

# THE LEARNED SOCIETIES' GROUP ON STEM EDUCATION

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Dr Janet Brown  
Chief Executive  
SQA  
The Optima Building  
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Dear Dr Brown,

## **Changes to National Qualifications' Course Assessment**

1. The *Learned Societies' Group on Scottish STEM Education (LSG)* was pleased to have the opportunity to meet with you earlier this year to discuss the course assessment changes being planned in the STEM subjects in light of the Scottish Government's decision to phase out unit assessments from National Qualifications from school year 2017-18. We welcome the recent publication by the Assessment and National Qualifications (ANQ) group of new guidance for schools to support the changes being made to qualifications and assessment. The purpose of this letter is to draw to your attention issues related to the planned changes to the *Assignment* in the sciences. We hope that you can reflect on these comments as you continue to work towards bringing forward the changes.
2. There is close to unanimous agreement among the science teachers we have heard from that the current assignment is not fit-for-purpose. They therefore see very little value in making the minor modifications that are planned. Rather than providing a reflection of a pupil's knowledge, understanding and skills comprehension in the sciences, assignment performance tends to be driven by a pupil's ability to follow processes and instructions given the quite prescriptive marking criteria.
3. The requirement for the assignment in the sciences to be written up under supervised conditions uses up several hours of class time which could otherwise be used to improve science teaching and learning. That there is no specified time limit for this process is resulting in pupils, knowing that the assignment mark will count towards their final grade, spending significantly longer on this activity than might be expected. This is further reducing time available for other more productive learning and teaching activities.
4. For those candidates undertaking more than one science, multiple assignments that largely assess the same skills can be very burdensome, providing little in the way of added value.

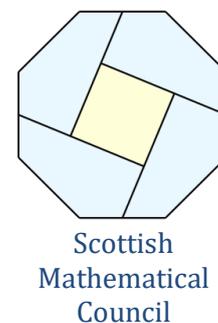
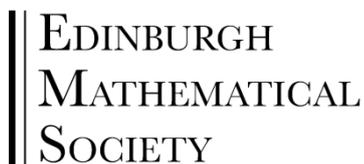
5. In the sciences at National 5 and Higher no redrafting of the assignment is allowed. This is unlike the situation with the Advanced Higher project in the sciences. It is also unlike arrangements at National 5 and Higher in some other subjects and most real life report writing situations. This causes confusion for candidates who wish to make changes and redraft as they progress through the writing of their assignment and reflect on what they have written. It also places science teachers under unnecessary pressure if they have to enforce the no redrafting rule when this is not the case in other subjects.
6. It is notable that some candidates can do very well in the assignment but then find the examination very difficult. This suggests that performance in the assignment can be influenced by the level of external support available to candidates from teachers, private tutors, parents and families, among others. While some candidates have access to high levels of additional support and resources, others will be much more restricted. This can lead to an uneven playing field and it does not sit well with the aim of reducing the attainment gap between the most and least deprived learners.
7. Science teachers are anxious to avoid a revised assignment, with its mandatory practical element, compounding the difficulties of *multi-course* teaching. Multi-course teaching in the sciences does not allow teachers to fully support the needs and aspirations of pupils undertaking different levels of national qualifications. We recognise that the Scottish Government, Education Scotland and the SQA are aware of the challenges presented by multi-course teaching. Making progress will depend on ensuring that local authorities and schools are given appropriate guidance and support on the way in which the senior phase (S4-S6) is structured, including on the timetabling of science courses.
8. It would be entirely possible for teachers to assess pupils' practical skills without the need to include this within a revised assignment. Under the previous arrangements for the Revised Highers in chemistry and physics, the researching units allowed learners to develop and apply scientific investigative skills, and communicate their findings in an effective manner. This was a well-regarded aspect of these courses and its introduction broadly welcomed. Although the CfE Higher assignment built upon this model the introduction of the externally marked assignment as the means of candidates communicating their findings has distorted the experience and reduced the educational value of the activity. The assignment has increased the stress levels for many pupils.
9. While we appreciate the very tight timescale within which SQA has been tasked to make changes to the assessments in all subject areas, we believe that more consideration needs to be given to these developments, and what the planned changes will mean in practice, particularly as far as the assignment for the sciences is concerned. Otherwise, there is a risk that many of the issues underlying the assignment will remain unresolved. We recognise that the timetable set has precluded SQA from undertaking widespread consultation with teachers. The LSG continues to gather feedback from science teachers and we would be very pleased to meet with SQA colleagues to discuss these developments and how we can contribute to the process.

Yours sincerely,



Professor Lesley Yellowlees CBE  
Chair of the Learned Societies Group

Cc'd Assessment and National Qualifications Group



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