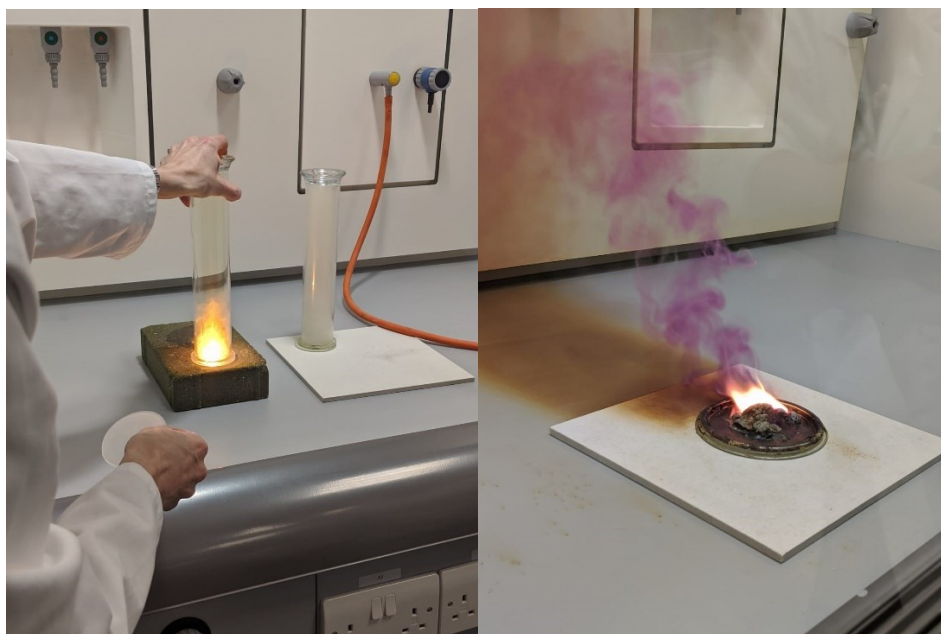




ROYAL SOCIETY OF CHEMISTRY

Supporting Excellence in the Teaching of Chemistry in Scotland



Report on a three-part initiative undertaken by the Royal Society of Chemistry, in association with Education Scotland, as part of the **Enhancing Professional Learning in STEM** programme

Anne Stafford 30/3/2020

Acknowledgements

The RSC would like to thank Education Scotland for financial support in delivering this project.

Executive Summary

- The project was delivered in two phases. Phase 1, from January 2019 to March 2019, concentrated on developing and piloting a new CLPL workshop focusing on primary-secondary transition and on planning for the delivery of mentoring training and further secondary-based CLPL sessions in phase 2. This second phase (planned for April 2019 to March 2020 but actually taking place between August 2019 and March 2020) rolled out the primary-secondary transition support to additional school clusters and implemented plans for the other two project aspects or strands (mentoring and secondary CLPL).
- The purpose of the project was to enhance the provision of RSC support for chemistry teaching in Scotland, aligning RSC objectives with those of Education Scotland in *ensure[ing] that educational practitioners are 'well-equipped with the knowledge, skills and confidence to develop and deliver inspirational, high-quality interdisciplinary STEM¹ teaching for all learners, across all ages and stages'* (Education Scotland).
- CLPL sessions for secondary teachers, based on formal RSC 'Developing Excellence in Teaching' courses were both popular and well-received. Eight courses were delivered on three topics: 'Structure and Bonding', 'Quantitative Chemistry' and 'Developing and Using Models'. Another two courses were arranged but subsequently postponed. All courses had a strong practical focus. Over 120 teachers and student teachers participated, more than doubling the original aspiration of reaching 54 teachers. In addition, seven new teacher developers were trained over a two-day course at Strathclyde University
- Over the two phases of the project, a total of 11 school clusters were involved in supported primary-secondary transition work, with 8 of these progressing to taking part in a formal primary-secondary transition practical workshop, prior to planning their own projects. A total of 8 workshops were held in various locations (in one case for two school clusters simultaneously) and RSC was involved in supporting further planning and delivery in three cases. Teacher dissemination also took place at one event.
- The original aspiration of training and matching 60 secondary teacher mentor/mentee pairs throughout Scotland, particularly in rural and/or remote regions, was not achieved. Three mentoring training days were held, and a fourth was planned and advertised, but take-up was less than envisaged and only 14 pairs were established overall. However, this strand provided an opportunity to acquire valuable information about the appetite for, and barriers to, mentoring schemes in Scotland. For those that took part, the experience was generally positive and was felt to be beneficial for both mentors and mentees.

¹ Please see Annex A on Page 50 of the [STEM Education and Training Strategy for Scotland](#) for a definition of what constitutes 'STEM'.

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1. Introduction

Following a call for proposals from Education Scotland on 'Enhancing Professional Learning in STEM', in 2018, the Royal Society of Chemistry submitted a project bid in November 2018, which was accepted. The project was to consist of two phases. The first pilot phase took place in early 2019, with phase 2 scheduled to begin in April 2019 and continue until the end of March 2020. Both phases included three separate project strands: CLPL delivery, support for clusters wishing to engage in primary-secondary transition work and an early-career mentoring scheme.

