Improving Assessment in National Courses Research: Advanced Higher Chemistry

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Proposal

The following proposal was shared with respondents who had studied or taught Advanced Higher Chemistry:

- We are proposing making the exam for Advanced Higher Chemistry shorter, reducing the time from 3 hours to 2 hours 30 minutes.
- There are no proposed changes to Section 1.
- We would shorten Section 2 by removing 10 marks worth of questions.
- We are proposing these changes to improve the exam experience for learners and for schools, while maintaining appropriate sampling of subject content.
- There are no proposed changes to the project at this stage. The assessment of practical work will be part of the full reform of National Qualifications.
- The weightings of the exam and the project would remain the same.

The proposed changes for Advanced Higher Chemistry are:

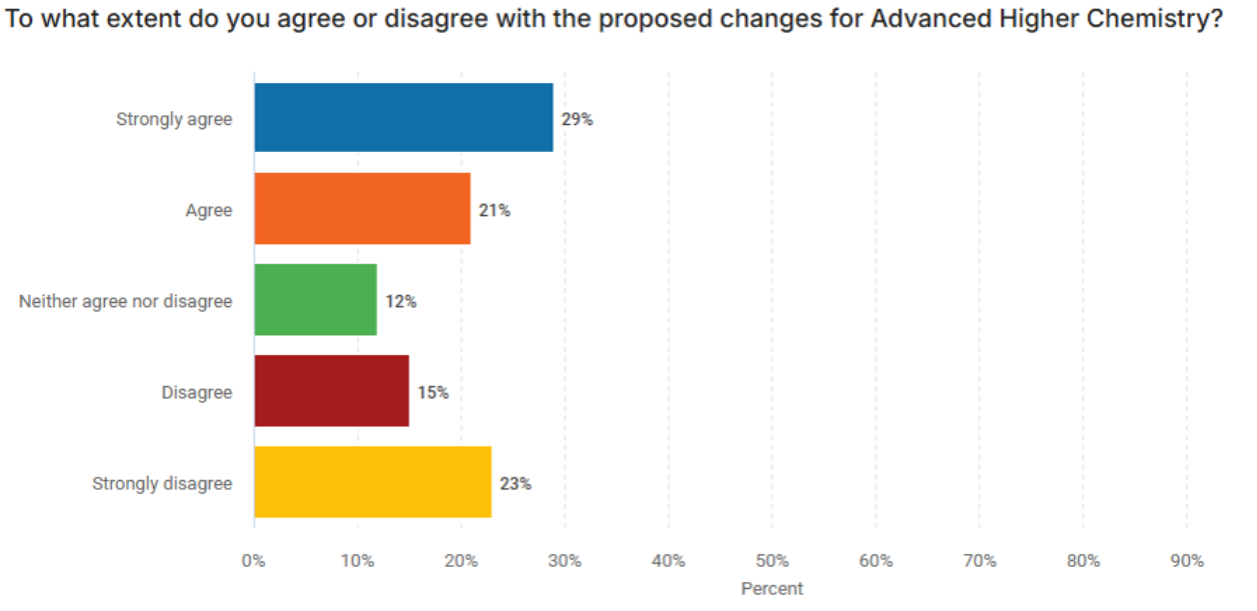
Component	Current marks	Current duration	Current weighting
Sections 1 + 2	25 + 85	3 hours	75%
Project	25	N/A	25%

Component	Proposed marks	Proposed duration	Proposed weighting
Sections 1 + 2	25 **+ 75**	**2 hours 30 minutes**	75%
Project	25	N/A	25%

Findings: learners

We received responses from 66 learners who said they had studied Advanced Higher Chemistry. As shown in Figure 1, half of learner respondents (50%) agreed or strongly agreed with this proposal, while 38% disagreed or strongly disagreed.

