Students' use of online rubrics: Unexpected digital barriers to feedback literacy development

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Abstract

While studies have extolled the value of using online rubrics, the benefits have usually been presented in terms of enhancing marking or delivery of teacher feedback. These benefits are welcome, but they nonetheless couch digital as simply an improved way for "old paradigm" transmission approaches to feedback that do little to help students develop feedback literacy. This study therefore investigates whether the affordances of online rubrics might also enhance students' metacognitive engagement with feedback. Five qualitative case studies followed students over 1-2 semesters as they submitted multiple pieces of work and received online feedback, including rubrics, via Turnitin Feedback Studio. Student perceptions were investigated through interviews and student-recorded screencasts in which students followed a think-aloud protocol as they engaged with their online feedback. The findings indicate that counter to our hopes for digital enhancement, the online rubrics in these cases tended to actually inhibit feedback literacy development. At the same time, participants' online behaviours showed a range of useful strategies for making sense of and acting on online feedback, even when the online rubrics themselves are lacking. This is something that programme and assessment teams should draw on in order to maximise learners' engagement with and learning from online rubric feedback.

Keywords

Online rubrics, digital rubrics, feedback literacy, formative feedback, TurnItIn.

Introduction

Assessment rubrics and feedback literacy

The growing use of rubrics as feedback and assessment tools that can enhance students' learning has prompted an accompanying growth of rubric research in higher education. While there have been strong criticisms of rubrics (e.g. Torrance, 2007; Sadler, 2009, 2014); the general trend in the research is positive, and the critiques thus far have not proven robust (Panadero and Jonsson, 2020). The various learning benefits of (considered, well-implemented) rubric use continue to be refined in the literature. For example, their noted effectiveness as a means of developing self-assessment judgement (Andrade and Du, 2005; Andrade, 2010) could be questioned as such benefits may well be due to instructional intervention – in these cases the teaching of self-assessment and rubric use skills – rather than showing evidence that rubrics *themselves* can help (Jonsson, 2014 p.841). However recent research has found that it is indeed the rubrics that are responsible for beneficial self-assessment development (Krebs, Rothstein and Roelle, 2022). Less common in the literature is investigation of whether the many learning benefits of rubric use carry over into the online or digital space, which, it need hardly be said, is increasingly where rubric use and all manner of assessment and feedback occur.

Online rubrics have been found to improve students' judgement of peer work in a MOOC environment (Ashton and Davies, 2015) though this was down to whether or not students received guidance, showing the same instructional intervention issue as previously noted rubric studies. Online rubrics have also been found to reduce the amount of time teachers spend creating feedback (Anglin *et al.*, 2008; Atkinson and Lim, 2013), allow analysis of consistency across a marking team (Reed, Watmough and Duvall, 2015), and increase teacher and student satisfaction with the feedback (McKinney, 2018).

Citation

While these benefits are beyond what paper-based rubrics could bring, they seem to pull online rubric use back into a so-called 'old paradigm' feedback approach (Winstone and Carless, 2022) where the emphasis is on one-way delivery of teacher comments and grades to students, rather than a more evolved feedback literacy understanding wherein students learn to appreciate the purpose and process of feedback, deal with its emotional aspects, and appropriately take action on it (pp.26-29). Being literate in this sense will have far more long-term beneficial impacts for a student than simply getting rubric feedback more quickly, more clearly, or more standardized. However, it has not yet been investigated whether the affordances of online rubrics can positively impact feedback literacy rather than just feedback deployment. The current study therefore examined how students used online rubrics, in this case in the Turnitin Feedback Studio platform, to see what feedback literacy benefits from rubrics in the online space could be observed.

