OFFICIAL REPORT
AITHISG OIFIGEIL

Education and Skills Committee

Wednesday 26 June 2019

Session 5

The Scottish Parliament
Pàrlamaid na h-Alba

Wednesday 26 June 2019

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EDUCATION AND SKILLS COMMITTEE
22nd Meeting 2019, Session 5

CONVENER

*Clare Adamson (Motherwell and Wishaw) (SNP)

DEPUTY CONVENER

*Johann Lamont (Glasgow) (Lab)

COMMITTEE MEMBERS

*Dr Alasdair Allan (Na h-Eileanan an Iar) (SNP)
*Jenny Gilruth (Mid Fife and Glenrothes) (SNP)
*Iain Gray (East Lothian) (Lab)
*Ross Greer (West Scotland) (Green)
*Gordon MacDonald (Edinburgh Pentlands) (SNP)
*Rona Mackay (Strathkelvin and Bearsden) (SNP)
Oliver Mundell (Dumfriesshire) (Con)
*Tavish Scott (Shetland Islands) (LD)
*Liz Smith (Mid Scotland and Fife) (Con)

*attended

THE FOLLOWING ALSO PARTICIPATED:

Nicola Connor (West Lothian Council)
Nicola Dasgupta (Educational Institute of Scotland)
Dr Simon Gage (Edinburgh Science)
Alison Harris (Central Scotland) (Con) (Committee Substitute)
Matt Lancashire (Scottish Council for Development and Industry)
Kathryn Thomas (Highland Council)

CLERK TO THE COMMITTEE

Roz Thomson

LOCATION

The Robert Burns Room (CR1)

Scottish Parliament

Education and Skills Committee

Wednesday 26 June 2019

[The Convener opened the meeting at 09:30]

Science, Technology, Engineering and Mathematics Inquiry

The Convener (Clare Adamson): Good morning, everyone, and welcome to the 22nd meeting in 2019 of the Education and Skills Committee. I remind everyone to please turn their mobile phones to silent mode for the duration of the meeting.

Apologies have been received from Oliver Mundell, who I am happy to announce has become a father. We send congratulations to him and his wife on the birth of baby Isla. I welcome Alison Harris, who is substituting for Oliver Mundell. We have also received apologies from Tavish Scott.

Agenda item 1 is continuation of the committee's science, technology, engineering and mathematics inquiry. This is our third evidence session on STEM in early years education. I welcome Nicola Connor, a class teacher; Nicola Dasgupta, a class teacher and vice-convener of the Educational Institute of Scotland education committee; Dr Simon Gage, director of Edinburgh Science; Matt Lancashire, director of policy and public affairs at the Scottish Council for Development and Industry; and Kathryn Thomas, primary science development officer for the raising attainment in science education project. I ask them all to give a brief outline of their experience in this area.

Nicola Connor (West Lothian Council): I am a primary teacher at Peel primary school, in West Lothian. I am currently teaching primary 1. I have an interest in early years—I have taught from nursery through to primary 3. I am at the end of my master's degree in early years pedagogy and my dissertation is focused on the extent to which it is possible to teach science through play, with a play-based pedagogy. I am also the science development officer for West Lothian, with my remit being the Scottish Schools Education Research Centre and Primary Science Teaching Trust sustain and extend programme, after having been the lead on the SSERC cluster programme in science and technology.

Nicola Dasgupta (Educational Institute of Scotland): I am a primary school teacher; I teach primary 5 at the moment, although I have taught across all the primary stages. I am interested in how STEM fits in across the curriculum in a broader sense. I do not consider myself to have any kind of specialism in STEM, other than being interested as a teacher.

Kathryn Thomas (Highland Council): I am seconded out at the moment. I am a primary school teacher by trade, but I am currently part of the RAiSE programme for Highland Council. The programme provides high-quality continuing professional development to teachers across the area. I work mostly with teachers across the college network and sometimes with pupils, too.

Matt Lancashire (Scottish Council for Development and Industry): The SCDI delivers the young engineers and science clubs—YESC. That is our critical interest in this evidence session. There are 1,500 schools in the network across Scotland, in which 30,000 boys and girls participate. The clubs are there to infuse an interest in STEM through hands-on STEM projects, to encourage young people to make good subject choices around STEM as they come up, to better inform young people and teachers about the range of careers available in STEM, particularly with the artificial intelligence and data agenda upon us and the fourth industrial revolution, and, critically, to encourage more girls to pick up STEM-based subjects and participate within the area of STEM.

Dr Simon Gage (Edinburgh Science): I was a research scientist, but for the past 30 years I have been working for what you would probably call the Edinburgh science festival. We recently renamed it Edinburgh Science. We put on a two-week science festival in Edinburgh that gets in 150,000 ordinary people; we try to encourage them to find STEM more interesting and exciting. We also run generation science, which tours the whole of Scotland, taking practical workshops and shows into primary schools. That involves about 55,000 to 60,000 primary school children in all 32 local authorities and interfaces with about 3,000 primary school teachers.

We also have a careers event called careers hive, which is aimed at secondary school pupils who are deciding what subjects they should study, to try to get them excited about the possibilities of continuing their STEM studies.

That is our Scottish experience. We also work internationally a lot—we interface with other nations that are discussing exactly the same issues, so we perhaps have some insight into how others are dealing with the matter.

The Convener: Before we move to questions, I declare an interest as the vice-chair of the SSERC and a member of the British Computer Society.

Iain Gray (East Lothian) (Lab): Good morning, panel. My question is for Kathryn Thomas. One issue that the committee has been looking at is how we can move from programmes, pilots and so on and bring STEM learning in the early years and primary into the mainstream. Witnesses often talk to us positively about the RAiSE programme, which you have been involved in. In your written evidence, you say that there is no funding for your programme next year. Is that not an indication that the work that you have done will go to waste?

Kathryn Thomas: The Robert Owen centre for educational change did an external evaluation of the RAiSE project, and it found that the programme had worked very successfully when local authorities have got behind it. This is not to say that Highland Council has not got behind it, but there has been a funding issue in Highland. There are austerity budgets, and lots of additional support needs posts are being cut. There is not a way in which Highland Council will fund a development officer to carry on the programme, so we are looking for external funding in order to continue it.

The RAiSE partnership is very keen for us to continue. If funding is secured, we can still be part of the RAiSE network, but that funding would not secure the salary for the development officer post—external funding would be needed for that.

Iain Gray: You are the RAiSE development officer. You have been seconded to that role, so if you cannot find external funding, you will go back to primary teaching.

