



# Essay Writing with Peer Reviewing and Marking

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## OVERVIEW

This case study examines a coursework assessment design, largely formative, aimed at improving students' writing and reviewing skills. The assessment makes use of an on-line assignment system that supports essay submission, blind reviewing of those essays by students, and then blind summative assessment of the reviews again by students. Students additionally write a formal response-to-reviewers, and then summatively assess these. The students are required repeatedly to evaluate the arguments of other students in essays, in reviews, and in response-to-reviewers and compare them with their own viewpoints. The aim is to move them from a Perry-like stage where only their view counts and there is only one correct viewpoint, to a higher stage where multiple viewpoints are valid and they need to find their own position within them. Rather than relying on staff to make judgements, they need to take a step forward in practising and employing their own ability to make judgements about work.

This case study fits into Theme 2, Great designs for assessment. It is ideally fitted to the overall conference title of Assessment Design for Learner Responsibility, since engendering a responsible attitude among the students is a key attribute of the design.

## Keywords

Assessment design, formative, summative, argumentative essay, on-line assignments, peer reviewing, Perry level, transferable skills, feedback, discussion, scenario analysis, critical skills, reflection, Computing Science

## INFORMATION ABOUT THE CLASS, MODULE OR PROGRAMME

The focus is a professional skills and issues module presented in the Department of Computing Science at the University of Glasgow, Scotland, to two student groups simultaneously: the final year of an undergraduate Computing Science honours degree and also a one-year taught Masters in Computing Science degree. The undergraduates are in their fourth year (the second of the two honours years, having spent two years taking subjects to qualify for honours entry). The Masters students are drawn from three Masters programmes and all have a good first degree, although this may be in any discipline. Total student numbers are around 100, and there are no distance learners. The module runs over two semesters with around 16 lecture/large-group sessions held in a traditional ranked lecture theatre. Whilst the assessment has been used in Computing Science classes, there is no reason why it should not be used in any course that requires the development of argumentative essay writing skills.

## DESCRIPTION OF THE CASE

The coursework for the module consists of writing, reviewing and improving essays. It is worth 20% in total of the whole course assessment, the remainder assigned to a terminal examination. The various stages of the coursework, along with their purpose, is now described. Week numbers range from 1-24, covering two semesters; this course starts in Week 5 and runs to Week 24.



### **Weeks 5-9: Introduce / review argumentation and feedback skills**

Large group discussion sessions are used to introduce elements of both verbal and written argument and feedback skills. Week 5 introduces the module as a whole, setting the scene for what is a highly unusual style of module in the students' experience, and arguing for the benefit to them of a module that concentrates principally on transferable skills rather than on particular content. In Week 6, students practise verbal argument skills as well as the skills of giving and receiving *data-based* feedback, again verbally. In Weeks 7 and 8, the students are introduced, experientially during the classes, to a scenario analysis/decomposition technique to be used in the development of argumentative essays. The technique draws out the relevant parties involved in an essay topic/scenario, along with the facts known and those that need to be researched, the key risks and benefits involved in adopting different viewpoints, and the fundamental underlying issues/dilemmas involved - all of which can be used to derive the various possible standpoints on the topic. This leads naturally to a discussion of ethics, lying at the core of the course, and encourages the student to pick their own, well-argued, standpoint according to their own ethics/mores.

### **Weeks 9-12: Write first draft of essay**

This is an opportunity for the students to thoroughly engage with one topic in the wider area of social, professional and ethical issues in the information technology domain, to practise the scenario analysis technique, and to develop an essay from the results. They are given four topics to choose from, and are instructed to write an essay of up to 1200 words. The size of the essay is limited to ensure that the later reviewing process is not too onerous, and also to encourage students to write relatively concise, clear, arguments.

The following is a typical example of the kind of essay topic presented:

*Which is more likely to be effective in protecting intellectual property in digital media such as CDs and DVDs: tougher copyright laws or new technologies incorporating more sophisticated anti-copying measures? If you can argue that a third mechanism will be more effective, do so.*

The students have around three weeks to prepare this essay, and they then sign up to an on-line system (similar to a typical academic conference management system) as an author and submit their essay. They are instructed to present the essay in a blind format that can in no way identify them as the author. The on-line system renames the essay file, and so anonymity from the students' point of view is maintained.

### **Weeks 14-16: Review essays**

At the same time as the students submit their essays, they are instructed to sign up as a reviewer to the system. Once all essays are submitted, and all students registered as reviewers, the lecturer makes an allocation of three essays to review for each student. The three essays for each student always include at least one on the same topic as covered by their own essay, while the other two are as much as possible on different topics (although according to the choices of the students, this is not always possible).

