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While marking rubrics offer a range of potential benefits for students and staff, educators are working to develop a richer understanding of the most effective ways to unlock these benefits. This study contributes by examining the link between rubrics and performance through the lens of student engagement. The work introduced an assessment rubric and examined student grades across three conditions: i) when students do/do not have the marking rubric, ii) when students do/do not engage with a discussion about how and why to use the rubric, and iii) when students do/do not engage with the rubric discussion plus additional resources. The results indicate that simply providing a rubric does not necessarily lift student performance whereas higher grades are evident when students engage with discussing the rubric. Further analysis showed that grades were ever higher when students engaged with the rubric discussion plus additional resources. The findings have practical implications for effectively using rubrics and fostering improved performance through student engagement.

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Literature review

Rubrics and academic performance

Education literature broadly supports the use of marking rubrics as scoring guides to evaluate students' work. Rubrics list the criteria against which an assessment will be marked and the different marks or performance levels for those criteria (Reddy & Andrade 2010; Smith, Sadler & Davies 2014). There are two distinct types of rubrics: holistic and analytic (Dawson 2015). Holistic rubrics aggregate the assessment criteria in a single performance scale to elicit one overall measure of achievement. In contrast, analytic rubrics delineate the criteria, tallying marks for each one to reach a total mark. This type of rubric is formatted as a table with the criteria in rows, the marks or levels in columns, and performance level descriptions in the cells. The nature and extent of the details in cells tend to vary depending on the purpose of the rubric (Curtin University of Technology 2014; Taylor & Da Silva 2013). For instance, the details in generic rubrics that are multi-use or Faculty-wide instruments necessarily differ to the details in task-specific rubrics that are tailored to a given assessment (Dawson 2015).

Using rubrics for evaluation and feedback has several potential advantages for educators. For instance, the clarity and transparency of performance descriptions in rubrics can make the marking process faster, easier and more consistent (Bayerlein 2014; Reddy & Andrade 2010; Mullinix 2014). This helps with managing workload constraints and coordinating the marking of large teaching teams (Smith, Sadler & Davies 2014; Taylor & Da Silva 2013), and minimising the disadvantages of declining face-to-face interactions due to online and blended learning environments (Bayerlein 2014). Using rubrics can also help with the development and training of new staff (Czekanski & Wolf 2013). Furthermore, when used as a feedback mechanism, rubrics may help students to understand the basis of their mark and areas to improve – which may, in turn, reduce queries or disputes over marks (Reddy & Andrade 2010; Smith, Sadler & Davies 2014).

Educators also use rubrics for instructional purposes by providing students with the rubric when the assessment is set. This approach holds that providing the rubric in advance helps to clarify expectations, provides guidance and ultimately enhances academic performance (Reddy & Andrade 2010; Taylor & Da Silva 2013). In an exploratory study, Petkov and Petkova (2006) provided one of two classes with an advance copy of the marking rubric and found that the mean marks was higher for students who received it than those who did not. On a larger scale,

Reitmeier, Svendsen and Vrchota (2004) compared two instances of a course where only one cohort had advance access to a rubric. Their results identified higher average marks among the rubric cohort. More recently, Greenberg (2015) found that students who used a rubric as a guide prepared higher-quality written reports than those who did not.

However, the efficacy of rubrics in improving student outcomes is not clear-cut. For instance, Wolters (2003) discusses the possibility that enhanced performance may reflect a reduction in student anxiety as opposed to any pedagogical value a rubric may have. Greenberg (2015) acknowledges that higher marks may, to some extent, reflect students learning to use rubrics as opposed to developing core skills and competencies. In this regard, a study by Green and Bowser (2006) compared the performance of two cohorts and found no significant differences between students who did and did not have the rubric in advance. Notably, though, the authors indicated that the cohort given the rubric were first-time users and did not receive instruction on how to use the rubric as a guide. Where this case may lend weight to the view that students learn to use rubrics as opposed to learning the core skills, the results also highlight the importance of distinguishing between "educators providing a rubric" versus "students engaging with the rubric".