Methodology and participants
Given the learner-centric nature of feedback literacy, we viewed this study as inherently qualitative, choosing to follow a few students in depth longitudinally via a case study approach to generate rich data related to each individual's feedback literacy development and how online rubrics were or were not present in that journey. Ethical approval for this study was granted via our Faculty Research Ethics Committee (reference LTSLCS-114) and signed consent was obtained from each participant. To be sure that all participants would have online rubrics as part of their feedback, we recruited students from our own School as school-wide online rubric use for both formative and summative assessment had been rolled out the previous year. Students were recruited via short promotional talks at the start of colleague's classes and through advertising in our self-access centre; engagement was entirely voluntary and none of our own students were recruited. Three participants engaged with the study across two semesters for academic year 2019-20, and as others had had to drop out due to Covid pressures, we recruited a further two students for the second semester for a total of five case studies.

To understand how students interacted with their online rubrics, while at the same time not guiding or coaching them in ways that would affect the validity of the study, we used a fusion data collection technique of screencasts with a think-aloud protocol. Students were asked to record a screencast of themselves accessing their feedback (just the screen, not their face) at whatever time and place they would normally do this, while speaking aloud what they were doing, thinking, or feeling. No time limits were suggested: length and focus were left entirely up to each student. We therefore hoped to diminish performativity and other impacts that might have occurred if a researcher had been present during student feedback use or if stricter guidance had been given. Students received 1-to-1 training in how to record and securely share the screencasts, and in how to follow the think-aloud protocol. For the latter, we asked students to engage in non-metacognitive verbalisation (Bowles, 2010), that is, they were asked to report what they were doing without necessarily interpreting their actions, thoughts, or feelings, thus reducing the cognitive load of thinking aloud. This likely made the recordings more accurate, and we further coached students to conduct their think-alouds concurrently, while they were performing the task of accessing their feedback, rather than retrospectively, thus additionally heightening accuracy (Ericsson and Simon, 1993). Each student brought their own laptop to the initial 1-to-1 training session and did a practice screencast think-aloud with support and encouragement from one of the researchers. This first meeting was also used to discuss how the study would work, make sure the participant was happy to sign the consent form, and discuss any questions.

Students were asked to make a screencast for each time they received online feedback in Turnitin. As students were English for Academic Purposes (EAP) students, studying advanced language use before entering their postgraduate studies, there were multiple formative and summative writing assignments throughout the semesters, a common feature in many EAP curricula, and therefore multiple possibilities for students to create screencasts. While not all assessments in the screencasts

had an online rubric as part of the feedback, we did not stipulate that a rubric had to be present, nor even share that we were only interested in rubrics, as this would likely have impacted the students' feedback use and what they chose to focus on while recording. As much as possible we wanted these narrated feedback-use videos to provide a window into the occluded practice of what students actually do with online feedback, allowing their engagement with the online rubric in particular to surface naturally. While we gave no rubric training, students had been shown the rubrics by their tutors and could access the rubrics in Word document form on the Virtual Learning Environment (VLE).

Each screencast was followed up (as scheduling allowed) with an open-ended, semi-structured interview to discuss the feedback interactions observed in the think-aloud video, and feedback beliefs and practices more generally. The interview schedule began with questions about the writing task the student had completed, then asked what they thought about the feedback and what they had done with it, then finally asked explicitly about the rubric. Where relevant, we also used stimulated recall (Gass and Mackey, 2016), showing students an image or snippet from their screencast as a prompt for them to comment on or further explain. As an additional data point, we wrote contact summary sheets for each student which were added to after each interview. While interviews were initially conducted face-to-face, the pressures of Covid moved them online during the study.

In total we had 18 screencasts and 12 interviews, with variance in the number from each student: on the highest end, S1 provided us with 6 screencasts and 3 interviews, while on the lowest end, S5 gave 2 screencasts and 2 interviews. (The difference is due in part to S4 and S5 being in the study for only one semester.) All data were transcribed, anonymised, and compiled into chronological cases, one per student. Each case was then iteratively reread and analysed in conjunction with viewings of the original screencasts to include more nuanced data elements that were beyond transcription, such as tone of voice and the actual content of the students' written work and teacher feedback. We employed a collaborative, reflexive coding approach to identify themes, or patterns of shared meaning (Braun and Clarke, 2019) across the cases, but also sought to preserve in our analysis each student's individual developing narrative (see Marinkova and Robbins, 2023 for more detail and a case-based rather than thematic analysis presentation of the data). Our analysis was inductive; we looked for repetition in observable online behaviours as well as explicit verbal comments to do with online rubrics, which led to the creation of three 'data domains' (Braun and Clarke, 2019): accessing online rubrics, making sense of online rubrics, and engaging with online rubrics. We built on these domains to arrive at the themes presented below.

