



Implementing and evaluating online criterion referenced assessment in biomechanics

Visentin DC and Bird ML

School of Human Life Sciences, University of Tasmania, Launceston, Australia

Introduction

Criterion referenced assessment (CRA) is currently being implemented in the Faculty of Health Science at the University of Tasmania for all assessment items. Different models of CRA in tertiary education have been proposed, but there has been little discussion regarding the theory of grading by this method, or the use of the online environment for CRA. The ability to allow criteria to be weighted is an important feature of CRA which puts limitations on the grading method. This factor becomes even more important when determining final grades across several assessment items within a university unit. In a university environment it is essential for a CRA program to be able to be implemented online.

Objectives

We describe the implementation of a currently available on-line rubric in MyLO (Blackboard Learning System™ – Vista Enterprise License – 4.2) which is used exclusively at the University of Tasmania (Figure 1 shows an example grading form). The online rubric was used for grading and feedback for a third year University assessment item in Biomechanics for students in Health Science and Exercise Science degrees and its evaluation by the cohort. Additional development of this tool to allow best practice for criterion referenced assessment is proposed. We propose a model for determining intermediate and final grades that is appropriate for the tertiary environment and can be implemented in online assessment tools. The information obtained by this method may be used to map learning outcomes and attributes for students across their whole degree. Figure 2 outlines this assessment model.

Discussion

Feedback from students shown in Figure 3 suggests that the use of a rubric in Biomechanics helped in understanding the assignment requirements, and the anatomical and mechanical learning outcomes associated with the assignment. Students also believed that the rubric assisted them in meeting the assignment objectives. However they did not see the rubric as a particularly useful feedback tool, the rubric was deemed to be most useful as a feedforward tool rather than for feedback. The University of Tasmania, along with other Australian tertiary institutions, is moving towards CRA for all assessment. However, the current online environment utilised in many Australian universities is not well placed to incorporate CRA requiring development of new tools and enterprising usage of existing tools. The implementation of CRA online has not been discussed thus far in the implementation of CRA materials.

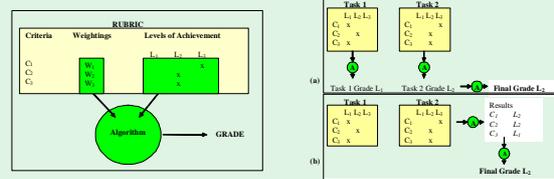


Figure 2. Grading models using CRA

Conclusion

Online grading tools in MyLO provide a suitable environment for performing CRA. Implementation in Biomechanics demonstrated that this had a positive effect on student learning. Online CRA may allow development of more appropriate and useful grading methods.

Objective/Criteria	Performance Indicators		
	Need Improvement	Meet Expectations	Exceptional
Spelling	<input type="checkbox"/> (2 points) Spelling poor	<input type="checkbox"/> (4 points) Spelling mostly correct	<input type="checkbox"/> (6 points) Spelling almost always correct
Grammar	<input type="checkbox"/> (2 points) Poor use of grammar	<input type="checkbox"/> (4 points) Grammar is clear	<input type="checkbox"/> (6 points) Grammar almost always correct
Style	<input type="checkbox"/> (1 point) Writing style not appropriate	<input type="checkbox"/> (2 points) Writing style generally good	<input type="checkbox"/> (3 points) Exceptional writing style
Content	<input type="checkbox"/> (3 points) Content not useful or original	<input type="checkbox"/> (6 points) Content is useful and interesting	<input type="checkbox"/> (9 points) Content is well researched and comprehensive

Total: 15 out of 24

If you want to override the grade, enter a value in the Change to field. This value will appear in Grade Book.

Change to: _____ out of 24

Comments:

Grade Book audit log comment:

Figure 1. Sample MyLO Grading Form

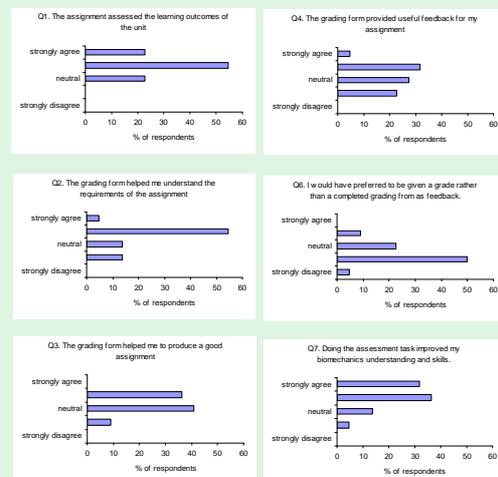


Figure 3. Responses to student survey on biomechanics article