Kathryn Thomas: Yes, I will go back to classroom teaching. RAiSE has been an excellent programme to be part of, and Highland schools have benefited from it greatly—the issue is to do with politics and what is happening in Highland Council.

Iain Gray: How long have you been on secondment?

Kathryn Thomas: Highland Council has been part of a two-year pilot project. I have been on secondment for nine months and my colleague has been on secondment for just over a year. We have had four development officers in the two-year timescale.

Iain Gray: What funding have you had and what do you need? What is the gap between the two?

Kathryn Thomas: I think that keeping two development officers would cost £100,000 a year.

Iain Gray: Did Highland Council fund that from the start? Has it chosen not to continue that funding? Did funding come from elsewhere?

Kathryn Thomas: The funding comes partly from the Wood Foundation and partly from Highland Council, so the council initially put money in.

Iain Gray: Is the Wood Foundation funding still available? Is the council expected to pick that up after a period?

Kathryn Thomas: The Wood Foundation funding is available for two years—the pilot project ends at that point.

The wonderful thing about the RAiSE project is that it is not just about giving money to councils—they must have a sustainable, longer-term view of what they want to happen. Highland Council has gone for the Newton room approach, which covers primary 6 to secondary 2. Funding has been allocated to develop five Newton rooms, two of which are up and running; the other three are in progress. The Wood Foundation gave money for the transition period until the establishment of the Newton rooms. We are not quite there yet, so we are applying for external funding, to try to keep on going.

Iain Gray: Is it fair to say that you feel positive about your work in promoting STEM and supporting primary teachers to deliver STEM in the classroom but that that work will be lost?

Kathryn Thomas: Yes, because the emphasis of Newton rooms is on P6 to S2, whereas we have worked with early years practitioners.

Iain Gray: In your written evidence, you point to another barrier. Your impression is that teachers are working at capacity, so that they do not really have any space to engage with STEM even if they want to. You also make the point that, in your view, the teachers with whom you work think that STEM is important but not as important as other subjects. Will you say a bit more about that?

Kathryn Thomas: When I do CPD sessions, all the teachers in the school come along, and you can see that they have had a hard day and that the last thing they want is to have some training. They just want to be in their classrooms getting ready for the next day or sorting out their paperwork. However, once we have delivered our session, the evaluation has always been positive. People are happy and can see that they have something that they can take back to the classroom the next day and which will feed into their literacy or numeracy work. We have given them strategies. Although the negativity can be sensed at the start, with people thinking, “Oh, STEM—another thing that I have to think about,” at the end of the sessions, they can see the value in what we have delivered.

Iain Gray: You say that teachers see other subjects as more important. Does that mean literacy and numeracy?

Kathryn Thomas: It is literacy, numeracy and health and wellbeing, because that is what they are accountable for to their headteachers.

Liz Smith (Mid Scotland and Fife) (Con): Dr Gage, in your opening statement, you made the interesting point that you have been looking at international evidence. Will you give us an outline of some of that international evidence and say whether any lessons can be learned from it for Scotland?

Dr Gage: I can share only my experiencee. If I sit in a room of people from the ministries of education in Malaysia, Indonesia or Singapore, they all talk about exactly the same issue. Some good research has been done. I point you towards the ROSE—relevance of science education—study, which maps the attitudes of young people towards STEM subjects by the level of affluence of a nation. As a nation becomes wealthier, the interest in science, technology, engineering and maths diminishes. It is almost like a law of nature. Therefore, when we get to the Japanese girls, they have no interest, as Japan is about the richest or most highly developed nation.

As nations develop, they all face the same issue of diminishing interest in STEM subjects. However, they are also saying, "We have to do more, we have to inspire our teachers to do more and we have to provide additional resources and support in the classroom." I suppose that, really, it gives me some degree of terror. Although we have what one might regard as a head start because of the great history of science and technology in Scotland, the rest of the world is overtaking us or at least is at our heels, and other countries are dealing with the issues in exactly the same way.

The discussion relates not only to the inspiration of young people and their acquisition of useful skills but to the wider context of the vibrancy of a nation. Given that, I come away thinking, "My goodness, we have got to get on with this and we have got to succeed." We need an education system that produces the best from everybody, because if we do not have that we will be left in the lay-by. That is what I take away from the international evidence, although I have to say that I have not seen better things elsewhere. I cannot say, "Go to Singapore, because they have solved the problem." You see aspects that are somewhat troubling, such as students doing 12-hour days or being drilled to pass the programme for international student assessment test. I cannot point to the solution, but I can certainly point to the competition.

Liz Smith: Do you have examples of what you consider to be best practice in some of those countries in which you feel that considerable progress is being made in the development of the STEM subjects for younger children?

Dr Gage: Honestly, I do not. The problem is universal. I have been to schools in countries that are well funded and have seen amazing labs. I have been to schools in China where the labs are better than any lab that I ever had at school, whether those are for information technology, chemistry or biology. You can visit places where a lot of money has been spent and resources have been applied, although not ubiquitously, I have to say.

Liz Smith: In that context, you said very clearly that you believe that other countries are overtaking Scotland, or certainly catching up with us. Presumably there are reasons for that. Are those reasons more to do with general economic profile and improvement or specific aspects of education that are allowing those countries to make faster progress?

09:45

Dr Gage: I do not know enough about their educational systems to comment on that. However, one certainly gets a sense of priority. The wealth of those nations is pinned squarely on becoming capable as technological entrepreneurs, and there is a link there.

Liz Smith: Thank you.

The Convener: One of the themes has been teacher confidence, especially in the early years and primary. What has been your experience of that in your schools?

Nicola Connor: We have been part of the SSERC cluster programme, the main aim of which is to raise teacher confidence within our cluster. There are six schools and one early years centre in our cluster and we have a science mentor in every school. We did the programme in 2016-17, but even though a couple of the mentors have left to go to promoted posts or different authorities, other mentors have taken over. Importantly, not only did the mentors ask someone to take on the role in their school, but they took the skills and everything that they learned through the SSERC and for themselves and disseminated it into other schools or authorities.

There are, of course, teacher confidence issues, but we could say that about music or drama. People have different interests and backgrounds. I do not have a science background; my background is in drama and music. When I was asked to do the cluster programme, it was for my professional development in order to get ideas. The enthusiasm and training that we got from the SSERC was of such high quality that we came back enthusiastic and motivated, wanting everyone to feel the same.