Before the Week 14 lecture session, the students are told to download and print out their three essays for review and bring them to the session which is spent discussing the reviewing process and giving examples of good and bad reviews, taken from previous sessions.

The students are asked to comment on four aspects of each essay: the structure of the essay, the depth of the argument developed in the essay, the quality of the evidence supplied (e.g. referencing or other supporting data), and the grammar/spelling. There is no limit to the length of the review they can write. In addition to the written review, they also give a grade for each of these areas, according to a supplied marking scheme - but this is



for guidance only and does not go towards the essay author's final mark. As much as anything this is practice for the reviewer in giving a mark.

### **Weeks 19-22 (Honours), 19-23 (Masters): Incorporate comments into final version**

The students pick up the reviews on-line, again anonymously. They are given advice on learning to accept criticism from peers, acknowledging that it most likely was generated by some aspect of their essay, rather than the perversity of the reviewer - and that the criticism is about the essay, not about themselves. A key step also is to learn to accept that their peers can be skilled in this process, as much as the lecturer, and that because each student only has to review three essays, they can do a more thorough job of it than a lecturer covering a class of 100.

The students are advised to go through a process of identifying each criticism and deciding how to use it: the extremes would be to ignore it completely or to entirely include it. Usually it is more sensible to look carefully at how the misunderstanding arose and adjust the essay accordingly.

### **Weeks 19-23 (Masters): Write a response to reviewers**

The Masters students formalise the process outlined above by writing a *response to reviewers* - needing to create a convincing document of only one page, summarising how the issues have been addressed (or ignored) that were raised by the reviewers.

### **Weeks 19-22 (Honours), 19-23 (Masters): Mark the reviews**

All students mark three reviews written by other students (not of their own essays, though). The marks are counted towards the final mark for the course, but are very low - each review is marked out of 4, scaled to 2% of the overall course mark - hence 6% in all.

The students get to see the original essay and the review - and are encouraged to read the essay first, before looking at the review, to come to their own conclusion about the essay. Only then do they read the review and consider how thorough a job has been done. The marking scheme is crude: 0 for no attempt, 1 for anything submitted that has any value at all, 2 for a review that gives a small amount of useful advice or concentrates on grammar/spelling only, 3 and 4 for more significant amounts of more useful, detailed and in-depth advice.

The students are advised that they will not have a huge impact on a students' final mark - they are unlikely to be more than one mark out - this is half a percent, there are 5 assessments and so the likelihood is that the inaccuracies will balance themselves out. All students are told that if they significantly object to the marks that they have received, then they can talk to the lecturer about it.

### **Weeks 23-24 (Masters only): Mark response to reviewers**

Students have access to one response to reviewers, and the corresponding original essay, the three reviews, and the final essay. Their task is to check how well the reviews have been addressed by the author in both the R-to-R and the final essay.

Students are advised to acknowledge that an author may choose to stick to a particular line of argument, when the range of possible options are equally "acceptable" - i.e. it really is just one's personal viewpoint. But of course the author should be clear in stating this, in any case, because in such situations, there can be no hard evidence to support it.

The students assign a mark worth 2% of the final mark for the course to the response to reviewers. Again, if an author feels the mark is unfair, they can see the lecturer about it.



### **Weeks 23-24 (Honours), 25-26 (Masters): Final essay version assessed by staff members**

Most of the coursework marks are attached to this part of the assessment (14% for Honours, 12% for Masters) - and although the students do on the whole do a better job (because they can commit significantly more time to the task), it is viewed as a step too far not to have the essay principally marked by a staff member. The staff members use the same guidelines for marking the essays as were used by the students when they reviewed the essays. They include written feedback about the essay, and the essays are returned to the students.

### **Intervening weeks: A range of relevant speakers**

After Week 9, a range of speakers talk on relevant social, professional and ethical issues in those weekly slots not being used to introduce/discuss aspects of the ongoing assessment. These provide information on topics such as data protection, freedom of information, security, workplace issues - all matters that are entwined with the subject. Students are additionally encouraged to make a habit of reading widely around the field.

### **Terminal examination**

The Honours students write a single essay from a range of 12 unseen topics. The Masters students additionally write a single 800 word essay on a seen topic picked from 3 topics given to them in Week 22.

### *Professionalism and completion of the coursework components*

It is crucial that the students take part in the exercise. If they do not write the first draft of the essay, there are not a balanced load of essays for the class to review; if they do not write the reviews, then the original authors miss out on useful feedback; if they do not complete the marking exercises, some students will be missing marks. Any missing components will need to be completed by staff members.

