



Science and Technology Committee

Corrected oral evidence: People and skills in UK STEM

Tuesday 8 November 2022

10.15 am

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Members present: Baroness Brown of Cambridge (Chair); Baroness Blackwood of North Oxford; Viscount Hanworth; Lord Holmes of Richmond; Lord Krebs; Baroness Manningham-Buller; Lord Mitchell; Lord Rees of Ludlow; Baroness Sheehan; Baroness Warwick of Undercliffe; Lord Wei.

Evidence Session No. 10

Heard in Public

Questions 78 - 92

Witnesses

The Rt Hon Robert Halfon MP, Minister of State, Department for Education;
Matthew Edwards, Deputy Director for STEM in Schools, Department for Education.

USE OF THE TRANSCRIPT

This is a corrected transcript of evidence taken in public and webcast on www.parliamentlive.tv.

Examination of witnesses

Robert Halfon and Matthew Edwards.

Q78 The Chair: Can I welcome our witnesses to the committee's eighth and final evidence session for our inquiry into people and skills in UK STEM? We are very pleased to have with us the right honourable Robert Halfon MP, the Minister of State in the Department for Education, and Matthew Edwards, deputy director for STEM in schools in the Department for Education. I should tell you both that the session is being broadcast live on parliamentlive.tv. We will take a full transcript, which will be made available to you for minor corrections after the meeting.

I gather, Mr Halfon, that you have just had your responsibilities in the Department for Education confirmed. It would be really useful if you could let us know what those are.

Robert Halfon: It is a privilege to be here and I am very glad to be here to speak to all of you on this very important subject. As I understand it, my responsibilities, which have just been confirmed, literally a few minutes ago, will be post-16 education, skills, universities, apprenticeship and a few other things alongside, but those will be the key responsibilities.

The Chair: That could not be more relevant to our inquiry, so we are very pleased that you can be here. Given that you now know your responsibilities, could you briefly outline what you think your priorities will be in this role, with a particular emphasis on science and technology skills? Can we expect to see some radical changes?

Robert Halfon: I have a picture of President Kennedy on my wall in the Department for Education. It was previously on my wall in the House of Commons. I have that picture not only because he said that we chose to go to the moon not because it is easy but because it is hard, but because what he started showed the importance of the engine of government to empowerment. By his actions, and subsequently President Johnson's, who carried it forward, the whole of America dramatically improved in STEM. Many of the things—these television screens and computers—that some of you are using today probably would not have happened in the way they have had it not been for what President Kennedy started. That is where I am coming from philosophically—as an engine of empowerment.

In order to achieve more skills in STEM, first you have to have a political will. The Prime Minister, when he was Chancellor way back in February this year, said in his Mais lecture: "Providing our people with a world class education is one of government's greatest responsibilities. This is a moral imperative. Education is the most powerful weapon we have in our fight to level up. And as new technology expands the skills our workers will need, our training system needs to match it. We need to move decisively from a belief that 'education' is a moment that exists at the

start of your life, to one where it is a central experience throughout your whole life”.

There is the political will there, but to make that political will happen you also have to be honest about the problems we face. We know that four in five of our 2030 workforce are already in work before 2030. We know that we lag behind international peers in adult technical skills. Just 19% of 26 to 64 year-olds hold vocational qualifications, a third lower than the OECD average. We know that there has been significantly less employer training, down to £1,530 per employer from £1,700 some years previously. Adult education has declined in level 3 from 2.8 million in 2010 to 1.5 million.

We have to be honest about the situation we face. This affects STEM enormously. There are some good things. GCSE computer science is one of the fastest-growing GCSEs. A-level maths is the most popular A-level. There were 267,856 taking STEM A-levels compared to 255,000 in 2018-19. There is a 35% increase in STEM A-level entries. Higher education STEM is up from 1,137,010 to 1,246,120. There are 353 apprenticeship standards, and 24.3% of apprenticeships are now STEM, many of them in higher apprenticeships. More women are doing STEM apprenticeships, up from 11% to 15%.

The framework for me is that you need a number of investments. The first investment is in data and information from government and from businesses. Investment in resources is needed, which of course means funding. Investment is needed in quality qualifications, teachers, training and infrastructure to make all this possible, as well as employer engagement and, of course, careers. Those are the priorities.

Those investments are all linked to STEM and I am sure we will tease some of that out over the questioning. To me, they are all linked to what I call the ladder of opportunity. The bottom rung of that ladder is opportunity and social justice. The second is bringing young people and workers to that ladder, and then championing skills and apprenticeships. The third rung is quality qualifications. The fourth rung is strengthening FE and higher education. The fifth rung, which is incredibly important, is lifelong learning—adult education. That is incredibly important.

There are two pillars to the ladder. One is careers. That has to feed through every rung. The other pillar is support for the profession. Without a proper profession, you will achieve none of the things that you and I would like to happen.

The Chair: We have heard quite a lot about some of the initiatives there have been to try to address it. We have not heard anything that seems to be on the right kind of scale for the challenge of having a STEM-capable future workforce.

Robert Halfon: I will, very gently, challenge that question. The important thing I mentioned is investment in resources. That is going up by £3.8 billion over this Parliament, which is a significant increase. There is a new national skills fund, which has £1.6 billion and allows people from disadvantaged backgrounds who do not have level 3 to do level 3 in

key STEM subjects, such as mathematics. There is the new money being invested in skills bootcamps. We have had thousands of young people going on these bootcamps for up to 16 weeks, many of them doing STEM bootcamps and working with employers and educational providers.

There is the existing money for the adult education budget—£1.3 billion. That is something I believe in. There is community learning. Perhaps if we come on to this subject later, I can give examples from my local area in Essex. There is, of course, the apprenticeship programme, with £2.7 billion to be spent on apprenticeships by 2025. That is massive. We have had over 5 million apprenticeships since 2010. There are other programmes such as Multiply, the maths programme. There are the higher technical qualifications, which are very important and which are being rolled out in over 70 institutions at the moment.