A delay in receiving the second tranche of funding (from April 2019 to August 2019) resulted in the project losing some momentum and falling behind schedule, as it was not possible to recruit a dedicated Project Coordinator until September 2019, leaving only six months to final delivery. Nevertheless, with some modifications, the first two project strands achieved delivery or over-delivery by the end of March 2020. The mentoring strand did not achieve the numbers hoped for, but the difficulties encountered gave opportunities for trialling alternative methods of delivery and reflecting upon the possible reasons for the low uptake in order to tailor future offerings to teacher requirements.

The popularity of the CLPL courses led to fears that there may not be sufficient Teacher Developer capacity in Scotland to meet the high demand, which was previously being met largely by one Teacher Developer in Scotland and one who was willing to travel from Northern England. A two-day training course for Teacher Developers was therefore held at Strathclyde University in December 2019. Seven prospective Teacher Developers attended, although as of the project end-date, only four have entered into a contract with RSC. However, there is now a pool of five possible Teacher Developers residing within Scotland (all in the Central Belt area).

In the following sections the three project strands will be discussed separately, highlighting difficulties encountered, lessons learned and feedback from participants. It is hoped that these factors will feed in to future plans, enabling the RSC to achieve continuous improvement in their support for STEM teaching in Scotland.

2. CLPL Strand

2.1 Overview

2.1.1 Original Proposal

The original aim was to organise and run five (5) CLPL events for secondary teachers during the period August 2019 to March 2020. These events were to be based upon the RSC's existing Developing Excellence in Teaching (DEIT) courses (subsequently re-named Teaching Chemistry courses), which cover a variety of topics commonly regarded as difficult to teach and offer ideas and suggestions for different approaches, together with the opportunity to try a number of practical experiments. It was thought that this would reach 54 teachers across Scotland.

2.1.2 Events Delivered

The CLPL events proved to be popular and generally very well received. A total of 10 events were planned and eight (8) were delivered – almost twice as many as expected. Two of the planned events were postponed (see below for details) and it was not possible to find an alternative date within the project period. However, the RSC intends to honour this arrangement at a later date, whether or not this can be done as part of the Education Scotland project. Events were organised according to the needs and requirements of the host schools, colleges and universities. The topics were chosen from a possible list of 14 (four of which focus on post-16 provision), but in fact only three topics were used: Structure and Bonding, Quantitative Chemistry and Developing and Using Models. In all cases, the focus was on pre-16 provision. There was a mixture of twilight sessions and daytime sessions (in-service days or courses for student teachers). Eight of the courses ran for a minimum of two hours, with one course being limited to two 45-minute sessions for reasons beyond the RSC's control.

The sections below give further details for each event individually.

2.2 Details of Events

The following table gives details of each event, (excluding the teacher developer training days which are dealt with in a separate section).

Date	Location	Host Institution	Course Content	Numbers Attending
2/10/2019	Dundee	Dundee High School	Structure & Bonding	22
21/10/2019	Midlothian	Beeslack High School	Structure & Bonding	16
7/1/2020	Dumfries	North West Community Campus	Structure & Bonding	11

*10/1/2020	Borders	Hawick STEM Hub - *Postponed	Developing and Using Models	-
21/1/2020	Glasgow	Strathclyde University	Developing and Using Models	17
28/1/2020	Glasgow	Strathclyde University	Quantitative Chemistry	15
31/1/2020	Edinburgh	Napier University	Structure & Bonding	9
3/2/2020	Aberdeen	North East Scotland College	Quantitative Chemistry	16
18/2/2020	Grangemouth	Grangemouth High School	Quantitative Chemistry	17
*17/3 2020	Glasgow	Glasgow University – Postponed	Quantitative Chemistry	

* This event has not yet been rescheduled, but the RSC intends to honour the commitment, even if it cannot be included in the ES project.

The events for student teachers at Strathclyde University and Napier University took place within the teaching day. The event at Glasgow University (also for student teachers), was planned as a twilight session. The remaining events, hosted by schools and colleges took place either on in-service days (Midlothian, Dumfries and Grangemouth) or as twilight sessions (Dundee and Aberdeen).

Evaluation forms were completed by the Dundee participants in paper format. Thereafter, feedback was gathered electronically and stored securely on the RSCs SmartSurvey system. The event in Dumfries was arranged as part of a wider series of events taking place on an in-service day. Because of the nature of the day, with IoP and other events taking place simultaneously and teachers being offered a choice of programmed sessions, it was not possible to estimate numbers in advance. Furthermore, formal feedback specific to the RSC was not obtained. However, 11 teachers chose to attend the RSC event and word-of-mouth feedback was generally favourable.

Two different courses were offered at Strathclyde University (Developing and Using Models and Quantitative Chemistry) and the students were free to choose which course to attend. These two events also supported a Strathclyde University research initiative on the effects of formal training on developing and using models, and RSC will have access to the results in due course.

The Aberdeen event was attended by a mixture of student teachers and practising teachers, together with some NESCOL staff (16 attendees in all).

The event at Grangemouth, which took place as part of an in-service day, was the shortest of the events. Generally the courses lasted two hours, or a little more, but in this case the RSC was only able to deliver two 45-minute sessions separated by a short break.

The planned event at Hawick STEM Hub was postponed due to low numbers and that at Glasgow University was postponed as a result of the COVID-19 situation.

