council England has funded a 5 year project (2016-2021), ‘Degree Standards’ managed by Advance HE (<https://www.heacademy.ac.uk/hefce-degree-standards>). This national project focuses on the professional development of external examiners across the UK. A blended professional development course based on the reconceptualisation of assessment judgements, standards and how these are effectively shared has been piloted across eight UK institutions in 2016-2017, and a further nineteen in 2017-2018. Using a cascade methodology in which institutional developers are trained to develop local external examiners it is the intention of the project to impact both directly and indirectly on the UK’s 15,000 (approximate) external

examiners. A second stream of activity is through calibration events in which disciplinary communities come together to explore academic standards and the nature of the attributes of quality using exemplar assignments in their subject area (HEA, 2018) builds upon the research undertaken with exemplar assignments in Paper 2.

4.2.2 Local Institutional Level: The Oxford Brookes Assessment Compact

Papers 1, 2, 3 and 4 informed the development of the 'Brookes Assessment Compact' in 2009 that continues to provide guidance on assessment and feedback practice across all Oxford Brookes University taught programmes. Commentary on how alignment with the Compact has been undertaken is required in both Brookes' validation processes and in all module descriptions. See Appendix 10 for the full Assessment Compact. One tenet of the Compact is for:

'students and staff to be "assessment literate" and actively participate in disciplinary communities of assessment practice.'

and that:

Programmes include activities (e.g. marking exercises, self and peer-assessment, etc.) specifically designed to involve students in assessment, to encourage dialogue between students and their tutors, and students and their peers, and to develop their abilities to make their own informed judgements (assessment literacy).

Marking of exemplar assignments is now ubiquitous at Brookes and 'assessment literacy' part of the assessment discourse. Over the last 9 years the assessment compact has impacted on the design of both Brookes' programmes and modules on all taught courses at Oxford Brookes University as it is an integral part of all validation and periodic review quality assurance processes. Contribution to the author's own institution has, therefore, been substantial in regards to how assessment and feedback are designed and delivered, including embedding social constructivist activities engineered to improve students' understanding of assessment such as marking exercises and peer review.

4.3. Final reflections and future directions

The eight peer-reviewed articles that underpin this programme of study have been drawn from a wider body of the candidate's work, twenty-one publications in total, focused on understanding and improving student learning and assessed performance. The papers are chosen as a sharply-focused and coherent body of work representative of a seventeen year research journey during which time conceptions of assessment and feedback have shifted within pedagogic research as well as, to a lesser extent, in practice. The student voice has become significantly more powerful, promoting student satisfaction as a critical success factor for universities (Arambewela and Hall, 2013; Mark, 2013) and this has led to a renewed and vigorous focus on improving assessment and feedback practices in higher education (O'Donovan et al., 2016, paper 6). However, student satisfaction with assessment and feedback does not guarantee quality (Gibbs, 2010; Bedggood and Donovan, 2012; O'Donovan, 2017, paper 7) and this can cause tensions, particularly in assessment. One way forward is to focus on developing student (and staff) understandings of assessment and feedback beyond the technical. Up until 2010, research into assessment and feedback has been dominated by a focus on process and technical attributes (Boyd and Bloxham, 2014; Bearman et al., 2017), but arguably there is more to be gained by refocusing on, and developing, the assessment knowledge and assumptions held by both learners and assessors. The assessment literacy of both staff and students warrants further investigation including surfacing, developing and sharing the implicit and tacit epistemic assumptions and beliefs that they both hold and how these can be effectively shared. Arguably, such a research focus is particularly important in multidisciplinary contexts.

Scholars increasingly suggest that resolving today's real-world challenges (poverty, global warming, terrorism, etc.) requires multidisciplinary approaches (SCUP, 2014; Gaspar, 2010). Consequently, interdisciplinary and multidisciplinary education is increasingly valued, particularly in professional and vocational degrees (Markauskaite and Goodyear, 2016). However, whilst exposure to a diversity of disciplinary perspectives is valuable in equipping learners to deal with current global

complexities (Pirrie et al., 1999), such diversity poses challenges to assessment practices. Particularly, as confined and constrained by the epistemic boundaries of their disciplinary expertise (Moran, 2010), many academics are neither practised at working or assessing across disciplinary boundaries, nor equipped to guide students on how to approach interdisciplinary or multidisciplinary assessment tasks. Teachers and learners require the capacity to identify and use different ways of knowing and understand assessment expectations across disciplines but there has been little work undertaken in this area and this presents a fertile and interesting direction for future research. Currently, the candidate has put together a proposal for external funding that seeks to enable academics to recognise, articulate and engage with their own and others' ways of knowing, and to pilot and evaluate a collaborative process in which participants work together to develop an interdisciplinary assessment artefact.