We are now running the career-long professional learning for the sustain and extend programme and I am having to turn teachers away and put them on a waiting list. The only barrier that I have learned of this year is that because the programme is so practical and hands-on, only 20 or 25 teachers can attend at a time, but I am getting 30 or 40 teachers who want to come and progress their skills or learn new ideas.

The most successful event was at Christmas, when the science monitors throughout the authority ran a session called science with Santa. We had mince pies and cups of tea; it was very informal, so people did not feel threatened. They could come along, dip in and out of activities and take away ideas, and there was professional dialogue with other teachers, such as, "I've tried that with my primary 4s. Have you tried this?" Teacher confidence builds if they know that there are people in the authority, cluster and school with whom they can have an informal chat at the end of the day. Probationers can say, "I've got to teach this, this term. Have you got any ideas? Are there any ways that you can help? Are there any resources?" I have found our mentor network to be really important.

Nicola Dasgupta: Teacher confidence is a big issue in STEM, and I agree that the approach has been variable in different authorities, with teachers having different experiences. Unfortunately, there is no real mentoring approach where I am. We have had training, but it has been of variable quality. There was a big push on STEM a couple of years ago in my local authority and a lot of time was given to it. However, the approach involved not small groups in which people could have professional dialogue, but a big room with 100 people being talked at by various people who told them how to take forward a certain initiative. There was no real ofllow-up, so teachers who were not particularly sure or confident had no one to ask. Teachers were all at the same sort of level and were trying to find their way through the training without being sure how. Perhaps a more consistent approach is needed, both to STEM and to CPD more generally.

Again, as other people have mentioned, there is an overload of work for teachers. Therefore, although a lot of teachers are enthusiastic about STEM, they feel pressure, because STEM is not the only thing on their or their headteacher's agenda or on their school improvement plan. A lot of things are being asked of teachers, and STEM is only one of those things. It is about finding the time. If STEM is a teacher's particular enthusiasm or they want to focus on it for their professional learning, they might choose it; if it is not, they might find that they are pulled in a lot of different directions.

With regard to the sustainability of what teachers are asked to do, my experience of STEM was that, from the start, I was enthusiastic. However, if a teacher's experiences are not positive, they might not take it forward in a positive way in their classroom. A lot of it is about basic resources. We are asked to build things, but we do not have the materials to build them with. That makes things difficult.

Kathryn Thomas: I will add to the comments about the SSERC cluster mentor programmes being well received. Although it is miles from Dunfermline, Highland Council has been able to access the SSERC remote delivery, which has had a positive impact on teacher confidence. Offering CPD to the probationary teachers at the start of their careers, in order to increase practitioner confidence, has also been a positive experience.

Matt Lancashire: The consistent feedback that we have had from the teacher training sessions that we run at YESC is that many teachers acknowledge that they lack confidence in moving the programme forward. Once the kits are out and the outcomes have been delivered, they appreciate them. CPD seems to be lacking in that area. That could be about the mentoring approach or because we need further contact between YESC, the regional co-ordinators and the STEM ambassadors. It seems as though we get to a point at which we have done the training, the kits are there and the kids are ready to go, but then the handholding goes. No further support is there.

If we break down STEM and look at AI and digital, a more critical concern for me is the lack of computer science teachers in the education system. Recruiting and retaining such teachers might support better confidence in that area of STEM subjects in schools. We need to conquer that issue and move forward.

Dr Gage: The STEM strategy is welcome. It has some black-and-white figures in it. The figure that I remember is the 85,000 or 83,000 practitioners—early years, primary or secondary—who require more help in teaching STEM subjects. Although there are great examples around of CLPL programmes, the problem is that their capacity is of the wrong order of magnitude. They are delivering to a few hundred or maybe a couple of thousand a year, which does not stack up well against that 85,000. For me, the frustration is the scale at which things are delivered. There are great examples of things that can be done; we have heard of a few here. However, somehow, as a nation, we are doing it with the wrong number of zeros at the end. We need to find a mechanism that scales up.

Dr Alasdair Allan (Na h-Eileanan an Iar) (SNP): With scientific consistency, we have asked

witnesses in previous panels about the issues of deprivation and rurality when it comes to ensuring that children and young people have equal access to science in school. When it comes to ensuring that there is equity of access, as teachers and other practitioners, do you have any observations about your experiences?

Kathryn Thomas: When we run training courses, we run one in Inverness, which is the most central location for most teachers in our area. We also go out to rural areas. Although that is for small numbers of people, they are appreciative that we have gone out and provided the CPD. As Nicola Connor said, it is important to get people together and to have that discussion element.

We are also trialling remote delivery. Highland schools have been given Chromebooks, so we are using the Google Hangouts and Google Meet facilities. Teachers who cannot manage to get to an evening session at their nearest school, which might be half an hour or three quarters of an hour away, can use those to provide some high-quality input. We are trialling that at the moment.

Nicola Dasgupta: Deprivation is a big issue. The school that I work in has a mixed socioeconomic demographic. We were given a lot of pupil equity funding money and other funding, but the issues are so huge that it has not touched the sides.

When it comes to initiatives on STEM, we are up against it from the point of view of materials and so on. There are also issues with homework. We rely on children being able to access stuff online at home, but many children do not have such access. We also rely on parental involvement, but many parents cannot have such engagement for practical reasons—they might work shifts, so they might not have time to talk to their children about various bits of homework. A lot of the time, parents do not feel confident engaging with such subjects, because they did not have strengths in them when they were at school. Deprivation and inequity of access to science-based teaching are huge issues.

Dr Allan: I would like to pick up on that point. Is there any good practice among schools in actively engaging with those parents who have no confidence when it comes to talking about science or who, because of deprivation, might not have had a good experience of education?

Nicola Dasgupta: I am not sure about that. At my school, we try to have parental engagement—people who are pharmacists or whatever come in to engage with the children—but when it comes to parents who lack confidence, the uptake has been quite slow, and I am not sure what the solution is.

Matt Lancashire: On the rural side, the geography of Scotland is such that young people having access to STEM opportunities and the young engineers and science clubs is an issue. However, the SCDI has a Highlands and Islands committee and a north-east committee, and a south of Scotland committee is coming on stream soon, and we take great pride in our geographical engagement with schools. In Shetland, 79 per cent of primary schools and 100 per cent of secondary schools have a registered YESC. Likewise, in the Western Isles, 83 per cent of primary schools and 100 per cent of secondary schools have a YESC. That is where we are. We want to continue that engagement and expand that provision.