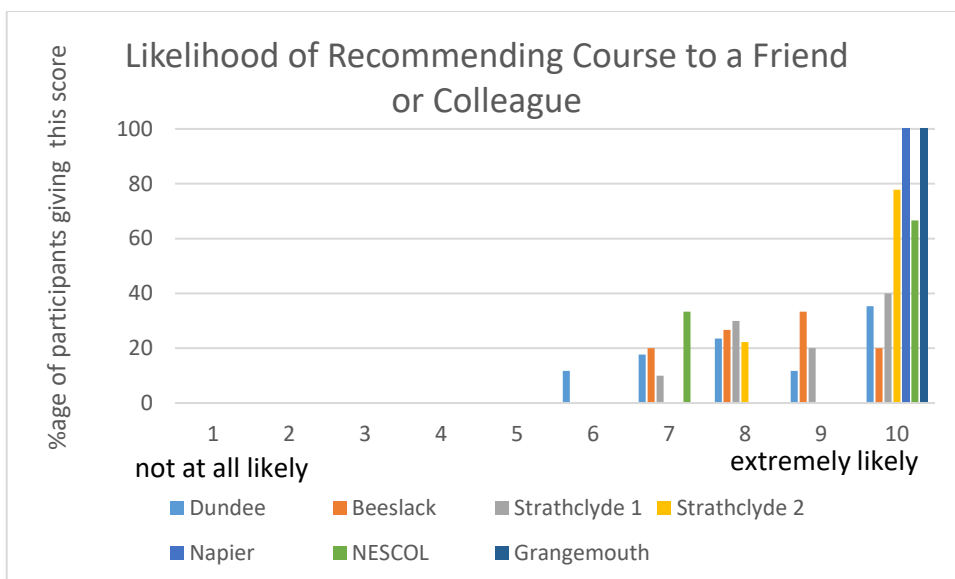
2.3 Gap Task and Feedback on Resources Used

It was originally the intention to organise follow-up meetings after all the CLPL events, where feedback could be obtained regarding the gap task. From the Beeslack High School event onwards, participants were provided with free access to various RSC online resources. At the follow-up meetings, the RSC hoped to discuss which online resources and which practical demonstrations from the CLPL sessions, had been used by teachers in the classroom. However, despite the very positive response to the CLPL sessions, there was no appetite among teachers to commit to a further meeting. This is probably due to the difficulty of finding time and the fact that some attendees had travelled significant distances to attend (although travel expenses were covered by the project funds). In the case of the Beeslack High School event, failure to arrange a follow-up meeting led to an attempt to elicit information by the alternative method of emailing participants directly, asking them to specify which resources they had used. Despite the fact that reminder emails were also sent, two weeks after the original emails, only one reply was received, expressing the intention to try a variation on a viscosity experiment, possibly as an assignment. The lack of feedback underlines the main difficulty experienced throughout the project in this strand, i.e., the need to persuade teachers that ongoing engagement is a useful expenditure of time and effort, following the initial gain of attending CLPL. In the future, when there is more time available for planning, the intention is to try to arrange CLPL as a series of at least two meetings (with dates organised up-front) encompassing a gap task. This may mitigate the problem, though there is some risk of reducing numbers reached by requiring more commitment than teachers feel able to give in advance.

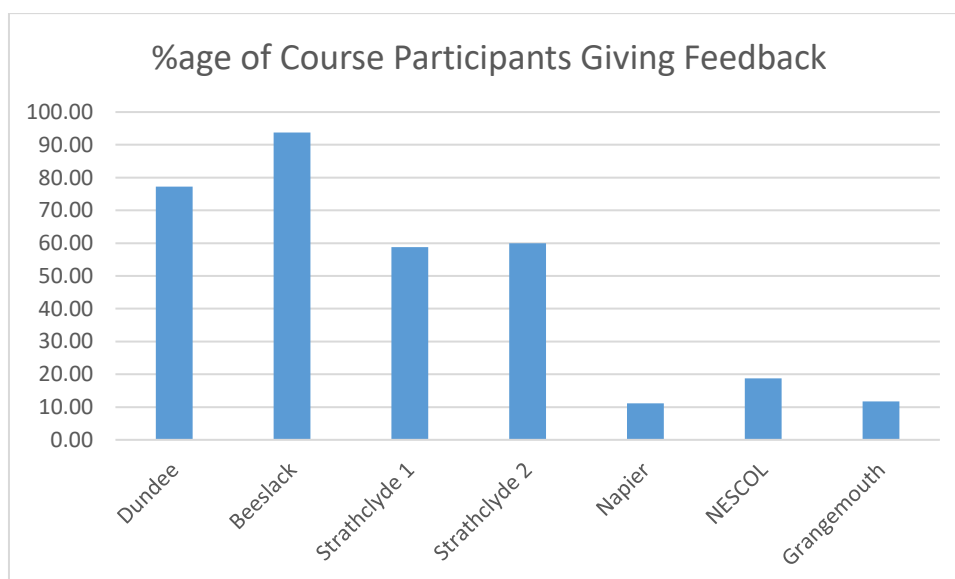
2.4 Feedback from CLPL sessions

At the first CLPL event at Dundee High School, feedback was obtained in paper format and could therefore be relatively easily analysed. After this event, the RSC policy changed, and feedback had to be obtained electronically via a specific RSC SmartSurvey page for each event. This was done to facilitate collection and improve protection of personal data. However, as a result, it was difficult for the local team to access the data, which then had to be requested from staff at the RSC main office in Cambridge. The RSC is currently looking at ways of making this data more accessible, and therefore useful, to event organisers and Teacher Developers.

