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ASSESSMENT RUBRICS: ARTEFACTS THAT SPEAK IN TONGUES?

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Research conducted by the authors involving Writing Centre consultants and first-year science students at their university revealed that assessment rubrics may not serve as effective assessment mediation tools. This prompted a reflection on the use of rubrics at their university. To this end, a research project was developed, the aim of which was to investigate the usefulness of assessment rubrics with regard to making assessment expectations available to students in a capacitating manner. Data were collected by various means: students were asked to assess particular essays using the existing assessment rubrics; class discussion about the rubric was recorded; and student questionnaires were completed concerning the use of assessment rubrics. The findings demonstrated that rubrics are socio-cultural artefacts that require mediation before joint ownership can be assumed. Without such mediation, rubrics may fail to embody transparent and accountable assessment, instead becoming merely an empty symbol thereof. Academics should create opportunities for students to engage with rubrics as mediated artefacts, with the assessment criteria that are contained within them unpacked and contextualised. Otherwise, students may effectively be graded using a system that they have little understanding of, thereby defeating the very purpose of the rubric.

INTRODUCTION

Assessment rubrics are meant to 'explain to students the criteria against which their work will be judged' and to show the 'key criteria that students can use in developing, revising and judging their own work' (Huba & Freed, 2000:155). As such, they are crucial artefacts to which students need access if they are to join the community of practice of their chosen discipline. However, in an earlier research project relating to the development of student academic literacies (McKay & Simpson, forthcoming), we encountered surprisingly serious challenges regarding the use of assessment rubrics. In particular, despite discussing the rubric in advance, some of the participants in the previous study still engaged in *impression marking* and then adjusted the score on the rubric to *fit* the impression mark awarded. It became clear that using rubrics was a new experience for the participants, all of whom were postgraduate students, employed as writing consultants, or tutors. These results were surprising and caused us to consider the fact that similar challenges may face students, who are expected to use rubrics both as a form of feedback and as a guide as to how to perform successfully at university (Gallavan & Kottler, 2009; Montgomery, 2002).

Although these findings were not the focus of that earlier project, they piqued our interest in the questions they raised, and the decision was made to devise a follow-up project to ascertain the extent to which assessment rubrics serve to make assessment expectations clear to

students. This paper outlines the results of this later project, which was carried out with final (4^{th}) year Civil Engineering students and first-year Geography students.

In order to properly contextualise the argument of this paper, it is necessary to first offer some discussion of assessment and assessment rubrics and to describe the importance of assessment rubrics within the context of academic communities of practice.

ASSESSMENT

An assessment is defined as an

> activity, assigned by the professor, that yields comprehensive information for analysing, discussing and judging a learner's performance of valued abilities and skills. Typically, the activity takes place over a period of time and results in a performance, project, product, portfolio, paper, or exhibition that will be judged and graded. (Huba & Freed, 2000:152)

While this definition of assessment focuses on the goal of grading, other definitions focus instead on student learning:

> assessment is the systematic collection of information about student learning, using the time, knowledge, expertise and resources available, in order to inform decisions that affect student learning. (Walvoord, 2010:2)

Together, these two definitions illustrate the fundamental goals of assessment, namely to grade students and promote student learning.

For the purposes of this paper, consideration is given to the contention that, when used effectively, assessment can and should lead to improved learning (Walvoord, 2010) and in the case of this study, improved academic language proficiency. While assessment that relies on recall, and which offers limited feedback, can promote surface learning at best or no learning at all, assessment that fosters long-term engagement with tasks and subject matter can promote deep learning (Luckett & Sutherland, 2000). Indeed, while marks given on student work may identify a *need* for improvement, they do not provide direction for ways to achieve such improvement (Huba & Freed, 2000). It is for this reason that authors, such as Deyi (2011), have referred to the need to re-vision feedback as *feed-forward*, which focuses on students' future development.

Based on the literature consulted, we have identified a triple imperative of effective assessment. First, if the validity of assessment is not to be called into question, learning outcomes need to be clarified and closely matched to assessment criteria (Luckett & Sutherland, 2000). Second, all learning requires feedback so that students understand how and what they are doing and can thus improve their performance (Huba & Freed, 2000; see also Lamb and Simpson [2011] for recent work on feedback). Third, assessment is an instance of cross-cultural communication and, therefore, assessors should pay attention to the needs of their audience, which requires making the expectations of assessment explicit (Walvoord, 2010).

This triple imperative (matching outcomes and assessment criteria; providing effective feedback to students; and making assessment expectations explicit) is often seen to be

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addressed through the use of assessment rubrics.

