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## **A plan for the co-construction and collaborative use of rubrics for student learning**

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### **Abstract**

The use of assessment rubrics in the higher education sector is now widespread in a number of disciplines. Typically, these rubrics are constructed by teachers who also tend to be the main users of the rubrics throughout the grading process. In recent years, questions have been raised about this teacher-directed approach and some educators have begun to explore an alternate approach to rubric construction; that is, engaging students in collaboration with their teachers to co-construct assessment rubrics. This paper outlines the processes employed in a project that investigated the co-construction of rubrics within six different contexts. The project aimed to engage students in collaboration with their teachers to co-construct rubrics which are co-owned by teacher and student. A mixed methods approach was utilized to explore the effectiveness of the strategy. Questionnaires, interviews, and focus groups were utilized to gather data from both the teacher-participants and student-participants regarding their experiences of being involved in the study. Findings are presented from the perspectives of both students and teachers, relating their views of rubrics and the activity of rubric co-construction. The paper concludes with recommendations for practical approaches to rubric co-construction and future research directions.

**Keywords:** assessment; rubrics; co-construction; student- teacher collaboration

### **Introduction**

The use of rubrics is widespread in higher education but more investigation is needed to determine how rubrics can support student learning. Reported in this paper is a project which investigated the co-construction of rubrics by teachers and students. The project provided the opportunity to look at the assessment process itself, through the lens of the co-construction process, specifically the activity of assessment design. The project studied the student perspective of the assessment process and involved six student cohorts across three institutions. The project was funded by an Australian Office for Learning and Teaching (OLT) Innovation and Discovery Grant. This paper reports specifically on the component of the study in which higher education teachers and students worked in partnership to co-construct assessment rubrics employed in a subsequent phase of the study. The research question guiding the researchers was: How can students and teachers co-construct and plan the collaborative use of rubrics for student learning?

### **Background**

The research that contributes to an understanding of the evolution of this study comes from the areas of general assessment, formative assessment, assessment design and the

construction and use of rubric-based assessment. The unique contribution of this paper to knowledge in these areas relates to the co-construction aspect of the reported study, which involved students and teachers working together in the design, construction and application of assessment rubrics.

### **Rubric construction/ co-construction**

Despite the sizeable number of research projects devoted to rubric construction to date, there is little that reports on teachers co-constructing rubrics with their students. Indeed, student involvement in the implementation of rubric-based assessment seems to be limited to their training in the use of rubrics and the impact of rubrics on the process of peer assessment. An example of this approach is seen in Jackson and Larkin's (2002) study that promoted the value of teaching students how to evaluate work using a rubric. However, this was only for the purpose of understanding how rubrics can aid them in maximizing their grades. They did this by using the rubric to evaluate their work against the expectations of the teacher. Students' use of rubrics was also explored in Rochford and Borchert's (2011) study that supported the practice of aligning the rubric's hierarchy with Bloom's Taxonomy of Educational Objectives to test the validity and reliability of the rubric. Rochford and Borchert (2011) considered how students react to rubrics and whether they perceived rubric-based feedback as impersonal.

To date, although some research has reported on students' use of rubrics, there has been little research on engaging students in the construction of rubrics. However, Hafner and Hafner's (2003) study reports on one example in which students became involved with rubrics other than simply at a recipient level. Hafner and Hafner used quantitative methods to check on the reliability of grades when rubrics were used in peer marking, establishing that not only did the teacher and student achieve consistent results for the same assessment, but also that the gender of the grader and the academic level of the student did not make a significant difference to the result. Two other studies, Panadero, Romero and Strijbos (2013) and Wang (2014), also reported on the use of rubrics in peer assessment, with Panadero and Romero (2014) employing rubrics to support student self-assessment. Their study established that students, through the use of rubrics, utilized more learning strategies and achieved higher performance and greater accuracy.

Other studies evaluating the effectiveness of students working with rubrics include Bell, Mladenovic and Price (2013), who reported the positive student perceptions of the value of marking guides and grade descriptors; and Prins, de Kleijn and Tartwijk (2017), who wrote about students interacting with rubrics during the process of writing a research thesis. Furthermore, the study by Jones et al. (2017) reported on students being instructed in their use of rubrics to improve their score in the transition from draft to final submission of the assessment item.

The purpose of the research reported here differs from these studies in that it sought to make student input an integral component of the rubric design process. There have been limited studies focusing on student input into rubric design. Notably, Rosenow (2014) reported the 'many benefits to using task-specific rubrics that evolve from class discussion' (p. 32). Rosenow valued collaborating with students, this facilitating their taking ownership of their learning. Rosenow's study established that students gained a greater understanding of the assessment task and that this minimized confusion between student and teacher about the purpose of the assessment.

The context of Becker's (2016) study was an adult English Second Language (ESL) cohort in which he examined the impact of involving students in creating their own grading rubric. The cohort was organized into four groups where one group constructed the rubric,

another group used the rubric to grade work, another group viewed the rubric but did not use it, and the fourth group acted as a control. It was found that those students who developed the rubric scored significantly higher in their assessment results than the other groups. While this study provides evidence to support involvement of students in the assessment process, the study reported in this paper considers the impact of a teacher and student partnership in developing rubrics.