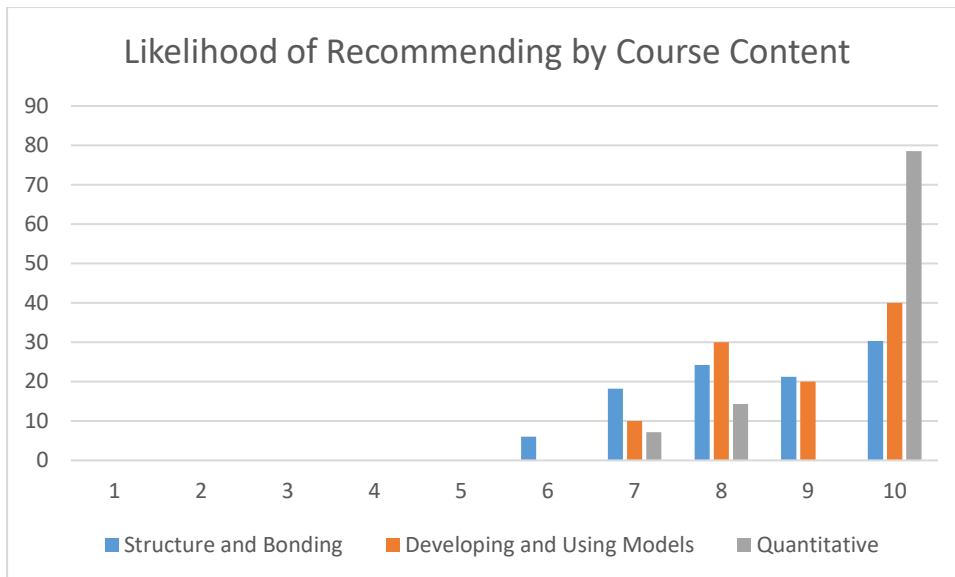
Analysis of the SmartSurvey data showed that participants were generally satisfied, with a high probability that they would recommend the course to a friend or colleague.



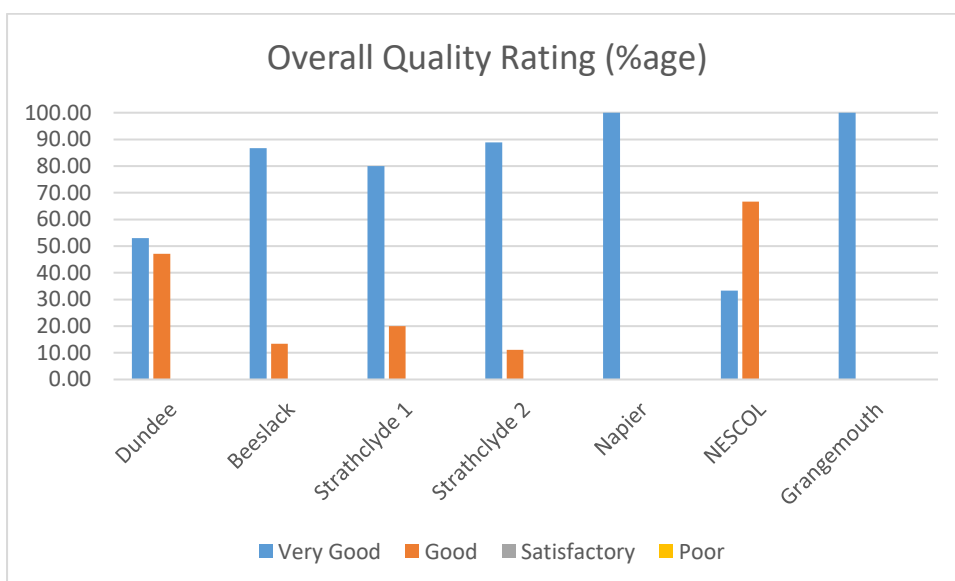
Percentages are used in order to enable comparison of events with different numbers of participants. However, it should be noted that the percentage of course participants giving feedback was relatively low for the Napier, NESCOL and Grangemouth events, even though all participants were asked to provide feedback at the time and given access to the relevant SmartSurvey page. The data for these three events must therefore be regarded as less reliable.



It was also possible to look at the likelihood of recommending the course as a function of course content. Of the three types of courses delivered (Structure and Bonding, Developing and Using Models and Quantitative Chemistry), the Quantitative Chemistry course appeared to be the most highly valued.



Participants were also asked to rate the overall quality of the session on a four-point scale from 'Very Good' to 'Poor'. All participants who gave feedback, at all the events, rated the sessions either 'Very Good' or 'Good'. In most cases, the session was rated 'Very Good' by a considerable majority, the exceptions being Dundee (where numbers rating it 'Very Good' and 'Good' were fairly similar) and NESCOL where the majority rated the session 'Good' (though it should be remembered that less than 20% of participants gave feedback for this session).



2.5 Geographical Coverage

Geographically, Scotland is very diverse, having a Central Belt containing the majority of the population, together with a few smaller cities and large rural and/or remote areas where travel can be a major barrier, especially in the winter.

