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Threats to student evaluative judgement and their management

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Abstract

Students' capacity for making evaluative judgements of their own work is widely acknowledged as central to their learning within programmes as well as being vital to their subsequent professional practice. In higher education literature, the act of evaluative judgement is usually portrayed as a process of deliberative, analytical reasoning requiring student agency and objectivity, typically scaffolded by points of reference such as explicit criteria, rubrics or exemplars. This paper challenges this common portrayal of judgement by drawing attention to research from outside higher education on the role of unconscious factors in judgement and decision-making. Drawing from the field of heuristics and bias studies, the paper outlines six unconscious factors that have the potential to distort students' analytical judgement of their work. A recent challenge to the heuristics and bias approach that radically repositions the place of reasoning in judgement is also considered. Since these unconscious factors have received scant attention in higher education literature, the purpose of this paper is to draw attention to them, to identify the challenges they pose to current understandings of evaluative judgement, and to outline their implications for enhancing assessment practice.

Key words: student evaluative judgement; heuristics; self-assessment; bias; decision-making; reasoning

Introduction

Evaluative judgement, defined by Tai et al. (2017,1) as 'the capability to make decisions about the quality of work of oneself and others', has long been recognised in higher education literature as an important goal of any programme of study. This capacity to describe and appraise the quality of one's work in relation to a standard or standards and to act on that appraisal to improve its quality is seen as essential if students are to become self-regulated learners within their programmes. Perhaps more importantly, this ability is considered crucial for students' future roles as lifelong learners and competent practitioners able to monitor their performance and ongoing learning needs in their chosen fields once they have graduated (Boud 2000; Sadler 1989).

Evaluative judgement lies at the heart of self-assessment, a broader construct to which various terms have been applied and which can be operationalised in many different ways utilising a broad range of pedagogical practices (Andrade & Brown 2016; Bourke 2014; Brown & Harris 2014). This paper focuses on the core construct of evaluative judgement though, as we shall see, some have argued that several self-assessment practices might be conscripted in its service. While there is a voluminous literature on self-assessment in higher education, the same cannot be said for evaluative judgement. Tai et al. point out that 'evaluative judgement is undertheorised and under-researched' and that while its importance has been recognised by writers such as Sadler, it has not received focused attention and it has been the subject of very little empirical research (Tai et al. 2017, 2).

Extant literature on evaluative judgement specifically and on closely related aspects of self-assessment is, with few exceptions, predicated on an understanding of evaluative judgement as an analytical, deliberative process based on conscious reasoning. The purpose of this paper is to present a number of significant challenges to this understanding that have as yet received scant attention in the literature of higher education assessment, and to consider the implications of these challenges for both practice and research. Central to these challenges are a set of heuristics and biases that have become widely recognised in the field of judgement and decision making as having the capacity to distort judgement. Since these heuristics operate unconsciously, they stand in contrast to the normally understood analytical processes of evaluative judgement and may unknowingly influence how students engage in such judgement, how they may overvalue their work, and how their perceptions of the quality of their work may be distorted in other ways. While students can apply evaluative judgement to both their own work and that of others, this paper focuses on the former since the dynamics of judgement may function differently when the work being considered has been created by another person. It is acknowledged that the focus of self-assessment may not always be the *work* produced but rather students' self-reflective judgements about the *learning* that has occurred (Bourke 2017). The focus of the present paper is firmly on the former.

The paper's starting point is in the predominant current understanding of evaluative judgement as a conscious, analytical process. The competing understanding of judgement as functioning within a 'dual processing' system of reasoning and thus being subject to potentially powerful unconscious influences is then introduced. Six such influences, drawn from the 'heuristics and biases' field of judgement and decision making studies, are summarised and their potential implications for student judgement are outlined. Since these particular heuristics and biases have received almost no attention in higher education research, these implications are necessarily speculative pending such research being undertaken. While space and the scope of this paper do not permit a critical analysis of these heuristics, one alternative explanation of the role of reason and unconscious or intuitive processes that has profound implications for student evaluative judgement is presented. Finally, the paper outlines ways of responding to the threats to evaluative judgement that these unconscious factors represent.

Current understandings of evaluative judgement as an analytical process

Understandings of student evaluative judgement developed over the past thirty years posit that, if students are to be effective learners and then effective practitioners of any kind, they need to be able to discern what is and is not good work and to identify this in the work they produce themselves. This requires pedagogical approaches involving student agency which

seek 'to reframe assessment … around the theme of informing judgement (see Hager & Butler 1996) that is, informing the capacity to evaluate evidence, appraise situations and circumstances astutely, to draw sound conclusions and act in accordance with this analysis' (Boud 2007, 19).

