Color-coding rubrics for increased effectiveness

Sherry Schofield, Florida State University, USA

Keywords: rubric, color-coded, visual cue

Most teaching faculty use a rubric of some form when they are evaluating their students. The best rubrics not only inform students of their performance on a project, but also educate students and assist in improving their performance on subsequent projects (Wiggins, 1998). Although creating an effective rubric can be time intensive and may need to be tweaked over several projects or semesters. Anecdotally, I have wondered whether students actually use the created rubric to either assist in the project formation, or as a tool for improving their performance on subsequent projects.

Research has shown that students claim to use rubrics to focus their efforts, assist in producing higher quality work and earning better grades, and to allow the student to feel less anxious (Reddy and Andrade, 2010). Panadero and Jonsson (2013) have suggested a reciprocal relationship between the rubric and activities where students actively make use of the criteria, such as in self-assessment. While still other research has suggested that combining various learning environments, such as text with highlighting, promotes better student learning (Wu & Yuan, 2003).

As such, the goal of this exploratory study was to investigate if color coding the scores on an evaluation rubric had any effects on 1) the students' perceptions of the rubric, and 2) their performance on self-assessments. Although the use of a color-coding system on rubrics has been used previously, primarily for K-12 students, the system used a different color for each concept or component of the rubric, rather than using color as a visual cue for student performance.

Instrument

An evaluation rubric was created, to score apparel design and construction projects. The rubric consisted of fourteen evaluative criteria, each with a description of the standard expected for an "exceeds standard" rating for that particular field. Following each description is series of boxes, where you can place the ranking earn for each criteria, on a scale from 1 to 5. Using conditional formatting available in Excel, when the individual box is chosen, the box changes from no color to a range of colors from red (stop), for "does not meet the standard" to green (go) for "exceeds standard" and a range of colors in between. So not only does the student see the scoring value represented on a visual scale from 1 to 5, but they associate the score with a color.

Page 1 of 2

Method

       Once the rubric was created, it was used for the first of four graded projects over the course of the semester. No other information was provided, in terms of the rubric, other than if the students had specific questions about their own scoring. No student indicated any reaction to the rubric, other than mentioning that they enjoyed having their comments typed out rather than hand written.

       When the second project was graded, the same rubric was used, but the use of color was eliminated. Because the class was a lab, and the students typically feel very comfortable sharing in a lab setting, they immediately started commenting on the lack of color, and specifically asked that I return to the color version for the next project. And, without me specifically asking, they made additional comments about how with the color version, they could immediately tell where they needed to improve. For the third project, I returned to the colored version. The only comments made were those thanking me for printing in color.

       When the due date for the final project arrived, I gave each student a print-out of the rubric and asked them to evaluate their own work, circling the score that they believed that they had earned based upon the written criteria. This self-assessment is a technique that I use every semester on the last project. The students typically tend to respond in one of two ways: 1) they score themselves higher than I would, frequently indicating that they worked very hard on the project so they are worthy of the higher grade, or 2) the students score themselves lower than I would. Few typically score the same as I. However, this time 17 of the 19 students scored themselves within 3 points of my final score.

Implications

       Although no two classes or cohort of students are ever the same, and the study was more of an etic approach than scientific, the results suggest that the color-coding of the rubric had a positive relationship with the students' self-assessment. In addition, the student's perception of the rubric was positive, and at least some students considered the color-coded rubric as helpful to their interpretation of the information presented.

       To further test the effectiveness of the color-coded rubric, I will use it for additional courses, other than just design. In addition, a more scientific approach to testing of the rubric needs to be applied. However, based upon the results of my exploratory study, it is apparent that the color-coded rubric has merit in assisting students with understanding their own performance.

References

       Panadero, E., & Jonsson, A. 2013. The use of scoring rubrics for formative assessment purposes revisited: A review. *Education Research Review, 9*, 129-144.

       Reddy, Y.M., & Andrade, H. 2010. "A review of rubric use in higher education." *Assessment & Evaluation in Higher Education, 35*(4), 435-448.

       Wiggins, G. 1998. *Educative Assessment.* San Francisco, CA: Jossey-Bass.

       Wu, J-H, & Yuan, Y. 2003. Improving searching and reading performance: The effect of highlighting and text color coding. *Information & Management, 40*(7), 617-637.