The most exciting thing for me, and something that I have believed in for a long time, is the lifelong loan entitlement. When that comes through, that will ensure that everyone has a chance to take the education of their choice. That is important. I have always seen education not as having to do three years in one place but as a journey, like hopping on and off a train. You get to a final destination, but you might hop on and off at various times. Education is about lifelong learning. The lifelong loan will make a huge difference.

Absolutely, more needs to be done. I want to look at how we get more apprenticeships in. I want to look at our adult education programme. I want to get even more disadvantaged people, and more women, doing skills and STEM. There is a massive programme from the Government, and I have just highlighted some of the key things.

Q79 Lord Krebs: Thank you, Minister, for that very comprehensive response. Is £1.6 billion a big or a small number? How many people do you envisage being trained with £1.6 billion? Is it 100, 1,000 or 10,000, and therefore how much is it per person?

Robert Halfon: £1.6 billion is a good figure, but it is in the context of an extra £3.8 billion for skills over the Parliament. I mentioned the £1.3 billion being spent on adult education, and up to £500 million that is going to T-levels. I think—I will get it confirmed—that up to £559 million is also being spent on Multiply, the maths programme.

I do not have the figures for how many people will take up level 3— that was announced before I took the post—but I am very happy to write to you. I believe it is clear that it will ensure that all adults who do not have the qualifications who are earning below the national living wage will be able to gain a level 3 with that money. That is the important thing, but I am happy to check numbers and get back to you.

Lord Krebs: Thank you. It would be interesting for us to know, if you look at the ambition for the number of people to go through these various training schemes, how the total sum of money breaks down as money per individual.

Robert Halfon: That is important. My passion since I have been in Parliament has been education and skills. My first ever speech, my maiden speech, was about apprenticeships and transforming apprenticeship education in schools to get more children to learn about apprenticeships. I absolutely recognise that there is a resource issue. I have always felt that FE previously was underfunded, but I genuinely believe that that is changing and a lot more money is coming into the system than ever before.

The Prime Minister passionately believes in skills. If I can be political for a moment, when I was deciding which candidate to support, I went through his education policy with him and his passion for skills came out. It was predominantly on those grounds that I backed the Prime Minister for leadership in the first contest in the summer.

Q80 **Lord Mitchell:** Minister, good morning. It is quite appropriate that you mentioned the Kennedy quote. If my memory is right, it took eight years from that speech until they got a man on the moon. They had three different Presidents from two different parties, yet it was a strategic commitment that never wavered. In this committee's various investigations, we have consistently seen the negative effects of the chopping and changing of policy, which is absolutely against how science and technology work. I will throw that out for what it is worth.

Many Britons are suffering from high heating costs and underinsulated homes this winter. Part of the reason why major government initiatives such as the green homes grant have failed to address this issue is a lack of skilled workers to carry out the retrofitting and insulation. How will the Government ensure that today's economic crisis and any resulting cuts do not jeopardise the skills training we will need for the future? I go back to my initial comment on consistency.

Robert Halfon: The consistency thing is incredibly important. Of course, we did not know that President Kennedy was, sadly, going to be assassinated, but the initiative was carried through by President Johnson and President Nixon. That made a huge difference.

Even with the different Prime Ministers that we have had, the direction of travel since I got elected in 2010 has been to promote skills and apprenticeships. We saw that with the introduction of the apprenticeship levy under George Osborne, whatever one thinks of it; I am supportive of it. We saw that with the investment in the institutes of technology and now, with former Prime Minister Boris Johnson, with the levelling up programme, which is predominantly about skills. There is a direction of travel. The current Prime Minister believes that a significant way to improve productivity is by investing in skills and STEM. I spoke to the Chancellor about this subject before I was in my current post, and I get the impression that he believes the same.

On your direct question, we are continuing to invest in skills to make sure that we do not lose the skills that you are talking about. I mentioned that there were 353 apprenticeship standards in STEM subjects. We have more people doing A-level science than before. We have the investment

in T-levels, which I should have mentioned in my opening remarks. That will be significant. We have the institutes of technology around the country, where people are learning STEM skills. There is a £290 million investment in 21 institutes of technology, and 12 have opened so far. We have one in my area of the county of Essex.

In all the things that the Government are doing on apprenticeships and skills, they will make sure that there are apprenticeships at all levels and in the subjects that they need, so that we make sure that we have the kind of people who are doing the things that the people need, given the cost of living challenges that we face.

Q81 Baroness Warwick of Undercliffe: Good morning, Minister. Welcome. This is very much a follow-on from the previous question. When you commenced your intervention right at the start, you described the massive problem that we have in the skills area. Many of the witnesses we have had have expressed huge frustration at the skills deficit and the inability of Governments over time to try to resolve that, particularly the deficit in digital skills and physics and the skills to enable a green economy, which we are placing so much emphasis on in relation to our national growth economy.

To supplement that, as the Science Industry Partnership pointed out, we have had 34 Ministers in the last 25 years responsible for skills, so you are in a long line of very committed Ministers, yet we seem to have made very little progress. I wondered whether you were in any way concerned, despite what you have said, about the way in which policy churn will jeopardise skills initiatives as each new Minister comes in with new ideas and does not follow the well-established policies that have already been seen to work. Could you comment on that and perhaps tell us what you will do to ensure that you can come back to this committee and say, "This is the progress that has been made. This is consolidated. We can now all build on this"?