Andrade (2001) argues that simply providing a rubric to students is not sufficient to enhance performance outcomes; rather, student engagement with the rubric is necessary. Various studies show that when students have little or no involvement with the otherwise available rubric, the effect on marks can be minimal or inconsistent (Jonsson & Svingby 2007; Panadero & Jonsson 2013). In this sense, some educators recommend engaging students by involving them in the rubric-development process (Mullinex 2014; Smith, Sadler & Davies 2014) or discussing at length a previously developed rubric's criteria and performance descriptions (e.g., Peeters, Sahloff & Stone 2010; Timmerman, Strickland, Johnson & Payne 2011). Taking matters a step further, others indicate that the optimal conditions for performance involve providing a rubric in conjunction with a range of activities or materials that scaffold the rubric and the assessment task (Panadero & Jonsson 2013).

Overall, the literature suggests that student engagement may be a mediating factor in any relationship between rubrics and enhanced academic performance. Nevertheless, further research needs to affirm and extend the evidence in this area (Panadero & Jonsson 2013). The current study provides a contribution by examining the link between rubrics and marks through the lens of

student engagement: both with the rubric and with other assessment-related resources. Towards this end, the following section examines the concept of engagement before developing the research hypotheses and method.

Student engagement

Student engagement is an important factor in learning, retention and performance (Gunuc & Kuz 2015). Broadly, engagement refers to a student's psychological investment, effort and interest in learning. The applied meaning of engagement may vary across contexts (Hagel, Carr & Devlin 2012; Steele & Fullagar 2009). For example, the nature of engagement may differ at various levels of learning, such as engagement with a task or course versus engagement with a degree or engagement with higher education overall (Bryson & Hand 2007). Notably, too, an individual does not necessarily engage to the same extent over each level of learning (Bryson & Hand 2007). For instance, high engagement at the degree level does not ensure high engagement with each assessment task for that degree. Because the current study examines a task-specific rubric, focusing on engagement at the task level (i.e., engagement with the relevant assessment) is most appropriate.

The meaning of engagement also varies on ideological lines. The key perspectives in this area are i) rational/technical, ii) critical/transformative and iii) interpretive/student-centred, as discussed by Hagel, Carr and Devlin (2012) as well as Vibert and Shields (2003).

The rational/technical perspective is largely teacher-oriented and views learning as preparation for life and work. Through this lens, educators prepare activities that they deem important to helping students prepare for life and work, and student engagement equates to completing the required tasks. While making tasks compulsory fosters completion, this approach may obscure whether students were motived by genuine interest or the need to comply (Hagel, Carr & Devlin 2012; Vibert & Shields 2003). A further consideration is the extent to which imposing requirements for attendance and activities would align with a university's conventions or policies. In this case, making the intended aspects compulsory would not be feasible or indicative of the typical learning environment, and thus the current work did not adopt the rational/technical perspective of engagement.

The critical/transformative perspective sees learning as a way to transform individuals, communities and society (Hagel, Carr & Devlin 2012; Vibert & Shields 2003). This approach encourages learners to question and reframe their beliefs and sense of the world (Hodge 2011). This type of engagement demands critical reflection and a transformation of one's perspective. The ideology offers a framework of values and principles that may add direction and purpose to completing a degree. Inherently, though, transformative learning does not readily deal with the type of skills and knowledge that are typically measured in assessment tasks (Hodge 2011). Thus, the researchers in the current study felt that the critical/transformative view was better suited to examining engagement with a degree or with higher education in general, as opposed to engagement with a task-specific marking rubric.

Ultimately, the interpretive/student-centred perspective emerged as best suited to the current purpose. This perspective views learning as a process of interpreting and constructing meaning from experience. Students are offered autonomy and choices about what and how they learn, within the parameters of the course requirements (Hagel, Carr & Devlin 2012; Vibert & Shields 2003). By extension, engagement may involve reflecting on personal experience, self-selected participation in activities, contributing to discussions and taking responsibility. This approach is consistent with using rubrics for instructional purposes (Panadero & Jonsson 2013), and the attributes align with the current study's assessment task. As discussed below, the assessment asks students to reflect on and analyse a real-life service experience in a learning environment that offers autonomy and choice in various decisions (e.g., self-selected involvement with activities and materials). This interpretive/student-centred perspective contributed to forming the research hypotheses and designing the assessment.