Findings and discussion
What emerged from the data is five intriguing student journeys, all of which showed growth of feedback literacy to varying extents. However, as we wish to consider only where the online rubrics affected this growth, the findings here are presented by themes that emerged across the case studies.

Theme 1: Access not found
Perhaps surprisingly, the majority of participants (4/5) did not use the "View Rubric" button for the TurnItIn rubric (see Figure 1) in their first screencast with rubric feedback available. All students were motivated enough to take part in this voluntary study for which the only reward was the possibility to talk about feedback, and all had engaged with the in-text and overall feedback comments on their work in their screencasts. In other words, all were keen but the digital rubric presentation, requiring a further click to access, was less effective than an old-fashioned paper rubric would have been.
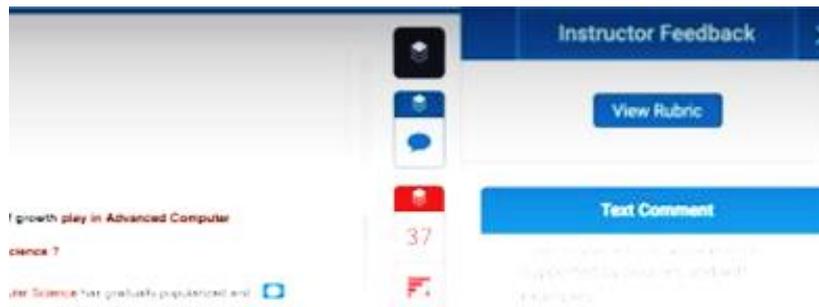
Figure 1. "View Rubric" button on TurnItIn.

This barrier cannot be ascribed to lack of knowledge about rubrics, since follow-up interviews revealed that participants had been made aware of rubrics by their tutors and did know where to find static rubrics (e.g., in Word file on the VLE). Nor can it be ascribed to low technical skills as these students all easily managed the many-stepped tech demands of the current study, and students were also able to explore the Turnitin interface. For instance, participant S3, a tech-savvy student completing a degree in Computing, found the Similarity check features herself but not the rubric. In the follow-up screencasts and interviews, participants S2, S3, and S5 – who had not found the online rubric initially – were eventually able to make (various) uses of the online rubric by the end of their course. However, participant S4 never did.

Theme 2: Interface is difficult to perceive, awkward to operate and hard to understand
Even once the online rubric was accessed, participants struggled with its inaccessible interface. As participant S1 comments in her screencast, once opened, the TurnItIn rubric appears as an overlay and covers the entire screen (see Figure 2), including tutor commentary and assignment script, preventing her from engaging with the online rubric feedback while also looking at her writing. This had obvious negative impact on her ability to actively engage with the rubric feedback.
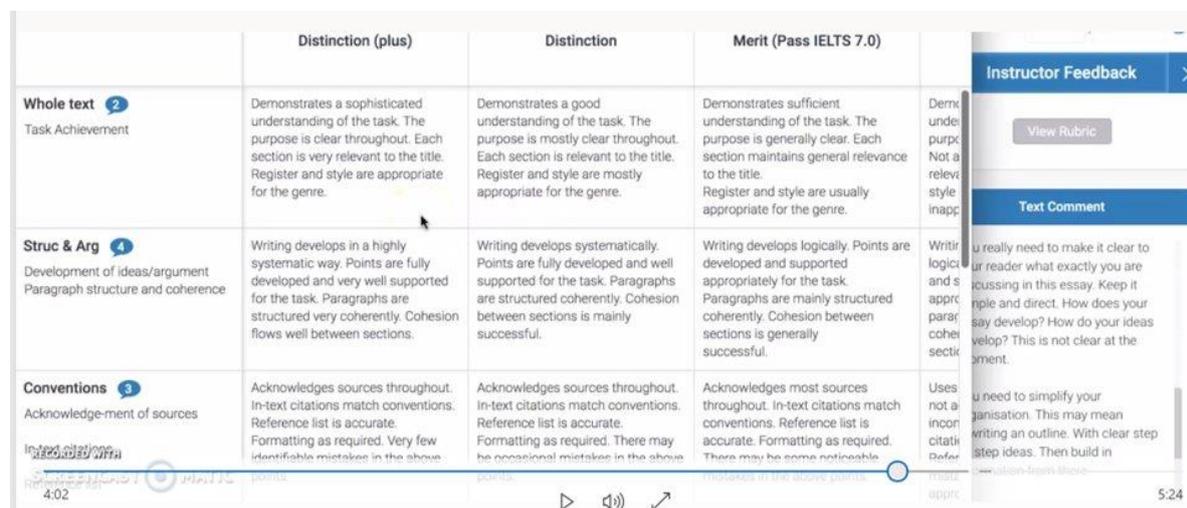
Figure 2. A full view of a TurnItIn rubric, blocking tutor comment and script.