### **Rubric uses**

There is significant support for the use of rubrics in higher education assessment. Their usefulness has been acknowledged, not only in the areas of impacting the practice of teaching and curriculum development (Bharuthram [2015](#)), but also their usefulness in specific discipline areas. These include a social welfare policy course (Adedoyin [2013](#)), assessment in clinical placements (Stupans, March and Owen [2013](#)), design degrees (Menendez-Varela and Gregori-Giralt [2016](#)) and performance assessments (Kan and Bulut [2014](#)).

Our assertion in this study is that when students are involved in the construction of the rubric in the early stages of assessment design, the process of rubric development (rather than the provision of the rubric itself) will act as a catalyst to aid student learning, and the act of co-construction facilitates academic and professional conversations in which students become involved in critical thinking.

### **Methods**

The focus of this study was to ensure that the experiences and insights of both the teachers and the students involved in the co-construction of rubrics were captured. It was hypothesized that the students and the teachers may have different perceptions of the experience of co-constructing rubrics. By attempting to more fully understand the processes associated with the co-construction of assessment rubrics, this project intended to explore how collaboration by students and teachers could engage both groups in the co-design of assessment rubrics and how this co-design process was experienced by teachers and students to make the assessment experience more effective.

### **Overview of the research design**

To ensure the research design supported the collection of data from both teachers and students, the methodology selected for this process needed a multiple perspectives approach. Therefore, a mixed methods research approach (Johnson and Christensen [2012](#), Patton [2015](#)) was utilized which incorporated a systematic literature review, a modified Delphi method and administration of questionnaires, focus groups and interviews. Firstly, a systematic analysis of recent literature (Boland, Cherry and Dickson [2017](#)) was conducted to establish a collection of effective rubric characteristics (ERCs). The second stage of the project involved the application of the ERCs to the development of the Effective Rubric Characteristics Questionnaire (ERCQ). Next, a modified Delphi technique was conducted (Skulmoski, Hartman and Krahn [2007](#)); this involved consulting a panel of specialists with expertise in rubrics and student assessment. Results of the ERCQ used as part of the Delphi technique were developed into the Effective Rubric Characteristics Inventory (ERCI) (Williams et al. [2017](#)). The ERCI was utilized by staff and students, from the six cohorts at three institutions, as a guide to the process of co-constructing rubrics. To ensure each cohort used a reasonably similar set of rubric co-construction guidelines, each of the six cohorts worked through a protocol for co-constructing rubrics for the purposes of creating a rubric for actual use in an assessment task that was to be part of their course

in the semester that followed the rubric co-construction process.

**Table 1.** Number of participants in the study.

INSTITUTION		Institution 1			Institution 2	Institution 3	
Teachers	Education	Theology	Nursing 1	Nursing 2	Med. Rad.	C. Writing	TOTAL
Questionnaire 1	1	1	1	1	1	1	6
Questionnaire 2	1	1	1	1	1	1	6
Interview	1	1	1	1	1	1	6
INSTITUTION		Institution 1			Institution 2	Institution 3	
Students	Education	Theology	Nursing 1	Nursing 2	Med. Rad.	C. Writing	TOTAL
Questionnaire 1	5	5	10	7	8	6	41
Questionnaire 2	5	3	8	6	6	5	33
Focus group	5	3	8	6	6	5	33

### The sample: teacher-participants and student-participants

The participating cohorts of students and their teachers were treated as distinct cases for the purpose of establishing six multi-disciplinary case studies of collaborative rubric practice. [Table 1](#) outlines the number of teachers and students who participated in the study from each discipline, including cohorts across three higher education institutions. Of the six teachers in the study, five were female and one was male, all with at least six years' teaching experience in higher education institutions. Each of these teachers led a cohort of students with whom they co-constructed rubrics for implementation in the following semester. Three institutions and five disciplines were represented: education, nursing, communications and creative writing, theology and medical radiation science. A total of 41 students participants contributed to the study, though not all of these students contributed to the final data collection stage at the end of the co-construction process. The gender distribution was 31 females (76%) and 10 males (24%). The most prevalent age group was 18-23 years (28 students, 68%). Of the remaining 32%, 12% were in the 24-29 years age group (5 students), 15% were over 36 (6 students) and 5% were in the 30-35 age group (2 students).

### Data collection

To track teachers' and students' experiences of the rubric co-construction process, data were collected using a set of Tracking Perceptions of Rubric Construction (TPRC) data collection instruments including questionnaires, interviews and focus group interviews. Before co-construction took place, questionnaires were administered to teachers and students. These questionnaires were designed to elicit the teachers' and students' views of rubrics and their views of rubric co-construction by recording their responses to a series of Likert-style items and open-ended questions. Rubric co-construction then took place in each of the cohorts during which teachers and students collaborated in the development of a rubric for one assessment task in each of the six subjects for the following semester. After co-construction, questionnaires were again administered to teachers and students, students contributed to focus group interviews and teachers contributed to interviews. This final stage of data collection was designed to gather information from the participants about their views of rubrics and rubric co-construction, as well as their recommendations for future rubric co-construction practices.