Robert Halfon: You raise a very important question. Sadly, this is the nature of politics. There have also been a significant number of Housing Ministers, for example—far too many. I am quite passionate about affordable housing, because in my own area there are something like 4,000 or 5,000 people on the waiting list for housing, so I completely get what you are saying. I am actually recycled myself. I am a previous Skills Minister and I was very honoured and surprised to be given this chance by the Prime Minister. You are absolutely right: every time you have churn, it messes things up and people have to learn things all over again.

All I can say to you is that I have spent much of my five years as chair of the Education Committee concentrating on skills and apprenticeships and publishing a number of reports on post-16 education. It has been my passion since I got elected in 2010, as I said. I have been pretty consistent in my views. The Department for Education knows what my views are. We are very lucky to have a Secretary of State who, I think, is one of the few parliamentarians ever to have done a higher

apprenticeship. She is passionate about vocational education, apprenticeships and STEM. I am quite excited about that.

In terms of progress, this absolutely has to be about delivery. It is better to underpromise and overdeliver. I have only been in the post a few days. I mentioned to you my ladder of opportunity and the rungs on it. I am working on those this afternoon after this session. I will have a number of priorities. I want more apprenticeships. I want more people to do adult education. I want to address social disadvantage. I want more people coming out of universities doing perhaps more higher degree apprenticeships, a lot of them in STEM.

I am holding myself hostage to fortune here, but I would be very happy to come to the committee—give me a bit of time—to set out to you the good things that have happened, and I will be honest with you about the things that have not yet been achieved as well.

Baroness Warwick of Undercliffe: You have given us your priorities and you have been very positive about the Prime Minister's approach. Reflecting on the challenge that we face and the lack of time available, in a way, to build up the skills that we need if we are to compete effectively internationally, particularly on the green economy, do you think we are giving enough priority to this area? Will you be pressing for greater priority to be given to it?

Robert Halfon: I do. I have always believed that it has to come from the top. If it does not, nothing happens. The moment you have the Prime Minister, the Chancellor, the Education Secretary, the Department for Work and Pensions talking about these issues and evangelising about skills and apprenticeships, you change the whole of Whitehall and society follows.

The Government are doing a fair number of things on the green economy. The skills bootcamps for green skills provide more opportunities for adults. There is employer demand for skills in retrofit construction and electric vehicle maintenance, for example. I have seen that in my own constituency, where you have apprentices just being taught electric cars in car companies. There is the roll out of T-levels that have supported green careers. Sixteen T-levels have been launched since they debuted in September 2020. Those kinds of things train people as smart meter installers and in things that you were talking about before, such as heating and ventilation.

There is the Green Jobs Taskforce, which is mapping existing standards to green occupations. The free courses for jobs support, which I mentioned at the beginning, has a number of qualifications to support the green agenda. That is published alongside the Green Jobs Taskforce. There is a lot more that I could mention. There is also a cross-party group in government that is looking at the green economy for skills, and across government departments. There is a lot going on.

Most skilled jobs should have some kind of greenery, without a doubt. The local skills plans, which are being set up in about 38 areas, have to include net zero. There is a lot going on. It is not perfect. There is more

to be done, absolutely, but often there are a lot of things that government does that fall under the radar.

Q82 Lord Rees of Ludlow: Can we congratulate you on your new appointment and hope that you have a longer tenure than the average of your predecessors? You have valuable experience over five years, I think, as chair of the Commons Education Committee. In that capacity, you produced a report that decried the fall—by, I think, 16%—in post-16 funding per student by. In your 2019 report, you called for a 10-year plan for school and college funding. You also had another report on adult skills and lifelong learning in 2020. From that perspective, how optimistic are you that one will be able to pursue these goals in a fairly consistent way in government?

Robert Halfon: I was waiting for my previous committee reports to be quoted back at me. I feel a bit like a gamekeeper now; I was previously a poacher. I stand by many of the things in those reports. The 2019 report was about school funding. As a government Minister, I must focus on what I want to do as a government Minister.

You are asking me about adult education, skills and funding. Is that right? If I am correct, that is what you were saying. This has been my passion in politics. As I mentioned to you, it is the first speech I ever gave. I would not have taken this job. I did not need to; I was Chair of a Select Committee. That is an amazing job to do, as you all know. I took it because I really believed that the Government were going in the right direction on some things and that I could help them with other things.

The lifelong learning part of the skills programme is the most important part. I quoted you Kennedy, but I am also a fan of JRR Tolkien. I have also a picture of Gandalf in a library in my room in the Department for Education. Tolkien said, "True education is a kind of neverending story—a matter of continual beginnings, of habitual fresh starts, of persistent newness". What he is saying by "neverending story" is that education is something you do throughout your life.

I do not believe that the numbers announced by the Government—the £3.8 billion overall, the £1.6 billion for the level 3s, the £1.3 billion for adult skills, the extra money that is now going to FE—are enough. They will never be enough, but we have to recognise the economic climate that we are in. There is substantial policy behind it with infrastructure, the institutes of technology being one. We have one in Essex, as I said, and there will be 21 all over the country, all linked to further education colleges, as you know.

There is also investment in adult community learning. I have that in my own area. Many thousands are doing adult community learning. In Essex, something like 75% plus go on to employment or additional education. You have the investment in apprenticeships that I mentioned, and of course the lifelong loan entitlement. Once it comes to fruition, that could be transformative, because every adult in the country will be able to get on that train, do a module, get off that at some time, perhaps get off at one station for a while and get on that train again. All the way through, in

every part of the skills system, there is a lot of investment and a lot of things are being done to try to turn the tide on lifelong learning and adult education.

Q83 Lord Rees of Ludlow: As regards lifelong learning, we had witnesses who said that they need to be more flexible, because someone with a family cannot really tolerate a loss in salary while they do a course. Can these courses be flexible enough to incentivise people who have responsibilities to actually take them on?