This understanding of student evaluative judgement is associated with three critical factors. The first of these is a high level of student agency or student 'executive control' over the production of work (Boud & Falchikov 2007; Sadler 1989). This agency is now commonly supported in practice by the second factor, the use of criteria-based frameworks (Cowan 2010), often with student involvement in developing the criteria (Bourke 2017). The third factor is 'objectivity'. Cowan describes this as 'objective decision-making free of subjectivity' rather than based on personal beliefs or feelings (Cowan 2010, 326), while Sadler recognises limits to objectivity by referring to a '*proper degree* of objectivity' (Sadler 1989, 130, emphasis added). The terms 'objective' and 'objectivity' are used deliberately here to suggest that students should be able to distance themselves from their work.

The case for evaluative judgement and how it should function is often accompanied by descriptions of how it can be developed; few would see it as an inherent ability of students simply waiting to be activated. Sadler points out that 'students can develop evaluative expertise in much the same way as they develop other knowledge and skills' (Sadler 2009, 49). Suggested strategies for development include peer learning (Abercrombie [1960] 1989; Tai, Canny, Haine & Molloy 2015), the use of criteria and rubrics to inform judgement, access to exemplars, and repeated experience of exercising judgement over time (see, for example, Boud, Lawson & Thomson 2015, 2013; Tai et al. 2017), with this experience leading to learning by comparing one's own judgements to those of others, including peers and teachers. Feedback is invariably seen as central to developing evaluative expertise. Carless, for example, frames feedback as a complex dialogic process of learning designed to foster students' evaluative judgement through 'interactive exchanges in which interpretations are shared, meanings negotiated and expectations clarified', the purpose being 'to provide opportunities for students to interact around notions of quality and standards in the discipline' (Carless 2013, 113). Tai et al. (2017) offer several suggestions regarding how commonly used strategies such as self-assessment, peer review, feedback, rubrics and exemplars can be re-purposed to develop evaluative judgement.

Several writers have argued that the development of evaluative judgement should be an explicit component of higher education curricula, following Cowan's advice that '(e)stablishing the foundation of a sound methodology for the making of evaluative judgements which will inform subsequent action is an important early priority in curricula in higher education' (Cowan 2010, 327). Brown and Harris (2014) have advocated a similar curricular approach to developing student judgement at the school level. While such curricula entail regular opportunities for students to exercise judgement, to compare their judgement to that of others, to develop a sense of disciplinary standards, and to become increasingly responsible for assessing their own work, some argue for the need to develop students' reflexivity in recognition of evaluative judgement as an embodied process involving students' beliefs, emotions and values (Boud & Falchikov 2007, 190).

Threats to evaluative judgement from unconscious factors

The understanding of student evaluative judgement and its development outlined in the previous section, with its focus on student agency, objectivity, and the conscious use by students of tools such as explicit criteria and rubrics, assumes that judgement is an intentional, deliberative process in which students pay attention to certain elements in their assessment environment and consciously evaluate their work in the light of these elements. In other words, student evaluative judgement is a systematic, analytical process. Such a deliberative, reasoned approach to judgement is well established in the literature on judgement and decision-making outside education (Buchanan & O'Connell 2005; Fox 2014; Over 2004). Within the limited higher education literature that addresses this issue, however, some disquiet about purely analytical approaches to student judgement has been expressed, with some writers drawing attention to difficulties with analytical approaches and noting the influence of non-analytical, unconscious, intuitive or idiosyncratic factors. Abercrombie, in her classic study of judgement by medical students, concluded that '(m)any factors of which we are *unconscious* influence our judgments, both in cases where we are not aware of making (as in seeing) and in those where we are (as in evaluating evidence from an experiment). It is postulated that we might make more valid judgments if we could become conscious of some of these factors' (Abercrombie [1960] 1989, 182, emphasis added). Sadler made a similar observation in relation to programme evaluation when he observed that '(w)hatever its other strengths, the mind is apt to make errors of judgment and inference' (Sadler 1981, 25) though he did not elaborate on this somewhat important point. More recently, Yan and Brown have noted the role of intuition in student judgement, pointing out that 'it is possible that in self-assessment, completely idiosyncratic heuristics might be used to evaluate work …' (Yan & Brown 2017, 1248). Brown, Andrade and Chen (2015), in pointing out that 'research into the human ability to self-evaluate work raises concerns about the quality of students' judgments …' (Brown, Andrade & Chen 2015, 444), refer explicitly to several leading authors in the field of heuristics and biases which will be considered in the following section of this paper.