Research hypotheses and approach

The current study seeks to contribute to the literature by examining the link between rubrics and academic performance through the lens of student engagement. In particular, the study examines three conditions: i) when students are or aren't provided with the rubric in advance, ii) when students do or don't engage in an instructional discussion about the rubric and iii) when students do or don't engage with the rubric discussion and other assessment-related resources.

The first condition examines the position that simply providing a rubric is not enough to improve marks (e.g., Andrade 2001; Green & Bowser 2006). The literature offers several examples of studies that compare mean marks attained by cohorts that differ only in terms of whether they did

or did not receive the rubric in advance. As discussed earlier, however, the findings can be inconsistent and raise questions about educators providing rubrics versus students engaging with rubrics. This part of the study looks at "provision" with a view towards exploring "engagement" in the next part. The hypothesis (H1) for this part is as follows:

> H1: *The mean assessment mark for students who do versus do not have the marking rubric in advance will be equal.*

The second part of the study examines the view that average marks will be higher for students who engage with the rubric. Previous authors encourage educators to engage students in an instructive discussion about the criteria and performance levels, potentially even contributing to the instrument development (e.g., Panadero & Jonsson, 2013; Smith, Sadler & Davies 2014). To examine this view, two groups of students should each have access to the rubric and differ in terms of whether they do or do not engage in the instructive discussion. The hypothesis (H2) for this part of the study is as follows:

> H2: *The mean assessment task mark will be higher for students who engage in an instructional discussion about the rubric than for students who do not engage in the discussion.*

The third part of the study examines the proposition that average marks will be higher again among students who engage with the rubric *and* other assessment-related learning activities. This proposition assumes that all students have access to the rubric, a discussion about the rubric and additional resources for the assessment. While theory and logic support this idea, few (if any) studies quantify the outcomes, while others are vulnerable to concerns about not having delineated the role of the rubric (Panadero & Jonsson 2013). The current study addresses these concerns by sorting students according to the type and number of learning activities with which they engage, then comparing marks across the groups. The hypothesis (H3) for this part of the study is as follows:

> H3: *The mean assessment marks will be higher for students who engage in a discussion about the rubric plus other learning resources than for students who engage with fewer or none of these resources.*

Crucially, this study was part of a University Learning and Teaching project, and the work did not deprive any student of access to otherwise-available resources. The rubric was introduced as a subject improvement to augment an established assessment. Comparing the assessment marks for students who did or did not have the rubric (H1) involved comparing marks from the "rubric instance" of the subject to marks from a "pre-rubric" instance" that had been completed 12 months earlier. Using historical data or course artefacts in this way allows educators to evaluate subject revisions in a natural setting without raising the ethical issue of denying some students access to a resource (e.g., Reitmeier, Svendsen & Vrchota 2004).

In relation to whether the rubric-instance students did or did not engage with the discussion about the rubric and other learning activities (H2 and H3), all students had access to all of the learning resources. In line with the student-centred perspective, students were free to choose whether, and with what, they would engage. The lecturer recommended engaging with all options, but, ultimately, students self-selected their involvement. In addition to being student-centred, this emulated the cohort's typical learning environment, and thereby fostered natural behaviour (i.e., neither skewed nor constrained by research conditions). Data and attendance records collected as part of the normal subject administration provided the details to retrospectively determine each student's self-selected engagement.

