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Promoting accessibility of assessment criteria: shifting from a product- to a process- and future-oriented approach

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ABSTRACT

Little research has exclusively focused on the accessibility of AC, despite their substantial impacts on students' and tutors' engagement with AC and the facilitative role of AC for assessment and learning. Drawing upon sequential online surveys and interviews with undergraduate students from diverse disciplines in a British university, statistical and content analysis revealed the challenges undergraduates faced to comprehend and use AC for their assessment. This study unveiled the entanglement among accessibility, understanding and usefulness of AC for assessment and learning. It uncovered the different effectiveness of varied ways of tutors introducing AC to students and students' expectations of how tutors could implement AC in assessment and teaching. It highlighted and substantiated the necessity of shifting from the prevailing product to a process- and future-oriented approach to contextualising and aligning AC with assessment tasks, learning outcomes and feedback and thereby harnessing the accessibility of AC for students.

尽管评估标准的可访问性对学生和老师使用评估标准以及评价标准对评估和学习的促进作用有重大影响，但很少有研究专门关注评估标准的可访问性。本文对英国某一大学不同学科本科生进行了在线调查和访谈。通过统计和内容分析，剖析了本科生在理解和使用评价标准时面临的挑战。此研究剖析了评估标准在评估和学习方面的可访问性、可理解性和有用性之间的错综复杂的关系。它阐明了老师向学生介绍评估标准的不同方式对其可访问性有不同效果，以及学生对老师如何在评估和教学中实施评估标准的期望。此研究强调并证实了从现行的成果导向式转变为过程导向式和未来导向式地实施评价标准的必要性。它同时建议调准评估标准、评估任务、学习成果和反馈建议，从而提高评估标准的可访问性、可理解性和有用性。

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Introduction

Assessment criteria (AC) have been widely introduced in Higher Education (HE) to promote validity (i.e. assessing what is intended to measure in assessment tasks) and reliability (i.e. the consistency of marks between scorers) of assessment and make

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assessment requirements transparent for learners to provide them with a road map of learning (Ajjawi, Bearman, and Boud 2021). To fulfil these purposes, the accessibility of AC is essential as it decides whether students understand AC, use them to prepare and interpret assessment and consequently use assessment feedback and grades to inform future assessment and learning.

An online search of the National Student Survey results across HE providers in England reveals the commonly existing students' low satisfaction with assessment and feedback, despite their pivotal role in teaching and learning. To address this, the researched institution embarked on reforming assessment practice, drawing upon the Assessment Transformation Framework suggested in the Higher Education Academy (2014). This includes revising existing AC to promote their transparency for students and help them understand the explicit relationships between AC, learning outcomes and where possible assessment tasks (Faculty Taught Student Education Committees 2016). Since 2016, schools in the institution were urged to produce AC for assessment tasks that required qualitative judgements, aiming to build common standards across programmes and/or schools. They were also encouraged to establish a partnership with students to engage them in the reform of assessment practice (Advance HE 2016). This was reflected in this study as eliciting undergraduate students' views of the accessibility of AC which can then be used to shape the practice related to AC to promote student partnership in assessment and research (Walkington 2015).

Defining assessment criteria

AC, sometimes referred to as assessment rubrics/grids, are used to judge the standard of student work (Sadler 1987, 2009). They commonly consist of three components (Reddy and Andrade 2010):

- the evaluation criteria: the factors for assessors to determine the quality of a work
- the quality definitions: descriptors relating to each criterion on different standards
- the scoring strategy: scores relating to the different standards described in the quality definitions.

AC in this study constituted three evaluation criteria (i.e. knowledge/understanding, argument and effective communication) presented with sub-criteria for each, quality definitions (i.e. performance descriptors relating to each criterion at different standards) and the scoring strategy reflecting each standard (see Appendix A). They are used by all modules within a school to establish a consistent quality of work across modules in school, i.e. generalised AC (Moon 2002).

Assessment criteria: their values and challenges

AC can facilitate learning (e.g. setting up learning goals), assessment preparation (e.g. understanding the requirements) and achieving high marks (Reddy and Andrade 2010). AC can make feedback provision easier and feedback more comprehensive, structured and focused for students (O'Donovan, Price, and Rust 2001; Price and Rust 1999). AC can diminish the fallibility of teacher judgements including the inconsistency of

marks provided by different raters or a rater on different marking occasions (i.e. unreliability), order effects (carrying on impressions from one appraisal to the next) and influence of extraneous factors irrelevant to the assessment task (Sadler 1987). AC can make the requirement of assessment transparent for students and tutors thus reducing the discrepancies in their interpretation of quality and grades (Moon 2002).

In practice, inconsistent results were reported across studies on generalised AC that were used by more than one module. In Price and Rust's (1999) study, staff in one module reported that AC made students focused on the requirements of their work and consequently improved their work quality whereas tutors from another module claimed no changes in students' approach to, and the quality of, their work. This is not surprising: The nature and complexity of assessment tasks, the diversity of intended learning outcomes and markers' interpretation of the performance descriptors of generalised AC could generate varied effectiveness of AC across modules (O'Donovan, Price, and Rust 2004; Price and Rust 1999).