ASSESSMENT RUBRICS

Assessment rubrics can be defined as sets of criteria or scoring guides that define what is expected of student writing (Rochford & Borchert, 2011; Spurlin, Rajala & Lavelle, 2008). A rubric also 'articulates gradations of quality for each criterion, from excellent to poor' (Andrade, 2005:27). These gradations are more commonly known as 'level descriptors' (Price & Rust, 1999:134). Locally, McKenna (2007) has defined rubrics as 'a printed set of scoring guidelines (marking criteria) for evaluating tasks (a performance or a product) and for giving feedback'. According to McKenna (2007), assessment rubrics are important because they close the gap between the expectations of lecturers and those of students. They do this by articulating the discipline-specific norms of the writing task at hand and by linking assessment to language learning by foregrounding the purpose of the task and what constitutes quality.

The basic and fundamental requirement for use of a rubric is that it should be shared with students before they begin an assignment or test (Walvoord, 2010). In this way, rubrics are meant to support students' uptake of deep learning. This is because one of the primary factors that promotes shallow learning on the part of students is a lack of understanding of what is expected (Biggs, 2003). Moreover, effective use of rubrics should comply with the factors that promote deep learning on the part of students. These factors include supplying enough background knowledge, building on students' prior knowledge and creating a supportive atmosphere (Biggs, 2003). Because of these positive factors, the use of rubrics has become widespread, with their use being promoted at first-year level (Lavelle & Rajala, 2008), senior undergraduate level (Meyer, 2008) and even at postgraduate level (Hoey, 2008).

The popularity of rubrics underscores the numerous advantages they present in assisting the work of lecturing staff. In particular, review of the literature yields six key advantages of the use of assessment rubrics:

1) Assessment rubrics allow for judgement to be made of the overall programme's fitness for purpose (Spurlin *et al.,* 2008). This is made possible if standardised rubrics for common assessment products (such as lab reports) are developed (Price & Rust, 1999; Spurlin *et al.*, 2008).

2) Assessment rubrics highlight student strengths and weaknesses in a comprehensive manner (Spurlin *et al.*, 2008). In so doing, they allow lecturers to give specific instructions as to what students need to work on rather than a general performance indicator (Andrade, 2005; Walvoord, 2010).

3) Assessment rubrics can be used to assess a multitude of different types of outcomes, assessment criteria and genres. Spurlin *et al.* (2008) show how rubrics can be used in the assessment of all of the exit-level outcomes applied to Engineering graduates in the United States, and Huba and Freed (2000) demonstrate the usefulness of rubrics in assessing critical-thinking processes, habits of mind and affective skills. In addition, Meyer (2008) has shown how rubrics can be used to assess oral presentations, written reports and design projects. Rochford and Borchert (2011) maintain that assessment rubrics are especially useful for evaluating higher order skills such as analysis, synthesis and evaluation. In addition, readers of this journal may be familiar with Wright's (2006) article in which she draws on explicitly stated (and

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weighted) criteria in order to assess university students' mind maps.

4) Assessment rubrics reduce the difficulty of measuring student performance in an objective fashion (Olds & Miller, 2008). However, as will be demonstrated later, they do not eliminate subjectivity from the assessment process (Rochford & Borchert, 2011). They are best, therefore, described as tools of accountability (Gallavan & Kottler, 2009; Montgomery, 2002).

5) Assessment rubrics reveal the standards that underpin particular disciplines (Huba & Freed, 2000; Gallavan & Kottler, 2009; Montgomery, 2002). This has advantages for lecturers in that it forces them to interrogate and articulate their own disciplines (McKenna, 2007) and also has advantages for students in that it provides them with benchmarks for developing, judging and revising their own work (Andrade, 2005; Huba & Freed, 2000).

6) Crucially, rubrics can play an important role in disrupting disempowering power relations between students and lecturers as they enable students to participate more actively in the assessment process (Gallavan & Kottler, 2009).

However, despite these advantages, the use of assessment rubrics is not a 'miracle cure' for all assessment problems and the use of assessment rubrics does present certain challenges. Again, the literature suggests seven such challenges regarding their use:

1) It requires skill and experience to match assessment criteria to learning outcomes (Montgomery, 2002; Spurlin *et al.*, 2008).

2) Student performance may vary widely and it may thus be a challenge to define assessment criteria that can apply to multiple students' work (Spurlin *et al.*, 2008). Montgomery (2002:36) notes that 'the increased validity of authentic assessment is often associated with a decrease in reliability'.

3) Rubrics are not self-evident and students may require in-class discussion about how to use rubrics as a guide in developing their work (Huba & Freed, 2000). McKenna (2007) refers to this and advises that students need to be inducted into the use of rubrics.

4) When multiple markers are being used, it is important that they work together to develop the same perspective when using the rubric (Huba & Freed, 2000). This is because the use of rubrics does not eliminate subjectivity.

5) The use of assessment rubrics can promote conformity (McKenna, 2007). For this reason, they have the potential to stifle creativity. Rochford and Borchert (2011:264) call this the 'unintended consequences' of rubrics. To avoid this result, rubrics must be developed to encourage the practices we want students to master and not simply to outline the responses we require (McKenna, 2007).

6) The use of assessment rubrics can be time-consuming (Luckett & Sutherland, 2000).