For several reasons, the approach focused on direct observation of actual behaviour to assess engagement. Engagement comprises cognitions (e.g., thoughts, beliefs), emotions (e.g., feelings), and behaviour (e.g., actions) (Gunuc & Kuz, 2015; Hagel, Carr & Devlin 2012). Some studies examine all three aspects, often with self-reported measures (e.g., Fredricks, Blumenfeld & Paris, 2004; Gunuc & Kuz, 2015). However, such scales are vulnerable to bias and errors (e.g., socially desirable responses, inaccurate recall), and perhaps especially so in learning environments. Also, while self-reported engagement scales such as the NSSE and AUSSE have an important role in higher education, they do not necessarily align with a student-centred perspective or task-level engagement (see Hagel, Carr & Devlin 2012). In contrast, others assess engagement via observation of actual behaviours such as attendance, participation or performance (e.g., Reddy & Andrade 2010; Reitmeier, Svendsen & Vrchota, 2004). While this approach limits insight into motives, it can foster a more natural setting and reduce the risks associated with self-reported measures (Quester, Pettigrew, Kopandis, Hill & Hawkins 2014).

The methodology section below discusses the rubric, the assessment and the scaffolding activities in further detail.

Methodology

The study looked at two instances of an undergraduate marketing subject conducted one year apart at an Australian university. The subject was "Services Marketing", a 200-level core unit in the Marketing major at that time. The pre-rubric instance of the subject had 236 students and the rubric instance had 199 students. While the study did not collect demographic data for publication purposes, each cohort was typical for that university and subject level in terms of gender, age and mix of domestic and international backgrounds. There were no notable differences in entry requirements for the two cohorts. The same teaching staff delivered both instances of the subject. Furthermore, the relevant assessment – including the materials, key references, and related learning activities – was the same for both instances *except* for the introduction of the rubric and rubric discussion in the later instance.

The assessment involved preparing a critical incident report. Students selected a real-life dissatisfying service encounter from their personal experience, then described, analysed and proposed recommendations for the incident. Two key frameworks guided the work: the Critical Incident Technique (CIT) and the Gaps Model of Service Quality. The CIT is widely used in services research as an interview method through which to explore service incidents, experiences and processes from the customer's perspective (Gremler 2004). The Gaps Model of Service Quality is a well-known framework for modelling and managing service design and delivery (Zeithaml, Bitner & Gremler 2013). Students used the CIT method to structure their "customer-view" description of the incident and the Gaps Model to guide their analysis of the causes and recommendations for services managers.

The development of the task-specific analytic rubric incorporated insight from various sources. For instance, the descriptions of the design and performance criteria were informed by scholarly research articles (e.g., Bayerlein 2014; Peeters, Sahloff & Stone 2010; Taylor & Da Silva, 2013) and applied examples of rubrics (e.g., Curtin University of Technology 2014; Mullinix 2014; University of Southern Queensland 2014). The process also included insights obtained from

reviewing a sample of reports from the previous year, especially the marker's hand-written comments. Appendix 1 presents an abbreviated copy of the rubric.

The marking rubric and a report guide for students were posted on the subject's eLearning (Moodle) website and discussed in a lecture. The two-page report guide provided details, tips and key references for the work. The lecture schedule and verbal reminders informed students of the timing for discussing the project. The relevant lecture outlined the reasons for using rubrics and invited students to share their prior experiences before focusing on the details of the rubric for this report and inviting comments or questions. The comments from students prompted some minor revisions to wording (to clarify meaning rather than to change the substance). The updated rubric was posted on the eLearning site soon after.

In additional to the printed materials and lecture discussion, two tutorials scaffolded the assessment. In one tutorial, students formed small groups and role-played the key sections of the report. That is, they used the CIT method to role-play a customer interview, then used the Gaps Model to analyse the incident and make managerial recommendations. In the next tutorial, small groups performed a more detailed gap analysis based on a case study from the textbook (rather than a role-played CIT interview). These practice tasks were run in both the pre-rubric and rubric instances of the subject.

Overall, this design created four key touch points for engaging with the assessment task in the rubric instance:

i) Accessing the report guide online (Access Guide),
ii) Accessing the rubric online (Access Rubric),
iii) Attending the instructional discussion of the rubric (Rubric Discussion) and
iv) Attending the practice task tutorials (Tutorials).

The eLearning site recorded student access to the online materials. The researcher reasoned that accessing the materials more than one week prior to the assessment due date suitably distinguished "engaged" students from "compliant" or "otherwise busy" students who started the task fewer than seven days from the due date. Student sign-on sheets used at all lectures and tutorials in the subject captured engagement with the attendance-based touch points.