As a motivated student who wanted to use the online rubric together with her writing and other feedback, she attempted digital workarounds. Initially she tried screenshotting the rubric but found "it's not possible to make screenshots because you see the whole text is not too clear and it's disappear." She then hit on a much more cumbersome method wherein she downloaded the static rubric document from the VLE and highlighted it according to what her teacher had selected in the online rubric. This meant that to use the online rubric as a learning tool, i.e., to make sense of her

feedback, S1 had to forsake its interactive affordances, such as hyperlinks to specific annotations in the script.

The easier approach might appear to be printing out the Turnitin rubric with teacher highlights already included, however, as participant S3 notes, the print view of the TurnItIn rubric is unwieldy. "I think the rubric is OK. But I think the print ....it's not easy. And I didn't see how to print it. It's…not simple to print it." What S3 explains is that when downloaded for printing, TurnItIn rubrics no longer appear as a succinct, 1- or 2-page table. Instead, the format is changed beyond recognition: criteria and associated band descriptors appear as a multi-page list below the assignment script, which is followed by another long list of in-text annotations (see Figure 3.). Students have to scroll up and down these lists in order to make sense of the different elements of online feedback: grade and tutor commentary, rubric descriptors and in-text annotations.

Figure 3. Print/Download view of a TurnItIn rubric.

Even when project participants managed to manipulate the rubric interface by minimising or moving screens around, they struggled seeing the band descriptors (i.e., rubric cells) that their tutors had selected and thus missed important learning opportunities. For instance, S4 was aware that a rubric shows the criteria against which students' work is assessed; however, she hadn't realised that the online rubrics can offer a breakdown of the grade for each criterion: "I didn't know about each part can be a grade". This gap in her assessment literacy was down to not being able to see the tutor highlights because of the online rubric design. In this case, the online rubric was used for categorical marking of a summative; in other words, within each band 3 defined points were used for mark allocation (e.g., 42 – 45 – 48). Categorical marking allows markers to use the online rubric to calculate the overall grade with considerable ease, precision and consistency (Isbell and Goomas, 2014). As a result, however, the number of descriptors (i.e., cells) per criterion can increase exponentially, making the rubric too crowded and descriptors hard to tell apart. Moreover, when opened in TurnItIn, the rubric view only shows up to 5 band levels (either at the top or bottom end of the grading scales). Given the sheer number of band descriptors used for categorical marking (over 10 in this case), and the fact that S4's grade was somewhere in the Merit range, all she could see when she opened the online rubric was the top end descriptors, which hadn't been selected (see Figure 4). Consequently, the online rubric did not have any impact on S4's evolving feedback literacy; in fact, the student had been much more engaged with the static version of the rubric.

Figure 4. Rubric view without any highlights visible.

