A review of assessments in Chemistry

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Many different types of assessments and grading schemes are used across Chemistry courses. Some are traditional such as a formal written lab report, others have developed over time or are recent introductions. As part of the University's policy to review and improve assessment and feedback, several new assessment methods have been tested with a view to make time spent marking more efficient, improve quality of feedback, and ensure that students receive authentic and meaningful assessments.

Manually marked written online questions

The final course exam was changed to 100% MCQ to save marking time and because students do not receive feedback on written exams.

To retain descriptive and explanatory questions, short answer (~5 marks) written 'essay' style questions were added to online continuous assessments.

- Quick(er) to mark – have a clear marking scheme & points breakdown prepared in advance!
- Generic prewritten feedback added in advance.
- Common errors & misconceptions noted and added to test feedback.
- Student specific feedback can be added.
- Can be re-used each year with time saving.

Despite concerns that there would be no time saving, staff found that they became quick at reading and grading, and found reading the answers useful in preparing feedback.

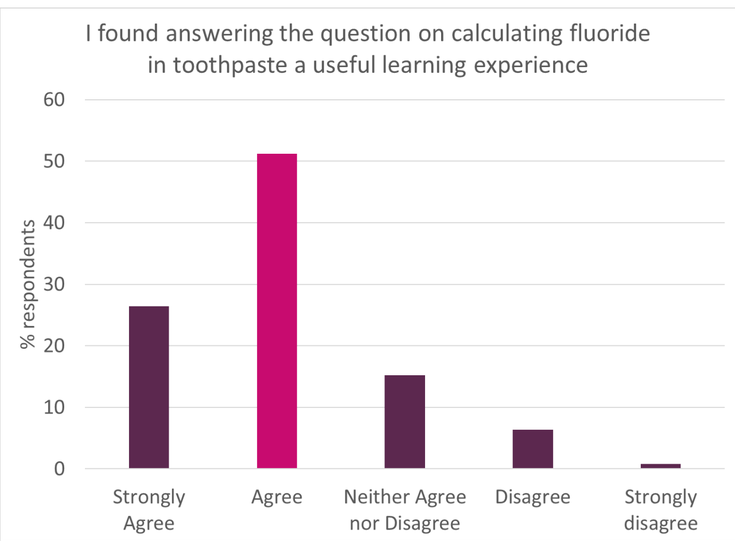
Student survey responses & comments:

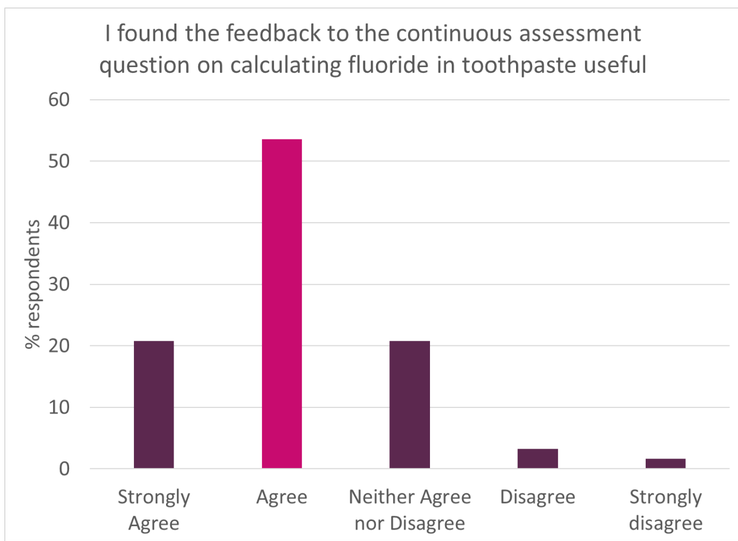
"I think it would have been useful if the exam was going to have similar questions, but since it is all multiple choice I think that it's not particularly necessary to have written answer questions in the continuous assessments."

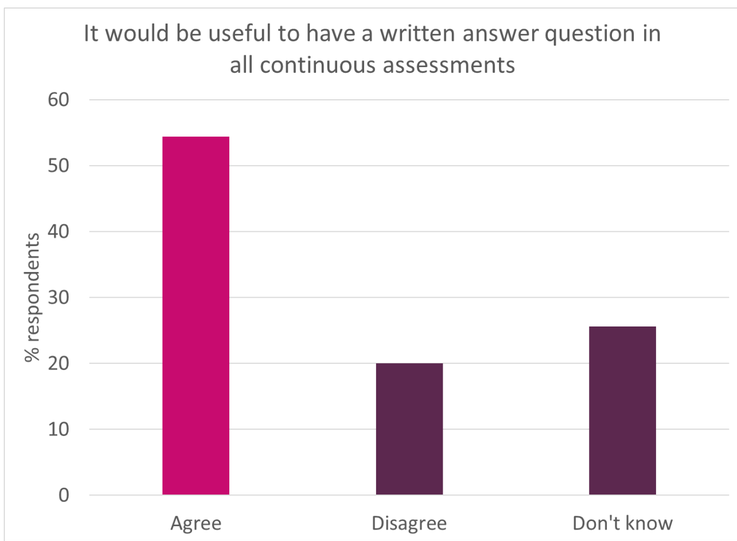
"An effective way of applying your mind over multiple stages of working therefore helps improve this vital skill."