Despite the misgivings of Sadler, Abercrombie, Brown and others, the understanding of student evaluative judgement as an analytical process has prevailed. This understanding is essentially normative, prescribing how evaluative judgement *should* function and how it *should* be developed. Countless studies of *actual* judgement and decision making in various fields have now identified a range of systematic 'errors of judgement and inference' that can distort the analytic approach so that the field of research known as 'heuristics and biases' now sits alongside decision analysis as a leading approach to understanding judgement and decision making (Fox 2014; Phillips, Klein & Sieck 2004). These factors have been applied to decision making and judgement in a range of disciplinary and professional contexts, as well as in everyday life, but have received relatively little attention within higher education. The literature of this field is voluminous and it is beyond the scope of this paper to attempt to summarise it. Scholarly overviews can be found in Gilovich and Griffin (2002), and Keren and Teigen (2004), and in the work of the Nobel Laureates: Kahneman's lengthy but accessible 'Thinking, Fast and Slow' (Kahneman 2011), and Thaler's 'Misbehaving' (Thaler 2015).

A critical idea in relation to the distinction between heuristics and biases on the one hand and analytical approaches on the other lies in 'dual processing' theories of reasoning, designated by Stanovich and West as 'System 1' and 'System 2' thinking (Stanovich & West 2000) and subsequently widely adopted within psychology and other fields (see, for example, Evans 2008; Evans & Frankish 2009; Osman 2004; Stanovich 2010). Stanovich and West characterise System 1 as 'automatic, largely unconscious, and relatively undemanding of computational capacity', combining automaticity and heuristic processing, while System 2, in contrast, is essentially analytical and characterised by 'controlled processing' (Stanovich & West 2000, 658). Within this framework, heuristics are associated with System 1 ways of thinking and are commonly defined as 'rules of thumb' or 'mental shortcuts' to decision making and judgement. (They should therefore not be confused with other uses of this term, for example discovery approaches to learning, or trial-and-error or experimental methods of problem solving.) However, heuristics lead to what should be seen as provisional rather than definitive answers and may be prone to error. They are thus contrasted with analytically based algorithms 'which are explicit and detailed rules that guarantee a correct result, but could be effortful and time-consuming, and hence impractical in situations characterized by

limited cognitive resources' (Keren & Teigen 2004, 92). Keren and Teigen provide a useful definition of 'bias' associated with System 1 as

> systematic deviation from a norm (or an inclination towards one judgment rather than another). Biases can be the result of cognitive limitations, processing strategies, perceptual organizing principles, an egocentric perspective, specific motivations, affects, and cognitive styles. In the heuristics and biases tradition, the general approach has been to regard biases as a more or less regular by-product of some more general principles of judgment, labeled heuristics … (Keren & Teigen 2004, 92).

'Bias' thus has a particular meaning in the context of this paper. It should not be confused with prejudices or predispositions but refers simply to the result of unconscious shortcuts to judgement which occur under certain conditions. These shortcuts, typically applied due to human or contextual factors, may lead to sound outcomes and the intuitive judgement of experienced experts, based on 'pattern recognition' (Simon 1955), can be highly accurate. However, they can often lead to outcomes that diverge from the results of more conscious, analytical approaches (Kahneman & Klein 2009; Tversky & Kahneman 1974).

The System 1/System 2 distinction challenges the overarching assumption that evaluative judgement is based on a high level of student agency or executive control, that is, that judgement is driven by System 2. System 1 and its associated heuristics and biases are unconscious, automatic responses and so, by definition, lie beyond 'executive control'. That is not to say they are completely out of control, but it does suggest that the analytical processes of judgement may be tempered by unconscious factors of the kind referred to by Abercrombie as noted earlier in this section. If this is the case, the analytical processes of student evaluative judgement may be at least partly compromised in ways that are not obvious to either students or teachers.

When students are engaged in judging their own work, we do not want them to be distracted, consciously or otherwise, by extraneous considerations that could interfere with sound judgement. Rather, we want them to be focused on the work that is in front of them, seeing it as clearly as possible, relating that work to standards that are well understood and which function as clear signposts, and evaluating their work accordingly. A better understanding of factors that might impinge on that focus is called for. The following section therefore considers six specific heuristics and how they might interfere with a more deliberative approach to student evaluative judgement.