7) The linguistic demands of assessment rubrics, as well as the authentic tasks they are usually tied to, can result in equity issues (Montgomery, 2002).

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Despite the challenges associated with their use, assessment rubrics still have an important role to play in facilitating students' entry into the community of practice of their chosen discipline. In order to demonstrate this role, it is necessary to discuss assessment rubrics in the terms of the 'community of practice' literature.

ASSESSMENT RUBRICS AND COMMUNITIES OF PRACTICE

The process of gaining mastery over the knowledge and skills of a community of practice (such as those represented by Geography and Civil Engineering, in this study) relies on newcomers moving from legitimate peripheral participation in that community's sociocultural practices towards full participation in those practices (Lave & Wenger, 1991). Assessment is important in academic communities of practice as it ties two important elements of such communities together: participation and reification. According to Wenger (1998), reification refers to the *way things are done* within a community of practice and is made manifest through activities such as making, designing, representing, naming, encoding and describing. Participation, on the other hand, refers to activities such as doing and thinking and involves *acting out the way things are done* (Wenger, 1998). In an assessment event, lecturers produce reifications of a community's practices (in the form of assignment briefs, test questions and assessment rubrics) and require students to use those reifications to facilitate their own participation within the community of practice.

However, a community of practice's reified artefacts are encoded, and outsiders thus need to be taught how to decrypt them. That is, shared meanings require mediation into the shared repertoire of the community of practice. Indeed, this shared repertoire is one of the defining characteristics of a community of practice and it includes the routines, words, tools, ways of doing things, gestures, symbols, actions and concepts that make up a practice (Wenger, 1998). This shared repertoire can only exist through building shared references, which inherently involves the negotiation of meaning (Wenger, 1998).

In order to move students from the periphery of a practice towards full participation, it is necessary, through reification, to create boundary objects. Boundary objects are one of two means by which communities of practice interact with the rest of the world and facilitate learning on the part of those on the periphery (Wenger, 1998). The second means by which communities of practice interact with the outside world is through brokering on the part of participants within the community (Wenger, 1998). Assessment rubrics are an example of such boundary objects and they require brokering by community insiders.

In particular, Lave and Wenger (1991:54) maintain that it 'is important to consider how shared cultural systems of meaning ... help to co-constitute learning in communities of practice'. When students enter into the assessment experience, they do not enjoy the shared socio-cultural system necessary for effective learning to take place. Instead, this shared socio-cultural system, or repertoire, needs to be brokered by lecturers, using the boundary artefacts they have created, such as the assessment rubric. This negotiation or meaning-making process is thus necessary in order to give newcomers *full* access to the reified objects of the practice (Wenger, 1998).

METHODOLOGY

The aim of this research was to investigate whether or not the assessment rubrics in use by the authors (see Appendices 1 and 2 for the rubrics in question) were serving to make their assessment expectations clear to students. The research was undertaken with both final-

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year Civil Engineering students and first-year Geography students. Because of these differing teaching contexts, the methodology employed across the two samples was not identical. However, this need not be problematic as neither of the two groups was a control or test sample. Thus, the intention was not to compare the results across the two groups but to use the one group to corroborate the findings ascertained from the other. That is, our intent was to engage in what Richardson (2000) calls crystallisation, which combines dimensions and angles of approach and thus allows for a deeper, more complex understanding of an issue. In other words, this study combines two samples, differently shaped interventions and differing data collection methods, in order to gain a richer understanding of the students' interpretations of the assessment rubrics.

The Geography tutors and students were provided with the essay question (which was on the causes and consequences of globalisation) and the assessment rubric five weeks ahead of the due date. The tutors ran tutorials with the students in which the students were required to use the rubrics to assess two sample essays. The Geography students were then surveyed using an instrument that contained both open- and closed-ended questions (the closed-ended questions were predominantly Likert scale-type questions, where students were required to indicate their level of agreement with given statements).

In the case of the Civil Engineering cohort, students were provided with the essay question (on the role that civil engineering can play in eradicating slums) and the assessment rubric four weeks ahead of the due date. During a lecture period, one week before the due date, students assessed a past student's essay, using the rubric. The ensuing class discussion was recorded. This gave all the students an opportunity to engage with the rubric and make sense of the expectations made explicit in it.

For both cohorts, the marks allocated by the students to the sample essay were analysed. The sample essays were written by previous students, all of whom gave consent for their work to be used for educational purposes and remained anonymous.

Student participation was voluntary, but we felt that participation would benefit the students in completing their required assignments. Despite this, a number of students elected not to participate at all, while more opted out during the intervention. The reasons for this were not explored. However, the final samples drawn still represent a majority of the students in each cohort. All participants gave informed consent to their involvement in this study, in line with the respective departmental and faculty ethics processes. Students who chose not to participate were not disadvantaged in any way, as they still participated in all class activities; details of their participation were simply eliminated for the purposes of the research.