The issue is how many children come along to those clubs and participate. There is infrastructure to support the YESCs, but we need to encourage and motivate the children to come along a second time. That goes back to the point that was made about parental motivation and parents supporting their children to participate. The infrastructure is there. Maybe there is a role for the ambassadors and the co-ordinators to play in helping to provide motivation and spreading the message among parents and the wider communities in such far-flung areas.

Nicola Dasgupta: We sometimes forget that STEM is probably not a priority for parents who are struggling with their financial background and other issues and will have other priorities.

Kathryn Thomas: On parental engagement, numerous examples of family-run STEM clubs have been cited. The activities speak for themselves and the children are so enthused by what is going on that they almost drag their parents along to them. A barrier is that they rely on an adult, a parent in the school, a teacher or a STEM ambassador to give up their time to run them. However, when they have been run successfully, there have been fantastic responses to STEM, the activities and the parental engagement.

10:00

Nicola Connor: We are very lucky that parents come into my school and that they are engaged. We have all parents as partners in learning, and dates are given to them every term. Obviously, a lot of our parents work during the day, so we try to give as much notice as possible. Parents come in in the afternoon, and we have had a STEM, writing or health and wellbeing focus. It is about what their child is learning about in school at the time. I know that the school is looking to engage more parents next year. Obviously, it is important that parents have a part to play in looking at gender balance and unconscious bias as well. It is therefore

important to get them on board as early as possible.

I have read that, in the early years—from primary 1 and primary 2—some children have already decided what jobs they can and cannot do. Through interesting discussions that I have had with primary 1 children, girls have told me that they cannot be firefighters, and girls and boys have said that farmers can only be male, as they have to have a wife, for example. It is very important to have parental engagement and get parents involved.

Dr Gage: On rurality and accessing children in areas of deprivation, this is stating the obvious, but generation science is a touring programme. It goes to schools that we decide it will go to. It goes to schools with 30 pupils at the end of a small road somewhere, and 30 per cent of our schools are in the top quintile of the Scottish index of multiple deprivation. If you are touring, you choose your audience.

Generation science is the biggest science touring programme in the United Kingdom, but it comes at a price. It costs us £500 each time we show up in a school to do it. However, there are well-worn mechanisms, and we often describe the approach as science delivery on an industrial scale. There is a fleet of 16 vehicles with teams on the road for 12 weeks doing it. It is entirely possible to go to exactly the people we want to go to; we simply need to be able to pick our stuff up and go to them.

The Convener: Resources have been mentioned quite a few times. Dr Gage mentioned the STEM strategy, which has some big ambitions. We have heard from one of the witnesses that one of the biggest problems in delivering IT and computing is the lack of wi-fi access. We have heard about infrastructure issues and resource issues, for example. What is your opinion on the support that is behind the STEM strategy? Is there enough support to achieve some of the ambitions in it?

Nicola Connor: In West Lothian, we are very lucky in that we have support in place so that children can bring in their own digital appliances and use them in class, and they are able to use wi-fi. I cannot comment much on that. We have the support and resources in place just now.

Dr Gage: No, there is not enough support. I cannot see how there can be anywhere near enough. I go back to the point about the 85,000 practitioners who need help. They need professional development on how they can bring science and technology alive to the young people they work with. They need resources and technicians. I simply do not see how that can be done in a convincing way at the national level without spending tens of millions of pounds rather than a small amount. To go back to the question about the international perspective, we see other people spending tens of millions of dollars or whatever.

I have watched the discussion for 30 years in Scotland. Although the STEM strategy is extremely welcome, it feels like a rerun of things that have gone before. If we really want to make a difference, we have to take the issue much more seriously and put much more resource into it.

Matt Lancashire: The STEM strategy is very welcome, but our world is changing. We are moving into the fourth industrial revolution, in which data and AI are seen as the new oil. With regard to resources, we need a higher-level national strategy across the Scottish Government for AI and data, which the STEM strategy can feed into and connect with. That will enable us to realise the opportunities from those areas across the economy, our climate, education and skills. That is where the STEM strategy should fit. If that was the case, I suspect that some of the resource and infrastructure issues around connectivity and support for teachers would be resolved. There is a bigger prize: our children can go into great new high-level jobs, working in cutting-edge technology and overcoming some of the greatest challenges in our society such as climate change and the ageing population. The SCDI YESC initiative is about a grander plan around a national AI and data strategy for Scotland.

Kathryn Thomas: At the early years level, in particular, there is a danger that we spend money on resources that end up sitting in a cupboard gathering dust. We always go for a STEM-on-a-shoestring approach by trying to enthuse teachers, including teachers who are not confident, and getting them to use resources that are readily available to them.

The wider picture is that we want our children to be familiar with technology. If the practitioners are not yet confident in using technology, we can start by getting them enthused about STEM and what they can do with it within their capabilities and the resources around them. We can try to make that sustainable, and, over two, three or four years, we can bring in bigger technology that we might be using by then. The biggest issue at present is simply that we need to get people enthused and confident in using the resources that they currently have and which are readily available to them.

Nicola Dasgupta: Resourcing has been quite piecemeal across Scotland. Some areas are investing more than others in STEM, and that is problematic. I do not really agree with my colleague Kathryn Thomas that resources are sitting in a cupboard. As a teacher, I grab any

resource that I am given and use it. There needs to be more investment in STEM.

We have suffered a lot from austerity, which has not just affected the number of teachers in classrooms; things such as the number of technicians in secondary schools have had a knock-on effect. I know that we are here to talk mainly about primary schools. However, when technicians are few and far between on the ground or are no longer employed during the holidays, and they cannot maintain equipment or set things up for teachers—the things that they used to do—there is a knock-on effect. That is another workload issue for teachers. The issue of resources needs to be looked at much more broadly. It is not just about having batteries or chemicals or whatever else we need—it is about the bigger picture.

Ross Greer (West Scotland) (Green): I want to come back to issues to do with deprivation. My first question applies to deprivation, rurality and gender issues. I am interested in how we get consistency of approach when best practice is found to work. In your experience, how well is best practice shared and rolled out? Sometimes, something works really well for a couple of years and then the funding pot that it came from changes, and priorities change, and we move away from it. A few years later, the wheel is reinvented to try to come up with the same best practice again. Is that the case? Alternatively, are we now getting to a point at which best practice is bedding in outwith the school or cluster of schools in which it was pioneered?

