

Chapter 14

Can Online Rubrics Develop Learners' Metacognition? A Qualitative Case Study Analysis

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ABSTRACT

The growing use of rubrics as tools that can enhance students' learning has prompted an accompanying growth of rubric research in higher education, with a wealth of positive findings. As of yet however, these investigations have predominantly focused on paper-based rubrics or their digital static equivalent rather than truly online rubrics, which present a paradigm shift in how rubrics are displayed, accessed, understood, and interlinked with student text and feedback through the digital affordances of hyperlinking. Studies that have investigated online rubrics so far have focused on pragmatic concerns like efficiency or satisfaction with use, which are important aspects of any digital tool, but secondary to learning. The authors therefore carried out longitudinal case studies to investigate what impacts, if any, the online-ness of rubrics had on students' metacognitive development. Results show strong potential for online rubrics to enhance metacognition, but unfortunately in the majority-used platform we investigated, online rubrics currently are more hindrance than help.

INTRODUCTION AND BACKGROUND

While there have been strong criticisms of rubrics for instrumentalising knowledge and limiting learners' cognitive and metacognitive development (e.g., Torrance, 2007; Sadler, 2009, 2014), much of the criticisms have been found to rely heavily on anecdotal evidence (Panadero and Jonsson, 2020). There therefore continues to be a need for careful, empirical exploration of well-implemented rubric use to understand how and where they can improve learning. We are now approaching a level of robustness

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in the literature where positive rubric findings of the past 20 years are being confirmed through alternative methodologies. For example, a review of all relevant empirical studies of rubrics for learning (as opposed to e.g., improving marking) conducted in 2013 (Panadero and Jonsson) found noteworthy benefits for students through making assessment criteria transparent thereby reducing anxiety and aiding metacognitive developments such as self-efficacy and self-regulation. However, the same review also found these benefits were hard to credit to rubrics alone given the “instructional interventions”, such as teaching of self-assessment skills, that often formed part of the rubric implementation. Nine years later, a tightly controlled empirical study (Krebs, Rothstein and Roelle, 2022) did indeed find that with equal instructional intervention, the use of a rubric as opposed to a non-rubric self-rating schema improved students' self-judgement while at the same time lessening their cognitive load of doing so.

These studies indicate an increasing understanding that rubrics are a useful tool in improving students' metacognitive learning, and yet, despite this positive evolution, there has been no research into how rubrics impact metacognitive development when used in the online space where they, along with much other feedback and assessment, progressively occur. There have been a few investigations into the use of online rubrics, but as is common with research on digital tool use, the affordances of the tool take centre stage rather than consideration of true learning benefit. For example, use of online rubrics has been found to increase teacher efficiency by reducing the amount of time it takes to create feedback (Anglin et al., 2008; Atkinson and Lim, 2013): a worthy benefit, but one we would hope to find from any paper-to-digital switch, and not one that demonstrably improves student learning. Relatedly but perhaps more learning focused, another study (McKinney, 2018) found that a well-planned implementation increased both teacher satisfaction, because by shrinking their marking time it allowed them to give better feedback, and student satisfaction, because the grading was clearer and the feedback more helpful. This starts to make the argument for rubrics in the online space for learning rather than teaching or administrative enhancement, but as any educator knows, increased student satisfaction is not the same thing as increased learning. Another investigation found the assessment analytics possible with online rubrics allowed potentially useful comparisons of feedback and marking practice across a teaching team (Reed, Watmough and Duvall, 2015) which is again a useful benefit (when handled with a sensitive understanding of what analytics mean) but also again one that focuses on teachers and perhaps quality assurance rather than students' development. A likewise tangentially related study that looked at online rubrics used in a MOOC (Ashton and Davies, 2015) found that if students were given rubrics with guidance as opposed to just plain rubrics, they were better able to assess their peers, revealing nothing about online benefits or drawbacks to rubrics (besides the obvious point that online rubrics can be used in online environments at scale) but instead emphasising the previously noted findings that instructional intervention will help rubrics (or indeed any new learning approach) be successful.

The current situation is that despite useful studies into the pragmatic aspects of online rubrics, it has not yet been investigated whether and how the affordances of online rubrics can impact students' metacognition in terms of self-knowledge (i.e., awareness of own strengths and weaknesses, motivations and goals), procedural knowledge (i.e., knowledge of learning strategies), contextual knowledge (i.e., knowledge of academic and cultural norms, tasks and strategies) or self-regulatory processes (i.e., ability to reflect on, monitor and evaluate own learning) (Flavell, 1979; Wenden, 1987; Schraw, 1998; Pintrich, 2002; Rhodes, 2019). This chapter will therefore examine to what extent students' engagement with online assessment rubrics impacts their metacognitive knowledge and control. We will focus on exploring learners' encounters with online rubrics as a series of “metacognitive experiences” (Flavell, 1979) that are multidimensional, dynamic and person-specific (Butler and Winne, 1995), and might

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