Robert Halfon: You have hit the nail on the head. As I understand it—of course, it is being developed—you have the chance to do modules. Those are flexible, so you will not be stuck in a university for three years, as is the case now. I have always believed that education must be modular. As I say, it is a train journey. You get on the education train for a certain part of it. Then you get off it. I am completely with you on that, but I am very happy to send you further details as we flesh out the lifelong loan entitlement and how it will work.

Lord Rees of Ludlow: It probably has to be part-time as well.

Robert Halfon: Yes. We have another problem, which I will be honest about. It is good that more disadvantaged students are going to universities, but we have a big decline in part-time students going into higher education. I want to look at ways of reversing that damaging trend. Degree apprenticeships are part of that answer. I describe degree apprenticeships as my two favourite words in the English language, because they solve so many problems. It means that disadvantaged people can climb that ladder of opportunity. There is no loan, no debt, and they earn while they learn. It means they get skills in STEM. There are many degree apprenticeships in STEM areas, which the country needs and they need. They get a good job at the end. It is a no-brainer really, for me.

I know that my boss, the Secretary of State, is passionate about degree apprenticeships. If I give some figures, there are 98 standards in degree apprenticeships in STEM at levels 6 and 7. There were 6,420 STEM apprenticeships at levels 6 and 7 in 2020-21. There are 7,690 apprenticeships at levels 6 and 7. We have new institutes, such as the Dyson Institute. I love that. I have been to see it. I would love a world where we had many Dyson Institutes all over the place, on top of the brilliant universities that we have.

The higher technical qualifications are exciting. We have this problem that just 4% of people in England have level 4 or level 5, as you all know. The higher technical qualifications, which are all about STEM, will make a big difference. It will mean that people can do level 4, these higher levels. They are being rolled out at the moment. There are 31 digital qualifications now, and 106 are approved for next year. There is a great example of one in the north-east with the institute of technology there. There are 70 providers—I think I mentioned that earlier—able to offer HTQs.

I mention these things to you, but, absolutely, more needs to be done. There are significant problems, but there are also all these great programmes coming through that are making, I hope, and will make a difference.

The Chair: Minister, you said that you wanted to come into this job because you could see that there were lots of good things going on, but there were some things that were not yet good enough. You have told us about lots of the good things—the lifelong learning accounts, the institutes of technology, the degree apprenticeships. What are the areas that you came in to improve?

Robert Halfon: In my opening remarks, I talked about the skills deficit that we have compared with other countries. I said that we lag behind our international peers in adult technical skills. Eighteen per cent of 25 to 64 year-olds hold vocational qualifications, a third lower than the OECD average. I worry hugely about the decline in adult education that I mentioned—from 2.8 million in 2010 to 1.5 million now. I worry about the fall in part-time students at universities. I worry that not enough disadvantaged people are able to do apprenticeships.

Those are the things I want to focus on. I have to make sure that the existing programmes, some of which I have set out to you today, are working. You cannot just come in and do a whole load of new things. You actually have to make the existing system work. You talked about some of the questions about upheaval. Often the last thing is upheaval, but not having upheaval is not an excuse for doing nothing.

I want to look at the problems that I have set out—our skills deficit, the decline in adult learning, the decline in part-time learning, the problems we have in social justice—and try to work out ways in which we can improve those things, including apprenticeship starts and increasing the number of apprenticeships. I will always fight for support for resources and infrastructure in FE.

If there is one phrase that I hate more than anything with every part of my body, it is when people call further education a Cinderella sector. I have always said to people when they say that that, actually, it is worth remembering that Cinderella became a member of the royal family. We need to banish the two ugly sisters of a lack of resources and snobbery. I mention snobbery, because we need to build up the prestige of skills.

People talk about university, university, university. I went to university, Exeter University, and it was a wonderful time of my life, but I would like the mantra to be "Skills, skills, skills". If you go to a dinner and somebody says they went to Oxbridge, everyone starts going, "Wow, how did you do it". What I really want to happen is that if you are at a dinner and somebody says, "I'm doing an apprenticeship" or "I'm doing a higher technical qualification", everyone goes, "Wow, that's incredible. How did you do it? How did you manage to get to it?" You can have all the policy, all the funding, in the world, but unless you change the prestige of skills in our country, we will never build an apprenticeship, skills and STEM nation in the way that I know you all want to do.

Q84 Baroness Manningham-Buller: My question, Minister, follows on partly from the Chair's question, but also from Lord Krebs' question. It is about the scale of the problem. You have told the committee that there are a lot of things going on that are good. You have told the committee about some of the things you want to try to do in your role. The committee would be very supportive of your aims.

I wonder whether you and the Government have a really clear view of the scale of the problem. We have heard in evidence that a STEM learning survey said that there is a shortfall of 173,000 people, and a deficit of 42,000 technicians to do retrofitting for houses. Those are just two examples out of many areas of the economy where we need skills. If the Government are to have a coherent plan, the scale and the resources needed—you mentioned them a second ago—to address the scale of that problem are substantial. I would be grateful to hear your take on the scale of the problem and the likelihood of getting the resources needed to combat it.

Robert Halfon: I absolutely accept that there are significant skills deficits. We have a skills deficit in certain areas compared with other countries, whether it is the professions you mentioned, healthcare, STEM, whatever it may be. There is no doubt in my mind that there is a significant problem in certain areas, but I believe that the Government recognise this.

With all the programmes that the Government have set up over the past few years and which I have mentioned—whether it is the investment in apprenticeships and in lifelong learning, the Multiply maths programme or the other investments they are making in the higher technical qualifications and the T-levels—at every stage of post-16 education the Government are not just recognising the problems but trying to deal with some of them. That does not mean that there are not holes. Where there are holes, we need to fill them and look at exactly where the problems are. My opening remarks were, to be honest, about the fact that there are significant difficulties.

Baroness Manningham-Buller: Yes, you very much said that, and I think the committee welcomes your frankness. What does "significant" mean in terms of scale? What are the numbers? What money will be needed? It is hard figures that we need for the different professions. I quite understand that they may not even be available.