Heuristics and biases in student evaluative judgement

While dozens of heuristics and biases have been identified in the literature on judgement and decision making (see, for example, Arkes & Hammond 1986; Gilovich, Griffin & Kahneman 2002; Keren & Wu 2015), a small number appear to have particular potential to compromise students' evaluative judgement of their work. The heuristics discussed below have been selected due to their potential (a) to limit students' engagement with an evaluative task, (b) to lead students to overvalue their work in relation to standards, or (c) to result in students having an unwarranted confidence in what they have produced.

'*Attribute substitution'*. According to this heuristic, when confronted with a difficult, complex problem, we may unconsciously substitute a simpler problem for which we can find an answer. Kahneman refers to this as 'answering an easier question' (Kahneman 2011, 97). Put more technically, '… judgment is mediated by a heuristic when an individual assesses a specified *target attribute* of a judgment object by substituting another property of that object – the *heuristic attribute* – which comes more readily to mind' (Kahneman & Frederick 2002, 53). Our concern here is whether students, asked to evaluate their work by applying a complex rubric or a criterion they do not understand, might respond by unconsciously simplifying the task. For example, instead of answering the question, 'How well did I do against this criterion?', they may unconsciously substitute the question, 'How much effort did I invest in relation to this criterion?'

'*Framing'* refers to one's conception of a task, its intended outcomes and the implications of those outcomes. Framing arises from both how a task is presented and how it is perceived and is thus influenced by both the task *per se* and its context. How one frames an evaluative task can have a significant impact on how one responds to the task, that is, to the judgement or decision one is called on to make (Kahneman & Tversky 1984; Soman 2004). Any given task can be presented in different ways, and any given presentation of a task can be perceived differently. The impact of framing has been powerfully demonstrated in relation to complex judgements in medical (Chapman 2004) and financial contexts (Tversky & Kahneman 1981) amongst others. We might expect how an evaluative judgement task is framed by teachers and how this is perceived by students to strongly influence how students approach the task. For example, an evaluative task may be presented as an opportunity for important learning or as a competition with peers, and its context may range from its being inconsequential to future activities to being a major driver for a subsequent piece of assessment. Moreover, pre-specified criteria, rubrics and exemplars as aides to judgement all have the potential to strongly frame the evaluative judgement task and may thus both narrow students' attention and limit their development of holistic judgement which will be particularly important when they enter the field of practice post-graduation.

'*Overconfidence'* plays a major role in misjudgement and flawed decisions and is linked to numerous other factors affecting judgement (Lovallo & Kahneman 2003; Saks & Kidd 1986). Overconfidence concerns our tendency to overrate the quality of our work, decisions or judgement and is based on how coherent a view of our judgement we have. This coherence may be unrelated to any objective standard but simply relies on a subjective sense that we have done a good job and can tell ourselves and/or others a convincing story about it. More information might challenge that sense so that, paradoxically, we may be more confident if we have less rather than more information to guide our judgement. Accordingly, the overconfidence heuristic should be expected to lead students to overvalue their work, with less knowledgeable students more prone to this than their better informed and hence more uncertain peers. In fact, as the well-documented Dunning-Kruger effect shows, the effect on students is more nuanced, with lower performing students tending to exaggerate their grades while higher performing students tend to do the opposite (Andrade & Brown 2016; Kruger & Dunning 1999). This phenomenon provides a rare instance of research into an unconscious heuristic in higher education.

'The endowment effect' and *'the IKEA effect'*. These effects concern our tendency to overvalue what we have come to own or what we have created ourselves. The endowment effect, so named by Thaler (1980, 2015) and closely related to Tversky and Kahneman's extensively researched 'prospect theory' (Kahneman & Tversky 1984; Tversky & Kahneman 1974) posits that we attach more value to an object if we have a sense of ownership than if we do not. The IKEA effect is less well researched but its meaning is self-evident: the increased valuing of products we have constructed ourselves compared to those constructed by others (Norton, Mochon & Ariely 2012). These effects should be expected to inflate students' judgements of work in which they have a strong personal investment and/or which represent a significant effort or act of creation. The effects may apply not only to how highly a piece of work is valued, but also to the student's judgement itself once that judgement has been made, so that students may not only over-rate their work but also hold more strongly to their evaluation of it.