A level of coercion is applied to ensure that the students do take part in the exercise - they are free not to complete all parts, but in doing so they forfeit a fraction of their final mark. Completion of each part adds to a *multiplier* which can reach a maximum of 1.0. Once all summative assessment marks are in, the sum of these marks is multiplied by the multiplier to give the final result for the course. For example, for Honours students, completing the first draft of the essay contributes 0.7 to the multiplier - a large proportion because it is so essential that the first draft is available for reviewing. Each review and each review marked is worth 0.05. The Masters allocation, including response to reviewers and marking thereof, adjusts the balance a little. The point is that the students will be penalised if they do not engage fully with the exercise - in a sense, if they do not behave in a professional manner towards this course and their colleagues.

### **RATIONALE IN TERMS OF EDUCATIONAL IDEAS**

Particular aspects that the design was aiming to address are as follows:

- With a view to Perry levels of critical thinking/abilities, the design encourages students to appreciate multiple points of view, and to adopt their own position from within these on the basis of their knowledge and experience. Additionally, students are encouraged to believe that they can be valid and useful assessors - to see the lecturer as a mentor more than a provider of information and the 'correct' answers, and to see themselves as persons with valid points of view and abilities.
- Staff often bemoan the fact that students will write a first draft and then submit it to staff for review/marketing without any self-checking. By seeing the quality of other students' work (both bad and good are equally important), and reviewing it, students are hopefully encouraged to spend more time on their own work and to develop a habit of self-review.



- The students are required to work as part of a larger group, with the relevant responsibilities thereby entailed. Students are heavily dependent on other students' completion of the various stages of the assessment, and it is essential that they all play their part fully. The multiplier system encourages the students to take part in the assessment professionally. In previous runs of the course, marks were awarded for participation, but this skewed the marks excessively, since almost all students followed the marks.
- Students are encouraged to hone their feedback skills. They are instructed to base their feedback on data - to evidence their feedback on specific aspects of the discussion or essay for which they are providing feedback. Where they recourse to pure personal opinion, they are instructed to acknowledge this. They are encouraged to be as honest as possible and this is facilitated by the full anonymity provided by the reviewing/marking system. They provide feedback both on essay topics they know about, and those they are new to, so they can play the role of expert and first-time reader.

With recourse to the 11 REAP assessment criteria, this assessment is relevant as follows:

- Engage students actively in identifying or formulating criteria. Not addressed.
- Facilitate opportunities for self-assessment and reflection. The students can compare other essays for which they are writing reviews with their own. The requirement to write and mark reviews means that they must analyse 6 or 7 'real' essays critically according to the reviewing criteria, and this must force them to think carefully about essay construction in general, and their own and their peers in particular.
- Deliver feedback that helps students self-correct. The students gain extensive feedback from the reviewing process, typically much more than a lecturer can provide. Many reviews run to a full page or more in length, and are accurate in their assessments. The opportunity to improve their essay for a final submission enables the students to self-correct.
- Provide opportunities for feedback dialogue (peer and tutor-student). Whilst one-to-one dialogue is only supported in lectures between students, the response-to-reviewers encourages a single time around the dialogue cycle.
- Encourage positive motivational beliefs and self-esteem. The attempt to make students adopt rational (rather than bigoted) points of view is aimed at fostering a more balanced view of the world. The kinds of skills developed here are directly relevant to most employment beyond university and this is stressed early in the course.
- Provide opportunities to apply what is learned in new tasks. The students are performing a number of reviews, or critical analyses, over the duration of the module. It is hoped that each experience will feed into the next.
- Yield information that teachers can use to help shape teaching "engagement". Year on year, the reviews and response-to-reviewers have been used to help form the advice and direction given to students. Little use is currently made of this data within session.
- Capture sufficient study time and effort in and out of class. In the interactive sessions that form roughly half the sessions, the students are engaged in various kinds of discussion and so are learning experientially.
- Distribute students' effort evenly across topics and weeks. There is a progression of reviewing skills practice through the duration of the module.
- Engage students in deep not just shallow learning activity. The learning is intended very much to be experiential. Since they are actively engaged in working on and with the reviews of their peers, it is hoped that they will take the role seriously.
- Communicates clear and high expectations to students. A principal objective of the module is to encourage the students that they can be of great use to their colleagues, and that what they have to say matters.

## EVALUATION



No formal evaluation has been carried out on this module. Hence this section blends informal feedback and observation of the process, as well as the result of end of module questionnaires.