RESULTS

There are four primary audiences for an assessment rubric: lecturers, students, tutors and moderators. In this study, the latter stakeholder was not included in the data collection and analysis. Data were collected from the remaining three stakeholders. However, because of limited space, data collected from tutors will not be discussed in this paper; instead, we focus exclusively on students' use of and engagement with assessment rubrics. To ensure clarity, discussion of the results of the study will be divided into two parts:

(1) Results of the survey instrument completed by the Geography cohort, and

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(2) Analysis of student scoring of past essays by the Civil Engineering and Geography cohorts.

GEOGRAPHY COHORT: SURVEY RESULTS

Analysis of the survey data revealed that 90% of the Geography students read the assessment rubric before starting to work on their essays and 88% said it was easy to understand. For example, students reported that '*Assessments grids help to understand the work easily and to know wats (sic) real expected of me'* and '*It gives a better understanding of what the Assignment requires. How it should be done'.* However, much of this understanding can be attributed to the mediation of the tutors, as 84% said the tutor helped them understand the grid. For example, one student reported that '*At first it was not easy to understand but tutors made it more easy to understand*'. Despite this, only 62% of the Geography students actively consulted the rubric while working on the essay, although 71% said that it helped them to write the essay. While these responses are positive, not all Geography students used the grid. Roughly 33% did not make use of it and 10% said they never even looked at it. This suggests that a number of students either do not understand the importance of rubrics or do not see them as an important learning aid.

Despite the fact that 82% of the Geography cohort claimed that they found the rubric useful (one student, for example, reported that '*The use of assessment grids is very useful because it helps you to write what is expected of you*'), 32% felt they still did not understand what the lecturer expected (see Figure 1). One student explained, '*one never really knows what exactly is needed from the lecturers*'. Of the remaining 68%, the bulk only tentatively agreed that they were confident that they understood what was expected of them. Less than one-third of the class were able to state with confidence that they understood the assessment expectations laid out in the assessment rubric.

Over a third of the Geography cohort (35%) did not report a positive experience of using the rubric, with one respondent maintaining that '*I felt the assessment grid destracted (sic) me from concentrating on the content of my essay'* and another stating that the assessment rubric '*did not specify clearly what was expected in the entire essay it was vague*'. Once again, the bulk of the respondents tended to agree that their experience of the rubric was positive. Less than a quarter felt 'strongly' that their experience with the assessment rubric was positive (see Figure 1).

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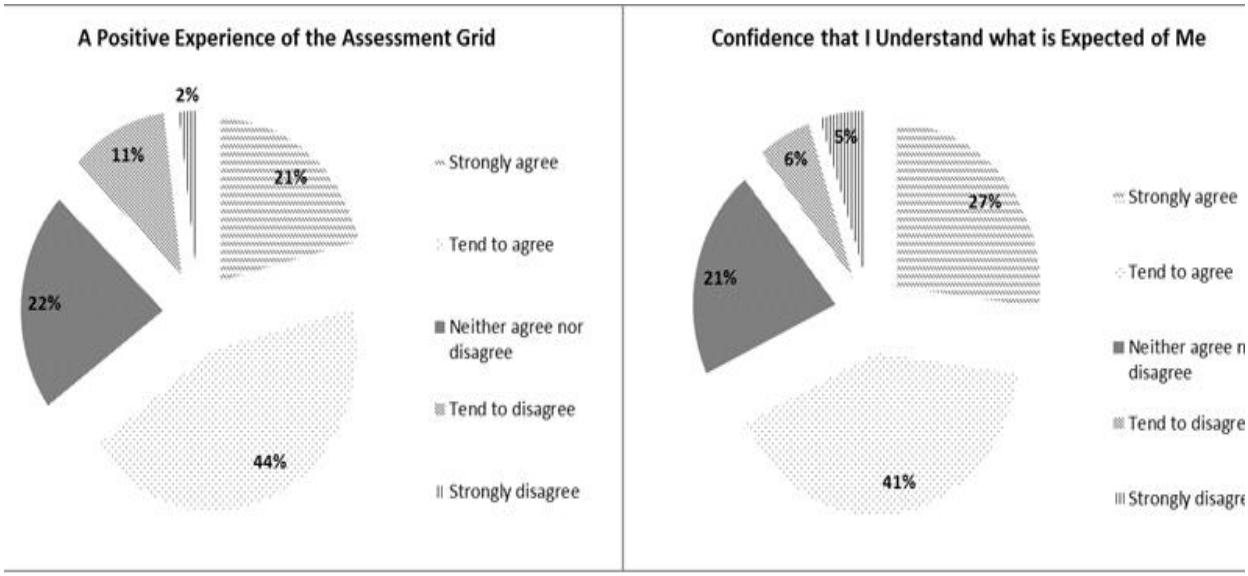

Figure 1: Selected survey results from the Geography cohort

STUDENT SCORING OF SAMPLE ESSAYS

Part of this study involved the use of past students' essays to actively broker the boundary object, namely the assessment rubric. In this instance, the students mimicked the marking process by using the rubrics to evaluate past students' essays.