Assessment criteria: constructive alignment with assessment tasks and learning outcomes

To promote the consistent effectiveness of generalised AC for assessment across a diverse range of assessments, constructive alignment is suggested. Constructive alignment requires congruence between what is to be learned (learning outcomes), what is to be required in students' work (assessment requirements) and what is to be assessed (AC) (Biggs 2003). The compatibility between AC and learning objectives helps to appropriately judge what students have achieved in an assessment task (Sadler 1987). QAA (2018, 5) highlights constructive alignment as the first principle of effective assessment: 'assessment methods and criteria are aligned to learning outcomes and teaching activities'. Similarly, Moon (2002, 86) stipulated that 'the main point in writing AC is that they should test, assess or relate to the learning that is mentioned in the learning outcome'. Nevertheless, constructive alignment of generalised AC is challenged by the diversity of assessment tasks, learning outcomes and interpretations by raters and students (Moon 2002). This hinders the establishment of shared understanding and interpretations of AC between students and tutors.

Assessment criteria: transparency, related myths and risks to accessibility

Promoting a shared understanding of AC requires a high level of transparency of AC. Transparent AC can assist educators to be 'explicit about their expectations for assessment and students, therefore, can see what it is they need to achieve (Bearman and Ajjawi 2018, 1)'. Yet, transparency of AC for educators and students is a challenging job. Bearman and Ajjawi (2018) identified two myths about the transparency of AC. One, absolute transparency is achievable because academic standards are objective and can be precisely and accurately described; therefore, sharing AC could make everything visible and thus transparent to students. This myth ignores that not all knowledge can be expressed in verbal forms such as tacit knowledge held by different stakeholders who also possess different understanding of AC and pay unparalleled attention to different evaluation criteria (Bearman and Ajjawi 2018). Two, transparency is neutral as standards are measurable, expressible and knowable which keep constant over time. This myth ignores the messiness and fluidness of

knowledge across application contexts and disciplines. Both myths decontextualize AC from the knowers, associated assessment contexts (e.g. assessment tasks and learning outcomes of individual modules) and embedded socio-culture values and power between educators and learners (Ajjawi, Bearman, and Boud 2021).

The two myths endanger the accessibility of AC, reflected by the indeterminacy of meaning in AC (Sadler 2009). Without an understanding of criteria and standards, students' efforts 'are likely to contain elements of random trial and error' (Sadler 1987, 196). Students rely on the words in AC to understand how they meet the requirement (Moon 2002). Nevertheless, it is perplexing to find appropriate wording in AC as 'words are slippery and defining some learning performances with any kind of precision can be very difficult' (Moon 2002, 104). In particular, the language used in generalised AC is expected to be applicable for all assessed modules that they serve, thus unavoidably broad. Yet, the broad and vague language used in generalised AC is reported by students open to varied interpretations and subjectivity (O'Donovan, Price, and Rust 2001). Subjectivity results from depriving AC of its assessment contexts which leads to the versatility and thus nuanced meaning of wording and consequently discrepant understandings by different tutors or the same tutor on different occasions. The indeterminacy of AC is escalated by learners' and tutors' tacit knowledge of assessment, assessment experience and most importantly, abstract concepts (e.g. criticality) which could not be described (sufficiently) with economical verbal forms of AC (Bearman and Ajjawi 2018).

Promoting accessibility of AC: the importance of dialogue

The bewildering language use in AC and diverse interpretations of AC (Webster, Pepper, and Jenkins 2000) reveal the necessity of dialogic conversations between students and teachers to facilitate them 'seeing with, not through criteria' (Bearman and Ajjawi 2018, 7). Rust, Price, and O'Donovan (2003, 151) remarked that 'without active involvement through discussion and debate, the development of a common view on standards and level is problematic, if not impossible—even within a close-knit community of a single academic department'. The effectiveness of dialogue between educators and students for harnessing transparency and effective use of AC has been reported in HE (e.g. Price and Rust 1999; Rust, Price, and O'Donovan 2003).

Different enablers are suggested to facilitate dialogue about AC with students including exemplars [i.e. key examples meeting designated levels of quality (Sadler 2005)] (O'Donovan, Price, and Rust 2001). Exemplars can exemplify abstract AC in a concrete form since 'standards are not conceptualised as having an existence or relevance separately from the context of the teaching team, the course as it was taught and its current students' (Sadler 2005, 190). Handley and Williams (2011) ascertained through questionnaires with students that exemplars with annotated teacher feedback enabled tutors to share their tacit ways of interpreting AC and helped students understand those criteria. However, their effectiveness could vary among individual students. Independent students use annotated exemplars as a rough guide whilst dependent learners use them as the recipe for completing the assessment task (Bell, Mladenovic, and Price 2013). However, Torrance (2007) argued extensive use of support could divert students from the value of assessment for learning to criteria compliance and lead to instrumentalism

that uses criteria to get high marks; consequently, it removes the challenge of learning and resulted in lower education quality.

Research methods

The current study aimed to answer four research questions:

- (1) How do undergraduate students perceive the accessibility of their AC?
- (2) How does the accessibility of their AC affect their understanding and perceived usefulness of AC?
- (3) What are the associations between different ways tutors introduced AC and the perceived accessibility of AC by students?
- (4) What are students' suggestions about improving the accessibility of the AC?

They were answered by an online survey followed by interviews at a large-scale British university. The sequential triangulation design helped to gain a deeper understanding than either a survey or interview on its own would provide (Cohen, Manion, and Morrison 2018). Three second-year undergraduate students from three different subjects in applied social science were recruited as research assistants (RAs) for the project, based on their experience with surveys and interviews. Their student status provided insights to enhance the design of the survey and interviews and the elicitation of authentic student voices as the interviewers (Maunder et al. 2013). Ethical approval (ref: ACEA 18-112) was obtained from the faculty ethics committee before data collection was conducted.

