Enhancing Student Learning Through Peer and Self-Assessment

Parama Chaudhury
University College London and CTaLE

Abstract

This poster outlines an innovative approach to helping students understand grading rubrics and what is expected of them in an assessment more generally by integrating peer assessment (Topping, 1998) and self-assessment (Chang et al, 2021) into the learning process. By actively involving students in evaluating their own work and that of their peers, the aim of this approach is to enhance their understanding of assessment criteria, promote critical thinking, and foster a sense of ownership over their learning process and outcomes.

For students who are the first in family or generation at university, this can be a particularly helpful approach as they often lack the cultural capital required to do well in higher education. Active learning techniques usually refer to ways of teaching content; this poster looks at how to apply active learning techniques to student understanding of assessment and feedback.

Introduction

Traditional approaches to assessment and feedback often leave students with limited insight into what is required of them and how their work is evaluated. Within economics, there is a range of types of assessment from very technical and quantitative formats to more discursive and qualitative ones, but even in the former, students might struggle to fully internalise the fact that they can earn marks for showing their work, for properly labelled diagrams that complement their numerical answers and so on. Instructors can provide marking rubrics to guide them, but particularly for undergraduate students, and those from backgrounds without much experience of university, this can prove insufficient. Where the assessment is more discursive, for example a research project, this problem can be amplified. In the end, a student may perform poorly, largely because they did not fully understand what was expected of them, rather than due to their understanding of the material and their content-specific skills.

In response to this challenge, we introduced an active learning approach to understanding feedback and assessment, which involved guided peer and self-grading using official grade descriptors. This led to a fall in student complaints about unfair grading and comments about unclear standards.

Figure 1: Grade Descriptors

6.5 Grade Descriptors for Coursework and Examination Scripts

The Economics Department works to the following marking scheme:

Degree Class	Percentage Mark	Grade
I	70% +	A
II.1	60% - 69%	B
II.2	50% - 59%	C
III	40% - 49%	D
Fail	0% - 39%	F

The following Grade Descriptors explain the criteria by which marks are awarded to individual exam answers and to answers for coursework:

	Characteristics of answers	
Class and mark range	**Style of question: Essay/argument**	**Style of question: Problem/mathematical**
First (A) 70-100%	Clear and thorough analysis, responding directly to the questions set, with rigorous arguments based (as appropriate) on extensive knowledge of relevant concepts, theory and empirical evidence. ***Marks above 80*** should be used to signify novel and/or distinctive discussion, showing unusually clear insight and/or exceptional sophistication in approach.	Accurate derivation of answers to all parts of question, including parts requiring significant independent thought. Clear explanation and evidence of thorough understanding of the reasons for the method employed, and the intuition behind results obtained. ***Marks above 80*** should be used to signify unusually clear insight and/or exceptional sophistication in approach.
Upper second (B) 60-69%	Well organised, clearly-expressed, and a direct response to the question. Evidence of good analytical skills and appropriate reading. Effective grasp of concepts. Use of relevant examples. Appropriate and well-explained use of relevant algebra or diagrams, integrated into the structure of the analysis.	Accurate answer to most parts of question, with incomplete answers only to sections requiring significant independent solution. Clear explanation of methods, results and intuition.
Lower second (C) 50-59%	Shows a general understanding of the question, with more limited relevant reading and use of examples. Competent reproduction of ideas and concepts from lectures and textbooks with little evidence of independent thought.	Accurate answer to all part of question requiring standard or routine approaches, with some explanation and intuition, reproducing lecture or textbook material on the reasons for methods employed and their interpretation. Errors should not betray significant misunderstanding of standard material.
Third (D) 40-49%	Answer shows some understanding of the question and the broader subject area, but shows little evidence of detailed knowledge or reading. Contains some mistakes, misunderstandings or irrelevant material. Relatively poor organisation and expression, and non-analytical approach.	Answer displays some surface knowledge of the subject matter of the question, but there are errors in some routine parts of the question *and/or* inadequate or inaccurate explanations.
Fail (F) 20-39%	Muddled, though may show some awareness of the general field. *or* Incorrect notes of limited relevance, but indicating some evidence of understanding in relation to the field in general.	Significant errors in most routine parts of the question and inadequate or inaccurate explanations, *or* Incomplete notes indicating some evidence of understanding appropriate methods.
Fail (F) 0-19%	Little or nothing of relevance in answer to question. *Or* Comprehensive mistakes, failures and misunderstandings, showing that little or nothing of value has been understood from module material.	Little or nothing of relevance in answer to question. *Or* Comprehensive mistakes, failures and misunderstandings, showing that little or nothing of value has been understood from module material.

Note: In answers where successive stages of a multi-part question depend on the results to earlier stages, appropriate credit should be given for intelligent and well-explained attempts to answer subsequent stages, albeit that an error made in an earlier stage invalidates the answer.

Methods and Materials

Students are assigned several homeworks, among which three were focused on the active learning feedback exercise. These homeworks don't count towards the final grade but are designed to be similar to assessments that do count. This provides students with an incentive to complete and submit these exercises and comprise an authentic feedback example for them to learn from.