The step-by-step processes adopted to collect and analyse the data are outlined in [Table 2](#) and [Table 3](#) and present an overall summary of the types of information we were endeavouring to identify through the different data collection methods used in this phase of the initiative.

**Table 2.** Steps included in this data collection and analysis.

Step 1:	Identify purpose of data collection/analysis processes and team members involved
Step 2:	Identify participants, data collection instruments and data collected pre and post rubric co-construction
Step 3:	Analyse questionnaire data
Step 4:	Analyse focus group and interview data
Step 5:	Triangulate questionnaire, focus group and interview data

**Table 3.** Types of information gathered through data collection processes.

Type of information	Source and type of data						Participants	
	Instrument			Instrument				
	Questionnaire 1 - Students	Questionnaire 2 - Students	Focus Group Students	Questionnaire 1 - Teachers	Questionnaire 2 - Teachers	Interviews - Teachers	Students	Staff
Type of data	Quantitative & qualitative		Qualitative	Quantitative & qualitative		Qualitative	Students	Staff
Before co-construction								
Demographic details	✓			✓			✓	✓
Learning and teaching contexts	✓			✓			✓	✓
Views of rubrics	✓			✓			✓	✓
Views of rubric co-construction	✓			✓			✓	✓
After co-construction								
Views of rubrics		✓	✓			✓	✓	✓
Views of rubric co-construction		✓	✓			✓	✓	✓
Processes used to co-construct rubrics		✓	✓			✓	✓	✓
Modifications for rubric co-construction in the future			✓			✓	✓	✓

## Data analysis

The data gathered before rubric co-construction were analysed and compared with the data gathered after the co-construction activity. Descriptive statistics (mean and standard deviation) were calculated from the quantitative questionnaire data to identify the participants' demographic data, information about their teaching or learning contexts, their views of rubrics and their views of the co-construction of rubrics. Comparative calculations were conducted to establish the participants' quantitative responses before and after co-construction.

The qualitative data (from questionnaires, interviews and focus groups) were initially 'memoed' (Stuckey 2015) to identify any trends or discrepancies in the data and were then coded using a qualitative analysis software package (NVivoTM). This process enabled the coding and categorising of the data to determine the major themes reflected in both students' and teachers' responses to open-ended questions in the questionnaires, and their contributions to interviews and focus groups. These themes were identified by using a combination of pre-determined codes (deductive coding) and emergent codes (inductive coding). The pre-determined overall themes were drawn from the areas of focus that were used to design the data collection instruments (e.g., views of rubrics, views of rubric construction, ideas about future rubric co-construction practice).

Robson and McCartan's (2016, 460) thematic coding approach was used to identify the emergent themes with advice from Patton, who suggests that patterns should be sought among the data by identifying "recurring regularities" (2015, 555). During the process of inductive coding, the analysis process identified sub-themes that emerged from the data; these sub-themes were organized under each of the main overall themes. In this way, the most prominent themes, patterns and trends in the data were identified. Following the

advice of St. Pierre and Jackson ([2014](#)), the researchers discarded any codes and themes that were not significant. Finding analyses of the quantitative and qualitative data were compared to triangulate the two sets of data, the outcome of which provided information about the way in which students and teachers collaborated to co-construct assessment rubrics.

## Results

The results consider the information gathered through questionnaires, focus groups and inter-views for both students and teachers relating to their experiences with co-construction, specifically focusing on the topics of participants':

- understandings of rubrics before and after rubric co-construction;
- opinions of rubric co-construction before and after co-construction;
- explanations of processes used to co-construct rubrics; and
- ideas about how to modify rubric co-construction processes for future use.

The findings reported are based on a combined analysis, using triangulation, of both the quantitative data (from questionnaires) and qualitative data (from interviews and focus groups) that were gathered from the participants throughout the study, including points of collection before, during and after co-construction.

### Participants' views of rubrics before and after co-construction

Before the co-construction of the rubrics took place, the teacher-participants typically viewed the value of rubrics as assisting grading and guiding student learning. While the teachers' views about the value of rubrics in general did not change substantially throughout the project, 67% of them reported that the rubric co-construction process enhanced their understanding of rubrics, specifically their views about students' understanding of rubrics and how they can be used:

I guess my perceptions of the physical form of the rubric has not changed all that much. What has changed is that initially I perceived that if I create a rubric that I understood then my students would arrive at the same conclusions when they read the rubric as what I did. I discovered that there was actually a little bit of a mismatch there, the things that I thought were fairly obvious were not necessarily obvious to them.

Because teachers gained more insight into students' views about rubrics, many of them commented on how this new understanding would influence their rubric design in the future. Teachers' awareness of students' perceptions of rubrics moved to a more comprehensive understanding which emerged from the multiple opportunities offered during the project for teacher-student interaction.