Robert Halfon: I gave you some of the numbers on resources, including the £3.8 billion. I keep going back to that figure, because it is a significant amount, given the current economic climate. I think you are pointing to information and data on the supply and demand problems, if I understand your question correctly.

On what the Government are doing, as I said, there are cross-party groups looking at these areas, whether it is STEM, digital, shipping or the green economy. That is the first thing. The new Prime Minister has set up a Cabinet committee in science and technology. In terms of employer surveys and data, there is the work that the Department for Education is

doing, and the previous Secretary of State for Education set up the Unit for Future Skills.

Baroness Manningham-Buller: I am really trying to tease out numbers and scale.

Robert Halfon: I can write to you with the numbers that we have so far on particular issues. The whole purpose of the employer surveys, the government committees, the cross-party committees, and the Unit for Future Skills, which has five dashboards, looking at every part of the skills system, is to ensure that we understand where we have skills problems and are then able to respond. A lot of work has been put into the Unit for Future Skills. That was set up by Nadhim Zahawi.

I mentioned the five dashboards that the UFS has published. It improves access to data. It is currently undertaking a project exploring the potential to improve access to the LEO database. On top of that, you also have the local skills improvement plans, which are local businesses feeding locally and upwards to government about the skills need. All these things would not be going on if the Government did not recognise the scale of the problem.

You are asking for the numbers.

Baroness Manningham-Buller: I wanted to know whether you are able to put any figures on the scale of the problem, either by discipline or generically.

Robert Halfon: I gave you the basic figure at the beginning, which was that just 18% of 25 to 64 year-olds hold vocational qualifications, which is a third lower than the OECD average.

Baroness Manningham-Buller: If you were able to write with those sorts of figures, it would help the committee in thinking about our recommendations.

Robert Halfon: Yes, absolutely. We will do that. I mentioned that just 4% of people in England have a level 4 or level 5. Those are the grand, macro figures. The Unit for Future Skills and the other things I mentioned are looking at the micro detail, which is what you are looking for. We are very happy to supply you with details of that.

The Chair: In our previous report, we very much welcomed the Cabinet committee on science and technology, but we recommended that the Department for Education should be a key member of that committee. Given the new Prime Minister's commitment to education, do you think that will happen?

Robert Halfon: I cannot confirm that, but I will write to you. I would be delighted if that was the case. I would be surprised if it was not, but I genuinely do not know the answer. The committee has only just been set up. Perhaps we can try to find out.

The Chair: It was an unfair question, so I apologise.

Robert Halfon: We can try to find out while I am answering your questions. If I do, I will let you know before the committee ends. Otherwise, I will write to you.

The Chair: It was an important recommendation from our last report.

Robert Halfon: Yes, absolutely.

Lord Krebs: I have a brief additional point. It has not just been set up, has it? It was actually a Cabinet committee under Boris Johnson when he was Prime Minister. Then his successor decided that it was no longer a Cabinet committee. I think the current Prime Minister has restored the status quo ante prior to September 2022.

Robert Halfon: It is a good thing.

Lord Krebs: It is a very good thing.

Robert Halfon: I am very glad that it has happened. It is also incredibly important.

Lord Krebs: They have been in existence for two years, or something like that.

The Chair: For as many as three meetings, possibly.

Q85 **Viscount Hanworth:** We understand that the Government feel that our education system needs to be rebalanced away from universities towards vocational training. What will this imply for the status and funding of further education colleges? If this means subtracting resources from universities, I can imagine that this is liable to be resisted by them.

Robert Halfon: I do not think it is either/or. As I said before, the mantra in the past has been “University, university, university”, when it should be “Skills, skills, skills”. There is a 12% increase in grant funding for key subjects at university for subjects like STEM, which we all care about in this committee.

On further education colleges, I mentioned a number of times the extra money that is going into education. There is an extra £2.8 billion in capital investment, including £400 million capital investment in T-levels, and an up to £500 million separate extra fund for T-levels. Further education is an incredibly important part of this. The institutes of technology—£290 million—are linked to FE colleges. There will be 21 of those around the country.

I have visited my FE college in Harlow close to 100 times since I have been an MP, because I always believed that further education colleges have an incredibly important role in our education ecosystem for social justice and skills reasons, as well as for getting people into work. Unfortunately, in the past—this was acknowledged by previous Education Secretaries—not enough resources were put into FE, but that is changing with the increased funding that I have mentioned.

Viscount Hanworth: It sounds as if the Augar report is having some effect.

Robert Halfon: Absolutely, yes.

Viscount Hanworth: We have heard that the new PM is—these are his words—keen to create a network of prestigious technical colleges for vocational training. Can you throw some further light on this? Will this take place within the existing framework of FE colleges, or is something extra planned?

Robert Halfon: We are creating those. Those are the institutes of technology, vocational colleges, predominantly focused on STEM and digital skills. We are spending £290 million on them. There will be 21 overall. There are about 12 in place at the moment. Those institutes of technology are very much part of what you are describing.

Viscount Hanworth: Will they be developed within the existing FE framework?

Robert Halfon: They are. The institute of technology in Essex, for example, is linked to a number of FE colleges in Essex. I hope you do not mind me talking about my local area. That is the whole point of them. They are linked to further education.

Viscount Hanworth: It will not be a set of new institutions in a new framework.

Robert Halfon: I am aware of the institutes of technology. That is what the £290 million is being spent on. They are still being rolled out and they are linked to further education colleges.

Viscount Hanworth: I think we are reassured by that.

Q86 **Baroness Blackwood of North Oxford:** Thank you, Minister, for your answers so far. Your commitment to the sector is clear. We have had representations from various different witnesses about the challenges with understanding the nature of the skills deficit across the UK, whether geographically or within different parts of the sector, but also with horizon scanning.