Three of the CLPL events delivered were aimed at students, and these all took place in the Central Belt (two at Strathclyde University, one at Napier University in Edinburgh). The other events took place in schools or colleges over a reasonably wide geographical area (Dundee, Midlothian, Dumfries, Aberdeen and Grangemouth). In most cases participants were drawn from local schools (especially for events taking place on in-service days), although the Midlothian event included three participants from the Borders and one from north Ayrshire (from a total of 16) and the Dundee event included participants from Perth, Dollar, Falkirk, Arbroath and even as far afield as Inverclyde and Plockton.

3. Primary-Secondary Transition Strand

3.1 Overview

3.1.1 Original Proposal

The original concept was to work with six (6) pairs of clusters, helping each of them to develop their own primary-secondary transition project by delivering a practical workshop to each pair, followed by RSC input into the schools' planning process via demonstrations of RSC online resources and possible visits from RSC specialists to deliver information and guidance on avoiding gender bias. The six practical workshops would provide ideas illustrating possible projects, although the intention was to use these ideas as a springboard for the schools' own projects, rather than to present them as prescriptive projects. Money was also to be made available for additional practical equipment required by the schools and for teacher cover for teachers wishing to disseminate their work to other school clusters.

3.1.2 Actual Cluster Engagement

Once again, although there was a great deal of interest from school clusters, it was somewhat difficult to identify dates for getting interested representatives from each school in a cluster together, to agree on participation and to hold the initial practical workshops. This difficulty was exacerbated when two clusters were involved, and in the event it only proved practicable to offer the workshop to two clusters simultaneously in the case of Cumbernauld, where there was strong support from the local authority. In most cases, therefore, it was decided to work with each cluster separately. Nevertheless, a total of eight workshops (two more than planned) were planned, involving nine school clusters.

The workshops delivered were of two hours' duration and focused on simple, low-hazard, practical experiments that could be performed in classrooms with very basic equipment. A carousel of four demonstrations was offered: using red cabbage as an indicator, making glue from milk, making simple re-usable hand warmers and investigating the relative absorbency of sphagnum moss and hydrogel. These activities could be easily linked to primary curricula (e.g. Viking nappies in the latter case).

One of the purposes of this strand of the project was to build ongoing relationships between primary and secondary colleagues, and discussions during the events indicated that this was regarded as a

very valuable aspect. For example, many primary schools were unaware that they could borrow equipment from their local secondary school, and many did not know where to go for advice on STEM activities.

The subsequent planning stages varied with regard to the ease of finding time for meetings. In some cases, further planning was delayed until after the end of the project and in others further planning took place without a request for further RSC input. However, in at least three cases further input (apart from resource funding) was either requested or under consideration by the project end-date. In one case the initial practical workshop could not be arranged until 1st April 2020, but this was considered to be so close to the project end-date that it could reasonably be included.

The following sections give details of the involvement of individual clusters, and subsection 3.3 considers the feedback obtained on this strand of the project from teachers (both secondary and primary).

3.2 Details of Individual Cluster Engagement

3.2.1 Lasswade, Midlothian

This cluster was involved in the pilot stage of the project and therefore was the earliest cluster to receive a practical workshop. However, although it is believed that primary-secondary liaison work is ongoing in this cluster, further engagement with RSC has not taken place, despite repeated follow-up.

3.2.2 Marr College, Ayrshire

The practical workshop was delivered for this cluster on 24th September 2019. Planning work is ongoing, and there will be further input from RSC on avoiding gender bias at the planning meeting on 3rd April (after the project end date). The intention is to involve another local cluster in this work, if possible. Furthermore, a teacher from this cluster attended the practical workshop for the Cumbernauld clusters (see below) in February 2020, to disseminate information on their experiences and plans. One of the points made was the need not to underestimate the amount of time necessary for successfully getting primary-secondary transition projects off the ground and running sustainably.

3.2.3 Bannerman, Glasgow

This practical workshop was delivered on 10th October 2019. Further RSC input to planning is under consideration, and support for resources will be requested.

3.2.4 St Andrew's RC Secondary, Glasgow

The practical workshop was delivered on 16th January 2020. The RSC has supported the subsequent transition plan financially in respect of equipment purchase, via the Education Scotland funding.

3.2.5 St Aidan's High School, North Lanarkshire

Here, an initial explanatory meeting in October was followed by some difficulty in agreeing a date for the practical workshop. However, the date of 20th January 2020 was finally agreed and the workshop delivered to two secondary and five primary colleagues. The workshop generated considerable enthusiasm, leading to all colleagues deciding there and then to form a planning group and to meet regularly, starting on 3rd February (two weeks after the initial workshop). A representative from RSC also attended this second meeting, providing input in the form of pointers towards other RSC online resources. Later in February, the RSC was approached for financial support for equipment and chemicals for a project involving St Aidan's and four feeder primary schools. RSC was able to provide this support in full, as part of the Education Scotland project.

3.2.6 Cumbernauld Academy, North Lanarkshire

The practical workshop was delivered at Cumbernauld Academy on 13th February 2010. Two school clusters (Cumbernauld Academy and St. Margaret's High School) were present. Participants included three secondary, five primary and one middle school (primary and secondary) teachers, together with a representative from a family learning centre (nursery) and two local authority pedagogy team members. A representative from the South Ayrshire (Marr College) cluster kindly attended also, giving a short talk after the workshop on her own cluster's experiences and stressing the need to allow plenty of planning time in order to achieve good relationships and a sustainable transition initiative.