Civil Engineering cohort

Due to time constraints, the Civil Engineering cohort worked with only one past student essay. The rubric used was divided into three broad categories: Content, Mechanics and Organisation, and further divided into 12 specific criteria, each of which was assessed across five levels, ranging from 'very weak' to 'excellent' (see Appendix 1).

The results suggest that there was little common interpretation of the sample student essay, despite this being the intention of the rubric. Figure 2 presents the scores awarded by the Civil Engineering student cohort. While the average score given by the students (67%) was close to that given by the lecturer (71%), the range of scores exceeded 40% (from 41% to 84%). In addition, the standard deviation from the mean score was almost 10%, meaning that scores within the standard deviation ranged from below 60% to above 75%.

The above analysis only takes into consideration the total score given for the sample essay. Within the individual criteria, there was an even greater range of scores, with the standard deviation for some criteria totalling almost 20% and the range exceeding 70%. The particular criteria that revealed the greatest variation were referencing (both in-text referencing and the reference list), the conclusion, and the content criteria relating to integration of research and the social and economic impact of engineering activity (which could be argued was the primary 'point' of the assignment). That said, there was strong correlation between scores given by students across the various assessment criteria. This suggests that students who gave the essay low scores did so consistently (that is, across all of the criteria) and those students

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who gave the essay high scores also did so consistently.

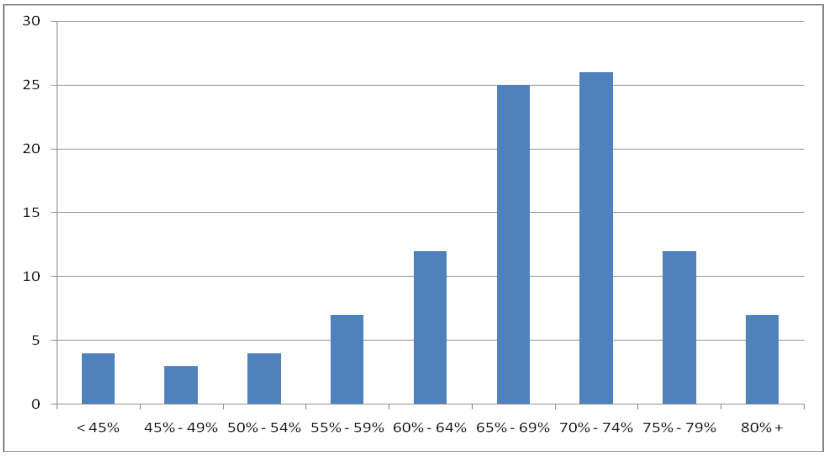

Figure 2: Scores awarded to sample essay – Civil Engineering cohort

Among the Civil Engineering students, the discussion around this exercise was recorded. The Civil Engineering students took the exercise seriously and participated meaningfully in the discussion. Most were able to defend the scores they had given and, at times, engaged in debate with each other as to the more appropriate score to be given. Furthermore, although this was never directly asked, a number of the Civil Engineering students stated that the exercise was useful, and one student, who had already completed his essay (even though it was only due a week later), complained that the exercise should have been undertaken earlier as he felt he had to re-draft his essay given his clearer understanding of the expectations listed in the assessment rubric.

Geography cohort

The scoring undertaken by the Geography students was similarly disparate. The Geography cohort assessed two sample essays: one was very poor (assessed by the lecturer at 35%) and one was relatively good (assessed at 64%). A total of 48 students assessed the poor essay and 59 assessed the relatively good essay. The students scored the poor essay at 41% on average (with a high of 79% and a low of 7.5%) and they scored the relatively good essay with an average of 51% (with a high of 80% and a low of 18%). The rubric (see Appendix 2) allocated marks to the following criteria: Content, Form/Structure, Language/Vocabulary, Writing Style and Referencing. Each criterion had six level descriptors, ranging from 'excellent' to 'fail'.

In the case of the poor essay, seven students arrived at their mark without using the rubric at all (in these cases, the marks assigned were: 25%; 34%; 35% (4 assigned this mark) and 37%). Of the 41 students who used the rubric, all had discrepancies between their final mark and the sum of the various criteria (see Table 1).

Two student submissions were extremely interesting as they recorded (unsolicited) how the group discussion had affected their marking. In both cases, the students lowered the marks they awarded the student. For example, one lowered his/her content mark from 62% to 30% and the other from 62% to 38%. The final marks were lowered from 58% to 32% and from 52% to 40%.

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Table 1: Discrepancy between final mark and sum of criteria – Geography cohort (Poor essay)

Discrepancy (between final mark and sum of criteria)	No of Students	% of Students
Between 1% and 5%	5	12.2
Between 6% and 10%	20	48.8
Between 11% and 20%	11	26.8
Between 21% and 30%	5	12.2
Total	41	100

Furthermore, students tended to over-rate the content (compared to the lecturer's score), awarding an average of 44%. The students awarded an average of 10% for referencing despite the fact that there was no referencing in the 'poor' essay.