In contrast to their teachers, students' views of rubrics broadened quite dramatically throughout the project. Initially, students referred to rubrics as being useful guides to assessment processes and levels used in grading. Many students reported that they looked at rubrics before attempting assessment tasks and that rubrics informed their understanding of teachers' expectations. In the pre-co-construction questionnaire, the majority of students (68%) were not confused by the rubrics their teachers supplied, whereas in the post-co-construction questionnaire they had reversed this view and the majority (58%) felt they had been confused by rubrics previous to the co-construction experience. Although this switch appears to be a backward shift, it may well be elucidating a broadening of students' understanding of rubrics, and their reflection on the co-construction process. The students felt their use of rubrics was previously only at a

peripheral level of understanding and that they came to understand that rubrics were actually more complex in nature than they had originally thought.

'Those little things we probably didn't think about that much in the past but really helps the understanding and making the process of using the Rubric, when you are doing the assessment, more convenient for the learners. I found that to be a really enriching thing.'

Although there was a reduction shown in students seeing rubrics as helping their understanding of performance levels, the qualitative data suggests that students' level of understanding of rubrics changed. They started to look at the meaningful details of how the text in the rubric was presented and paid attention to the meaning of each level of grading and how it worked in practice.

'Another thing I really like that we all agreed on was in [the teacher's] version she had this little red type. That was really helpful. So, in the tiers [performance descriptors] she has shown this work to a publisher, a distinction mark means, 'this could be published'. I think that gave me a better idea of the level of work we were trying to achieve.'

Many students expressed a strong preference for rubrics that, from left to right, started with a higher grade and moved to descriptions of lesser grades towards the right columns of the rubric.

'Whether it be going from highest to lowest grades or lowest to highest. Those little things we probably didn't think about that much in the past but really helps the understanding and making the process of using the Rubric, when you are doing the assessment, more convenient for the learners. I found that to be a really enriching thing.'

In response to hearing the student perspective, the teachers articulated how their practices would change:

'I'm never creating a rubric that starts with a fail column again, ever. In a sort of way, it was a little offensive to them [students] ... Intuitively, it makes so much sense. Why would you teach them how to fail? That should be the column they don't read at the end.'

### **Participants views of rubric co-construction before and after co-construction**

Students agreed that they should have input into the construction of rubrics. Furthermore, all teachers expressed hope that the experience of co-constructing rubrics with their students would improve student understanding of assessment tasks and grading. However, their optimism about the co-construction positively influencing the quality of student learning was tempered by some concerns about the process of co-construction, in particular time constraints, student understanding of the process, unrealistic student expectations, and conflicting opinions developing between students and teachers.

Similarly, most students agreed with their teachers that student input to rubric construction was a good idea, with only two of the 41 students in the study expressing alternate perspectives. Before the actual rubric co-construction took place, many students were confused about rubrics, but some considered that student involvement would make rubrics 'fairer', 'simpler', 'less subjective' or 'user friendly' and would facilitate clearer guidelines and expectations when attempting to align a student's understanding with their teacher's expectations.

Student opinion was diverse over the best way to achieve collaboration (emails, surveys, tutorials, small groups or forums) and whether the process should take place during class time or outside of class. Students also believed that teachers should listen to what students found difficult, ask their opinions on what they should be assessed on, and use words that

the majority of students would understand.

After co-construction took place, all teachers believed that the process had been both a valuable learning exercise for students and a valuable exercise for themselves. They all observed strong engagement from students and believed that the rubric co-construction process had improved student understanding of rubrics. Teachers noted that while the process was time consuming, it was beneficial. One teacher observed, 'It was excellent, and really engaged the students who chose to be involved'. Another teacher was so excited about the process that they noted, 'I wish that I could undertake the process with every assessment in every subject I teach'. Teachers also related some ideas of how, in the future, they would change and improve the processes used, including suggestions about paying attention to timing, providing samples of good rubrics and establishing clear guidelines for the co-construction process.

Perceived benefits to students fell into three main categories: 1) improved student learning and understanding of both assessment tasks and rubric use; 2) improved ownership by students; and 3) improved recognition of the complexity and time needed for staff to conduct the assessment tasks associated with their roles. Although the hopes of teachers before co-construction took place had been focused primarily on student learning, the post construction responses acknowledged what teachers learned from the process of co-construction. They discovered that they and their students did not always have a shared understanding of rubrics, and further, that students often did not use the rubric in the way teachers expected.

Significantly, 87.5% of students strongly agreed and a further 6% agreed the co-construction project benefitted their understanding of rubrics. At the end of the co-construction process, 94% agreed or strongly agreed that the co-construction process had changed the way they think about rubrics. Not surprisingly, most students involved in the co-construction agreed (31%) or strongly agreed (59%) that students should have input into the construction of rubrics. Furthermore, some students mentioned how their engagement in the co-construction of rubrics supported their reflection on past assessment feedback, for example:

I can also see the fairness of the marks I have received in the past because I have gone back and looked at my work and it all makes sense now.

Similar to the teachers' views after co-construction took place, students' insights into the co-construction process were also largely positive with more comments offered about the benefits compared to comments relating to the constraints of co-construction. The positive comments centered on the benefits to student learning. For instance, one noted in the focus group, 'Before I just used to write, answer the question really but now I can see how to improve'. Also, 'It gives an indication of how to address the core question of what is being assigned. I find it helpful, so I am able to focus my assignments or evaluations'. Students also stated that, after engaging in co-construction processes, they better understand the distinction between grade levels and the language of the rubric.