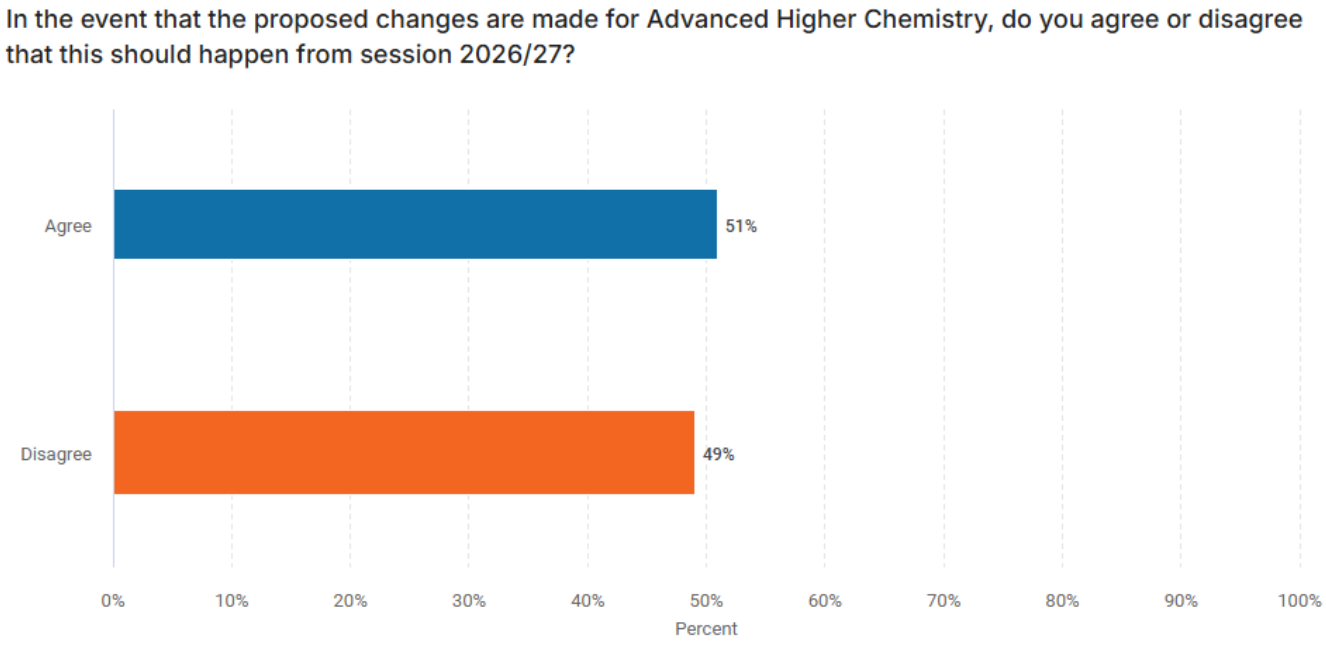
Figure 1: To what extent do you agree or disagree with the proposed changes for Advanced Higher Chemistry? Learner views



Base: 66 learners who said they had studied Advanced Higher Chemistry

Respondents were also asked to what extent they agreed with the suggestion to begin the proposed change in 2026–27, should the change be made. As shown in Figure 2, around half of learners (51%) agreed, and a similar proportion (49%) disagreed.

Figure 2: In the event that the proposed changes are made for Advanced Higher Chemistry, do you agree or disagree that this should happen from session 2026–27? Learner views



Base: 65 learners who said they had studied Advanced Higher Chemistry

Qualitative analysis

Learner respondents were asked if they had any further comments that they would like to share about the proposed changes to Advanced Higher Chemistry. Sixteen respondents left a comment. While half (50%) of learner respondents agreed with the proposal, all of the comments were from those who expressed criticisms of the proposed changes.

Challenges with implementing this change

The key challenges perceived by learners were that the marks-to-time ratio would make the paper harder and put more pressure on candidates. There were also a few comments that suggested that reducing marks would mean that the course content would not be sufficiently assessed, thus impacting the validity of the exam.

Challenges with reducing the number of marks

The main running theme among learner respondents was that reducing the number of marks by 10 and cutting the exam time by half an hour would result in less time allowed per mark. These respondents perceived that this would make the exam more stressful and harder to finish, and that the thinking time required for each mark was higher than what was currently being proposed.

> ‘The marks to time proportion is unfair and difficult’
>
> ‘Calculations take far too long for that much to be rewarded and still have so many marks, if time is going to be cut then the amount of time delegated for each mark should stay proportional’
>
> ‘30 mins time reduction, for 10 marks would be a significant disadvantage for the amount of processing required for Adv Higher. 1.5 minutes per marks is a severe underestimation for Adv Higher.‘