The final measure was the student marks for the assessment task. In both instances of the subject, various analyses were used to check for consistency across the markers before finalising the students' marks. This included examining a sample of marked assessments to ensure reliability and agreement between markers as well as comparing descriptive statistics (mean, standard deviation and range) of the final marks from each marker. Using marks as the performance outcome aligned with examining task-level engagement (Bryson & Hand 2007).

The data analyses were performed using SPSS Version 22. This included extracting descriptive statistics as well as performing independent samples t-tests (for H1 and H2) and one-way ANOVA (for H3) to test the hypotheses. Along with **[?]** the t-tests, Levene's tests for equality of variance confirmed that the data was suitably homogenous. With the ANOVA, post-hoc analyses using the Tukey method examined the differences between groups.

Results

The first analysis examined the view that simply providing a rubric is not enough to improve marks. The hypothesis looked solely at the presence or absence of a rubric to propose that mean marks would be equal in pre- and post-rubric instances of the assessment (H1). This reflected observations from the literature of inconsistent findings when using only absence/presence criteria. Table 1 indicates that the mean mark attained prior to introducing the rubric was 61.1%, and the mean mark with the rubric was 59.0%, which was 2.1 percentage points lower. On the surface, this suggests no improvement – or a decline – in performance after introducing the rubric. However, the independent sample t-test indicated that the difference in means was not statistically significant and may have been due to chance ($t_{(433)} = 1.41$, $p = .160$). Arguably, the absence of a significant result reaffirms the need to look beyond the simple presence or absence of a rubric to instead consider student engagement.

Table 1. Assessment marks for pre-rubric and rubric subject instances

Subject Instance	N	Mean	SD	t	df	Sig. (2-tailed)
Pre-Rubric	236	61.1	15.1	1.41	433	.160
Rubric	199	59.0	15.7			

The second analysis examined the view that mean marks in the rubric cohort would be higher for students who engaged with a lecture discussion about the rubric (H2). That discussion explored reasons for using rubrics and the performance criteria in this subject's rubric. As Table 2 indicates, 109 students did not attend the discussion, while 90 did. The mean mark of the "No Engagement" group was 55.7%, while the "Engagement" group attained a mean of 63.0%, which was 7.3 percentage points higher. The t-test comparison of means indicated that the result was significant ($t_{(197)}$ = -3.36, p = .001), which supports Hypothesis 2. The result reaffirms that simply providing a rubric does not necessarily lift student performance, whereas higher marks are evident when students engage in a discussion about why and how to use the rubric.

Table 2. Assessment marks by engagement with rubric discussion

Engagement with Discussion	N	Mean	SD	t	df	Sig. (2-tailed)
No Engagement	109	55.7	14.9	-3.36	197	.001
Engagement	90	63.0	15.8			

The third analysis examined the proposition that mean marks would be higher again among students who engaged with the rubric discussion *and* other related learning resources (these included proactively accessing the rubric and report guide online as well as attending the tutorials with practice tasks) (H3). The relevant access and attendance records determined students' self-selected engagement category. Table 3 presents descriptive statistics regarding the number of students and mean assessment marks for each category. Notably, the means steadily increased with the number of additional learning resources with which the students engaged. This started from the base of 55.7% for the "No Rubric Discussion" group, then rose to 60.4% for "Rubric Discussion plus 1 Resource" and 63.4% for "Rubric Discussion plus 2 Resources", finally reaching a mean mark of 70.2% for students in the "Rubric Discussion plus 3 Resources" group.