### **Participants' explanations of processes used to co-construct rubrics**

Typically, the teachers provided more detailed explanations than the students about the processes used to co-construct rubrics, possibly because they were responsible for the planning and coordination of all the co-construction processes. From the beginning to the end of the co-construction process, the participants reported on the following typical sequence of events that constituted the collaborative rubric co-construction process:

1. selecting a course that was appropriate to rubric co-construction;

2. gathering appropriate rubric examples as exemplars for teachers and students;
3. organising meetings with the teacher and the students and setting timeframes;
4. establishing clear protocols in rubric co-construction meetings, agreed upon by students and the teacher;
5. using clear rubric co-construction instructions in protocol documents;
6. understanding the assessment task and how it is assessed using the co-constructed rubric;
7. linking the co-constructed rubric to the assessment task, learning outcomes and other accreditation standards (for example, the Australian Qualifications Framework);
8. creating, editing and finalising the co-constructed rubric before it is used by teachers and students.

While some of the processes adopted by the teachers and students to collaboratively construct assessment rubrics could be applied to assessment construction in general, it should be noted that these processes were described specifically within the context of assessment rubric co-construction.

One factor seen as important, by both teachers and students, was the influence co-construction had upon student-teacher interaction. The students believed that their opinion was heard and valued, and they appreciated the opportunity to interact on a one-to-one level with the teacher. The questionnaire responses showed that all but one student felt their contribution to the process of rubric co-construction was valued, and they all felt that they had made a worthwhile contribution to the process. This was consistent with comments expressed during the focus groups: 'I was part of this, I was contributing and seeing that the teacher was very open to suggestions'. Another student commented on how the teacher had 'come down to our level'. Several students commented on their surprise about the amount of freedom they had been granted in constructing the rubric. However, members of two focus groups noted that changes had been made in the final product by the teacher without discussion. In these instances students felt they deserved an explanation concerning the changes.

As well as valuing the connection the co-construction process afforded students and teachers, participants valued the group context in which disagreement and resolution of varied views could occur in an open supportive environment. Ideally, the study found that a positive group climate was fundamental for consensus to be achieved on rubric construction:

We had a meaningful collaborative discussion as we analyzed each criteria element. It was a very constructive process, as we assisted one another in unpacking what exactly we wished the criteria to specify and make changes accordingly.

### **Participants' proposed changes to future rubric co-construction processes**

Participants in the study were asked to outline any changes they believed would enhance the rubric co-construction process for future implementation. Students and teachers were united in their views concerning the importance of guides and protocols, developed in this study, that were used in supporting the co-construction process, indicating these required little change to be effective in support of future co-development initiatives. The main suggestions for change in the rubric co-construction process related to the aspects of time taken to co-construct rubrics, the timing of the co-construction process, involvement of volunteers, establishing context, and alignment with assessment outcomes.

Both teacher- and student-participants expressed ideas about how more students could

become involved in the process because they saw the opportunity to build a 'connection with teachers and knowing them better. And knowing students better too'. Participants also felt it was important to provide prospective student volunteers with greater understanding of the co-construction process, including the benefits of their involvement and that teachers should enter the process with 'a completely open mind, ready to listen, hear and learn from students'.

The co-construction process timing received a lot of discussion by teachers and students, with a range of suggestions relating to both the timing of the process and the amount of time devoted to the process. Ideally, some noted, co-construction should occur during the semester in which the assessment is due, rather than in the previous semester, as occurred in five of the six cohorts in this study. Some students even felt that the co-construction of the rubrics would be more beneficial if it took place after the assessment task had been completed. There was also diversity of opinion as to the time required for the process. Some students and teachers, when asked about the amount of time required for the co-construction process, indicated that they were happy with the time allocated in this study, but more frequently the need for more time to be devoted to the process was expressed. When asked about how the rubric co-construction process could be improved, the participants recommended a number of strategies focusing on three aspects. Firstly, participants mentioned the need to provide better background information about the design and use of rubrics before the rubric co-construction activity took place. Secondly, more subject clarity was required with more detailed explanations to inform the content of the rubrics being co-constructed, and also a 'common and realistic understanding about the learning outcomes' was recommended. The participants felt that, once a shared understanding of the learning intentions of the assessment task was established between teacher and students, this should be followed by having students complete a draft rubric as 'if you were going to try and start from complete scratch it wouldn't have been enough time'. As one teacher stated, 'Give sample rubrics to deconstruct first; start with a basic rubric – give them something to work with'.

Thirdly, the need for providing better context for students early in the process was expressed, particularly providing a clear understanding of a rubric's form and purpose as well as the student's role in the co-construction process. This view was mainly expressed by students. One student stated that, even after their first meeting, 'I wasn't really sure what my responsibilities were', and another student stated 'I still left that [first] meeting not really understanding what we were doing' and adding 'To be honest I don't think I really knew what a rubric was'. Students who were provided rubrics to assess at the beginning of the process were very supportive of this strategy as it allowed them to have a better understanding of what the characteristics and construct of a good rubric was so they were 'able to apply that knowledge to our [their] rubrics'.