'*Anchoring and adjustment*.' This heuristic refers to the tendency to use a given value as a starting point and then adjust our judgement from that point. The initial value or anchor exerts a strong pull such that our adjustments are typically not sufficient given the actual quality of what is being evaluated (Tversky & Kahneman 1974, 1128). The effect of this heuristic on second marker judgement has been documented by Brookes (2012). When students are evaluating their own work, four sets of apparently useful points of reference may act as anchors: verbal descriptors of standards; exemplars; the work of peers; and their own previous work. Thus, for example, students advised of an expected class average of 80% would be more likely to rate their work as closer to 80% than students advised of an expected class average of 50% or students not advised of any average. A similar dynamic may occur in relation to their evaluations with respect to individual criteria and standards. In other words, the presence of particular exemplars, criteria and standards statements may ironically work to distort rather than promote accurate judgement.

'*The law of least effort*.' This heuristic assumes that we are working in the right direction, but that our attention and energy are finite and that we therefore tend to choose the means of achieving a goal that requires the least effort. This is not simply out of laziness but may be due to factors such as a need for efficiency when confronted by numerous demands, limits to how many elements of a situation we can give focused attention to, or the emotional effort involved in self-assessment (Kahneman 2011; Simon 1978). As Kahneman puts this, '(t)he evidence is persuasive: activities that impose high demands on System 2 require self-control, and the exertion of self-control is depleting and unpleasant' (Kahneman 2011, 42). This heuristic has several possible implications for students' evaluative judgement. For example, if judgement requires attention to too many factors either simultaneously or sequentially, students may find their capacity to attend to these diminishing as they work through them. Moreover, if evaluative judgement is required at the end of a complex assessment task or is seen as peripheral to the main task, it may be done reluctantly and with limited energy and attention. If such judgement can be undertaken through several more or less intensive means, students may tend to opt for the most straightforward and avoid the more demanding.

The heuristics outlined in this section raise significant issues about the limits to student evaluative judgement as a purely conscious, deliberative, analytical process. The threat to analytical judgement arising from the heuristics considered in this section can be summarised as follows:

- If a requirement to evaluate work appears too complex, too difficult to understand, or too demanding, 'attribution substitution' may come into play, with students distorting the task by 'answering an easier question'.
- How students frame an evaluative judgement task will strongly influence how they go about it.
- Overconfidence can lead less informed students to overvalue their work.
- Students may overvalue their work if they have a strong sense of ownership of what they have produced.
- Exemplars may act as anchors for judgement from which students make insufficient adjustment in comparing their own work.
- If the requirements of evaluative judgement are too onerous, students may give it insufficient attention, with 'the law of least effort' coming into play.

While research has not been conducted to establish whether these predicted phenomena actually occur in higher education students, their established presence in other domains suggests they may well be present and warrants our considering how the threat they potentially represent might be countered.

Countering threats to evaluative judgement: implications for teaching

Earlier in this paper the need to actively develop students' capacity for evaluative judgement as a conscious, analytical process was noted and a number of developmental strategies were outlined. In light of the threats to evaluative judgement considered in the previous section, we now need to consider how these threats might be dealt with. While the previously mentioned strategies seek to improve the accuracy and calibration of student judgement, the strategies listed in this section focus specifically on countering the bias associated with the heuristics presented in the previous section. The term commonly used for this in the judgement and decision making literature is 'debiasing' (see, e.g., Crosskerry et al. 2013; Larrick 2004). Related terms such as 'accuracy' (Brown, Andrade & Chen 2015) and 'calibration' (Yan & Brown 2017) have particular and somewhat different connotations.

The literature on decision making and judgement is not particularly helpful here; since heuristics and the biases associated with them are unconscious and automatic, they are particularly difficult to address. Indeed, Kahneman concludes that 'System 1 is not readily educable' and that 'little can be achieved without a considerable investment of effort' (Kahneman 2011, 417). Larrick, in a promisingly titled chapter on 'debiasing', reaches a similar conclusion that 'there are many reasons to doubt that lone individuals can debias themselves' (Larrick 2004, 318). Interestingly Brown, Andrade and Chen, in their review of the literature on accuracy in self-assessment, are slightly less pessimistic regarding accuracy. While noting the importance of helping students who are inaccurate assessors to improve their self-evaluations, they note that '(o)n closer inspection, such an approach is shown to be somewhat complicated' (Brown, Andrade & Chen 2014, 450).