Nicola Dasgupta: Our experience is variable. My local authority is still taking baby steps in that respect. You mentioned a change in priorities, which happens quite a lot. We are asked to focus on STEM but, as my colleague mentioned, literacy, numeracy and health and wellbeing are the subjects on everybody's school improvement plan. In addition, we are hit with other initiatives such as one-plus-two languages and outdoor learning. If people are enthusiastic about those subjects, they will want to focus on them. Teachers share best practice with one another and are very collegiate, but we need a broader strategy and a more consistent approach to be taken. I do not think that that has been bedded in.

Nicola Connor: We took part in the cluster programme in 2016-17, and we still have our cluster mentors even though the programme has finished. Outwith the sustain and extend programme that we are running just now, we continue to meet and look at plans for progression and for the transition of primary 7s into our high schools. The enthusiasm of the teachers meant that we continued that approach, which we do ourselves. We still have support from our headteachers and from outwith the cluster, and they are thankful that we are continuing what we are doing.

Kathryn Thomas: Highland Council tried to take a cluster approach, but we have suffered from the fact that staff have moved on. We have had issues that have meant that we have not been able to get together and have discussions. The beauty of being part of the RAiSE network is that we have been able to share the good examples that we have seen elsewhere. Through that sharing, we hope that such approaches can become embedded.

Ross Greer: I want to look at industry involvement. Getting industry into schools, in conjunction with teaching staff, can have a very positive effect. That point has come up a lot in the evidence that we have taken. There is an obvious challenge in rural communities, given that some of the relevant industries are not particularly proximate to the schools. In your experience, how easy is it for such involvement to take place in areas of deprivation? We have heard plenty of good examples of industry coming into schools that have plenty of parents who are engineers, computing scientists and so on. However, there are not necessarily parental connections and local networks in areas of deprivation, so how easy have you found it to bring in industry in those areas, particularly in a primary school setting?

Kathryn Thomas: My colleagues organised Lochaber STEM fair, which brought in local industries in Lochaber. The fair has run for two years, and it will run next year, because the primary 6s will take on the running of it. The fair has proved successful in getting in local industry from Lochaber. It was run one year, then it was bigger the next year and I hope that it will be even bigger next year. There are ways of bringing in industry.

We suffered from the fact that the STEM ambassador network is based at Aberdeen Science Centre but covers seven local authorities. I think that 300 STEM ambassadors are signed up for the Highland region, but their commitment is to one visit a year and they are spread out, so we have not had much success in using the STEM ambassador network. Somebody suggested that the commitment should be raised from one industry school visit a year to six visits a year.

Matt Lancashire: The YESC network is predominantly industry funded from across Scotland. A couple of its guiding principles, which support industry's thinking, are diversity and gender equality. Industry takes seriously the number of schools that are involved, and businesses want people from diverse backgrounds to come in and support their industry to succeed. We work closely with industry to ensure that areas

of deprivation and rural areas have a representative or a STEM ambassador to encourage and motivate children to take part in the clubs. As I said earlier, our regional committees generally have representatives of industries that are prominent in that area. For example, the industries in the Highlands and Islands are very different from those in the south of Scotland, so we try to align our representatives as best as we can.

Could more be done? Absolutely. We have found success when we have coalesced people around our annual regional celebration. A range of 40 to 50 businesses in Scotland come together, and the kids get to show off what they have been doing all year and to celebrate all the different projects that they have been working on. Kids are coming from the Western Isles, the Borders, the west of Scotland and so on, and they are all engaging with business, from the likes of Shell to BT to Diageo. There are different opportunities for them to engage with industry at a local and a national level and find out how their interest might develop into a career in the future.

10:15

Ross Greer: From the industry's point of view, is the demand from schools in more and less deprived areas roughly comparable, or is there more demand and more appetite from schools in areas with a particular socioeconomic background?

Matt Lancashire: To be fair, I do not think that we have drilled down into the figures on that as much as we could. I am willing to come back to you on that.

Ross Greer: That would be great.

Matt Lancashire: I will say that we go out to every school that we can go out to, no matter the class background or geography, and we try to engage with the teachers and the children to interest them in STEM and progress their opportunities in it. We can drill down a little bit into those figures, but certainly there is no self-selection of the schools that we work with. That is why, from a rurality perspective, we are in the Western Isles and it is why we are in some of the toughest neighbourhoods and areas in Scotland, trying to provide this great network. It has been industry funded for the past 35 years.

Dr Gage: Ross Greer has put his finger on a difficult problem—how do we get industry specialists into schools in areas where those industries are not represented? I do not know the answer but, to echo Matt Lancashire's example, our careers event, which is aimed at secondary school rather than primary school pupils, does a fine job of exposing pupils who live in rural communities or areas where a certain type of industry is prevalent to a great breadth of industries. It does that by bringing them to one place. We bring busloads of pupils to Edinburgh from Lanarkshire and the Borders—even from the Highlands, I think. They are exposed to people who make satellites, whisky and all sorts of technological things in the company of about 130 early-stage industry volunteers we have trained to talk well.

It is a good model when the focal place that you assist others to come to is efficient and effective. We would happily run that model across the country and in fact we are trying to do that.

Nicola Connor: I have had a different experience with the STEM ambassadors. STEM East has been fantastic about coming to schools across West Lothian and it has organised and taken part in teach meets to share what it does with all the schools in West Lothian. We have had various engineers and scientists coming into the school. We have also taken a whole-school approach to taking part in the primary engineer leaders award and getting involved in different types of engineering, which has been important. That practice has been shared with schools across West Lothian. I know that other schools have taken part this year, including from more deprived areas in West Lothian. They have enjoyed and found valuable the experience of engineers coming in and being able to ask them questions about their jobs and the skills that they have been using.

Nicola Dasgupta: As a teacher, I welcome and value partnership with industry and partnership with business. However, I also value the fact that education is not just about employability; it is wider than that. It is about the whole person—the whole child. We need to remember that not every child will be STEM focused, and we need to celebrate and support children who are interested in other things as well. Even those children who are interested in STEM might not necessarily segue into a STEM career. It is not just about business and industry; it is wider than that.

Kathryn Thomas: It is great to hear that the STEM ambassador network is working well in West Lothian. I think that Highland and the northern alliance area in general are suffering because of the rurality factor.

I think that the tide is changing. Industry seems keen to get into schools. We have big infrastructure projects, and the work that has gone on, including by the engineers who are involved, in all schools in the council area, through initiatives such as academy9, has been incredible. All the businesses associated with the work on the A96 and the Port of Cromarty Firth, which is

undergoing a revamp, are keen to get out to schools in areas of deprivation.