When considering how rubric co-construction should take place in the future, there was much discussion during student focus groups and teacher interviews concerning whether or not rubric co-construction processes were practical with larger cohorts of students. Both participant groups expressed concern that it would be difficult to reach consensus with a large group, and that significant time would be required. To reconcile these issues, the participants suggested a number of strategies including splitting large groups into smaller groups, each of the smaller groups focusing on different components of the rubric.

One practice that students were unanimously opposed to for future rubric co-construction initiatives was negative grading; that is, where scores were deducted due to below average student performance in assessment tasks. Students felt that this was an unfair approach and recommended that this practice was not incorporated into future rubric co-

construction processes.

### **Summary of strengths and weaknesses of the rubric co-construction process**

Overall, when asked about their experiences of rubric co-construction, both teacher-participants and student-participants of the study emphasized the value of their experiences outweighed the problems experienced during it.

The weaknesses or problems reported by participants regarding the process of collaboratively constructing a rubric for assessment purposes in large related to logistical issues including; dealing with institutional compliance constraints, time required to undertake the process and communicating with students. Although no major issues of conflict were reported throughout the study, some participants anticipated that the levels of negotiation required in the rubric co-construction process could create opportunity for disagreement if students' and teachers' views clashed or if students did not agree with each other.

However, significant benefits were identified from the rubric co-construction processes primarily associated with pedagogical aspects; that is, both students and teachers appeared to gain a fuller understanding of each other's work. Furthermore, students developed a deeper appreciation for how they could use rubrics in their learning and in the processes of preparing assessment tasks, and importantly, teachers typically identified how their assessment processes could be more student-focused in the future. One quite unexpected benefit that was reported by students related to the value they placed in the time the co-construction process afforded them to spend in getting to know their teachers.

## **Discussion**

### **Student perspective**

Student participants largely felt that engaging in the process of rubric co-construction had broadened their understanding of rubrics and the whole assessment process. They not only expressed a deepened appreciation of the process associated with rubric construction, but they also recognized the effort involved. The engagement of students in the assessment process has been reported as contributing to enhanced student learning outcomes (Boud [2010](#)). Indeed, Boud's seminal paper *Assessment 2020* postulates that assessment is not just a means of determining what students have learned, it is a learning activity that, if done correctly, requires engagement in the whole process of assessment, including the design phase.

Yucel et al. ([2014](#)) address the problem of differences in the way students and teachers understand assessment by suggesting that discussions between the groups regarding assessment criteria and standards take place. While this study showed these differences existed before the co-construction process was undertaken, it also revealed that the co-construction process, and collaboration between teachers and students that was part of the process, led to a greater shared understanding of assessment criteria and standards. O'Donovan, Price, and Rust ([2004](#)) write about a social constructivist approach to learning, where learners are actively engaged in constructing meaning from learning experiences, making sense of the new knowledge in the context of their existing experiences, and integrating it into their overall body of knowledge. It is clear from student responses to the co-construction process that it did engage them in the whole learning process.

As a result of participating in the process of rubric co-construction, the main benefits that students perceived were related to making the assessment process fairer, simpler and less subjective. Students wanted rubrics to be more user-friendly, and to facilitate cognisance

of their teacher's expectations. This process describes the collaborative learning process, as advocated by Baartman et al. (2007), who described students as active participants in the learning process, practicing self-evaluation and reflection, and collaborating with the teacher and other students.

Students in this study had no specific opinions on the best process for collaboration in the co-construction process, but wanted staff to understand and consider those aspects they found difficult. They wanted their teachers to ask their opinions on what should be assessed and to use understandable language in their communications with students.

Because teachers have constructed the unit, they are more informed as to the assessment requirements. Students are not as aware of competing demands on course design such as accreditation, governmental requirements, professional registration bodies and university expectations of course design and assessment. Despite this, there is no reason why students could not have input into how learning outcomes should be assessed. That teachers noted strong engagement from student participants in the co-construction process demonstrates their recognition of its benefit to them.

### **Teacher perspective**

Teacher engagement in the co-construction process was equally enthusiastic and positive, although this may have been due to their investment or interest in the process. Teachers acknowledged that their understanding of rubric design and application had improved to the extent that even if it were not possible to co-construct with students, their assessment practice would now change as a result of this new knowledge.

However, while teachers were optimistic about the benefits of co-construction, they were less

optimistic about the anticipated administrative and organizational problems. These problems included time constraints for developing subject material, ensuring that all involved students had a good understanding of the process and what was required of them, managing unrealistic student expectations of the process and its outcomes, also the possibility of conflicting opinions between students and teachers. While definitive answers to these concerns may have to wait until co-construction is implemented on a wider scale and on a permanent basis, the results of this study demonstrate that the concerns can be alleviated through careful implementation.

The management of time constraint issues will depend on the processes in place in different tertiary institutions. The findings of this study are based on student and staff volunteers contributing to the study in their own extra-curricular time, and this would not be sustainable were co-construction to be implemented as a regular part of course design. However, it is suggested that with the greater understanding and ownership of assessment that co-construction brings (Brubaker 2012), teachers will spend less time dealing with disputes arising from disparity of understanding of assessment criteria, which will compensate for the time spent in development.