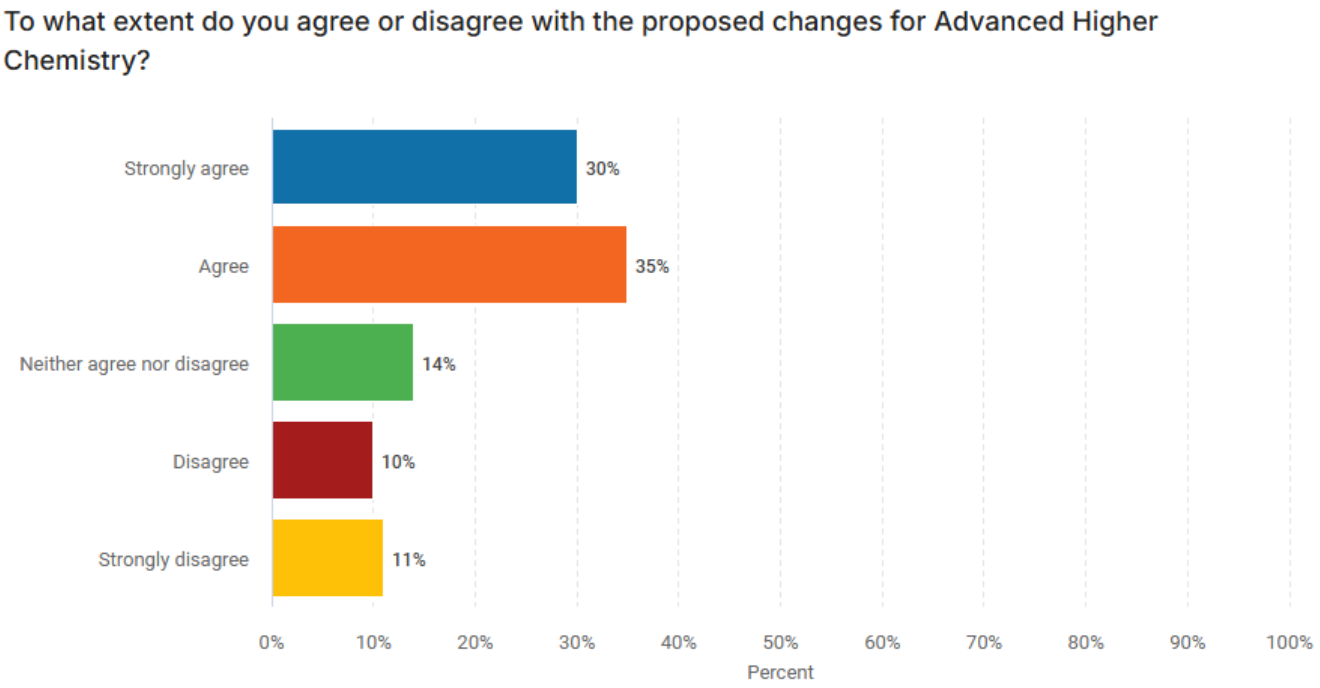
A few learner respondents thought that the reduction of marks and questions in the paper would mean that the knowledge they had acquired through the course would be wasted. Some also felt that the course content would not be sufficiently sampled. One respondent felt that these changes would benefit learners who were less conscientious, resulting in issues with fairness.

> ‘[…] a reduction in examination length merely succeeds in ensuring that less of the course content is covered, leading to a greater volume of knowledge being acquired for largely no reason.’

Findings: educators

We received responses from 314 educators who said they had taught Advanced Higher Chemistry. As shown in Figure 3, over half (65%) of educator respondents agreed or strongly agreed with the proposed changes for Advanced Higher Chemistry, while 21% disagreed or strongly disagreed.