Could you give us a sense of what the Government are doing currently to ensure that the provision of skills training, such as apprenticeships, matches the gaps that exist at the moment? What are we doing to make sure we have the right kind of data gathering, both in content and geographically? Also, do we have a clear understanding of the industries that are currently limited, predominantly by lack of skills or capital investment, and how we can make sure that industries are fed by the Government's activities.

Robert Halfon: It is good to see you again in your place, having previously been a colleague in the House of Commons with you.

That is a very important question. Some of it has come up this morning. We need the data—I mentioned investment in data and information right at the beginning—because we cannot work out policy unless we have it. I mentioned the work on the Employer Skills Survey. There is a survey under way as we speak looking at the skill challenges that employers face in their workforce and recruiting, and in the nature of training provided.

The Department for Education regularly measures and publishes starts and achievements data in publicly funded courses. It works with industry and other departments to work out the skills demand to consider the wider supply flows that you are talking about.

This data enables the DfE to target support at key sectors, and those sectors fall into four categories. There are the workforce sectors, which have high volumes of vacancy and long-term barriers to recruitment, retention and progression. There are the green jobs needed to deliver the UK's net zero strategy. These occupations do not occur in just one sector, but are prominent in some key areas of the economy. Growth sectors are identified as having the greatest potential to drive future growth, science and tech skills to support the Government's ambition so that we are a science superpower.

I mentioned the Unit for Future Skills. That is a new analysis unit within the Department for Education. There is a lot of money behind it to pursue data improvements, new analytical methods that will provide details. It is also working with the Office of National Statistics and commissioning research into good practice, developing a skills taxonomy. The UFS has produced six data dashboards to help users engage with existing data on jobs and skills, such as the local skills dashboard.

I also mentioned that, at the bottom level, there are the local skills improvement plans in 38 geographical areas, 38 Employer Representative Bodies, to ensure that that information about skills needs is fed into the local economy.

Baroness Blackwood of North Oxford: It is exciting to hear that this is being taken very seriously. I realise that you are relatively recently back in the job. Coming into this role, bearing in mind that we have significant and challenging shortages in different parts of the labour market, do you think we have sufficient granularity and visibility across the market for our skills and training system to have the foresight necessary to identify the specific skills that are needed in the right timeframe to feed into scaling up training at the right point and at the right level of the market? I recognise that lots of activity is going on. Do you think you have the levers to make that work? Do you feel that you have that judgment yet, or when do you think you will have that judgment?

Robert Halfon: From everything I have learned over the past few days as a Skills Minister, there is an enormous amount of work going into trying to understand the things that you are talking about. With the Unit for Future Skills and the other things that I mentioned, and the cross-party work that is going on with different government departments on key areas, I am confident that the Government will get the right data that is needed to work out where the real problems are in skills, STEM and other areas, and to respond accordingly.

Baroness Blackwood of North Oxford: We may come back to you on that, but thank you very much.

Q87 **Baroness Sheehan:** I would like to ask about a phrase that we heard through several of our witnesses and in written evidence about the

missing middle—the growing deficit of skills at the technician level, particularly in levels 3 to 5 of the educational system. They referred to how important that particular skillset is in order to allow new technologies to develop and diffuse. Why do you think this gap exists, and what are the Government doing to address this gap? In particular, we know that one consequence is declining enrolment in apprenticeships. I wonder also whether you can address the pipeline to feeding this skills need.

Robert Halfon: The first part of your question is why just 4% of people in England have level 4 or level 5. I cannot give you a complete answer. I have my own views. Often, not enough is done to teach people about progression. For example, I often meet apprentices who might be doing a level 3 or a level 2, and no one has told them that they could then do a level 4 or a level 5. I ask them every time, whenever I meet an apprentice. That is a problem.

There is also a lack of the right careers advice. I mentioned careers as part of the pillar of the ladder of opportunity that advises people that they can do that. There has not been enough training in the workforce either. I gave some figures at the beginning about the decline in training by employers in their own workforce. Of course, I need to look at these things more closely in my new job to try to understand what is actually going on. There has been a culture of, "You go to school, you go to university", so that has been a problem as well.

On your question about what we are doing about the problem as well as working out the reasons for what we are doing, I should say that the T-levels are level 3. They have been designed in conjunction with employers and include an industry placement of around 45 days. There is a review of post-16 qualifications in general. The crucial answer to this is the higher technical qualifications, which will make a huge difference, I think. They are very exciting. They are being rolled out.

We know that the issue of low uptake is most acute for classroom-based study as opposed to apprenticeships. The idea is to deliver supply and demand-type reforms to grow the uptake of high-quality classroom-based higher technical education. The first are being taught this autumn. There are 31 digital qualifications now, and 106 approved for next year, in digital, health, science and construction. Some of them are being supported by the institutes of technology. I mentioned one that is being supported in the north-east.

There are 70 providers able to offer higher technical qualifications this year, either because their own application was successful or because they have been approved to deliver an HTQ by a successful provider and awarding organisation. There has been funding of around £70 million to date to prime further education, higher education and higher technical provision across the country. There is also a communications programme to introduce the HTQ brand. I hope that will go some way to dealing with the missing middle problem that you mentioned. It is a really important problem. Going back to apprenticeships, I would also like to see many more going from level 3 to level 4, level 5 and above in apprenticeships.

Baroness Sheehan: In one of your reports you highlighted the fact that there was a drop in funding for post-16 education, I think by about 16% per student. Do you think that may have an impact on the number of students who are coming through to level 2 and then feeding into levels 3 and 4? Without that pipeline feeding your ambitions for HTQs, it will be quite difficult to realise it.