When project participants succeeded in navigating the multiple band descriptors, and spotted what performance level they'd been awarded, the metalanguage used in online rubric descriptors could present a challenge. Participant S5, for instance, noticed the differences in the language of descriptors *between* different bands. However, the identical wording of descriptors *within* the same band – which is how categorical marking is operationalised in TurnItIn – proved confusing: "My 'Whole text' is Distinction, but I have some problem about the scores for 68 and 65 because their details are same with each other. So which type of writing belong to 68?" (S5). The student could see that the cell for 65 was selected by his marker, but the descriptor was identical to that for 68. This seems to have raised questions about the precision of grade calculation with online rubrics. For unlike paper and static rubrics in Word, where markers could be more granular and select multiple cells (i.e., sub-descriptors) for the same criterion to signal a marginal or uneven performance levels, in *TurnItIn* this is not possible and only one cell can be selected. Thus, even though online rubrics seem to be efficient

marking tools (Anglin *et al*., 2008; Atkinson and Lim, 2013), they can less effective as learning tools including in guiding students to understand grade calculation.

This is summed up in the following exchange with participant S2, following the receipt of her summative feedback:

> S2: I think this one, the rubric, is not useful for me…. I always find for printed or read to see I'm "Distinction" or I'm "Merit", like this, because I have to pass […], I have to be more than another this level, a little more.
> *Interviewer*: Right. Yeah, so just to sum up, the most important thing about the rubric is the grading so you can see where you are. You don't use it for learning.
> *S2*: Yeah, sorry for that. […] Yeah because I think it's so many sentence making for me they are confused. So many sentence and boxes […], same levels or same "Distinction" or same "Merit", like this. So many.

A highly motivated student of Medical Imaging, S2 repeatedly pointed out the grade as her extrinsic motivation for engaging with the rubric and acting on feedback. Not surprisingly, this participant made use of the rubric for summative purposes only, monitoring her performance level rather than developing her understanding of criteria: "I saw where is the line for 'Distinction', 'Merit', like this. And sometimes I have to read quickly." (S2) This doesn't mean that S2 didn't recognise the importance of feedback. As a matter of fact, this participant was particularly invested in the social- affective dimensions of feedback (Yang and Carless, 2013), and appreciated the confidence-boosting messages in her tutor's commentary, "with marks or without marks, the positive words, it's important" (S2). S2 also engaged with the cognitive dimensions of feedback, by drawing on what she called "negative feedback": "[I] Like to see the positive side and ignore the negative side, but I have to learn from the negative side." (S2) However, the cluttered layout and replicated descriptors of the TurnItIn rubric, as key elements of the structural dimension of online feedback (Yang and Carless, 2013), seem to have acted as a barrier to the development of S2's feedback literacy.

Theme 3. Teacher-owned tools that can't be used for self or peer review
An important aspect of feedback literacy is student ownership of feedback: from feedback sought, generated and negotiated by students as "active constructors" (Nicol, 2010, p.503) rather than being simply "delivered" by tutors in a one-off transaction (Carless and Boud, 2018). When it comes to TurnItIn rubrics, however, these seem to be exclusively tutor-owned marking tools, which students cannot use for dynamic online self- or peer- assessment purposes at the formative, pre-submission stage. And even though there is a PeerMark functionality in TurnItIn, which can lend certain degree of student agency to generate and review peer feedback (Nicol et al., 2014), this functionality doesn't allow for a marking rubric to be attached and used in peer marking activities; rubrics can only be attached to tutor-created assignments and used for tutor-initiated assessment purposes. Neither can online rubrics sustain or generate dialogic feedback, either with peers or with tutors, post-submission. Instead, as project participant S4 points out, a static rubric shared as a Word file seems to have given students the flexibility to use the tool for self-monitoring: "I use [electronic rubric in Word] on my computer whenever I need it, like before the writing or after receiving the feedback, I would open it to check where I can improve and where I have done great" (S4).