3.2.7 Rothesay Academy, Bute

The workshop took place on 29th February 2020. It is not yet known whether further input will be required.

3.2.8 Knightswood Secondary School, Glasgow

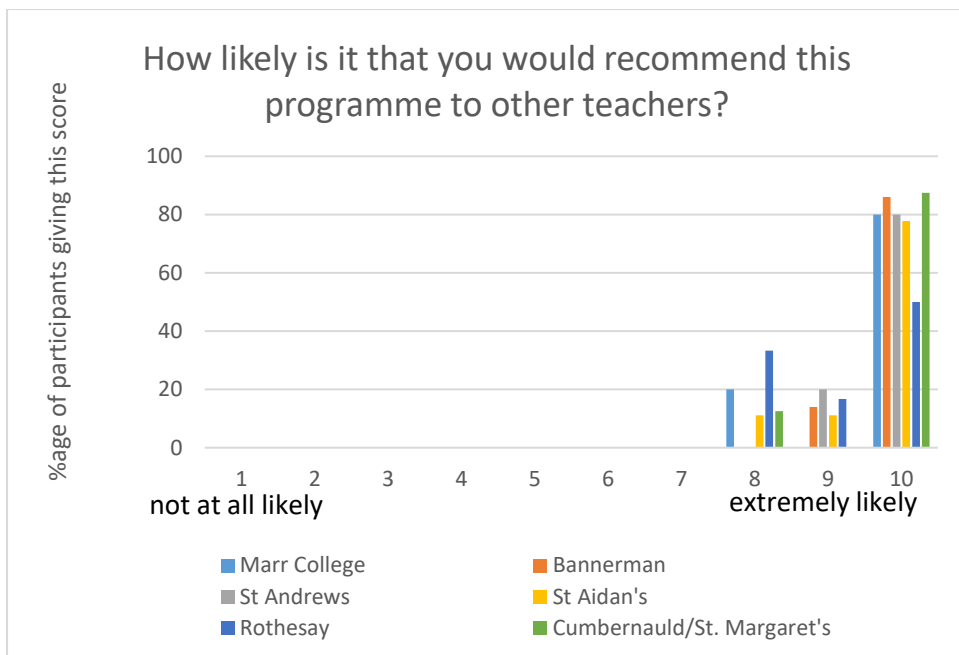
It did not prove possible to organise the practical workshop for this cluster within the project period. However, a date of 1st April was initially identified. Unfortunately, due to the COVID-19 outbreak, this subsequently had to be postponed further.

3.3 Feedback

At each of the practical workshops, participants were asked to complete a feedback form before leaving. This form included both scale-type and open-ended questions. Section 3.3.1 shows some graphical summaries of scores for the former type and section 3.3.2 gives some quotes from teachers, to illustrate which aspects of the workshops were most appreciated.

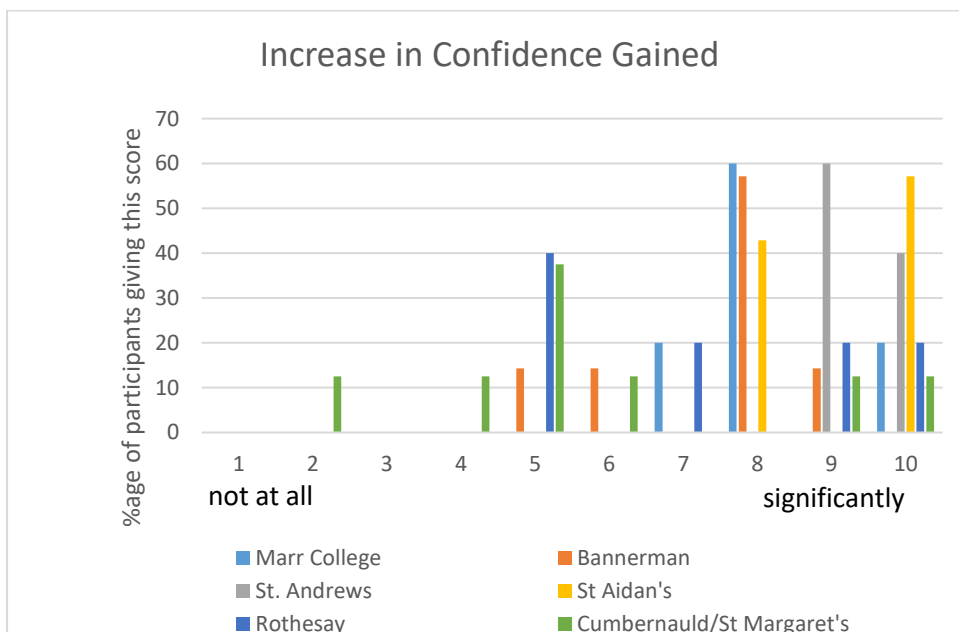
3.3.1 Quantitative Feedback

Teachers were asked to rate the likelihood that they would recommend the scheme to other teachers. As can be seen below, all teachers felt that it was likely or extremely likely that they would do so.