Rona Mackay (Strathkelvin and Bearsden) (SNP): I return to Nicola Connor's point about gender stereotyping in the early years and primary. We know that gender stereotypes are deeply ingrained. One of our witnesses, Elisabeth Kelly, said that teachers are still learning to better understand their "unconscious bias". Is there enough training on encouraging teachers to overcome that? If we can have a successful pedagogy for that in the early years, how do we carry that on to primary, when the pressures on teachers become different?

Nicola Connor: I do not think that there is very much training on that. My awareness of the issue has only come through my personal reading on the subject and everything that I do in the local authority and the cluster and and through the discussions that I have had with people such as Heather Earnshaw—I think that she now works for Education Scotland—who has been looking at gender balance issues. We need to make staff more aware that they might have unconscious bias and that things from their culture or childhood might have an effect on how they teach something or how they disseminate information in the classroom.

I think that teachers in primary schools and the early years are very good in that area. We might raise the issue during the world of work week or through other discussions. I have had many discussions about the skills that we have been learning in science lessons. I might ask pupils why it is important that we are learning a skill. On maths, that might be a discussion about why learning about money is important and what we will use the knowledge for. It is important to have those discussions in a classroom, and I think that they are happening throughout schools and classrooms in Scotland—I do not think that it is not happening.

It is interesting that what the children say in those conversations reflects the home that they are coming from. In the previous school year, we were looking at the developing the young workforce agenda. We get pupil equity funding and we asked pupils what they want to be when they grow up. I covered P1 to P3 and my colleague did P4 to P7. Their answers were based on what their parents do or what they saw someone else in a family role doing. They had no inspiration or thought about any other jobs. We had one YouTuber, which made me sad, but the rest gave responses based on the jobs of their family.

Again, it all ties together—getting parents and families involved is as important as everything that we do in school. I have asked children about who can be a scientist and they have said, "Anybody can—you do science, so it must be for everybody." Having someone in school to be a role model or to have a positive impact is important.

I agree that more could be done on training.

Rona Mackay: Obviously, you are a key influencer outside the home. Do you get parents on board, or is there any resistance?

Nicola Connor: No, I have not come across an unpositive parent in my time. When we were doing our developing the young workforce agenda, I was looking at STEM. We had a parents focus group to look at our action plan for the year with us. At the end of the year, the group helped us to evaluate our practice, what the school had done well and what our next steps could be. Parents want to be involved in some way, where there is the time and the ability to do so.

Nicola Dasgupta: I think that we would certainly welcome more training—I agree with my colleague that there really is not enough.

On role models, we would like to see a lot more people involved. Primary teachers are predominantly women. We are the scientists in our classrooms, and I think that it is good that we are showing children that.

It is not that parents are not positive, but they can sometimes be a bit intimidated or overwhelmed. I have had similar experiences to the ones that my colleague has had with children, particularly girls, not seeing themselves in such roles because they think that those roles are not for them and not something that they can aspire to.

In general, women's contribution to science has been written out of history. We could do more to redress that balance in some way.

Kathryn Thomas: I welcome the improving gender balance team in Education Scotland, which has six officers who will deliver training. The aim is to deliver training in all schools by, I think, 2022. I question how feasible it is for six officers to do that, because it is such a wide remit, but I welcome the fact that training will be made available to teachers.

Matt Lancashire: The YESC has integrated into its practices, resources and training the top 10 tips for teachers from the Institute of Physics. The YESC lives and breathes by those tips in communicating with, engaging and supporting teachers to ensure that gender inclusion is part of the initiative. However, there is still a lot of work to be done to overcome certain practices. Teachers need support and continued training and resources to achieve gender diversity in STEM-based subjects and careers later in life.

Rona Mackay: Dr Gage, is the picture different internationally?

Dr Gage: Not that I am aware of. The problem is prevalent. I refer again to the ROSE study, which is a body of research that unpicks some of the issue and identifies why young women are turned off science. I do not know the research inside out, but I recall that one aspect is that young women regard science as antisocial, or not social enough. That comes out clearly in the research. If we counter some of those misconceptions that science involves being in an isolated role, we will make progress. It is a common problem everywhere.

There is some good work about providing role models. I saw one piece of research about 10 years ago that showed that children predominantly acquire from teachers their perception that science is for men only. Therefore, it is exactly right to ask whether there should be greater training on the issue for the teaching profession.

Matt Lancashire: I have a quick point on diversity more widely and the representation of a number of groups, such as ethnic minorities, lesbian, gay, bisexual and transgender people and disabled people. Gender is critical, but those other groups are just as important if we want the inclusive and productive workplaces of the future. All those groups matter and all should be engaged in STEM-based opportunities.

Jenny Gilruth (Mid Fife and Glenrothes) (SNP): I have a supplementary question for Kathryn Thomas about the role of Education Scotland. You mentioned the development officers who will be working nationally. Is there a role for school Inspections and perhaps for practitioners to look more specifically at the issue?

Kathryn Thomas: I do not know enough about the school inspection process to answer that question. I only know it from the point of view of a primary school teacher.

Jenny Gilruth: Actually, I would appreciate an answer from a primary school teacher. As a practitioner in the classroom, do you think that school inspections could support that work?

Kathryn Thomas: Inspections are worrying times for teachers, although schools that have gone through an inspection recently have said that it has been a supportive process. I suppose that the inspectors could talk about what is going on and provide guidance on moving forward. However, those teachers already feel quite stressed out and the word “inspection” tends to bring out a stressed-out response. There are better mechanisms, such as supportive training, mentoring and networks, that would provide Education Scotland with a more supportive role, rather than the inspection focus. I wonder what my colleagues think.

10:30

Nicola Connor: I have been a teacher for only four years so I have not been through an inspection and I do not know what the process is like.

I have had a validated self-evaluation, or VSE, which is at council level, and it was very supportive. One of the things that it looked at was teachers leading developments in schools on health and wellbeing, DYW and that kind of thing, and we discussed how supported we felt by headteachers and the council. It came out that the way we were doing it as a school and by being teachers of change was very good, which was positive.

There is support from the young STEM leaders team and from education officers at the council, who have been very supportive. Again, I do not know about inspections because, as yet—touch wood—I have not been through one.

Nicola Dasgupta: I have been teaching for about 15 years and have been through two school inspections. My colleague is right: it can be stressful and a worrying time.

My experience is that Education Scotland does not take on that role and can be quite remote from the classroom teacher. Its staff are involved quite heavily with senior management. They come in to observe classroom teachers and there is an occasion on which we can get feedback, but there is no dialogue when they tell us how they can support us to drive things forward. From what I have seen, the focus is mainly on health and wellbeing, literacy and numeracy, rather than other areas of the curriculum.