This paradoxical situation of online rubrics lacking in interactive affordances to the point of limiting learner autonomy and dialogue was particularly relevant to participant S3, a pre-Masters student in Advanced Computer Design, who demonstrated high levels of learner autonomy and willingness to co-construct knowledge with her peers. Initially unaware of the TurnItIn rubric, S3 only realised the "View rubric" button was there "when friends told" her (S3). Open to dialogic feedback practices, S3 was proactive in seeking further clarification of her feedback from her tutor or the advice of

classmates: "I also to talk about my question, my problems with my friend. And he also received the feedback, and we compared others' feedback and we will also talk about how to write this article better." (S3). In an attempt to exert this agency, S3 wanted to share the online rubric with her peers (pre- and post- submission) so that they could engage in a meaningful conversation: "I want to ... add or share links with others... Maybe… this rubric cannot share now." (S3) The student, therefore, found herself constrained by the online medium and her alternative strategy to engage in *dynamic* dialogue was, just like with S4, to deploy the *static* rubric on the institutional VLE.

Theme 4. In-task feedback synthesis was facilitated
Given the interactive affordances of online rubrics, we assumed that in-task feedback synthesis can be easily facilitated. Enabling students to see the links between various comments and criteria can help them make sense of the diverse feedback elements online, move beyond reliance on direct corrective feedback and "visualise 'the bigger picture'" of their learning (Winstone and Carless, 2020, p.65). This could be achieved through the hyperlinking facility in Feedback Studio, which links individual in-text annotations to a relevant criterion in the rubric. If used consistently, this tool should provide learners with more detail about which specific instances of their writing meet the marking criteria, how and why. In addition, the number of hyperlinked annotations to a specific criterion can also give students and markers an indication of whether there is an area of learning that might need further developing.

What we observed in project participants' online behaviour in their screencast recordings, however, was that they often did not draw on the interactive affordances of TurnItIn rubrics. As Figure 5 shows, learners tended to prioritise the overall tutor commentary ("Text Comment") and then move onto in-text annotations. Depending on the student's levels of self-efficacy and the nature of the task (summative or formative), there could be some synthesis (moving back and forth) between overall feedback and in-text annotations. Engagement with the third element of Feedback Studio, the online rubric, tended to be limited, usually at the end of the in-task synthesis, with only participant S5 making the most of these interactive affordances.
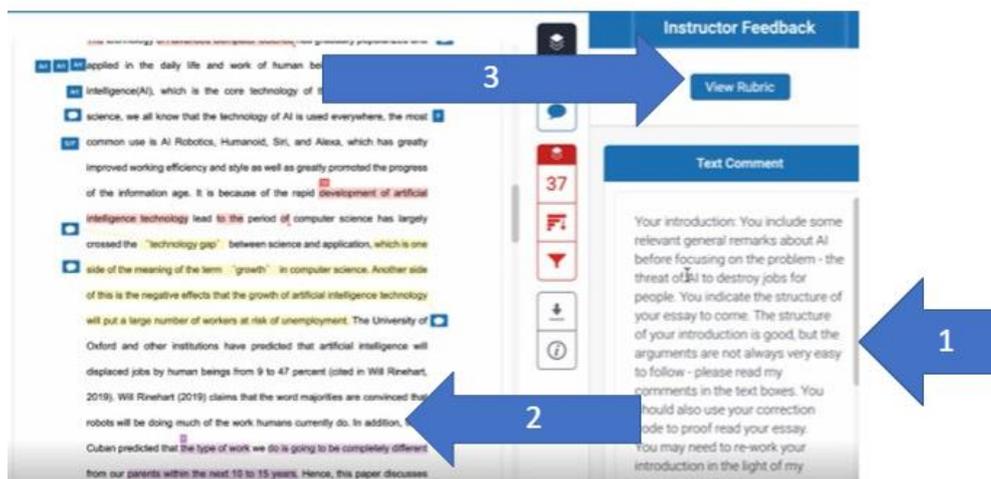

Figure 5. Preferred route for in-task synthesis of online feedback elements.