When asked to rate the overall quality of the session on a 4-point scale from 'very good' to 'poor', all but three teachers rated it at the highest level (very good), with the remaining three teachers rating it 'good'.

The graph below shows the responses of teachers when asked whether their confidence in engaging learners with chemistry and science had increased as a result of attending the event.



The lower scores observed here mostly arose because some teachers already felt confident or because they felt that this short event represented only the beginning of a longer process.

3.3.2 Qualitative Feedback

A selection of quotes is given below summarising both positive feedback and suggestions for improvement.

Positive Feedback

Great ideas to take back to class and use with pupils. [Bannerman cluster]

Very informative and hands on, letting me ask questions as I did experiments. [St Andrew's cluster]

Good resources and knowledge. [St Aidan's cluster]

Really useful ideas that are easy to put into practice. [Cumbernauld/St. Margaret's cluster]

Suggestions for Improvement

Could be delivered over two sessions [Bannerman cluster]

More primaries could be involved [St Andrew's cluster]

More time [St Aidan's cluster]

Structured grouping to encourage cluster collaboration [Cumbernauld/St. Margaret's cluster]

More time for each experiment [Cumbernauld/St. Margaret's cluster]

It was also clear both from formal feedback and informal discussions that the opportunity for developing relationships between secondary and primary colleagues was very important, and formed a significant benefit of these events.

3.4 Geographical Coverage

Since the primary-secondary transition events targeted school clusters, participants at each event were necessarily from the secondary school's local area, but the programme was open to any school cluster. Nevertheless, all participating schools were from the Central Belt, except for the Marr College and Rothesay clusters.

4. Mentoring Strand

4.1 Introduction

Although it was the least successful in terms of numbers of participants, this strand of the project produced some interesting insights into mentoring in Scotland, as a method of supporting teachers.

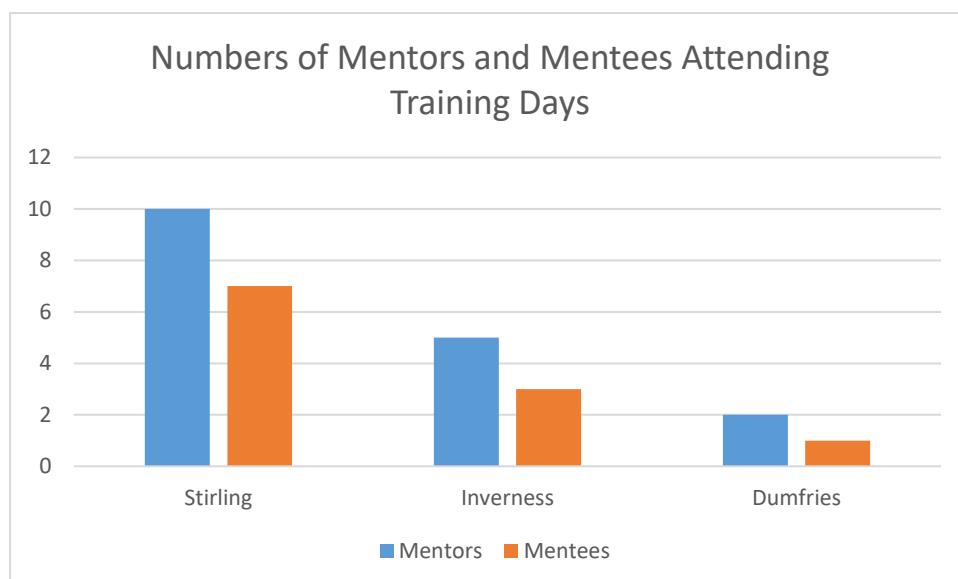
Since teachers in their first year are well provided with in-school support, including mentoring, the intention here was to provide support during the second or subsequent years, when first-year support may be withdrawn and, in some cases, in rural schools, teachers may have few or no other departmental colleagues.

The original intention was to recruit 60 mentor/mentee pairs, via three training days where training of mentors and briefing of mentees could take place, along with matching of pairs on the basis of geographical proximity where possible. Although there was no requirement for pairs to meet face to face if they preferred to maintain the relationship via email or other methods, the value of at least some face-to-face meetings was acknowledged, and so attempts were made to match participants in such a way as to make this possible.

The mentor/mentee relationship was expected to be of one year's duration.

4.2 Mentor/Mentee Recruitment

Three training days were arranged, in Stirling (30th May 2019), Inverness (30th August 2019) and Dumfries (8th October 2019), thus covering a large area of Scotland. Recruitment proved to be more difficult than anticipated, with numbers falling rapidly at each event.



The chart shows that in each case, more mentors than mentees were interested in participating. This meant that it was not always possible to pair all interested participants at the time of the event. Indeed, some mentors remained trained but unpaired throughout the project.

To try to boost numbers further, a fourth mentoring day was proposed and advertised, to take place at Strathclyde University on 26th February 2020. The day was advertised on Strontium (Scottish chemistry teachers' network) and via announcement and flyers at the West of Scotland Chemistry

Teachers meeting. Despite this, only one person registered, and the mentoring meeting had to be cancelled.

In parallel with this, during the period from November 2019 to March 2020, teachers in the Highlands Region were offered the opportunity to obtain mentor training or mentee briefing individually in their own schools. Only one person expressed an interest, but the training had to be postponed due to ill-health. Finally, in cases where pairs could only be identified at a significant distance from each other, participants were offered the option of receiving training/briefing remotely via video-conferencing. Two additional pairs were included in this way.