For the average/good essay, three students arrived at their mark without using the rubric at all (the marks they assigned were: 37%; 48% and 68%). Another one (who gave a mark of 50%) appeared to do so by only partly using the rubric. An additional three students seemed to have no understanding of mark weightings and so assigned marks of 7.5%; 18.1% and 34.5%. Again, a majority of the students (this time only 75% as opposed to 100%) who assessed the essay using the rubric had discrepancies between the final mark they allocated and the sum of the various criteria (see Table 2).

Table 2: Discrepancy between final mark and sum of criteria – Geography cohort (Good essay)

Discrepancy (between final mark and sum of criteria)	No of Students	% of Students
Between 1% and 5%	19	36.5
Between 6% and 10%	11	21.2
Between 11% and 20%	2	3.8
Between 21% and 30%	5	9.6
31% and more	2	3.8
Total	39	75

Again, examination of the mark allocations given by the students to the different criteria was insightful. Students under-rated the discipline-specific criteria (compared to the lecturer's scoring) by awarding an average of 51% to the content. They also again over-rated referencing (by allocating an average of 38%).

DISCUSSION AND CONCLUSIONS

The most significant finding to emerge from the results presented above is that while the rubrics had gone some way towards making criteria for academic writing explicit, they are complex artefacts which require a great deal of brokering and, as such, may be opaque rather than transparent. The results gave rise to four observations which can be made about the use of assessment rubrics in academic learning environments. Each of these observations is discussed in turn below.

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1) First, students' feelings about assessment rubrics and their use are ambivalent. Similarly, the idea that rubrics necessarily capacitate students and increase their confidence in approaching assessment tasks may need to be revisited. The survey results obtained from the cohort of Geography students revealed that only around one in four students could state with certainty that their experience of using rubrics was positive and that their confidence was enhanced through use of the assessment rubric. This finding is further reinforced by the fact that two of the Geography students changed their marks on the basis of the class discussion of the rubric. Their decision to change their marks suggests a lack of confidence in their interpretation of the rubric. However, more positively, the fact that their revised marks were more closely aligned with the score awarded by the lecturer suggests a developing understanding of the expectations contained in the assessment rubric.

2) Second, the use of rubrics is a socio-cultural proficiency which is developed over time. This is best illustrated by the somewhat basic problems faced by the Geography students (first-year students) as compared with the Civil Engineering students (fourth-year students). The first year Geography students struggled not only with the *content* of the rubric but also with the basic conventions of *what* a rubric is, and *how* it is used. This led some to engage in 'impression marking' and to fail to use the criteria listed in the rubric at all. Others used the criteria, but their use thereof was littered with discrepancies. While smaller discrepancies can be attributed to errors in addition, large discrepancies of up to 30% suggest a misunderstanding of the mechanism of the assessment rubric. For the first essay assessed by the Geography cohort (the 'poor' essay), none of the students were able to use the rubric correctly. For the second essay, this improved – but only to 13 out of 59 students (or just over 20%).

   In contrast, the more senior Civil Engineering students did not struggle with the basic conventions of the assessment rubric and, instead, their concerns in the discussion centred on interpretation of the criteria stated in the criteria. The contrasting experiences of the two cohorts suggests that the basic conventions of the assessment rubric as *mechanism* need first to be unpacked before focusing on student understanding of assessment rubrics as *meaning-making artefact*.

3) Third, effective use of rubrics requires effective understanding of the criteria described therein. This point, albeit 'obvious' in a sense, is nonetheless important as it points to the fact that use of assessment rubrics assumes sufficient familiarity with both content and the conventions of academic literacy (in this case) such that judgements of efficacy can be made. However, as was shown in the results of this study, among both the Geography and Civil Engineering students, content-related criteria displayed the greatest variation amongst the student-cohorts. Similarly, criteria related to referencing (arguably one of the thorniest academic literacy issues – despite its *apparent* simplicity) also presented challenges in terms of arriving at shared interpretations. This reflects more general concerns with regard to academic literacies (particularly referencing) and a lack of the necessary disciplinary knowledge to assess the content, and suggests that rubrics can only make assessment expectations clear to the extent that their audience share the assumptions (and values) which underpin those rubrics.

4) Fourth, brokering of assessment rubrics can improve student understanding of assessment expectations. This was evident in the data collected. For example, among the Geography cohort, the average to good essay was jointly assessed after the weaker

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essay; this may well account for the decline in the number and size of the discrepancies observed due to the mediation process that had occurred. Similarly, among the Civil Engineering cohort, the fact that students reported (without solicitation) positive experiences of having to engage in a formal manner with the rubric suggests that such mediation may have a positive impact on their understanding of assessment expectations.