Survey: design, pilot and administration

A survey on JICS Online Survey was employed to collect the perception data from all undergraduate students across the university. Online surveys allowed a more flexible design (using grids and skip function) and more convenient respondent time and locations for participants than paper-based ones (Cohen, Manion, and Morrison 2018). The survey consisted of varied question types (e.g. scale, multiple-choices and open-ended questions) (Appendix B) to investigate students' perceptions of accessibility (i.e. how clear evaluation criteria, performance descriptors and scoring strategies are explained in the AC), understanding (i.e. how well students reported that they understood their AC), support (i.e. the ways AC were introduced) and usefulness (i.e. how useful the AC were in helping students understand assessment requirements, feedback and marks and discuss assignments/feedback with tutors and peers).

The RAs were asked to keep written reflection notes when filling in the draft survey. A meeting was held to refine the wording, coverage and relevance of survey questions about undergraduates' assessment experience. This led to the deletion of a question asking about how the students knew about their AC as they felt similar information could be elicited from the question about how the tutors introduced the AC. The revised survey was piloted among 20 students based on convenience sampling (e.g. friends of the RAs) which resulted in further revision of wording (e.g. replacing accessibility with easy understanding).

An information sheet about the project was provided to participants alongside the consent form. The first question in the online survey sought participants' consent to use their responses with anonymity and confidentiality. Before filling in the survey, the respondents were shown Appendix A to reach a shared understanding of AC among researchers and respondents.

Interviews: design, pilot and administration

Semi-structured interviews were conducted to complement the initial survey analysis (Appendix C). All interviewees were self-selected based on their willingness indicated in their survey responses. Group interviews were conducted to involve participants from different disciplines to elicit collective voices and uncover issues unexplored by the survey (Cohen, Manion, and Morrison 2018). Individual interviews were held with the students who were unavailable for group interviews. The principal investigator provided a one-hour interview training session for RAs, covering four aspects:

- purposes of the interview: supplementing the survey results
- interview questions: their relationships with the research questions and survey questions
- interview design: three phases, audio-recorded, interview language and time management
- interview techniques: e.g. listening, probing and waiting

All interviews were conducted in English and audio recorded with mobile phones with permission, lasting about 20–25 min for individual interviews and 45–50 min for group interviews. Each interview went through three phases:

- Phase One: introduced the project and asked about the interviewees' background and their general thoughts about the assessment practice in their schools (e.g. what went well and awry).
- Phase Two: focused on their AC in terms of accessibility, their understanding and use of them (i.e. when and how), the support they received for understanding AC and suggestions about improvement.
- Phase Three: wrapped up the interview by providing interviewees with further opportunities of commenting on AC and their related practice.

The interviews were transcribed verbatim and cross-checked by the three RAs before data analysis.

Data analysis of survey and interview responses

Quantitative analyses were conducted in Excel and SPSS26, exploring the level of accessibility and its statistical relationships with understanding, usefulness and support from tutors. NVivo 12 was used to conduct qualitative analyses of responses derived from open-ended survey questions and interviews. Nodes were used to record and organise

the themes emerging from the data. Revision of nodes and correspondent descriptions continued until no additional nodes emerged.

After the initial data analysis by the PI, two one-hour data analysis meetings were held with the RAs. They shared perspectives and insights based on their experience that the staff otherwise have difficulty accessing (Campbell and Cameron 2021, 127). It greatly developed the validity and depth of data interpretation. Nevertheless, caution was taken to avoid over-generalising their experiences to the data from different subjects. Fully agreement was achieved on the final coding scheme, constituting six parent nodes related to the research questions with child nodes under each parent node. They were the level of accessibility, the reason for low accessibility, teacher support for understanding AC, the applicability of AC, the usefulness of AC and recommendation for improving AC.

Results

Respondents' background: survey and interview

110 survey respondents¹ were received from 57 programmes and 18 broad disciplines (Figure 1). Eight participants were from joint programmes (e.g. BA International History and Politics, BSc Mathematics and Economics).² The disciplines largely fitted into four subject areas, based on the paradigm (i.e. appropriate problems and methods of study to distinguish hard or soft sciences) and requirements for practical application (i.e. pure or applied) (Becher and Trowler 2001; Biglan 1973) (Figure 2)

- Hard-pure science: mathematics, chemistry, physics and geography
- Hard-applied science: medicine, engineering, food science, sports and exercise science
- Soft-pure science: politics, international relations, languages, art and design, history, philosophy
- Soft-applied science: education, law, business, theatre and performance

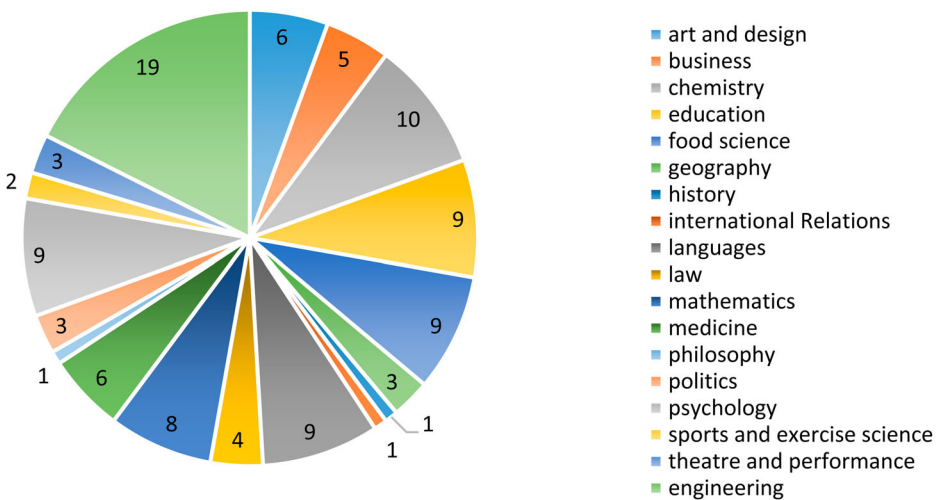


Figure 1 . Student distribution across disciplines.