Table 3. Descriptive statistics for engagement with rubric discussion and other resources

Engagement	N	Mean	SD
No Rubric Discussion	109	55.7	14.9
Rubric Discussion plus Nil Resources*	3	53.3	6.8
Rubric Discussion plus 1 Resource	25	60.4	17.8

Rubric Discussion plus 2 Resources	52	63.4	14.9
Rubric Discussion plus 3 Resources	10	70.2	16.4

* Group size too small to meaningfully analyse

Differences between the groups were examined using one-way ANOVA. The results in Table 4 indicate significant between-group differences ($F_{(4, 194)} = 3.951$, $p = .004$). Post-hoc analysis using the Tukey method located the differences as being between the "No Rubric Discussion" group and "Rubric Discussion plus 2 Resources" group (mean difference = 7.8%, $p = 0.023$), as well as the "Rubric Discussion plus 3 Resources" group (mean difference = 14.5%, $p = .036$). These results support H3, which proposed that the mean assessment task mark would be higher for students who engaged with the rubric discussion plus additional learning resources. In particular, performance improved most when students engaged with the rubric discussion plus two or three additional scaffolding resources.

Table 4. One-way ANOVA for engaging with rubric discussion plus other resources

	Sum of Squares	df	Mean Square	F	Sig.
Between groups	3699.11	4	924.78	3.951	.004
Within groups	45411.85	194	234.01		
Total	49110.96	198			

Conclusion

Educators face increasing pressure to do more with less: to foster ever better learning experiences and outcomes; to adopt innovative teaching methods and technologies; to manage increasingly time-poor or otherwise absent students; and to absorb these imperatives into their already compressed workloads. In this environment, marking rubrics can provide a valuable contribution. For staff, rubrics can make the marking process faster, easier and more consistent (Bayerlein 2014; Reddy & Andrade 2010; Mullinix 2014). When given to students in advance, rubrics can help to clarify expectations, provide guidance and direction, reduce task-related anxiety and ultimately enhance learning outcomes – to the benefit of staff as well as students (Jonsson 2014; Reddy & Andrade 2010; Taylor & Da Silva 2013).

Crucially, though, simply providing a rubric is not enough to unlock its potential benefits. For instance, designing a *quality* rubric can be challenging and time-consuming (Dawson 2015; Timmerman, Strickland, Johnson & Payne 2011). Publishing the document online for students does not assure use or learning (Gillings & Williamson 2015; Lamberts & Grant 2012). First-time student users may need guidance on why and how to use a rubric (Green & Bowser 2006; Peeters, Sahloff & Stone 2010). And, more broadly, the literature suggests that unlocking its advantages requires student engagement with both the rubric and additional task-related learning resources (Panadero & Jonsson 2013). However, with the literature also offering mixed or inconsistent findings, educators are working to develop a richer understanding of the most effective ways to use rubrics and draw out their potential benefits.

The current study contributed to these efforts by examining the link between rubrics and marks through the lens of student engagement. This involved introducing a task-specific analytic rubric to augment an otherwise established assessment, then examining student marks relative to different levels of engagement. The first of three hypotheses set a baseline for the work by comparing marks from pre- and post-rubric instances of the assessment. This design was knowingly simplistic and produced inconclusive results: marks appeared to decline after introducing the rubric, but the result was not statistically significant. Relative to the literature and subsequent analyses, this reaffirmed that looking only at absence/presence criteria can produce mixed or even misleading results. Instead, more-nuanced approaches to using and assessing rubrics are required.

The remaining analyses focused on performance among students in the post-rubric cohort. This included comparing marks for students who did and did not engage with a discussion about the rubric. The significant result identified higher marks for the engaged group: students who attended the discussion attained a mean mark of 63.0%, compared to 55.7% for non-attending students. Further analysis showed that mean marks steadily increased when students engaged with the rubric discussion and additional learning resources. In particular, the mean reached 70.2% for students who engaged with all of the resource options. Notably, too, the difference in means between no engagement (mean = 55.7%) and full engagement (mean = 70.2%) students approached 15 percentage points. Overall, the results highlight the importance of the context in which a rubric is introduced as well as the context of student engagement.

Emerging from this work are three key implications for educators. The first relates to scaffolding a rubric: while it is possible to think of rubrics *as* scaffolding, the difference in marks for students who did or did not engage with discussing the rubric shows that the rubric itself *needs* scaffolding. In this case, a scheduled discussion outlined how and why rubrics are used, explored students' prior experience with rubrics and examined the given rubric's performance criteria in detail. Students who engaged with the discussion performed more strongly than students who did not engage. Thus, the first implication for educators is to facilitate and foster student engagement with an instructive discussion about using the rubric.