A final point to be made here, which was not investigated in this study but emerged through the analysis process, relates to the power relations associated with the use of rubrics. In our analysis, the lecturer's ratings were assumed to be correct and were taken as the benchmark against which student ratings were assessed. However, one must question whether such an assumption is valid – particularly if students must take 'ownership' of these rubrics. Joint ownership requires joint authority and joint responsibility and, therefore, rubrics may need to be co-authored artefacts wherein the expectations and assessments of lecturers, tutors and students are given equal validation. How feasible this is in a wide variety of contexts will need to be a subject of future research.

In conclusion, this study has shown that assessment rubrics are socio-cultural and social artefacts that require mediation before joint ownership can be assumed. Without such mediation, rubrics may fail to embody transparent and accountable assessment, instead becoming merely an empty symbol thereof. Academics should create opportunities for students to engage with rubrics as mediated artefacts, with the assessment criteria contained therein unpacked and contextualised. Otherwise, students may effectively be graded using a system that they have little understanding of, thereby defeating the very purpose of the rubric.

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APPENDIX 1 – ASSESSMENT RUBRIC (CIVIL ENGINEERING STUDENTS)

	CRITERIA	VERY WEAK	NEEDS WORK	SATISFACTORY	GOOD	EXCELLENT	MARK
		0 – 34%	**35 – 49%**	**50 – 64%**	**65 – 74%**	**75 – 100%**	
CONTENT 50	**Situational analysis of area chosen (10)**	**0 – 3**	**3½ – 4½**	**5 - 6**	**6½ - 7**	**7½ - 10**	
		No mention / description of chosen area or inappropriate area chosen for the assignment	Description of the area but failure to draw attention to deprivations	Appropriate area selection and adequate description	Clear and specific situational analysis of area	Exceptionally lucid situational analysis and significant understanding of deprivations present	
	Social and economic impact of engineering activity (15)	**0 – 5**	**5½ - 7**	**7½ – 9½**	**10 – 11**	**11½ - 15**	
		No awareness of social / economic impact of engineering activity	Incomplete understanding of social / economic impact of engineering activity	Sufficient awareness of social / economic impact of engineering activity	Good awareness of social / economic impact of engineering activity	Unusual ability to think through social / economic impact of engineering activity	
	Insight, analysis and depth of thinking (15)	**0 – 5**	**5½ - 7**	**7½ – 9½**	**10 – 11**	**11½ - 15**	
		No evidence of skill in insight, analysis, application and critical thinking and inability to relate knowledge to chosen area	Little evidence of the expected level of insight, analysis, application and critical thinking and inability to fully relate knowledge to chosen area	Some evidence of skill in insight, analysis, application and critical thinking and ability to relate knowledge to chosen area	Ability to relate knowledge to chosen area using insight, analysis, application and critical thinking	Exceptional skill in insight, analysis, application and critical thinking and remarkable ability to relate knowledge to chosen area	
	Integration of research (10)	**0 – 3**	**3½ – 4½**	**5 – 6**	**6½ - 7**	**7½ - 10**	
		No research undertaken	Little research undertaken and/or sources misunderstood and poorly utilized	Some relevant research undertaken and generally well-used in the report	A number of sources consulted and used to good effect throughout the report	Wide range of sources used, well-researched, and excellent understanding / integration of sources	

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MECHANICS 25	**Editing (10)**	**0 - 3**	**3½ – 4½**	**5 - 6**	**6½ - 7**	**7½ - 10**	
		Meaning is unclear throughout the report	At times, meaning is unclear	A few errors per page but meaning remains clear at all times	Only a few errors in the report	Flawless text	
	In-text referencing (5)	**0 – 1½**	**2**	**2½ - 3**	**3½**	**4 - 5**	
		No in-text referencing	Some sources are not acknowledged or all citations are incorrectly formatted	All sources are acknowledged but with some errors in formatting	All sources are acknowledged with very few errors in formatting	All sources are flawlessly acknowledged and integrated into the text	
	Reference list (5)	**0 – 1½**	**2**	**2½ - 3**	**3½**	**4 - 5**	
		No reference list provided	Reference list incomplete and / or all entries incorrectly formatted	All sources cited in text included in reference list but some errors in formatting	All sources cited in text included in reference list with very few errors in formatting	Flawless reference list provided	
	Formatting and Layout (5)	**0 – 1½**	**2**	**2½ - 3**	**3½**	**4 - 5**	
		No attention has been paid to formatting, layout and general document preparation	Document preparation has received some attention, but does not meet standards expected	All major document design considerations adhered to albeit with some minor errors	All document design considerations adhered to with only one or two minor errors	The document has been flawlessly designed, formatted and laid out	
ORGANIZATION 25	**Introduction (5)**	**0 – 1½**	**2**	**2½ - 3**	**3½**	**4 - 5**	
		No introduction	Introduction does not fulfill all expectations	Introduction contains standard components	Introduction contains standard components and is well-organized	Exceptional introduction	
	Para-graphing (5)	**0 – 1½**	**2**	**2½ - 3**	**3½**	**4 - 5**	
		No thought applied to paragraphing	Most paragraphs are unclear/confused/disjointed/poorly developed	Most paragraphs are clear, focused and well developed	All paragraphs are clear, focused and well-developed	Paragraphing is flawless	
	Conclusion (5)	**0 – 1½**	**2**	**2½ - 3**	**3½**	**4 - 5**	
		No conclusion	Conclusion does not fulfill all expectations	Conclusion contains standard components	Conclusion contains standard components and is well-organized	Exceptional conclusion	
	Logic (10)	**0 - 3**	**3½ – 4½**	**5 - 6**	**6½ - 7**	**7½ - 10**	
		Report is confusing and does not address the given topic	Much of the report is off-topic and it is generally difficult to follow	Report reads smoothly, but some areas are unclear/illogical/irrelevant	Report reads well throughout and is easy to follow	Report is flawlessly logical and exceptionally easy to follow	