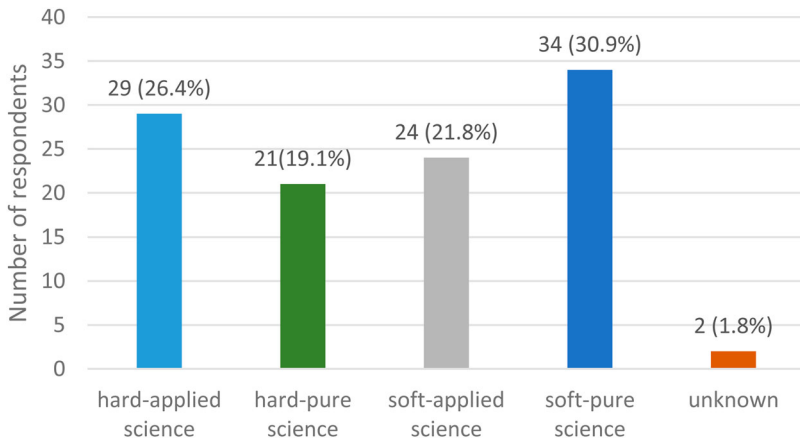


Figure 2 . The number of survey respondents by subject areas.

Table 1 . Interviewees’ background.

	Year group	Subject	Gender	Pseudonyms
interview group 1	Level 3	Soft-pure science	Female	SPPL3
	Level 3	Soft-applied	Female	SABL3
Interview group 2	Level 3	Soft-applied science	Female	SABL3
	Level 2	Soft-applied science	Male	SABL2
Interview 1	Level 2	Hard applied science	Male	HAEL2
Interview 2	Level 2	Hard applied science	Male	HAEL2
Interview 3	Level 2	Joint degree of soft pure and applied science	Female	SPABLL2

Figures 1 and 2 revealed a relative balance of survey respondents’ subject backgrounds. Table 1 summarised the interviewees’ backgrounds. To maintain confidentiality and anonymity, specific subjects of each interviewee were not provided. Pseudonyms were used to distinguish their subjects implicitly and indicate the existence of problems across disciplines.

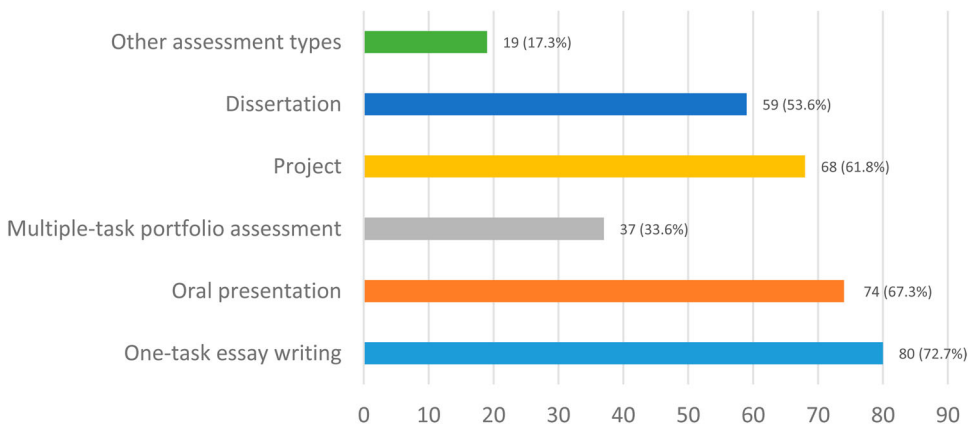


Figure 3 . Variety of assessment methods.

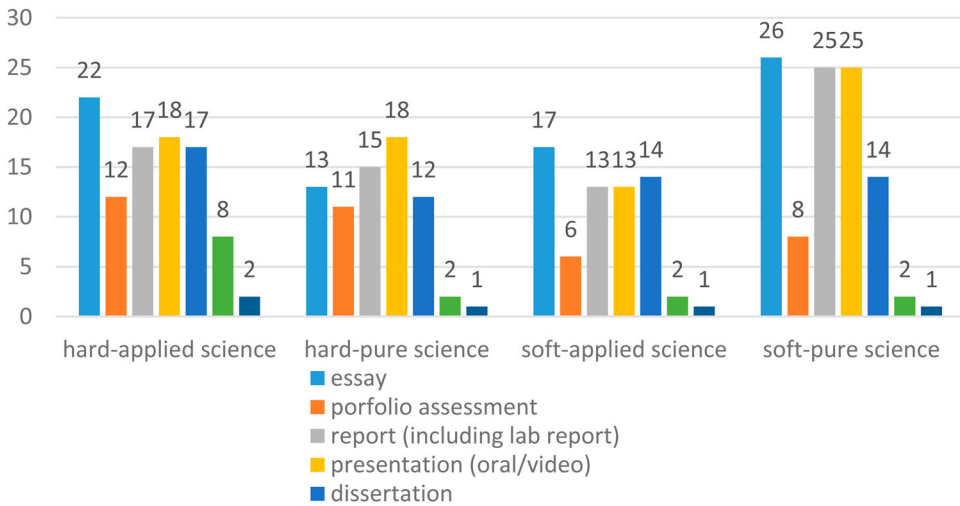


Figure 4 . Assessment methods across disciplines.