The second implication relates to using rubrics within a suite of learning resources. In this case, several resources supported the assessment: the online rubric, the rubric discussion, a printed report guide with tips and references and two tutorials that included practice tasks. While the results clearly support engaging students in a discussion about the rubric, marks were highest among students who engaged with the rubric discussion *plus* additional learning resources. This study did not attempt to delineate and quantify the value of each resource, and doing so may not necessarily be practical given the potential for variation across learning styles and preferences. The emerging implication, though, is a reminder to educators (and students) that while rubrics are not "silver bullets", they can be a valuable part of suite of resources.

Third, the findings offer empirical evidence to affirm what many educators may intuitively believe about the importance of student engagement. The research design did not impose access restrictions on any of the learning activities or resources: using the student-centred perspective of engagement, all students had access to all resources, and whether they engaged was a matter of self-selection. By capturing students' natural behaviour, not biased or skewed by research conditions, the data was more likely to reflect the typical learning environment. In this way, the findings may help to refine data-driven goals and expectations for using rubrics. Showing such data to students may also provide evidence that encourages their engagement with the range of available resources.

At the same time, readers should consider the findings relative to two key limitations. First, this study examined two instances of an assessment conducted one year apart that were otherwise the same except for having introduced a rubric in the second instance. The focus on one assessment only and the similarities between subject instances (e.g., student cohorts, teaching team) reduced

several sources of potential variability. However, it also narrowed the scale and scope of the work. Replicating the research with different assessments, student cohorts and teaching teams would help to establish the reliability of the findings across different contexts.

A further consideration relates to "engagement". The literature review unearthed various perspectives on engagement and approaches to measuring the construct. The discussion concluded that an interpretive, student-centred perspective (e.g., autonomy, learning through experience) and measuring engagement through observed behaviour (e.g., self-selected participation) was justifiable and appropriate for the current context. This position aligned with the task-specific focus, the nature of the assessment and the students' usual learning environment. This approach helped to foster a natural setting and realistic behaviour. However, readers should be mindful that this study assumes a particular view of engagement that may not be consistent with, or most appropriate for, other contexts. For example, examining engagement with a degree from a transformative learning perspective is more likely to involve measuring cognitive processes and attitudes than observable behaviour and assessment marks.

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Appendix: Critical Incident Report Rubric

	Fail	Pass	Credit	Distinction	High Distinction
Executive Summary	Offers limited insight on report details and/or mostly describes structure	Provides general idea but under-developed and/or lacks key details	Includes most details but some gaps; editing would improve clarity or structure	High standard; some details overlooked and/or need clarifying	Well structured, clear, comprehensive, and very professional
1. Critical Incident Description	Did not selected suitable incident and/or shows limited understanding of task requirements	Appropriate incident selected; mostly competent; ideas require development	Appropriate incident selected; competent description; some editing required to address language and/or style issues	Appropriate incident and structure; high standard; some minor clarity issues	Appropriate incident selected; description well structured, clear, comprehensive, and very professional
2. Critical Incident Analysis	Analysis is unclear and/or not linked to the incident. Does not fulfil key task requirements	Competent; raises some good points but is under-developed with limited links to incident and/or theory	Generally thorough and capable analysis; stronger links to theory and/or incident details would strengthen	Thorough analysis and clear concepts; minor oversights and/or inconsistencies in evidence for opinion	Analysis insightful and instructive; concepts explained clearly; logic compelling and easy to follow
3. Recommendations to Provider	Unclear, not linked to the incident analysis and/or little evidence to support ideas	Generally competent but under-developed, limited support and/or lack of justification for ideas	Good points and ideas; additional evidence and/or editing needed to strengthen or clarify arguments	Insightful and practical; links incident analysis with evidence; minor revisions would strengthen	Insightful, practical and instructive; clear links from incident analysis to theory/ empirical research