The underlying problem with a debiasing agenda is that it would rely on students learning to recognise when they are in a situation where biases might be an issue but, since we are dealing with unconscious processes, such recognition is highly unlikely. As a result of this inherent difficulty, recommendations for dealing with bias typically involve developing strategies where the more thoughtful, analytical processes of 'System 2' thinking will be triggered (Larrick 2004; Phillips, Klein & Sieck 2004; Soll, Milkman & Payne 2015a, 2015b). One such strategy applied to students would hold them accountable for their judgements by requiring them to justify or explain their judgements to others, thereby encouraging them to anticipate and address flaws in their judgements that may be identified by their peers or teacher (Larrick 2004, 322). Requiring justification not only triggers analytical thought but may also ensure students have engaged in the evaluative task as set rather than 'answering an easier question' or following the path of least effort since attention and effort must be sustained across the requirements of the justification process. Some, however, have noted that justifications can be biased rationalisations of a flawed intuitive response rather than constituting a corrective counter to it (Mercier & Sperber 2017; Vaisey 2009).

Processes that require students to compare their own judgements of their work with the judgements of others can be used to address overconfidence and the overvaluing of work due to a sense of ownership or the act of creation. One practice to assist students to gain critical distance on their own work is through having them make judgements about the work of a peer before turning to their own work. Such peer assessment as a means of developing evaluative judgement can occur in relation to specific pieces of work as well as in less formal group discussion (Abercrombie [1960] 1989; Tai, Canny, Haines & Molloy 2015).

The framing of evaluative judgement requires careful attention. Framing judgement in terms of future professional practice should encourage students as would-be practitioners to take judgement tasks seriously and enable them to deploy more cues in assisting them in making

their judgements. At the same time, the judgement process should not be too complicated in order to avoid depletion of attention and the search for less effortful pathways.

Developing reflexivity as part of developing students as reflective practitioners supports all of the above suggestions. The awareness of how we exercise our subjectivity, including our beliefs and assumptions, biases and preconceptions, when judging our own work, would be central to this. Developing such awareness and at the same time developing an appreciation of the perspectives of others and how alternative perspectives might open us to seeing our work differently, are cornerstones of learning and practice. Equally importantly, they serve to make us more aware of unconscious processes at work in our judgements. Simple processes such as requiring students to incorporate the views of peers in their evaluative judgements may help develop the capacity for such reflexivity.

Conclusion

This paper began with a recognition that, while the development of students' capacity for evaluative judgement has been recognised as crucial for their current and future learning as well as for effective practice in their chosen field of work, what constitutes evaluative judgement and how this ability is best formed has been relatively under-theorised and under-researched within higher education. This paper has drawn attention to a fundamental aspect of evaluative judgement which has been largely ignored in the higher education literature, namely the influence of heuristics and associated biases that seem likely to limit students' capacity to apply thoughtful, analytical processes of judgement to the evaluation of their own work. While such biases have been extensively researched in many fields outside education as well as receiving attention in relation to the school sector, to date they have received little attention within higher education where an assumption that students will unproblematically engage in rational, objective, analytical processes of self-assessment has prevailed.

The absence of empirical research on this aspect of judgement in higher education means that the suggestions made in this paper are speculative, though the prominence of heuristics and biases within the field of judgement and decision making warrants giving them serious consideration. There is clearly a need for research into unconscious factors in student evaluative judgement, including the role played by current assessment practices such as the use of rubrics and exemplars in framing judgement, how students experience complex self-assessment requirements that tax their energy and attention, the influence of assessment tasks that engender a strong sense of ownership of work produced, and students' perceptions of evaluative judgement in highly pressured assessment contexts where producing good work, let alone evaluating it, becomes problematic.

The perspectives introduced in this paper contribute to our understanding of student judgement by supplementing rather than supplanting existing understanding, while making evaluative judgement and its development in higher education more complex and challenging than previously thought. The factors discussed in this paper have the capacity to distort, not destroy, student judgement and it should not be claimed that a propensity towards bias renders evaluative judgement invalid. Such biases are intrinsic to the human condition and we have to find ways of assisting students to manage them. Work towards this may begin with a recognition that many self-assessment practices risk leaving biases untouched or, indeed, reinforced, by failing to recognise their presence. The inclusion of heuristics and biases in any curricular approach to developing students' capacity for evaluative judgement would be an important first step.

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