Robert Halfon: You are talking about the 2019 report. Absolutely, I have been open about feeling that FE was underresourced in the past. That may have caused some of the issues that you have rightly talked about, but that is changing. There is a significant investment now in skills. It is not going to be perfect. It has to reverse many years, but the £3.8 billion extra for skills is not to be sniffed at. There is £2.7 billion being spent on apprenticeships, and £2.8 billion on capital investment in FE. There is up to £500 million I mentioned for T-level, which is separate from the capital funding for T-levels. Yes, there have been problems in the past, but the increase in resources and the recognition that we need to spend more has been right. It is not just about resources, though. It is also about careers and the profession, and quality qualifications. The HTQs, the higher technical qualifications, are an example of introducing quality qualifications through the system.

Baroness Sheehan: You have talked about raising the prestige of these qualifications. I wonder what thoughts you have about how you would go about doing that.

Robert Halfon: First, it means investment in resources, absolutely. You have to transform careers. We are doing a lot. I was very happy that the Baker clauses were strengthened in this House, and in the House of Commons. I had talked about that quite a bit in my committee and tabled amendments. You will have more encounters with apprenticeship and skills organisations at school than you would otherwise have done. They have strengthened that. I would like to see a lot more of that going on. You have to transform careers to improve the prestige of apprenticeships. The Careers and Enterprise Company, for example, is working with schools and colleges. That is quite important.

You improve prestige by evangelisation, and I am evangelical about apprenticeships and skills. As I said before, it comes from the top. If the Prime Minister, the Chancellor, key Ministers like the Education Secretary and people like me are going on about it, supporting it and talking about it—this inquiry on skills and STEM is incredibly important—you can make a difference and you encourage parents and families to encourage their children to take up apprenticeships and skills and not be focused purely on a university experience, however good that may be for some pupils.

I am pleased to tell you, thanks to my brilliant private office, that the DfE is one of the standing members of the National Science and Technology Council. We will be taking full part in any discussions. I thought that was the case, but I did not want to say anything until I saw it in blood.

The Chair: That is very good news. Thank you very much for letting us know.

Q88 Lord Wei: Minister, let me also congratulate you on your appointment. It is good to see someone with experience in the role. We have had many witnesses recommending reforming the apprenticeship levy so that it can be used more flexibly. Do you know of any plans or any moves in the department to work with the various industry partners to make these apprenticeships more modular? It could be doing an apprenticeship first, for example. People might be able to go an apprenticeship in a gap year or without their parents worrying that they will rule out the possibility of going to university later after trying it out.

Robert Halfon: I am a big believer in the apprenticeship levy. The whole purpose of it is to transform the culture. It goes back to the prestige argument that was raised earlier. It means that businesses, and big business in particular, think about apprenticeships in a way they have not done before. When you go to big business now, they have apprenticeship people right on the top-level boards. I love going to companies and hearing them say, "We've employed 5,000 apprentices". That probably would not have happened without an apprenticeship levy.

There are currently no plans to review the apprenticeship levy. I would like to understand better, in my new role, how the apprenticeship levy is meeting our skills and STEM needs and how it is making sure that disadvantaged people have that chance to climb up the ladder of opportunity. There is some flexibility; the Government have improved the transfer system, so employees can make greater use of levy funds.

Something like 200 employers, such as BT HomeServe, have pledged to transfer more than £14 million to support apprenticeships in businesses of all sizes. There is work going on not just to raise the quality of apprenticeships but to make them more flexible so that they work for employers in all areas. It is absolutely something that I am looking at, but, in terms of the fundamentals, as I say, there are no plans to review the apprenticeship levy.

There are flexi-job apprenticeship schemes. For example, there is £5 million support for eligible agencies, such as construction, where short-term project-based work is the norm. There were 14 flexi-job apprenticeship agencies on the register, with nine specifically operating in STEM. That scheme will probably support up to 1,500. There are flexi-job apprenticeships across around 23 standards, including smart-home technicians, software developers, creative digital, construction and others. There is some work going on.

The principle of the apprenticeship levy is absolutely the right one, and I believe in it for the reasons that I have given.

Lord Wei: Do you know yet what your vision is for the lifelong loan entitlement? How can that be made flexible and modular? We know that we have lots of people over 50 who are not in the workforce, who might be enticed back if they could tap into that. Do you have a vision for that?

Robert Halfon: There is work happening on the lifelong loan entitlement. As I said, that is one of the most exciting reforms. However, my vision is that it is modular. That is the Government's vision, but it

genuinely also happens to be my vision. It is modular; it is a train journey. I keep going back to that train journey idea. You hop on and off. You get on the train of learning, and you hop on and off at certain times for career reasons, family reasons or whatever it may be. It is flexible learning. It is modular learning. You build up credits to get the right qualification or job you need.

Work is taking place on this as we speak. You mentioned delivery. I am very happy to come back later or to write to the Committee about how, once the work is finished, this will work in practice.

Q89 Lord Krebs: Minister, I want to turn to teaching, which you mentioned at the very beginning. How do you get youngsters excited about STEM? It goes back very much to teaching. We have heard evidence that you will be familiar with about the areas where the skills gap is greatest, where there are fewest teachers. Take physics, for example. We were told by one witness that, to meet the shortfall, every physics graduate for the next 10 years would have to go into teaching, which is not going to happen.

We have heard of initiatives to try to address the shortfall both in recruitment and in retention, but the evidence so far is that they have not worked, because otherwise we would not be where we are. Do you have any new ideas about how to get more STEM teachers, both at primary and at secondary level, to start the process off when children are young and receptive?

Robert Halfon: There is a lot of work going on in schools and colleges to try to get more teachers with STEM backgrounds. There are, for example, scholarship programmes and bursaries for schools worth roughly between £27,000 and £29,000. There are also bursary schemes to try to get more FE teachers with STEM. That will help.