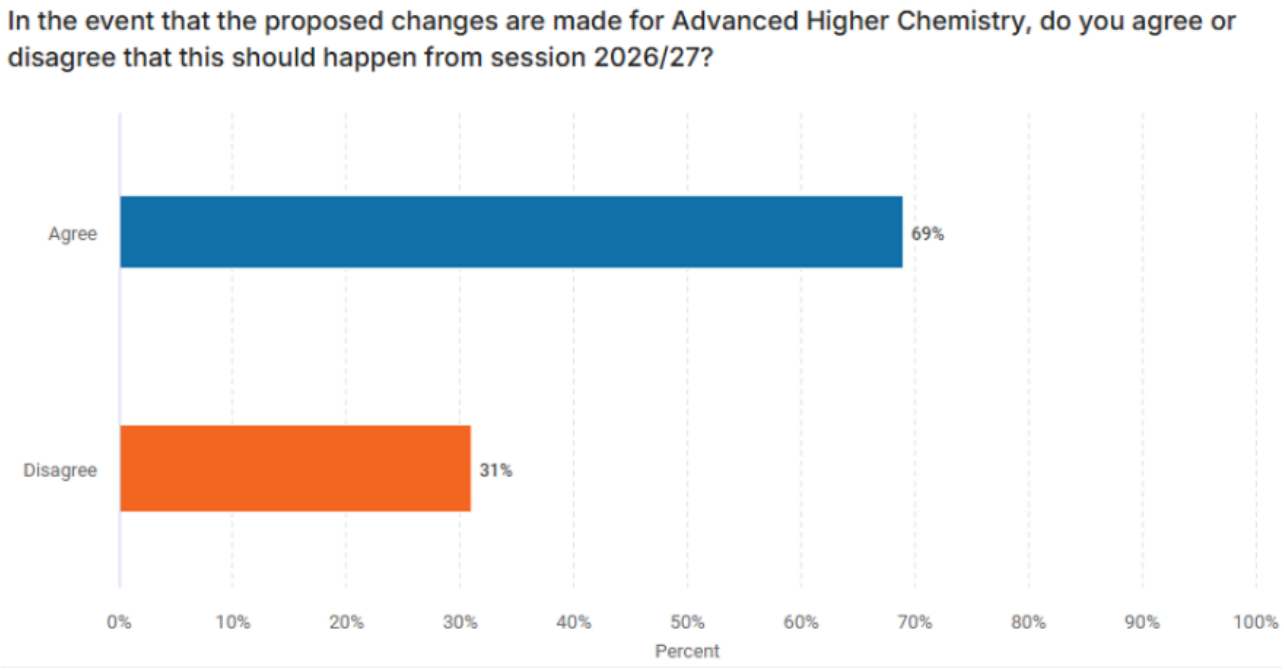
Figure 3: To what extent do you agree or disagree with the proposed changes for Advanced Higher Chemistry? Educator views



Base: 314 educators who said they had taught Advanced Higher Chemistry

As shown in Figure 4, when asked, in the event that the proposed changes went ahead, whether they should be implemented from the 2026–27 session, 69% of educator respondents agreed and 31% disagreed.

Figure 4: In the event that the proposed changes are made for Advanced Higher Chemistry, do you agree or disagree that this should happen from session 2026–27? Educator views



Base: 310 educators who said they had taught Advanced Higher Chemistry

Qualitative analysis

Educator respondents were asked if they had any further feedback they would like to share about the proposed changes for Advanced Higher Chemistry, and 106 respondents left a comment. Although almost two-thirds (65%) of educator respondents agreed with the proposals, the majority of comments were from respondents who disagreed with the proposed changes, explaining their reasoning.

The most common theme that emerged from the open-text responses from educator respondents was related to the amount of time per mark being reduced. A number of educator respondents felt that the robustness of the exam could be compromised if reducing the marks of the paper as not as many areas would be covered.

Benefits of implementing this change

There were a number of comments from educator respondents related to the benefits of implementing the proposed changes. The key themes were that it would be fairer to those that have a shorter attention span, and those that get mentally drained by longer exams. Some respondents also said that the changed exam length would be beneficial to schools that are already struggling with additional support needs.

Changes to the number of marks and duration of the question paper

A number of educator respondents thought that the proposed changes would be beneficial and fairer to candidates. In particular, respondents felt that the shorter question paper would reduce stress for learners who had shorter attention spans or struggled with the current length of the exam.

> '[...] A 3 hour exam is brutally long and gives no additional information or benefit compared to a shorter exam. Pupils leave physically & emotionally drained.'

> 'I agree with a reduction in paper time - it is a long time to expect students to sit without a break or the bathroom. [...]'

A minority of respondents perceived benefits in the question paper duration being reduced. One respondent saw it as a potential opportunity to cut down on the course coverage within the exam and a way to have a more focused paper on understanding and analytical skills. Another respondent saw the reduced exam duration as an opportunity to relieve some of the pressure on the exam timetable required for learners with additional support needs.

> '[...] At Advanced Higher, questions often involve complex, multi-stage problems and data analysis. Removing 10 marks allows for a more focused paper that prioritises depth of understanding and "high-order" thinking over the sheer speed of response. [...]'

> 'The level of additional support needs alone make this a priority. Schools are struggling to finish exams in the allotted calendar window of an afternoon or morning [...]'