The variety of assessment methods across disciplines

Figure 3 showed the variety of assessment methods reported by survey respondents. One-task essays were the most frequently used assessment method, followed by oral presentations. Diversity existed in each discipline (Figure 4). The variety of assessment methods could pose challenges to the accessibility of generalised AC, as discussed in the Introduction.

Perceived accessibility and its relations with understanding and usefulness of AC

Students' perceptions of the accessibility of their AC were asked in terms of the clarity of AC and the easiness of understanding AC. Among the valid 98 survey responses, nearly half of them (strongly) agreed that the criteria explained the assessment requirements clearly and could be easily understood (Table 2), suggesting that over half of the students encountered difficulties in understanding their AC. This resonates with the prevailing challenges of students understanding their AC discussed in the Introduction.

Whether accessibility influenced learners' understanding and perceived usefulness of AC was investigated via Spearman correlation analysis. Results showed a moderate positive association between accessibility and understanding ($r_s = .56, p < .05$), indicating the more accessible the AC were perceived, the better understanding the students reported.

Table 2 . Accessibility of AC.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
The current AC can be easily understood.	4.1%	16.3%	30.6%	41.8%	7.1%
The current AC explain the assessment aspects clearly.	3.1%	16.3%	34.7%	39.8%	6.1%

Table 3 . The impact of clarity of evaluation criteria on the usefulness of AC.

Variables	Spearman correlation	<i>p</i> -value
The current AC enable me to understand how to produce a good assignment. * The current AC explain the assessment aspects clearly.	0.58	0.000
The current AC enable me to discuss marks and feedback with my PEERs more thoroughly. * The current AC explain the assessment aspects clearly.	0.51	0.000
The current AC generate more applicable feedback for my future assignments. * The current AC explain the assessment aspects clearly.	0.50	0.000
The current AC develop my understanding of feedback on my work. * The current AC explain the assessment aspects clearly.	0.46	0.000
The current AC enable me to discuss marks and feedback with my TUTORs more thoroughly. * The current AC explain the assessment aspects clearly.	0.44	0.000
The current AC develop my understanding of WHY a mark was given. * The current AC explain the assessment aspects clearly.	0.43	0.000
The current AC develop my understanding of HOW a mark was given. * The current AC explain the assessment aspects clearly.	0.41	0.000
The current AC encourage me to spend MORE time reading assessment feedback. * The current AC explain the assessment aspects clearly.	0.34	0.000

To be specific, a higher level of clarity of AC was associated with a higher level of (a) understanding of assessment requirements, feedback and marks, (b) engagement with and (c) discussion about marks and feedback and application of feedback for future assignments (Table 3). Likewise, an easier understanding of AC was associated with a higher level of (a) engagement with marks and feedback, (b) understanding of marks, feedback and assignment requirements and (c) application of feedback for future assignments (Table 4). The two aspects of accessibility played a similar role in students' comprehension and perceived usefulness of AC, explicated by their high correlation ($r_s = .79$, $p < .05$) and the student interview data below.

The vagueness of performance descriptors and score strategies

Interviewees asserted how accessibility was hampered by the vagueness of language used in performance descriptors, quality definitions and scoring strategies.

Table 4 . Easiness of understanding AC and usefulness of AC.

Variables	Spearman correlation	<i>p</i> -value
The current AC enable me to discuss marks and feedback with my PEERs more thoroughly. * The current AC can be easily understood.	0.52	0.000
The current AC develop my understanding of WHY a mark was given. * The current AC can be easily understood.	0.51	0.000
The AC enable me to understand how to produce a good assignment * The current AC can be easily understood.	0.51	0.000
The current AC generate more applicable feedback for my future assignments. * The current AC can be easily understood.	0.51	0.000
The current AC develop my understanding of feedback on my work. * The current AC can be easily understood.	0.47	0.000
The current AC enable me to discuss marks and feedback with my TUTORs more thoroughly. * The current AC can be easily understood.	0.47	0.000
The current AC develop my understanding of HOW a mark was given. * The current AC can be easily understood.	0.44	0.000
The current AC encourage me to spend MORE time reading assessment feedback. * The current AC can be easily understood.	0.31	0.001

They highlighted the challenges posed by the wording of performance descriptors. Using **criticality** as an example, they commented on their lack of explanations of criticality in AC:

*I mean, they always say, be critical. **You don't really know what critical is.** You don't know how to do it and they don't give you an example. (SABL3)*

*Yeah, it's still hard for me. Really, what's one of the big things? Try not to be descriptive. That's what they keep saying. **But if you don't teach me otherwise, it's difficult.** (SABL2)*

The lack of explanations and exemplification of criticality led to the low accessibility of AC:

They always thought about criticizing the assumptions or criticizing the sample size. But unless you go over specific examples that are relevant to us, we can completely understand the meaning behind it. (SAEL3)

All interviewees commented on **the blurry boundary between the different quality definitions**. A student described them as 'chip copy paste':

*Because it's literally you can see that it's **the chip copy paste** of like everything, and they just changed like, like, the superlative like, it's excellent, good, and then average. Yeah, you're like, tell me what is an average use of whatever, for example, research or whatever. (SABL3)*

This was echoed by another interviewee:

*But a lot of the times when you read through the assessment, it just, for example, so instead of good, or not good knowledge of the subject, then to get a better, you know, result, you'll be excellent knowledge or something along these lines. **It will just be changing the descriptor.** It's the same thing, just changing I guess, like the word like the description of it. I don't know. I'm just not sure if, **if that's really useful. I wouldn't use that as the main guidance to try to get a better grade.** (SPABLL2)*