S5 was a highly driven pre-Masters student of Electrical Engineering and Renewable Energy Systems. From the very start, this participant demonstrated high metacognitive awareness and feedback literacy: in his screencasts, S5 would summarise key feedback messages, relate to relevant in-text annotations, and reflect on his prior learning and next steps rather than simply reading out loud tutor comments. S5's approach to the online space of Feedback Studio was integrated as well, flexibly

synthesising and navigating between different elements. In addition to making summative use of the rubric as a way of monitoring own performance in assessments, this participant deployed the online rubric formatively in order to make sense of the overwhelming number of annotations in his script (see Figure 6, left) and categorise these into specific areas for improvement. "You can see in my assignment draft, there a lot of blue details [speech bubbles used for in-text annotations]; so, you know, it looked very complex at first. But after I go to the rubric, I found that there are … only four or five information because some information can be classified into the same topic, such as 'Structure' and other criteria, yeah. And that rubric table helped me get a better understanding my tutor's advice." (S5)

Figure 6. Assignment script with annotations and rubric with hyperlinked annotations (first column on the left with the speech bubbles).

Nonetheless, for all the advantages of hyperlinking, the decontextualized list of comments in a drop-down menu that appears over the online rubric was confusing to S5 (see Figure 6, right):

> *S5*: I think the network [hyperlinking] is useful for me because I know clearly which part had more feedbacks about my contents, but the details on one sentence I think I can't understand them because as I'm reading the sentence, I think I need to [go] back to the contents to … find the details.
> *Interviewer*: So, here they're a bit out of context, aren't they? You need to go to the text?
> *S5*: Yes, but I think the overview comments in the [right] window is very important to me because after reading every sentence I find the details in the left window, not in the rubric part.

In the extract above, the participant highlights the need to make sense of the tutor comment in the immediate context of his writing. Thus, while the interactive affordances of online rubric can certainly support the cognitive processing of individual in-text comments and their relevance to marking criteria through handy hyperlinks, the experience of S5 reiterates the conclusion reached in feedback literature about the meaningfulness of feedback and rubric-use in context, with exemplars or other types of authentic student writing (Tierney and Simon, 2004; Sadler, 1989).

Theme 5. Cross-task synthesis of feedback must be in a different platform
Beyond in-task synthesis, making it possible for students to consolidate their knowledge and transfer learning to other contexts can also support feedback literacy development (Hattie and Timperley, 2007). And it seems that online rubrics via TurnItIn make this cross-task synthesis hard, if not impossible – the feedback lives within a single Turnitin assignment with no way to see other assignment and feedback at the same time. As already discussed, if rubric criteria, in-text annotations or tutor commentary are to be exported, the TurnItIn downloads are so confusing and the process so

awkward, that our project participants simply opted for static, often paper-based, alternatives. Others came up with alternative online solutions; for instance, participant S4 created her own multipage learning portfolio in OneNote (see Figure 7), which gave her the online affordances, flexibility and agency that Feedback Studio couldn't:

> I summarised some of my problems here and in order to avoid the same mistakes next time. So firstly, it's about my academic language... And second problem is about my paraphrasing 'coz it's the first time for me to do this kind of writing task…. So, after this, I summarised some tips... And lastly, about my references here …I like to write a list, a checklist, for example, something I should avoid and something I should improve. So, next time during the process of writing other assessment tasks, I can use this checklist then to examine which I need to improve in my future task. (S4)
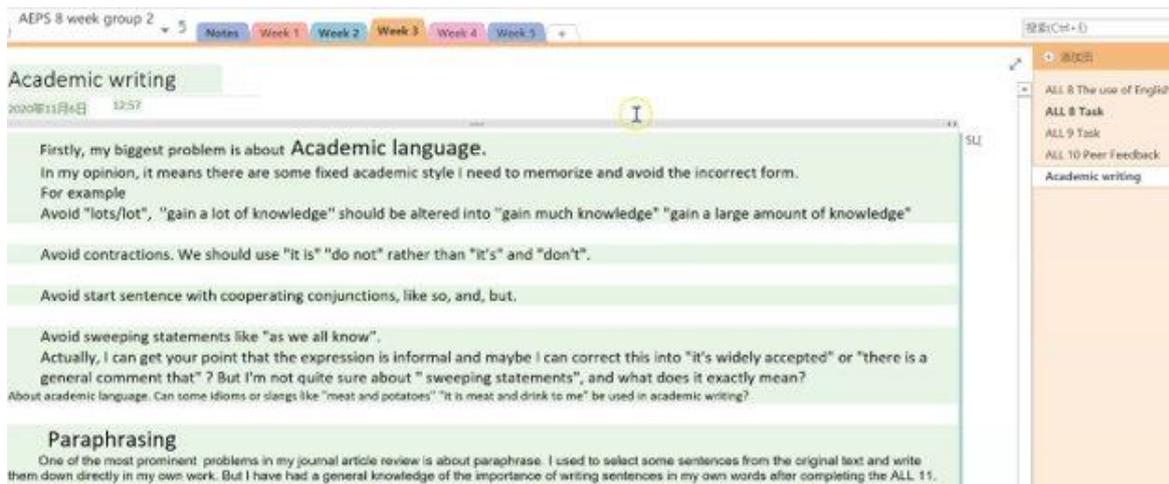
Figure 7. A student's feedback portfolio in OneNote.

The OneNote platform allowed S4 to generate her own comments, ask her tutor questions, draft action plans and thus avoid an instrumental and passive engagement with rubric, feedback and learning (Sadler 2014; Torrance, 2007).

A different, low-tech strategy was adopted by another project participant, S1. A pre-Masters student in Education, S1 was invested in teaching and learning as an educator herself and was the only participant who made use of the online rubrics from the very first data collection point (see above), which shows her advanced feedback literacy. Therefore, it wasn't surprising that she was keen on transferring her learning to different tasks. What was surprising to her was the fact that in order to do so she had to choose a different medium: S1 opted for creating a hard copy folder of print rubrics and tutor feedback, cross-referenced with a checklist:

> And what I do also I made the folder for all feedback from level two until level four, and collect all these together because this is helpful to see the progress how we are considered the feedback and take action to develop…I put two column - positive and negative comment that mean I have to consider and to improve […]
> What I'm do just I note for each criteria, and … I just highlight … "Distinction" or "Merit", and then I will highlight the Word document and I will highlight… my final score. (S1)

Keen to use the rubrics for purposes other than summative and to extend their formative impact to learning beyond her current assignment, S1 found that she could export neither rubric nor tutor feedback (nor in-text annotations for that matter) in a format that is operable. Rather, she had to

recreate the feedback space in a completely different medium, that of paper. Thus, in order to engage actively and meaningfully with the feedback from TurnItIn rubrics, act on it and develop their learning, both S1 and S4 had to …leave TurnItIn altogether!

Implications

While we had high hopes that the digital affordances of online rubrics would bring advantages to feedback literacy development beyond what their paper cousins could do, our investigation revealed instead that students developed feedback literacy in spite of the many barriers that online rubrics presented. There are of course limitations to this finding, specifically the small number of participants and the use of only a single online rubric platform. It would appear though that the operational barriers to rubric use would likely be similar in larger cohorts given their basic nature.

The innovations of the students in these case studies teach us as educators that we should let rubrics be in student-owned, dialogic spaces so that any learning potential they have can actually be realised. Such spaces might be in Word online/ Microsoft tools or in Google, and interesting steps on dialogic feedback in more open tools have already been taken (Wood, 2021a, 2021b). Additionally, we should perhaps consider scaffolding students to find an individual approach to feedback engagement that suits their preferences, as S1 and S4 did, rather than requiring a single online solution for all. While wholesale removal of Turnitin and similar restrictive platforms may not be possible in our contexts, they can be used only where necessary, e.g. mandated similarity checking, storing work for Quality Assurance compliance, while true feedback-driven learning happens engagingly elsewhere. Finally, we hope the case studies presented here make a clear call for programme and assessment teams to investigate the myriad ways their own students do (and don't!) engage with online rubrics and feedback so that learning can be enhanced.

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