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Appendix 1: Paper 1

O'Donovan, B., Price, M. and Rust, C. (2001) 'The student experience of the introduction of a common criteria assessment grid across an academic department', *Innovations in Education and Teaching International*. (38)1, pp. 74-80. **REMOVED**

Appendix 2: Paper 2

Rust, C., Price, M., and O'Donovan, B., (2003) 'Improving Students' Learning by Developing their Understanding of Assessment Criteria and Processes' *Assessment & Evaluation in Higher Education*, Vol. 28, No. 2. **REMOVED**

Appendix 3: Paper 3

O'Donovan, B., Price, M. and Rust, C. (2004) 'Know what I mean? Enhancing student understanding of assessment standards and criteria', *Teaching in Higher Education*, Vol. 9, No. 3. **REMOVED**

Appendix 4: Paper 4

O'Donovan, B., Price, M. and Rust, C. (2008) 'Developing student understanding of assessment standards: a nested hierarchy of approaches', *Teaching in Higher Education*. 13(2), pp. 205-217. **REMOVED**

Appendix 5: Paper 5

Price, M., Handley, K., Millar, J. and O'Donovan, B. (2010) 'Feedback all that effort but what is the effect?' *Assessment & Evaluation in Higher Education*. 35(3), pp. 277- 289. **REMOVED**

Appendix 6: Paper 6

O'Donovan, B., Rust, C. and Price, M. (2016) 'A scholarly approach to solving the feedback dilemma in practice'. *Assessment & Evaluation in Higher Education*. 41(6), pp.938-949. **REMOVED**

Appendix 7: Paper 7


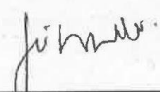

O'Donovan, B. (2017) 'How students beliefs about knowledge and knowing influence their satisfaction with assessment and feedback'. *Higher Education*. 74(4). pp. 617-633. **REMOVED**

Appendix 8: Paper 8

O'Donovan, B. (2018) 'Patchwork quilt or woven cloth? The student experience of coping with assessment across disciplines. *Studies in Higher Education*. Published online April 2nd. **REMOVED**

Appendix 9: Statement of Contribution

Publication	Contribution statement	Collaborating authors' signed agreement of contribution
<p>1. O'Donovan, B., Price, M. and Rust, C. (2001) 'The student experience of the introduction of a common criteria assessment grid across an academic department', <i>Innovations in Education and Teaching International</i>. (38)1, pp. 74-85.</p>	<p>60% contribution involving literature review, writing the first draft and subsequent reworking of paper based on reviews by collaborating authors and external reviewers. Input into collaborative thematic analysis of focus group transcripts.</p>	<p style="text-align: center;"><i>Margaret Price</i></p> <hr/> <p>Prof. Margaret Price</p> <p style="text-align: center;"><i>Chris Rust</i></p> <hr/> <p>Prof. Chris Rust</p>
<p>2. Rust, C., Price, M. and O'Donovan, B. (2003) 'Improving students' learning by developing their understanding of assessment criteria and processes', <i>Assessment and Evaluation in Higher Education</i>. (28)2, pp. 147-164.</p>	<p>40% contribution involving undertaking project organisation, authoring exemplar assignments, data collection and conceptualising the tacit nature of standards and criteria which framed the literature review and discussion.</p>	<p style="text-align: center;"><i>Margaret Price</i></p> <hr/> <p>Prof. Chris Rust</p> <p style="text-align: center;"><i>Chris Rust</i></p> <hr/> <p>Prof. Margaret Price</p>
<p>3. O'Donovan, B., Price, M. and Rust, C. (2004) 'Know what I mean? Enhancing student understanding of assessment standards and criteria'. <i>Teaching in Higher Education</i>. 9(3), pp. 325-336.</p>	<p>80% contribution involving writing the first draft and subsequent redrafting of the paper in response to internal review and recommendations from collaborating authors and external reviewers.</p>	<p style="text-align: center;"><i>Margaret Price</i></p> <hr/> <p>Prof. Margaret Price</p> <p style="text-align: center;"><i>Chris Rust</i></p> <hr/> <p>Prof. Chris Rust</p>