The two students' assertions dovetailed with the quality definitions in Appendix A (e.g. little, satisfactory, reasonable, good, excellent and exemplary across qualities). The second interviewee's comment about inaccessibility discouraging her use of AC for assessment preparation supplemented the survey result that low accessibility reduced the usefulness of AC as the indiscernible difference in qualities led to the difficulty in applying AC to assignment writing:

***It's very vague.** It states something kind of a really good understanding of the concepts and just having a good understanding of concepts. **What does that mean in actually writing an essay?** ... For example, I don't know what they are, but they'll be really good concepts, really good referencing, something else. I don't know if, that is quite general. It is really good on paper, but then in reality, **what does that mean when you're writing an essay, and especially between the 68 and the first?** Anyway, you know, that is quite hard to pinpoint. (SPPL3)*

The ambiguity of scoring strategies related to quality definitions was reiterated in interviews:

*Also, what she said about the fact that the **assessment criteria, sometimes is not clear enough.** Yeah, I was looking at one of my criteria that is for the exam scripts. And **the difference between the 2:1, the first, and 2:2, was little.** What presentation is good, very good, excellent? It is not stated in a very supportive manner. (SABL2)*

If you look at it, and it's broken down into the grade boundaries and things. It's not very clear as to how you get into the next boundary. You know, like, say, you get a high two or how'd you get into that first? And if you've got like, 70, how do you get into the 80s? It's not, it's not clear at all. (SAEL3)

Insufficient information in AC about how to achieve a higher standard was agreed by the interviewee from a joint programme of two disciplines, despite her compliments on the explicitness of evaluation criteria:

I think the current assessment criteria, so it does sort of like, I guess, a good job of sort of describing the skills or the things that they're looking for. But it's lacking the sort of telling students exactly how to get that it's, it's easy to say: Oh, you need to have an excellent structure; you need to have really good references. You know, English must be perfect, but I think it's really about how you can get there. So it's not just saying, oh, we're looking for this. Okay. But how do I get there? Like, how, what is the good structure? What is the structure supposed to look like? And I think that also varies from modules ... So I feel like there really isn't enough focus on exactly how to do, I think, the process rather than the result. (SPABLL2)

The absence of dialogues about how to apply AC for assessment might work for an assessment category with fixed rules such as the reference style:

I was like diligent with it, you know, and if it was the same throughout. When I get a first for each time, you know if it's all correct, which is what the criteria says, if all the references are correct, you should be getting in the 70s for the reference ... I specifically went to the library to the Help Desk and I asked them specifically about this particular reference and they told me how to reference it. (SAEL3)

Nevertheless, interviewees unanimously expressed their expectations of tutors' support for understanding and utilising AC which could not be explained sufficiently by the unavoidable economic verbal descriptions of AC.

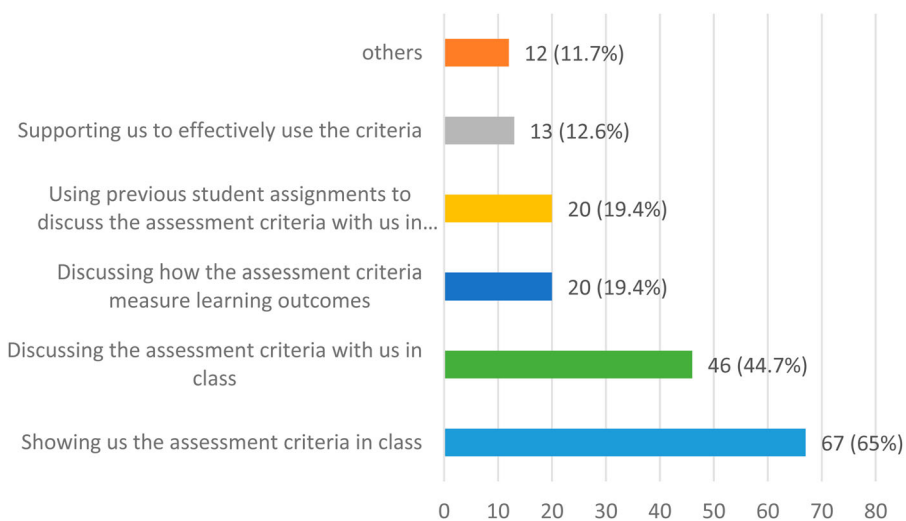


Figure 5 . How instructors introduced AC.

Table 5. Mann-Whitney test: Test statistics.

	Understanding of AC	Easiness of understanding AC	Clarity of AC
Mann-Whitney U	895.5	620.5	597.5
Sig. (2-tailed)	.913	.008	.004
a. Grouping Variable: the ways of introducing AC			

Accessibility and tutors' support for understanding AC

The survey data revealed that tutors employed diverse approaches to introducing AC to students, each requiring different levels of engagement with AC (Figure 5). Among the 12 students who selected 'other', emails, online learning platforms and welcome-back meetings were stated as alternative channels where AC were introduced. Further scrutiny of survey data revealed that 33 respondents were shown the AC by tutors without discussion. Fifty-five reported that their tutors discussed AC with them. Mann-Whitney Tests were run to examine whether discussing AC led to a higher level of accessibility and understanding of AC. Table 5 showed that tutors discussing AC resulted in a significantly higher level of accessibility than showing without discussion. The descriptive data unveiled that discussion likely generated a higher level of understanding, although not statistically significant ($P > .05$).