Jenny Gilruth: Earlier, it was said that sharing good practice needs to be done more consistently. Does Education Scotland have a role to play in that? Could it be more hands on in offering support?

Nicola Dasgupta: Absolutely—it could be. The schools inspectorate is not the right mechanism for that, but Education Scotland could find a way.

Alison Harris (Central Scotland) (Con): I have become interested in the idea that STEM should include the arts and humanities. Therefore, in the future, it should become STEAM—science, technology, engineering, arts and humanities, and mathematics. I know that there is a limited application of that so far, but we have heard from the University of Sheffield that that approach has been found to be useful in helping children increase not only their engagement in STEM subjects but their motivation. What are panel

members' thoughts on that? Is there a discussion to be had on STEAM?

Kathryn Thomas: Yes—absolutely. Again, it comes down to not segregating subjects, keeping them far more integrated and linking them to literacy, numeracy and health and wellbeing.

Last year, RAiSE officers in Fife worked with the bookbug bag people to produce STEAM planners to go with the read, write, count bags that went out to parents through parental engagement. That will be done again this year. When the books go out, there are plans that teachers can access and there are STEAM activities all ready. Practitioners like having plans and activities that they can have confidence in and know that they can use. It is a win-win: it is not isolated and it raises the capital and profile of science—not just science but STEAM—in schools. It is a positive way of moving forward.

Nicola Dasgupta: As practitioners, we are always encouraged to take an interdisciplinary approach, certainly at primary level. That probably happens a lot, although it might not always be branded that way or advertised as such. Teachers do not shout about it, because it is a natural approach for us. Expressive arts and other subjects being brought into STEM probably happens a lot more in schools than you might imagine. It has a massive impact on children, because they love all of that. It increases their engagement and enjoyment, and it adds to a positive experience for them. I would welcome more of it.

Dr Gage: We are embracing that approach whole-heartedly. For us, it is important to keep the science and technology in with the art. We want to motivate people through their artistic aspirations so that they use, learn and acquire new skills in technology. We run all sorts of workshops on things such as making paintings that talk to you—well, they do not talk to you, but they have flashy eyes—making circuits with pencils and things like that. Those are the simple activities, but pupils can go on to do digital sewing and all those sorts of things.

I think that it is great. Anything that motivates young people to get involved and acquire those new skills is a good thing.

Matt Lancashire: Interdisciplinary learning is increasingly important due to the shifts in our economy. Adding art and humanities into STEM can create further resilience, creativity, adaptability and flexibility, which is important when we are talking about people having nine or 10 different jobs in their lifetimes. If we want to have a successful fourth industrial revolution economy in Scotland, which we all desire, it is critically important that we have interdisciplinary learning, so that those skills can flourish and people can work with the technologies of the future.

Nicola Connor: I agree with Nicola Dasgupta. Interdisciplinary learning is a big thing in the early years and primary 1. Outcomes and benchmarks are bundled together and teachers ensure that children know why they are learning what they are learning and how they are learning it. A lot of the skills that children gain in those years are merged together. You can get a lot of art skills from science lessons, and you can do a lot of things with technology to create art and music. There is a lot of good practice in merging all those things.

The Convener: Following on from Alison Harris's line of questioning, when I met the cadet organisations a few weeks ago, I asked about their STEM learning and they said, "Oh, we only do STEM by stealth." They said that that was because, when they present young people with a problem or a project, they get stuck into it right up until it gets labelled as STEM learning. Are there international examples of people trying to reframe the language around STEM learning?

Dr Gage: Lots of places do not use the word "STEM" at all, and there is an argument for not using it.

There are great examples. For example, the Exploratorium in San Francisco takes a holistic approach to learning that embraces the arts and culture. The Edinburgh science festival is a cultural event that involves humour, eating, drinking and so on. There are many good examples.

It is tricky. I am so imbued with the idea that science and technology are part of culture that it is hard for me to get a perspective on this. I cannot point to any example of someone who has really solved it.

I think that we have to be cautious about talking to young people about STEM in the first place. Talking about creativity, problem solving, coming up with great ideas that will make the world a better place, being inventors, working in teams—that is the sort of language that young people will respond to, rather than, "It's time to do your STEM."

Nicola Dasgupta: I agree. It is important to have an interdisciplinary approach and integration in the curriculum and not to segregate those subjects and call them STEM. Schools sometimes have a STEM week, which involves everybody building and making things. I do not agree with that approach. STEM should be present across the curriculum in an integrated way; it should not simply be a week here and a week there.

That approach has partly come out of the fact that the curriculum is overcrowded, and you have

to make sure that you fit STEM in. We have a STEM week, a money week, an outdoor learning initiative and a time when we have a focus on the one-plus-two approach to languages. That ensures that we are ticking all of those boxes, but I do not think that education should be about ticking boxes; it should be about more than that. If we can move away from that and have a genuine focus on those things in a more natural way and not have headteachers worrying about whether they have ticked something off on their social improvement plan, it would benefit children and teachers enormously. A different approach would be more helpful.

The Convener: If committee members are happy that their questions have been answered, I will ask a final one. It goes back to something that Mr Lancashire mentioned earlier. The concept of the fourth industrial revolution and its AI and digital aspects were what drew the committee to the subject area. You mentioned that you did not think that, as it stands, the STEM strategy is enough. Will you give us examples of the elements that you think are missing and on which we should work harder?

Matt Lancashire: It is not necessarily the case that something is missing from the STEM strategy. The problem is more about what is missing from overarching Scottish Government policy on an AI and data strategy for Scotland—across areas such as the economy, skills and education, and health—that drive and move our economy forward to be world leading in those areas. The STEM strategy tries to focus on improving digital skills and children's engagement in digital areas. We have also advocated a variety of techniques in that area, but they are only as good as the national strategy that asks how we might become a world-leading nation in AI and data across a range of different industries and how those areas might help, for example, our health service or with conquering climate change issues as we move forward. Why is there not a theme across all Scottish Government policy, in one defined strategy, that supports it, and underneath which the STEM strategy could fit? We must ask why we are increasing the number of pupils who are learning STEM subjects if there are no jobs at the end of the process. I get that there are reasons relating to opportunity and increasing people's self-worth and value, but there must surely be an end point at which we are taking industry, productivity and social inclusion forward and conquering the challenges of today and tomorrow.