Publication	Contribution statement	Collaborating authors' signed agreement of contribution
<p>4. O'Donovan, B., Price, M. and Rust, C. (2008) 'Developing student understanding of assessment standards: a nested hierarchy of approaches', <i>Teaching in Higher Education</i>. 13(2), pp. 205-217</p>	<p>70% contribution involving model development and first drafting and redrafting of paper in response to internal review by collaborating authors and external reviews.</p>	<p>Margaret Price</p> <hr/> <p>Prof. Margaret Price</p>  <hr/> <p>Prof. Chris Rust</p>
<p>5. Price, M., Handley, K., Millar, J. and O'Donovan, B. (2011) 'Feedback all that effort but what is the effect?' <i>Assessment & Evaluation in Higher Education</i>, 35(3), pp. 277-289.</p>	<p>15% contribution involving input into the underpinning research project and review of drafts as collaborating author.</p>	<p>Margaret Price</p> <hr/> <p>Prof. Margaret Price</p> <p>Karen Handley</p> <hr/> <p>Dr. Karen Handley</p>  <hr/> <p>Dr. Jill Millar</p>
<p>6. O'Donovan, B., Rust, C. and Price, M. (2016) 'A scholarly approach to solving the feedback dilemma in practice'. <i>Assessment & Evaluation in Higher Education</i>. 41(6), pp.938-949.</p>	<p>50% contribution involving a reworking and updating of a first draft of a paper initially written by Prof. Chris Rust.</p>	 <hr/> <p>Prof. Chris Rust</p> <p>Margaret Price</p> <hr/> <p>Prof. Margaret Price</p>
<p>Papers 6 and 8 are both sole authored.</p>		

Appendix 10: OBU Assessment Compact

Assessment* Compact

[* Assessment encompasses all judgements made about the work of a student and/or their skills, abilities and progress, and the associated provision of feedback.]

1. There are five fundamental tenets behind this compact, namely that:

- 1.1 Effective assessment is central to learning.
- 1.2 To be effective the relational nature of the assessment and feedback process needs to be emphasised, particularly in terms of the need for active dialogue between students and staff.
- 1.3 To be effective, assessment must be recognised as a joint responsibility between staff and students.
- 1.4 The ability to assess, the work of both self and others, is an essential skill for all graduates.
- 1.5 For the above tenets to be met in full, students and staff need to be 'assessment literate' and actively participate in disciplinary communities of assessment practice.

2. The University will therefore ensure that:

- 2.1 Assessment is central to the curriculum, and there should be no distinct boundary between assessment, teaching and learning. All academic staff will therefore be encouraged to regard assessment as a fundamental and integral part of programme design, and one that is intended to shape and develop learning, as much as to judge and measure it.
- 2.2 Assessment is designed at programme level, to integrate module assessment and ensure that assessment shapes learning in a coherent and holistic fashion, consistent with the aims and learning outcomes of the programme so that identified knowledge, skills and qualities can be developed and recognised, and validly assessed, whilst recognising progressive levels of attainment and different modes of study.
- 2.3 The relationship between learning outcomes and assessment tasks is made explicit. In addition, clear assessment criteria should be provided whenever possible, and always when the assessment contributes to marks, grades, or decisions about progression. Assessment judgements must focus on the achievement of the learning outcomes against the assessment criteria, and this achievement authenticated as the student's own.
- 2.4 Every effort is taken to ensure that there is no bias in the type of assessment task, or method chosen, or the criteria applied, that would unfairly disadvantage any student.
- 2.5 Students are given supportive, constructive and timely feedback as an essential part of their learning. Such feedback will enable students to build on their positive achievements and have a clear sense of what they need to do to improve, with subsequent opportunities provided to act on the feedback and to put the advice given into practice.
- 2.6 Programmes include activities (e.g. marking exercises, self and peer-assessment, etc.) specifically designed to involve students in assessment, to encourage dialogue between students and their tutors, and students and their peers, and to develop their abilities to make their own informed judgements (assessment literacy).
- 2.7 Programmes produce assessment schedules of summative assessment, and make every effort to avoid the concentration of assessment deadlines.
- 2.8 Academic staff are provided with staff development in assessment literacy, and awareness of new ideas and techniques.
- 2.9 Disciplinary communities of assessment practice are developed through, for example, regular peer discussion and student involvement.
- 2.10 Institutional values and policies consistently support this compact, and adequate resources are provided.

3. Students will be expected to take responsibility for their own learning through:

- 3.1 Actively engaging with assessment tasks, including carefully reading the guidance provided, spending sufficient time on the task, ensuring their work is authentic and their own (whether individual or groupwork), and by handing work in on time.
 - 3.2 Actively engaging in activities designed to develop assessment literacy, including taking the initiative when appropriate (e.g. asking for clarification or advice).
 - 3.3 Actively engaging with, and acting on, feedback provided.
 - 3.4 Actively engaging in the development of assessment policy at course and programme level through the established processes and student representative system.
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