"They are good way to test our knowledge and ability to work thorough a longer answer question"

"Written answer comments make me question my understanding and allow me to properly understand the content but I do prefer MCQ's"







MyAberdeen marking rubrics

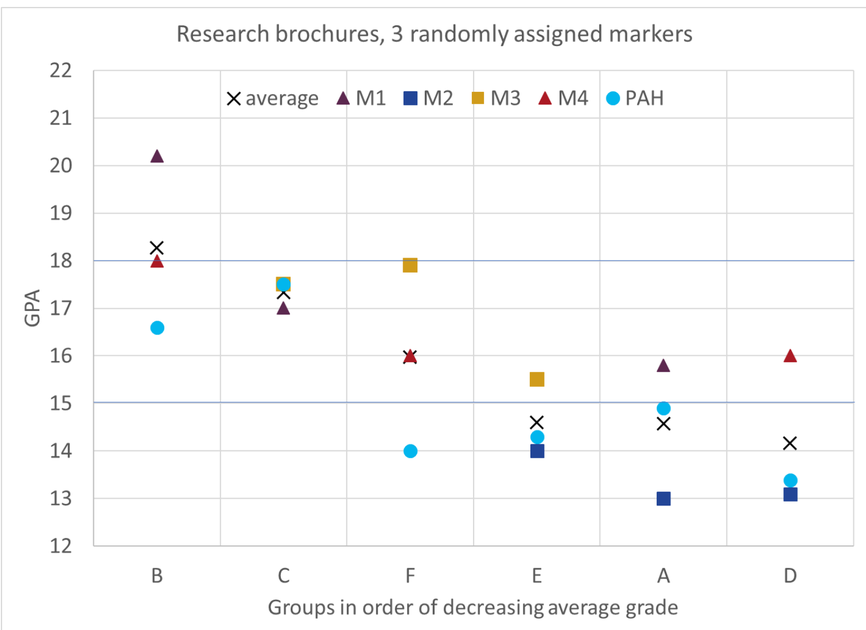
Online marking rubrics were used for lab reports, mind maps, and research lab brochures, in levels 1-3.

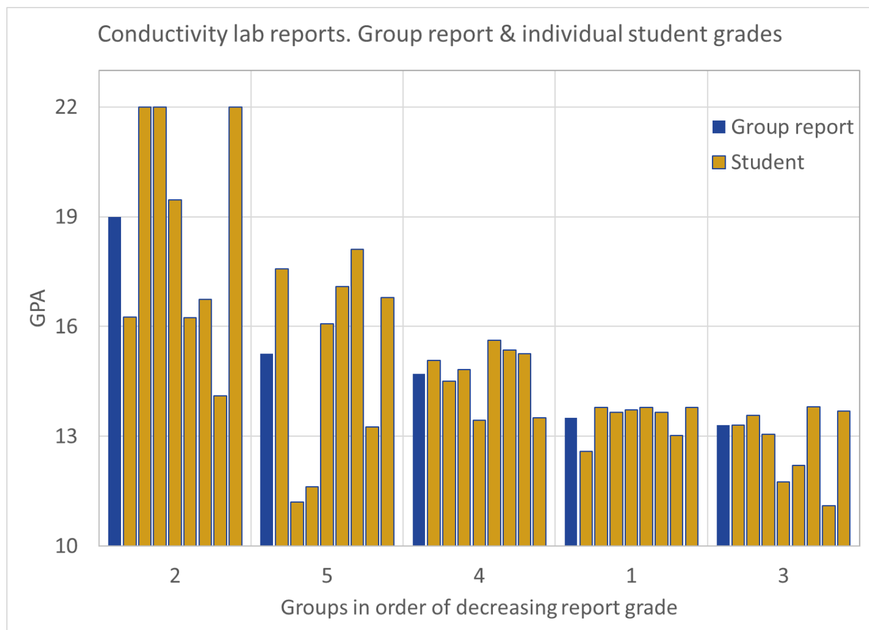
- Keep it simple. Too many achievement levels can be confusing and produce strange values when weightings are applied to criteria. A-G rather than 22-0.
- Secondary evaluation option – gives a guide grade which can be moderated by the marker (no one did this).
- Explain the rubric clearly to staff – they may be hesitant to give very low or high grades.
- Make it available to students in advance – feedforward.

"We should use this for our paper based Honours project marking"

Delegated and shared marking using the VLE

- Online assignments can be randomly assigned to markers.
- Useful for large classes with multiple markers.
- A submission can be assigned to a single or multiple markers.
- Review a student's grade from multiple markers and assigned a reconciled grade (average, min, max, other).
- Check consistency between markers or new markers.
- Students can receive multiple feedback points of view.
- Possible time saving by sharing workload.



Peer assessment - WebPA

- Online tool for self- and peer-assessment of group work.
- http://webpaproject.lboro.ac.uk/
- Students score themselves and peers on criteria such as contribution to lab work and report, problem solving, time-keeping.
- Student receives a weighting factor calculated from group scores.
- Single group report – less marking, more time for written feedback, speedier return. Single grade moderated by peer ratings.
- Weighting factor applied to report grade for each student.