1. For the first of these homeworks, students are taken through the **marking of a sample submission** during their small group tutorials. The TA leads this session, marking a sample on the visualizer, while students follow along and mark the sample they have been assigned. This work is done using the grade descriptor above and a sketch answer guide. These samples are sourced from previous student cohorts and more recently, generated by ChatGPT.
2. For the second homework, students are assigned **a classmate's (anonymized) submission** and mark this as the TA marks another submission on the visualizer. The main difference with the first exercise is that students know that the feedback and grade they provide is meant to help their peer improve. The TA's guidance encourages students to give actionable feedback, rather than the "correct" answer.
3. In the final homework, student grade **their own draft submission**, following the TA's guidance on the visualizer. Again, the focus is on understanding where the draft stands currently with the grade descriptors above and the grading rubric, and what is required to improve it for the final submission.

Results

One of the main reasons for introducing this exercise was the number of student complaints about the "fairness" of the grading and an obvious lack of understanding about how to improve. A key result of the peer and self-assessment approach is a significant reduction in these complaints. Some students still found it hard to figure out how to improve, particular with homeworks that were not simple calculation exercises, but the number of such students who approached the instructors and TAs with queries about this increased, showing that they understood the process even though they couldn't identify the next steps independently.

An additional result which has manifested in terms of student satisfaction, though not yet in terms of student outcomes, is that students from less advantaged backgrounds are much less likely reporting confusion about what is expected of them in an assessment. The next step is to ensure that they have the support to meet this expectations.

Figure 2: Screenshot of peer marking guide for students

ECON0002 – Peer marking guide for Homework 3

This document is meant to be used ONLY for peer marking – the content below is only guidance on answering the question, and a submitted answer for marking would be expected to have fully fleshed out and labelled diagrams and analysis in order to be considered as satisfactory. For such fleshing out, please make sure to WATCH THE VIDEO GUIDE to answering Q3, as it will give you a good idea not just about what a good answer is, but also how to hit the grade descriptors for a first class, upper second, etc.

As you are peer marking, please make sure to make detailed comments on how to improve the answer as your tutor will be doing on the visualiser. You will also need to take a photo of the submission you have peer-marked to submit after the tutorial, just so we can make sure that the peer-marking has been completed in an adequate fashion. Your tutor will go through all the instructions – if there is anything you do not understand about this exercise or about the answer, please ask them as soon as possible.

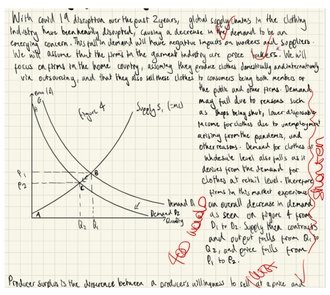
Discussion

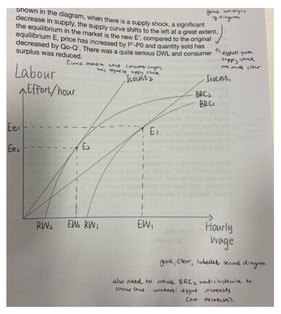
The main drawbacks of this approach are as follows:

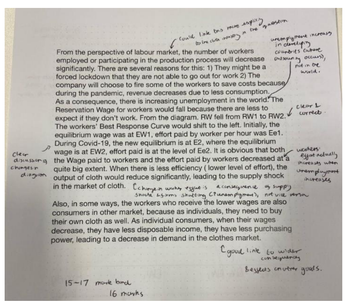
1) Students often don't recognize anything other than written, individual comments on their work as feedback. In addition, they are likely to be looking only for the "correct" answer or model answers rather than actionable steps on how to improve. This requires a significant amount of culture change work with students with constant verbal/ written reminders about how feedback works.
2) In the second (peer) assessment exercise, there is a significant amount of logistics involved for the TAs to ensure that printed and anonymized copies of the submissions are available, students don't mark their own work, and that students get their (peer-)marked work back at the end of the session

We run this exercise in a very large (500+) first year course, and this makes the logistics and culture change required even more challenging. The key requirement for success is significant advance planning and preparation by instructors.

Figure 3: Peer-marking examples







Conclusions

This active learning approach to helping students understand what is expected of them in assessments and how to interpret and use feedback to improve their work shows a clear need to address this part of the "hidden curriculum" issue. While there are logistic and cultural barriers to implementing this method, the author's experience shows that it is possible even in very large groups, with appropriate advance planning and scaffolding for students and Tas.

References

1. Topping, K. (1998). Peer assessment between students in colleges and universities. *Assessment & Evaluation in Higher Education*, 23(4), 341-353[2]
2. Chang, Y. H., Double, J., Li, L., & Misiejuk, K. (2021). Peer assessment in higher education: A synthesis of the literature. *Assessment & Evaluation in Higher Education*, 46(6), 1005-1021[1]

Contact

Parama Chaudhury
University College London and Centre for Teaching and Learning Economics
Email: p.chaudhury@ucl.ac.uk
Website: https://sites.google.com/site/paramachaudhury/