Teacher participants saw three main benefits to students in the co-construction process. The

first was an improvement in student learning and understanding of assessment tasks and rubric use. This is consistent with Biggs' (1999) assertion that curricula and its assessment should be stated in terms that clearly outline the level of understanding required of students, not just a list of topics to be covered. The second benefit was an increase in ownership of the learning process by students, in line with Sadler's (1989) concept of students assuming ownership of the learning process; this is important in students determining their own levels of achievement. Thirdly, teachers articulated views that the co-construction process permitted students to gain insight into the role of the teacher, to

understand the complexity of designing assessments, and also appreciate the time that is involved in creating meaningful learning experiences. It is seen as beneficial that students see their teachers as partners in the learning process (Boud [2010](#)). Teachers saw potential for some aspects of the co-construction to be enhanced over those processes used in this study. More time needed to be allocated to the process in order for it to reach its full effectiveness; this may be due to the fact that the process was new for both students and teachers, and also because university systems and deadlines did not easily accommodate the initiative. Nevertheless, it is a factor that should be considered in future iterations. Secondly, the process was more easily understood and better accepted by the student participants who were provided with sample rubrics to examine and base their thoughts on; this is imperative in future implementations. Thirdly, the co-construction process was more efficient and effective when students were given clear protocols to follow during collaboration.

## Conclusion

The project described in this paper reports on the process of co-construction of rubrics across different tertiary institutions and student cohorts. This type of collaboration has not been researched in this way before and this study has demonstrated the process to be an effective educational approach worthy of further investigation and consideration. Importantly the project, as implemented, provided insights into the assessment process, more specifically students' and teachers' understanding of rubrics, and the potential co-construction to enhance student understanding and ownership of their assessment experiences.

## References

- Adedoyin, C. A. [2013](#). "Debate-Proof Grades: experiences and Challenges of Using a Grading Rubric in a Social Welfare Policy Course." *Journal of Teaching in Social Work* 33(2):196–208. doi:[10.1080/08841233.2013.774304](#).
- Baartman, L. K., T. J. Bastiaens, P. A. Kirschner, and C. P. Van der Vleuten. [2007](#). "Evaluating Assessment Quality in Competence-Based Education: A Qualitative Comparison of Two Frameworks." *Educational Research Review* 2(2): 114–129. doi:[10.1016/j.edurev.2007.06.001](#).
- Becker, A. [2016](#). "Student-Generated Scoring Rubrics: Examining Their Formative Value for Improving ESL Students' Writing Performance." *Assessing Writing* 29:15–24. doi:[10.1016/j.asw.2016.05.002](#).
- Bell, A., R. Mladenovic, and M. Price. [2013](#). "Students' Perceptions of the Usefulness of Marking Guides, Grade Descriptors and Annotated Exemplars." *Assessment & Evaluation in Higher Education* 38(7):769–788. doi:[10.1080/02602938.2012.714738](#).
- Bharuthram, S. [2015](#). "Lecturers' Perceptions: The Value of Assessment Rubrics for Informing Teaching Practice and Curriculum Review and Development." *Africa Education Review* 12(3):415–428. doi:[10.1080/18146627.2015.1110907](#).
- Biggs, J. 1999. "What the Student Does: Teaching for Enhanced Learning." *Higher Education Research and Development* 18(1):57–75. doi:[10.1080/0729436990180105](#).
- Boland, A., G. Cherry, and R. Dickson. [2017](#). *Doing a Systematic Review: A Student's Guide*. 2nd ed. London: Sage.
- Boud, D. [2010](#). *Assessment 2020. Seven Propositions for Assessment Reform in Higher Education*. Strawberry Hills, Sydney: Australian Learning and Teaching Council.
- Brubaker, N. D. [2012](#). "Negotiating Authority through Jointly Constructing the Course Curriculum." *Teachers and Teaching* 18(2):159–180.

doi:[10.1080/13540602.2012.632273](https://doi.org/10.1080/13540602.2012.632273).