Furthermore, different ways of discussing AC facilitated learners' understanding of AC variously (Table 6). Using exemplars to discuss AC was the most effective, followed by explaining AC with learning outcomes. Explaining how to use AC for assignment preparation without referring to exemplars and/or learning outcomes was the least effective in promoting accessibility and understanding of AC. Correspondingly, using exemplars to explain AC was the most desired support by students (Table 7). Other enablers promoting the accessibility and thereby usefulness of AC were suggested in interviews.

Suggestion one: aligning AC with assessment tasks

Interviewees stressed the importance of linking AC to module assessment tasks:

Definitely more guidance in terms of AC, I think in each individual module. I guess, in order to get a better grade, there is, there're just little details [in the AC] that you need to improve on and things to focus on. And I feel like it's good if the lecturers mentioned that, or sort of emphasizing on what exactly they look for in order to get, you know, a better understanding. (SPABLL2)

Contextualising AC in assignment writing was suggested:

In lectures, it's useful to have some explanations of what it should look like in writing. And it will be even more useful to say what can be improved. If you agree with me, for example, the

Table 6 . Ways of discussing AC, accessibility and understanding of AC.

	Using learning outcomes	Using previous assignments	How to use them effectively for assignments
Clarity of AC	32	33	20
Easiness of understanding AC	31	43	18
Learners' understanding of AC	32	32	21

Table 7 . Students' expectation of teacher support for AC.

	Tutors provide explanations of the AC.	Use sample assignments to explain how the AC are used to assess assignments	Arrange tutorials about how to prepare assignments with reference to the AC.	Create online resources about the current AC (e.g. in Minerva)
Level 2 responses	21	25	19	18
Level 3 responses	27	30	19	22
Total	48	55	38	40

*most helpful will be like, **show us what they expect the most**. Just says what they're actually looking for. Yeah, this is **what I'm looking for, when you produce this diagram, please follow this**. (HAEL2)*

Apart from discussing how to use AC to prepare assignments, personalised guidance was desired:

*[Provide] **more personal** help or more guidance as to what you need to do, rather than just focusing on the big picture and seeing all the average is 65. (SPABLL2)*

The effectiveness of contextualising AC to an assessment task was substantiated in a group interview:

*You [referring to a lecturer] put the emphasis on the topic, which is essentially, but at the same time, **devote some time to the criteria** as well ... This happened to the dissertation, for example, we were taught very early on to **split our current weight, according to the percentage of the weight of the marking criteria**. Okay. So, for example, the literature review was about 30% of the entire mark, so your word got to be 30% of the entire word count. So you know, so that gives you so much structure. I can actually stand here saying that I'm writing the dissertation and writing any other essays, I've got so much guidance through the lecture on the dissertation and I didn't see any of these in my entire unit. (SABL3)*

Although the 'recipe' approach could pose constraints on creativity in assessment performance, it revealed students' eagerness to receive tutors' explanations of AC.

Suggestion two: aligning marks and feedback with AC

Students suggested that tutors should use AC to provide feedback and help them understand AC and assessment requirements for future assignments:

*I wanted them to **justify why they gave that mark**. Yeah, for that particular criteria. So say for the referencing, you got 64. Why did you get 64 for that? And then, to get 75, or whatever, this is what you need to do in the future. And that is how you would, that's **how you move forward**. And I'm like, you say, yeah, I'm forward each year, but I have no idea how I did it. (SAEL3)*

Apart from the future-oriented approach ('moving forward') to using AC in feedback provision, a process-oriented approach was reiterated to make support individualised and sustainable:

*I think it's better to focus on the **actual process of improving** in order to know how to get the top marks, rather than just describing what it is because we cannot just say, Oh, you need to, we all know that your structure needs to be excellent. You need to be fluent in English, and so on. But I think it's **about how each person gets there**. Because it's **the process of working towards that that I think is important**. And in uni, in general, it's not just about getting*

the final grade. It's about the constant improvement that I think should be more focused on rather than this is a first this is what you need to do. (SPABLL2)

The process-oriented assertion indicated the role of AC in enhancing the formative nature of summative assessment for future improvement of assessment performance. The process should socially engage students in understanding how AC were used in assessment:

He uploads the document, which is like, each question broken down with his feedback. He says, I don't know if you've seen this? ... He writes about how each question was like some, mostly students did not get a high grade, like so. However, the students have scored the first did this, this and this. And that is why they got the first the highest marks. Each question was that that that, and it's beautiful. I absolutely love this stuff. That's actually what we get. We get, we get feedback from the previous year. So let's say for the previous year, people did this got a first, 60 people got first out of 300. (SABL2)

The compliment on using annotated assignment examples concurred with the survey results in Tables 6 and 7 and existing studies in the Introduction.

Discussion

This study unveiled the indeterminacy of the generalised AC due to their fuzzy wording, broadness of evaluation criteria, and blurred boundaries between different standards and scores, compounded by the diversity of assessment methods. This can be exemplified by the sample AC in Appendix A. For instance, quality definitions of the evaluation criterion of knowledge and understanding there ranged from showing little, satisfactory, reasonable, good, excellent and exemplary understanding. As Reddy and Andrade (2010, 435) argued, 'quality definitions provide a detailed explanation of what a student must do to demonstrate a skill, proficiency or criterion in order to attain a particular level of achievement'. Nevertheless, detailed illustrations of all criteria in AC are infeasible for their economic verbal form, in particular, generalised AC serving for varied assessment tasks. A lengthy document can easily discourage students from reading AC. Therefore, dialogues about AC should take place.