The students appear to be engaged with the coursework process effectively, in that for this academic session all Honours students, bar one suffering from serious personal issues, submitted the first draft of their essay, the three reviews and review marks, and the final version of the essay. At the time of writing, the Masters students are yet to submit their response to reviewers and final essays, and so comments on this process are taken from the previous session. From free comments supplied on the questionnaires, it is clear that some students really enjoy the whole process, whilst others do not. So although there is full participation, this may be more due to the Multiplier than due to a true engagement.

The questionnaires (61 returned from a cohort of 95) concentrate principally on the lectures and presentational aspects rather than the assessment. Overall, 43% rated the course as good or very good, with a further 39% rating it as ok. 56% were yes or strong yes to "I learned something valuable", with a further 26% at the middle position. All students rated the course as average towards easy, with respect to the difficulty level.

The quantitative questionnaire returns exemplify attitudes towards the course, supported also by the additional written comments. It would seem that a proportion of the students, around half to two-thirds, are ready for a course like this and engage with it well. The remainder cannot see the purpose of the course: as far as they are concerned, they are taking a technical degree and cannot see the point of this, in their words, "tacked on course". It is possible that these same students rarely turn up to the lecture sessions, because the motivation for the course is covered there. This is a challenging problem and has been evident in this course for some years. I have had graduates returning a year or two later saying "I now understand what you were trying to get at" - once they have worked out in industry. I guess a good tactic would be to get a panel of these graduates back in each year, both to talk about their current activities in industry which would fit well with the course, but more importantly, also giving their thoughts on the purpose and relevance of the course with the benefit of hindsight.

A steady improvement in the quality of the reviews has been observed over the years. Initially reviewers were sometimes overly harsh and unable to give sound data-based feedback. Instead, their reviews would contain phrases amounting to "your essay is rubbish". These early examples now feed into the lecture session introducing the reviewing part of the assessment, and they appear to be helpful in guiding the students appropriately.

Having said this, the quality of reviews does vary. One of the longer reviews picked at random from this session's collection is around 900 words long, and the marker of this review said "I believe this review represents a significant effort to help the author. While I do believe that some of the points are opinion; this is inevitable and the separation of recommendations makes it easy for the author to pick and choose which points to take under consideration when writing their final version of the essay", and awarded full marks. This is typical of many reviews. However, some students are either unwilling or unable to complete such a useful review. For example, another randomly chosen short review is around 125 words long, with the marker's comment: "the review is of no use at all to the essay author. I could find several mistakes in writing, grammar and referencing that wasn't mentioned in the review. I think the first sentence is very much related to the topic and the author's argument. Very high grades on an essay that isn't that good!!!" and a mark of 1.

An extensive examination of each essay's review set has not been conducted but it is hoped that each author will get at least one or two good reviews. Certainly, a swift check of the reviews shows that they are on average well over 500 words long. Whether these 500 words are accurately pinpointing weak parts of the essay and making valuable suggestions for improvement is unexplored at this stage.

The quality of both the reviews and the review marks underline a significant aspect of the module. It is unlikely that any department could afford staff time to provide three



independent reviews of 200-1000 words on a student's essay, not to mention the marking of these reviews along with short feedback. Not only are the students skilled enough to provide this level of support, but staff are actually unable to do so.

This is highlighted in the Response-to-Reviewers process. In the previous session, the lecturer marked these. This requires the analysis/cross-checking of the original essay first draft, the three reviews, the response, and the final version of the essay, in order to assess whether the response and the final draft have successfully addressed the reviewers comments. Each one took a minimum of 30 minutes - again an unmanageable overhead when spread across a large class. This year's course structure has the students marking a single response to reviewers, a manageable task and a challenging exercise in assessing the quality of the arguments presented by both the author and the reviewers.

There is little to comment on with respect to the Response to Reviewers section at this stage, since it hasn't been completed by the students this session - the first time it has run in this form. In the previous session, it appears that the students were unclear of the precise purpose of the response. Often they simply rubbished the reviewers and held their ground, making little or no change to the essays. It is as if they viewed the responses as a battle ground with the reviewers - whereas it is much more subtle than this. This time around, the instructions are much clearer and it is anticipated that, like the reviews, the responses will improve in quality.

One of the principal concerns of the students this session is that they have seen that some of the reviewing is quite poor in quality, and are hence worried that the marking of the reviews will be undertaken in a similarly slipshod manner. This is a legitimate worry, but addressed hopefully by their option to bring any mark to the lecturer for re-evaluation.

At least one student was also concerned that the marking aspect of the assessment had no educational validity. This was countered by suggesting to the students in the next session that this was inevitably a process they would be involved in when working - at some point they would be assessing the quality of their colleagues work.

It is fair to say that the evaluation of this module is wanting. However the general sense is that most students engage with this extended exercise and gain from the experience.



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