- Hafner, J., and P. Hafner. [2003](#). "Quantitative Analysis of the Rubric as an Assessment Tool: An Empirical Study of Student Peer-Group Rating." *International Journal of Science Education* 25(12):1509–1528. doi:[10.1080/0950069022000038268](https://doi.org/10.1080/0950069022000038268).
- Jackson, C. W., and M. J. Larkin. [2002](#). "Teaching Students to Use Grading Rubrics." *Teaching Exceptional Children* 35(1):40–45. doi:[10.1177/004005990203500106](https://doi.org/10.1177/004005990203500106).
- Johnson, B., and L. Christensen. [2012](#). *Educational Research: Quantitative, Qualitative, and Mixed Approaches*. 4th ed. Thousand Oaks, CA: Sage.
- Jones, L., B. Allen, P. Dunn, and L. Brooker. [2017](#). "Demystifying the Rubric: A Five-Step Pedagogy to Improve Student Understanding and Utilisation of Marking Criteria." *Higher Education Research & Development* 36(1): 129–142. doi:[10.1080/07294360.2016.1177000](https://doi.org/10.1080/07294360.2016.1177000).
- Kan, A., and O. Bulut. [2014](#). "Crossed Random-Effect Modeling: Examining the Effects of Teacher Experience and Rubric Use in Performance Assessments." *Eurasian Journal of Educational Research* (57):1–28. doi: [10.14689/ejer.2014.57.4](https://doi.org/10.14689/ejer.2014.57.4).
- Menendez-Varela, J., and E. Gregori-Giralt. [2016](#). "The Contribution of Rubrics to the Validity of Performance Assessment: A Study of the Conservation–Restoration and Design Undergraduate Degrees." *Assessment & Evaluation in Higher Education* 41(2):228–244. doi: [10.1080/02602938.2014.998169](https://doi.org/10.1080/02602938.2014.998169).
- O’Donovan, B., M. Price, and C. Rust. [2004](#). "Know What I Mean? Enhancing Student Understanding of Assessment Standards and Criteria." *Teaching in Higher Education* 9(3):325–335. doi: [10.1080/1356251042000216642](https://doi.org/10.1080/1356251042000216642).
- Panadero, E., and M. Romero. [2014](#). "To Rubric or Not to Rubric? the Effects of Self-Assessment on Self-Regulation, Performance and Self-Efficacy." *Assessment in Education: Principles, Policy & Practice* 21(2):133–148. doi: [10.1080/0969594X.2013.877872](https://doi.org/10.1080/0969594X.2013.877872).
- Panadero, E., M. Romero, and J. Strijbos. [2013](#). "The Impact of a Rubric and Friendship on Peer Assessment: Effects on Construct Validity, Performance, and Perceptions of Fairness and Comfort." *Studies in Educational Evaluation* 39(4):195–203. doi: [10.1016/j.stueduc.2013.10.005](https://doi.org/10.1016/j.stueduc.2013.10.005).
- Patton, M. Q. [2015](#). *Qualitative Research and Evaluation Methods*. 4th ed. Thousand Oaks, California: SAGE Publications, Inc.
- Prins, F. J., R. de Kleijn, and J. van Tartwijk. 2017. "Students’ Use of a Rubric for Research Theses." *Assessment & Evaluation in Higher Education* 42(1):128–150. doi: [10.1080/02602938.2015.1085954](https://doi.org/10.1080/02602938.2015.1085954).
- Robson, C., and K. McCartan. [2016](#). *Real World Research*. 4th ed. Chichester, West Sussex, United Kingdom: John Wiley & Sons.
- Rochford, L., and P. S. Borchert. [2011](#). "Assessing Higher Level Learning: Developing Rubrics for Case Analysis." *Journal of Education for Business* 86(5):258–265. doi: [10.1080/08832323.2010.512319](https://doi.org/10.1080/08832323.2010.512319).
- Rosenow, C. [2014](#). "Collaborative Design: Building Task-Specific Rubrics in the Honors Classroom." *Journal of the National Collegiate Honors Council* 15(2):31–34.
- Sadler, D. R. [1989](#). "Formative Assessment and the Design of Instructional Systems." *Instructional Science* 18(2): 119–144. doi:[10.1007/BF00117714](https://doi.org/10.1007/BF00117714).
- Skulmoski, G. J., F. T. Hartman, and J. Krahn. [2007](#). "The Delphi Method for Graduate Research." *Journal of Information Technology Education: Research* 6:1–21.
- St. Pierre, E. A., and A. Y. Jackson. [2014](#). "Qualitative Data Analysis after Coding." *Qualitative Inquiry* 20(6):715–719. doi:[10.1177/1077800414532435](https://doi.org/10.1177/1077800414532435).
- Stuckey, H. L. [2015](#). "The Second Step in Data Analysis: Coding Qualitative Research Data."

Journal of Social Health and Diabetes 3(1):7–10.

Stupans, I., G. March, and S. M. Owen. [2013](#). "Enhancing Learning in Clinical Placements: reflective Practice, Self- Assessment, Rubrics and Scaffolding." *Assessment & Evaluation in Higher Education* 38(5):507–519. doi: [10.1080/02602938.2012.658017](#).

Wang, W. 2014. "Students' Perceptions of Rubric-Referenced Peer Feedback on EFL Writing: A Longitudinal Inquiry." *Assessing Writing* 19:80–96. doi: [10.1016/j.asw.2013.11.008](#).

Williams, A., M. Northcote, J. K. Morton, and J. Seddon. [2017](#). "Towards engaging students in curriculum transform- ation: What are the effective characteristics of rubrics?" In *Research and Development in Higher Education: Curriculum Transformation. Refereed Papers from the 40th HERDSA Annual International Conference.*, edited by R G Walker and S B Bedford, 423–433. Hammondville, NSW, Australia: Higher Education Research and Development Society of Australasia, Inc.

Yucel, R., F. L. Bird, J. Young, and T. Blanksby. [2014](#). "The Road to Self-Assessment: Exemplar Marking before Peer Review Develops First-Year Students' Capacity to Judge the Quality of a Scientific Report." *Assessment & Evaluation in Higher Education* 39(8):971–986. doi:[10.1080/02602938.2014.880400](#)