A total of 14 pairs were trained and matched, either face to face or via video-conferencing, during the project.

Possible reasons for the lack of uptake may include the reluctance of early-career teachers to admit to wanting help, previous unhelpful experiences with other mentoring schemes or simply a perceived lack of time. It is interesting that mentors could be recruited more easily than mentees. It might have been expected to be the reverse, since mentees might be thought to gain more advantage from the relationship. However, the fact that experienced teachers are clearly willing to share their expertise, is encouraging.

4.3 Feedback

Once again, obtaining feedback proved to be difficult. Participants in the Stirling and Inverness workshops were contacted individually by email, around six months after each workshop, and asked to comment on how the relationship was going and whether or not they felt the scheme was helpful. However, only a minority replied, despite reminders.

Those who replied generally gave very positive feedback. It was clear that mentors also felt they gained personally from the need to reflect on their own work.

One mentee from each training day replied stating that the scheme was very helpful and that they had no issues or problems at all. However, in the case of two mentor/mentee pairs from the Stirling training day, contact had been lost. It was clear that this was due to misunderstandings/mislaidd emails etc. and in both cases it was possible to put the pair back in contact so that the relationship could be resumed.

4.4 Geographical Coverage

Mentoring events were held in Stirling, Inverness and Dumfries, giving good coverage of the country. However, it was sometimes not possible to match mentor/mentee pairs within a local area, and not all participants were willing to operate on a purely remote (email, etc.) basis. Hence, a few mentors and mentees remained unpaired.

5. Teacher Developer Training

The need for training additional Teacher Developers did not originally form part of the Education Scotland project, but it became necessary when the popularity of the CLPL courses and the vulnerabilities associated with dependence on one or two existing suppliers, became evident. Potential Teacher Developers were approached via existing contacts and invited to attend the two-day training. Following this training, new developers (as freelance RSC contractors) would then be expected to observe and assist with one or two events before running an event independently.

The initial two-day training course was held at Strathclyde University on 3rd and 4th December 2019. Seven potential new developers attended and were trained. As of the end of March 2020, only four of these have signed contracts with the RSC, but this should result in a future pool of five Teacher Developers based in Scotland, thus increasing both capacity and flexibility. Unfortunately, all five are based in the Central Belt, so events in other areas of Scotland are still dependent on the ability and willingness of Teacher Developers to travel, where necessary. This may not be possible for some, especially those who are currently in employment.

6. Conclusions

This project enabled the RSC to learn more about how best to support teachers in Scotland.

Clearly there is a strong appetite for the more formal CLPL sessions, where teaching of a particular topic or aspect of chemistry is illuminated and discussed. Of the three courses offered during this project, 'Quantitative Chemistry' gained the highest scores in evaluations, but 'Structure and Bonding' and 'Developing and Using Models' courses were also very well received. The RSC currently has a total of 14 available courses (pre- and post-16) together with an additional full-day course aimed at NQTs. Therefore, only a small proportion of courses were delivered within this project, and any conclusions about overall popularity must remain tentative.

Primary-secondary transition is also an area of interest among schools and local authorities, and the simple ideas for practical activities presented in the workshops were generally enjoyed, and either adopted as part of a primary-secondary initiative or used as a springboard to develop a cluster's own ideas.

The mentoring strand of the project presented the most difficulties, and hence perhaps the most opportunities for learning and modifying future practice. Those who engaged with the scheme generally found it to be useful, but numbers signing up were low. More mentors were recruited than mentees, indicating that willingness to share expertise is present, but that early-career teachers may have low confidence in these types of schemes.

For the CLPL and primary-secondary transition strands, the main problems were related to teachers' time constraints. On a few occasions it was possible to use in-service days for CLPL events (or teaching days for events involving ITE students), but twilight sessions were also used on several occasions. In-service days can be advantageous with regard to reaching a high proportion of local teachers, but a drawback is the fact that there is sometimes less control over aspects such as timing and registration. Once the initial CLPL sessions had been received, there was little or no interest in engaging with a gap task and/or further evaluation. Again, this is thought to arise mainly from time constraints. It may be helpful in the future to try to set dates for both the CLPL and the follow-up session from the outset, rather than arranging them separately. This may increase engagement, but

on the other hand may put teachers off by making them feel that the commitment required is too great. In the case of the primary-secondary transition workshops, all were twilight sessions except for Cumbernauld/St Margaret's. Some of the delays in implementing the primary-secondary transition projects arose from difficulties in identifying a suitable date for the initial meeting and/or practical workshop. However, once this difficulty had been overcome, there was generally sufficient enthusiasm to drive the individual projects forward. In the case of the mentoring strand, it appears to be unlikely that time constraints formed the main barrier to engagement, since the offer of in-school training or remote training via video-conferencing only resulted in two additional mentor/mentee pairs.

The geographical distributions of events and participants in all three project strands were analysed. It was notable that there were no participants from the Highland Region in any of the strands, except for one participant in the CLPL event held in Dundee. This may be partly because this region, having its own particular difficulties, has in the past tended to find its own particular solutions and therefore has less of a history of engaging with external bodies. Work remains to be done if the RSC is to become a go-to provider in this region.