Students reported that the inaccessibility could be exacerbated by insufficient information about applying AC to assessment preparation and the lack of alignment between the generalised AC, individual assessment tasks and learning outcomes of individual modules, in line with existing studies (QAA 2018; Sadler 1987). This hinders students from understanding and utilising AC to prepare and interpret assessment results and consequently facilitate learning, teaching and assessment (e.g. O'Donovan, Price, and Rust 2001; Price and Rust 1999). The results reveal the necessity of shifting from the existing product- to a process- and future-oriented approach to AC.

The importance of dialogue on AC

The students' uncertainty about AC and the dependence of the meaning of AC on modular contexts revealed the importance of constructive social dialogue on AC between tutors and students. It can promote the transparency of AC, develop constructive alignment and disclose teachers' judgement about the quality of student work with AC which is currently 'substantially hidden from the students' view' (Sadler 2005, 175). Students suggested dialogue on the wording (e.g. critical thinking, adjectives/adverbs to

describe different standards) to minimise the indeterminacy and multiple interpretations of criteria between teachers and students, the substantial hurdle inhibiting the effectiveness of criteria referenced assessment (O'Donovan, Price, and Rust 2001). Meaning dialogues on AC will make them shared guidance between staff and students to understand the standard of good work rather than a document for staff to justify marks in terms of what has not been met in student work (e.g. the deficit model of assessment). Students recommended dialogue to contextualise AC to individual modules in class and link them to learning outcomes to remedy the overlooked situational dependence of AC on assessment tasks (Sadler 2009), learning outcomes of a particular module and precise information about the standard of good work in a module (Moon 2002). They believed that social dialogue between educators and students with AC, assessment tasks and exemplars could explicate and contextualise AC to remedy their economic verbal descriptions and the vagueness and versatility of language used in AC.

A process-oriented approach with multi-faceted strategies

The students suggested a process-oriented approach to introducing AC with multiple resources and strategies. They wished their tutors to converse on how AC could be applied to their assessment preparation and to exemplify evaluation criteria, their related different standards and scoring strategies with additional materials. The students particularly expected their tutors to refer to AC and annotate previous assignments with different qualities and explain them in class. As such, they could understand the assessment requirements concretely and make an informed judgement on the standard of their expected work and ways of progressing to a higher standard. The effectiveness of students asking questions about annotated exemplars on an online discussion board to explain AC has been reported in Handley and Williams (2011). Nevertheless, tutors should avoid oversimplified explanations when discussing AC with students to prohibit instrumentalism, revealing from the interview above: 30% of weight meant 30% of words in the literature review chapter.

The process-oriented approach can actively involve learners in constructing, using and revising AC and realise learner agency in assessment, a core ritual of effective assessment to develop self-regulated and autonomous learners (Evan 2016). This is also highly recommended by QAA (2018, 3): 'engage students in the development, assurance and enhancement of the quality of their student experience.' The effectiveness of co-constructing and discussing AC with students has been reported by Zhao and Zhao (2020): the process enhanced the accessibility and students' understanding of AC and generated overwhelmingly positive viewpoints on the usefulness of criteria for developing cognitive and metacognitive knowledge of assessment and learning. From an affective perspective, the collaborative process reduces students' alleged tutors' 'connoisseur' approach to assessment (e.g. subjective marking) (O'Donovan, Price, and Rust 2001, 81) and builds trust between learners and tutors (Brown, Bull, and Pendlebury 1997).

A future-oriented approach with multi-faceted strategies

Students suggested a future-oriented approach to utilising AC to inform what they need to improve in future accompanied by annotated exemplars, learning outcomes and

feedback. This reconciles the notion of assessment for learning which highlights the importance of providing learners with information about what has been achieved, what to be achieved and how to fill in the gap (Boud and Falchikov 2007). A future-oriented approach expects tutors to help students bridge the gap with formative feedback. There, AC is used as a diagnostic tool to mediate assessment and learning with multifaceted information feeding forward their future work, e.g. how to improve the quality of future submissions. Furthermore, using AC to assess the current and expected quality of their work and fill in the gap develops learners' competence in making informed judgement with reference to criteria. This is a key skill of sustainable assessment: it requires the development of learners' skills in making informed judgement on their current and expected performance and taking those skills forward to their future professional practice (Boud and Soler 2016).

Conclusion

Transparency is key to realising the role of AC in promoting validity and reliability of assessment and establishing high standards and maintaining/regaining education quality. Accessibility is a prerequisite to transparency and students' understanding and effective use of AC for learning and assessment. This study has substantiated the theoretical and practical significance of shifting from a product- to a process- and future-oriented approach to AC to enhance its accessibility, learners' understanding and use of AC for assessment and learning. It corroborates that the shift requires an evolved perspective: integrating representative (i.e. AC as written statements of what to be expected thus encourages a product-oriented approach) and socio-cultural (i.e. social discussion about AC thus encourages a process-oriented approach) views of AC into socio-material perspectives (encourages a process-product approach) (Ajjawi, Bearman, and Boud 2021). A socio-material perspective entails tackling AC as enactments that are shaped by the reciprocity of stakeholders (e.g. AC creators and users), AC and related materials (e.g. assessment tasks and examples) and embedded evolving social contexts (e.g. assessment contexts and social interaction among stakeholders). It embraces necessary tinkering when the reciprocal mechanism changes. It requires attention to learner agency to engage them with ongoing social dialogue on AC within their local assessment contexts in the whole cyclical process of designing, revising, implementing and evaluating AC based on students' understanding and utilisation.

Notes

1. Some respondents skipped questions in the survey which explained why the number of responses for some of the questions below was smaller than 110.
2. The students from combined programmes were recorded twice in corresponding areas.

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