The Convener: That brings us to the end of our questioning. I thank all the panel members, who have been very helpful in giving us not only their contributions today but the information that they have provided in their written submissions.

I suspend the meeting briefly to allow the witnesses to leave, after which we will move on to the next agenda item.

10:42

Meeting suspended.

10:43

On resuming—

European Union Reporter

The Convener: Item 2 is an update from our European Union reporter. I invite Jenny Gilruth to present her paper.

Jenny Gilruth: My paper shows that the figures from the Universities and Colleges Admissions Service—UCAS—reveal a decline in the number of EU27 students applying for university places in Scotland. In 2018, the figure was 42,290 and in 2019 it was 41,350. Page 3, highlights Universities Scotland's concerns in relation to the proposal on temporary leave to remain. I welcome committee members' thoughts on the contents of the paper. I will provide a further update after the summer recess.

The Convener: As members have no questions for Ms Gilruth, I thank her for preparing her paper and giving us that update. I suggest that the committee write to the Home Secretary, highlighting the two concerns that she raised: the drop in applicant numbers and the issue of temporary leave to remain not meeting the requirements for four-year degree courses. Do members agree with that suggested course of action?

Members *indicated agreement.*

The Convener: There being no further areas that members have indicated they would like to highlight, I again thank Ms Gilruth. We will look forward to hearing her further update in the autumn.

Scottish National Standardised Assessments

10:45

The Convener: Item 3 is consideration of the Government's response to the committee's report on Scottish national standardised assessments. We received comments on the response from Professor Lindsay Paterson, Connect, Upstart Scotland and the Royal Society of Edinburgh. I invite comments from members.

Johann Lamont (Glasgow) (Lab): I am genuinely very disappointed by the Government's response. The committee came together and produced a considered report with substantial recommendations. An awful lot of the body of the response basically says, "We believe something different—this is not our position." Professor Paterson's comments, along with the other comments, reflect that disappointment.

We could go through the response and identify a number of areas where there are issues. For example, there are real issues with the Scottish survey of literacy and numeracy. Another example is IT. We identified a problem with IT in talking more generally about STEM in schools. Somebody said that the one thing that was really needed was a better internet connection. We have a system that relies on young people being able to access tests through information and communications technology, so it is a big issue when someone says that that is not possible. The Government's response is simply to say that it is not really a big issue.

I do not know what you want to do on the response, convener, but I think that we need to come back and look at it again. In my view, it is not acceptable for the Scottish Government to take a report from the committee and simply say, "Well, we don't agree with you."

There was some stuff about assessment that felt odd and did not match up with the seriousness of the report, which has been generally well received and is recognised as a balanced report. If we wanted the cabinet secretary simply to revisit his evidence to the committee, we would have asked him to do that. We asked him instead to respond to a series of recommendations that were agreed by the committee as a whole. I would be interested in hearing the views of other committee members on how we deal with the response.

Liz Smith: I largely agree with that. The committee went to considerable lengths to produce a balanced report. We looked at the issues from different angles, and I thought that we produced quite a good report. Johann Lamont is

right to say that the report has been well received. The Government's response almost says, "I'm sorry, but you're wrong", which I do not think is acceptable.

Dr Allan: Are we saying that it is not acceptable for the Government to take a different view?

Liz Smith: No, we are saying that the Government has not picked up enough of the legitimate points that the committee raised.

Johann Lamont: We would have expected some engagement. The Cabinet Secretary for Education and Skills is not going to agree with my view on the reality of primary 1 testing, but that does not mean that he should not engage with the evidence that the committee took and the conclusions that we all came to. The survey that I mentioned and issues to do with missing data and ICT are good examples of where the Government has simply not responded.

Where the committee said that we would like an update on how things are going, the response was to say, "Well, that is a matter for local authorities." The Government cannot have it both ways. I did not expect the cabinet secretary to have a conversion on the road to Damascus and throw his hands up and say, "I'm completely wrong," but I expected him, or the Scottish Government more generally, to engage with some of the serious recommendations. We as a committee do not agree on the fundamentals around testing, but we agreed on those recommendations, and they should have been taken more seriously.

Iain Gray: Johann Lamont is right. To a degree, the issue is the tone of the response. Alasdair Allan is right too: the committee is not in a position to order the cabinet secretary to change his view. However, much of the response simply repeats what the Government said in the course of the inquiry. We considered that evidence and other evidence, and we took a view. The response does not acknowledge that at all.

The tone was pretty disappointing. I find that worrying, because we are putting in a great deal of effort—including later today—to produce a report on subject choice and the narrowing curriculum. On a number of occasions, the cabinet secretary has said that he will wait to see what that report says. For example, when the Conservatives brought a debate on that topic to the chamber, he was very critical of them and said, "Why are you doing this? The report is to come." If a committee report is just going to pass him by completely, that is worrying. I do not know what we do about that, or how we make the point, but the response is disappointing.

The Convener: Do members have any other comments?

Ross Greer: I will not simply duplicate what colleagues have said. Like everyone else, I was not expecting the Government to say, "On the basis of your evidence, we got this wrong," but I would have appreciated it if it had provided a detailed rebuttal of each of the points that we made or grappled with the evidence that we gathered and explained why it led it to a different conclusion. It has not done that. It could have issued its response before we started our inquiry. That is why I am frustrated with it. I would have expected the Government to explain why, on the basis of the same set of evidence, it came to different conclusions. I have not yet seen an explanation of that.

The Convener: We could write to the Government, pointing to the *Official Report* of this meeting and the other responses that the committee received, and asking whether it would consider commenting further.

Johann Lamont: Iain Gray made the point that we cannot direct the Government, but, if a decision of the Parliament does not direct the Government and the committees do not direct the Government on policy, we have a problem. We can argue about the policy, but there seems to be no way in which we can influence it. I think that the best way for us to influence policy would be for the Government to be open to taking seriously what the committee says.

The convener suggested that we write back to the Government. I would like to have time to reflect on what I would like to be included in that letter. Perhaps members could contribute to that. As I have said, there are areas in which we are not going to agree, but there are some serious points to be made. Even if we accept the basic premise of testing, there are issues with the way in which the process is being carried out—I am talking about the fact that the tests can be done at any point in the year, for example. It would be good for all of us to have the opportunity to feed into that, albeit that we would still have to agree the letter. There are some quite substantial points that I would like to be made in the letter.

The Convener: Are members content for that to come back on to the agenda after the summer recess?

Members *indicated agreement.*

10:52

Meeting continued in private until 12:34.

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