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APPENDIX 2 – ASSESSMENT RUBRIC (GEOGRAPHY STUDENTS)

Rating	**Mark %**	**Content (50%)**	**Form (20%)**	**Language and vocabulary (10%)**	**Writing Style (10%)**	**Referencing (10%)**
Excellent	95 90 85 80	Excellent critical and conceptual analysis. Subject matter comprehensively and accurately presented. Well argued. Relevant reading effectively incorporated.	Excellently organised and presented. Argument concisely and systematically developed with a very well-thought out introduction and conclusion. Introduction, conclusion, excellent paragraphing with excellent side headings.	Extremely high standards of spelling, punctuation, vocabulary and grammar. Mistakes are rare. Easy to read.	Totally appropriate use of language – re content and intention. Strongly academic in orientation.	Good citations throughout. All references correct. Citations match reference list at end. All 4 references listed
Very good	74 72	Good critical and conceptual analysis. Subject matter effectively covered and accurately presented. Well argued. Relevant reading effectively incorporated.	Well organised and presented. Argument concisely and systematically developed with a well thought out introduction and conclusion. Introduction, conclusion, very good paragraphing with very good side headings	Good standards of spelling, punctuation, vocabulary and grammar. Few errors. Relatively easy to read.	Appropriate use of language – re content and intention. Academic in orientation.	Some citations throughout. Citations mostly correct. Citations match reference list most of the time. 3-4 sources referenced.
Good	68 65 62	More descriptive than critical and conceptual. Analysis lacks clarity in parts. Did demonstrate understanding of subject matter. Evident that reading was done, but not effectively used.	Fairly well organised and presented. The writing is coherent. Ideas are developed, but needs work. There is an introduction and conclusion, but not well integrated into the report. Introduction, conclusion, good paragraphing with good side headings	Reasonable standards of spelling, punctuation, vocabulary and grammar. There are errors, but still readable.	Style needs work, especially phrases and expressions. Not always academic in orientation.	Each paragraph has at least ONE citation. Errors in citation and reference list. Insufficient references
Average	58 55 52	Perfunctory, superficial and mechanical. Mostly descriptive. Incomplete understanding of subject. Little evidence of deep reading.	Organisation and presentation acceptable. An attempt has been made to develop an argument but it is unsystematic and redundant at times. There is some irrelevant material. The introduction and conclusion do not relate well to the rest of the work. Paragraphing and side headings need work.	Can be read, but there are many errors in spelling, punctuation, vocabulary and grammar.	Style needs work, especially phrases and expressions. Tone not consistent. Academic in orientation some of the time.	Some paragraphs lack citations. Not enough citations. Mismatches between citations and reference list. Too few sources used.

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FAIL	49 to 36	Perfunctory, superficial and mechanical. Totally descriptive. Narrow in conception. Little evidence of reading for understanding. Inaccuracies. May have misunderstood the question/task.	Organisation and presentation are poor. Little attempt to develop an argument. Irrelevant material occurs in many places. The introduction and conclusion are very weak. Paragraphing and side headings weak.	Not easily read and understood. Frequent errors in spelling, punctuation, vocabulary and grammar. Needs help with the language.	Stylistically poor and inappropriate in places. Needs editing and re-writing for clarity of meaning. Needs academic writing support.	Very few citations. Many errors in citations and reference list. Totally inadequate number of references.
FAIL	35 or less	Very little evidence of understanding or reading. Serious inaccuracies. May have misunderstood the question/task.	Organisation and presentation very poor. No attempt to develop an argument. Lots of unnecessary material. No introduction or conclusion to speak of. No or very poor paragraphing.	Mostly unintelligible. Lots of errors in spelling, punctuation, vocabulary and grammar. Not at a suitable level of tertiary study.	Stylistically very poor and inappropriate most of the time. Not at suitable level for tertiary study.	Very few citations. Errors all the time. Too few references

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