Weighting

A few respondents also mentioned that they agreed that the weighting of the project should remain the same as they felt the weighting reflected the level of work that learners put into it.

Challenges with implementing this change

The most common concern from educator respondents was to do with the time-per-marks dropping and how that would affect candidates in their ability to complete the paper. Other key themes were that the course would not be sufficiently sampled, the changes would not prepare learners for university, and that it was too late to implement the changes for the 2026–27 session.

Time per mark

The overarching theme that emerged from the data was related to the amount of time candidates would have per mark in the paper. It was common for respondents to say that, under

the proposed changes, the amount of time per mark would be reduced. This could mean extra challenge or pressure for candidates. Some explained further that Advanced Higher Chemistry involved complex questions that required more thinking time than what was being proposed. This concern was also prevalent with respondents who said that they agreed with the changes overall.

> ‘You are giving less time per mark by only cutting the exam by 10 marks. They currently get 1.63 minutes per mark and you are cutting this to 1.5 minutes per mark. This is not fair for the complexity of AH.’

> ‘I am concerned that not enough marks are removed to make up for the 30 minutes of decreased time. AH chemistry has some very complex and involved questions and timings were already tight for many pupils. I agree with the shortened paper but think that it would be more effective with a lower total number of marks.’

> ‘Learners often struggle to complete the Advanced Higher exam paper in a 3 hour period. Cutting the time allocation by one sixth and the marks by only one eleventh will almost certainly not meet the proposed aim of improving the exam experience for learners. If the quality and rigour of the exam content is maintained then the experience will be significantly more stressful as less time will be available, per mark, for learners to complete the assessment.’

Sampling of course content

Educator respondents also expressed concerns that reducing the length of the question paper by 30 minutes, and the number of marks, would mean that the course content was not sufficiently sampled. Some felt that this might put certain learners at a disadvantage or increase their stress, as the exam could end up depending on chance if they had not revised the full course content. One respondent was concerned that this would mean that learners’ understanding of the course would not be adequately assessed.

> ‘Shortening an exam does not correlate necessarily with an "improved exam" experience. Indeed it might contribute to a more stressed exam experience as we return to a more sampled approach, meaning that there may be significant areas that students do not know, if they are unlucky enough to get a paper that does not sample their areas.’

> ‘As an advanced higher where the level of chemistry is to a very deep level (ie a large amount of content) you need the time to formally assess their understanding. If you reduced the number of marks you are either going to not assess key areas in any great detail or you are not going to assess some areas at all (or very superficially).’

Preparing learners for the future

Another recurring theme was the perception that the proposed changes may not prepare learners for university. Some thought that learners developed the skills and abilities to study at higher education level while studying Advanced Higher, and were concerned that the development of these skills were being diminished by reducing the length and number of marks in the question paper.

> ‘The Adv H [Advanced Higher] qualifications are a stepping stone to University so should be a step up from the Higher. The cohort of candidates doing Adv H are studying a reduced number of subjects so should have increased demand on them. Therefore I am in favour of maintaining the length of their exam to continue to the depth of questioning available and therefore the differentiation of response from candidates at this level. [...]’

> ‘The AH exam should be longer than Higher to prepare candidates for university exams as the students who study AH are almost always applying for further study.’

Changes being implemented in 2026–27

Although 69% of educator respondents agreed with the changes being implemented for the 2026–27 session, there were several comments suggesting that the changes were being made too quickly. One respondent explained that they needed more time to write new prelims and marking schemes. A few said they would need more information well before the start of the 2026–27 session to allow them to prepare if the change was coming then.

On the other hand, a few respondents felt that the changes should be implemented as soon as possible.

Less common themes

Other challenges were expressed by a few respondents:

- Disparity between the other sciences at this level in terms of weighting between components
- The changes made the exam easier
- There is not enough differentiation from Higher
- Less ability to differentiate between the abilities of different learners

Alternative suggestions

Some educator and learner respondents used the free text box to give varying suggestions for alternative changes that they felt should be made to Advanced Higher Chemistry. We haven’t

included these comments in the analysis, as they did not directly answer the research questions and were out of scope of this research. We passed the comments on to our Qualifications Development teams to make them aware of the themes that emerged on this topic. We'll consider alternative changes to National Courses as part of wider qualifications reform in the future, and learners and educators will have opportunities to share their views and input more directly to this work.