There is a lot of continuous professional development going on as well. There are the Science Learning Partnerships. The idea there is to spread best practice amongst the teaching profession. Some £30 million is being invested in maths hubs and £100 million invested in teaching for mastery programmes for maths. There is a National Centre for Computing Education, with £84 million of funding to improve the teaching of computing.

There are also big national recruitment campaigns going on. There is an inclusion programme to try to get not just more teachers but more students studying physics. There are training and recruitment incentives all the way through the school system to try to get more teachers doing STEM subjects.

Lord Krebs: That is very interesting. Is it more about pay—if you have a physics degree, there are places you can go that will pay you a great deal more than a teacher's salary—or the workplace experience? By that, I mean the stress of teaching when you do not have adequate laboratory material, the right number of textbooks or a technician to help you set up experiments and so on. How much of it is the experience and how much

of it is pay?

Robert Halfon: I would rather be straight with you. It is probably not just about pay, although incentives are important. It is about the experience and the value that we as a society place on science and STEM subjects. As you say, the conditions are good.

On the other side of it, a lot is being done to address those. I mentioned training and continued professional development. There are the science learning centres, which are there to spread best practice about science, and the investment in the mastery of teaching. Those are not just about funding; they are about training and development to make sure teachers are given the best training they can have and that they feel proud to be in the schools and colleges they work in.

Lord Krebs: As a final comment, this morning's news had a survey of 11,000 schools, of which 50% may have to cut teacher numbers next year. In that environment, it does not seem likely that working conditions for STEM teachers will improve in the near future.

Robert Halfon: We face a very difficult economic climate. The overall education budget is around £75 billion. The interest we have to pay on the debt is £85 billion over the coming year. The Government have to navigate three very difficult roads. One is spending money on essential services like schools, colleges and skills, which I would like. The second is getting down our national debt. If we do not get that down, our interest rates will carry on going up, as you know, and inflation goes up. The third, of course, is dealing with the cost of living and spending billions and billions of pounds on energy bills.

There are no easy answers for the Government, but, despite that, school spending is being increased by over 5% in a very difficult climate. I am sure the Schools Minister, were he here, would set out all the financial programmes. I mentioned many times the extra £3.8 billion that we are spending on skills, because I am proud of it, not because I am giving out a government line. That is a lot of money in the circumstances, given the difficulties we face as a country.

Q90 **Lord Holmes of Richmond:** Welcome, Minister. Congratulations on your appointment and thank you for taking the time to be with us this morning. Do the Government currently do enough to ensure that their efforts to develop a skilled workforce can be co-ordinated across departments? How far is skills policy influenced by representations from, say, DHSC, BEIS or DWP in terms of the skills required?

Robert Halfon: Thank you for your question. I mentioned the new Cabinet committee. It is new-ish, as there was one before under Boris Johnson. That is important, because it means cross-party working.

I also mentioned the various cross-party bodies across government departments. There are groups looking across government at digital skills and STEM. There are groups looking across government at the green economy. There are groups looking at construction. There are many others.

Within days of taking the job, I had texts from other Ministers in relevant departments asking to meet me to talk about their programmes so that we could work collaboratively. There is an enormous amount of cross-government work going on in these areas, particularly in STEM and the green economy.

Lord Holmes of Richmond: Thank you very much, Minister. Thank you for your positivity.

- Q91 **Viscount Hanworth:** I have a question about the apprenticeship levy. Do you see a role for consortia within specific industries to exploit the apprenticeship levy by training apprentices together? It seems that SMEs might not be able to exploit the levy on their own. Can the existing policy accommodate consortia getting together to serve a particular industry?

Robert Halfon: Big businesses can use their supply chains. I mentioned earlier that they can transfer their apprenticeships down to their suppliers. I mentioned that companies like BT are doing that already.

This goes back to the whole purpose of the levy. Where big companies are not using the levy, it funds small businesses to hire apprentices. That is another of the key aims of this. There are big companies that do not hire apprentices, and those levy funds are transferred over to fund small businesses.

Viscount Hanworth: I am sure that is a possibility, but are you actively encouraging it?

Robert Halfon: It happens. Unless I am misunderstanding your question, as I understand it the big companies are already able to transfer some of their apprentices to their suppliers, which are small businesses.

Viscount Hanworth: Are you actively encouraging that?

Robert Halfon: If I understand your question correctly, I am very happy with it. If I have not, I am very happy to look at *Hansard* and write to you.

- Q92 **Lord Rees of Ludlow:** We have not heard much about online courses. We accept that at the school level they have a secondary role, but in the case of part-time, mature and highly motivated learners, could these be used to ramp up the amount of available instruction in those professional areas quite quickly?

Robert Halfon: That is a very good point. We do have some online learning. It has to be quality online learning. That is very important.

I am a huge fan of the Open University. It is one of the great reforms of the last century. At that time, only a few people went to university. The Open University is predominantly online learning, and it does an enormous amount on skills and degree apprenticeships. It does a remarkable job for the disadvantaged. Meeting skills needs, helping the disadvantaged and ensuring that people get jobs at the end is my dream. The Open University is a model that others could follow.

I am not against online learning at all as long as it is quality. When it comes to universities, if people are paying £9,500 via a loan, they should, subject to pandemics, be getting predominantly face-to-face teaching.

Lord Rees of Ludlow: It needs to be part-time, mature and motivated vocational learners.

Robert Halfon: Yes. I am absolutely a believer in it. I do believe in face-to-face teaching as well, but quality online can be a part of that.

The Chair: Thank you very much, Minister, and your support team. It has been very good to hear from you. As others have said, it is very good to hear such a positive message. We all wish you the best of luck in your very important new role. We will look forward to taking you up on your offer to come back, when you have had a chance to achieve a bit more, and to hear about progress.

We would also very much appreciate it if you would write to us with the further information that you have mentioned during this session.