Northern Ireland Assembly

Committee for Employment and Learning

OFFICIAL REPORT (Hansard)

Inquiry into Careers Education, Information, Advice and Guidance in Northern Ireland: MATRIX Briefing

17 April 2013

NORTHERN IRELAND ASSEMBLY

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Members present for all or part of the proceedings:
Mr Robin Swann (Chairperson)
Mr Thomas Buchanan (Deputy Chairperson)
Mr Sammy Douglas
Mr David Hilditch
Mr Chris Lyttle
Mr Fra McCann
Ms Bronwyn McGahan
Mr Alastair Ross

Witnesses:

Mr John Healy	MATRIX
Dr Norman Apsley	MATRIX
Mr Bryan Keating	MATRIX

The Chairperson: Good morning, gentlemen. You are very welcome to the Committee's inquiry into careers education, information, advice and guidance. We will now have a presentation from MATRIX. I welcome Bryan Keating, who is vice-chair of Invest NI and chair of MATRIX; Norman Apsley, who is chief executive of the Northern Ireland Science Park and deputy chair of MATRIX; and Mr John Healy, who is director of Citi and head of technology in Citi's centre of excellence.

The assumption is that members have read your written presentation, so we would like you to give us further oral input.

Mr Bryan Keating (MATRIX): Thank you, Robin. We have nothing formal to say, but the whole ethos of MATRIX is science technology exploitation, so it is not science technology for the sake of science technology. It is actually about prioritising all that. MATRIX is as much about looking forward two, five or 10 years. Lots of agencies are not looking at the immediacy of how to support the success that people such as John have had over the short term. The whole relationship between that and skills and people is very interesting. The underpinning skill sets that we need for many of our technology companies is scientists, engineers and technologists. The relationship between supply and demand is interesting. Some of them are underpinned by PhDs and some are not. If you take the time to get a PhD, the market opportunity is such that it is not instantaneous. You cannot turn on PhD students and have them tomorrow. You can do things in other industries where you can accelerate. We take great interest in that because we will not have a business in two, five or 10 years if we do not have the skills. There are great programmes, such as in the Department for Employment and Learning (DEL), where you are assured that you can go in. John can talk about that because he is a practitioner who employs over 1,100 people. He can talk, and DEL is very responsive; it says that it will shape that up

for x number of people. However, some of the things are about long-term planning. Some of the things are about forecasting and mitigating the risks of all of that. That is the business that we are in.

Dr Norman Apsley (MATRIX): Since we wrote the submission for you last year, I took part about six weeks ago in a national study of the skills gap. The only thing that I would like to add is that the skills gap is seen by some as the most important thing that we have to face. I am not an economist, so I cannot judge it, but at the event that I was presenting at, it was said that we are bumping along the bottom because the jobs are there, but the skills are not there to fill them. It is that serious.

Mr John Healy (MATRIX): I would like to pick up on Bryan's point. I am the representative on the MATRIX committee for technology. The majority of what Citi does here in Northern Ireland is technology-based. There is an insatiable demand for technologists in the economy. You cannot but notice, as you drive through town here, the billboards for all the technology companies offering jobs. For us, it really is around how we get the careers education and the advisers orientated to demonstrate to the children as they come through and the students the various pathways that there are to get into technology and then from the education and the skills that they get in technology into employment. A lot has been done in that regard, but a lot more needs to be done. In particular, I would pick up on how we get more schoolkids to think beyond the traditional careers of medicine and law and to think about getting into technology, such as computer science, which I would like to grow, or the wider engineering field, in which there are lots of opportunities in our market today.

Mr Keating: To put it in context: it is always difficult to work out how many people work in what is called the knowledge industry. It looks like it may be somewhere between 50,000 and 60,000, which is roughly 10% of the employed population. John employs a great deal of technical people. However, quite a lot of companies that are driven by science and technology have wide skill sets. Usually, you have only one chief technology officer (CTO), who is a genius and does the real breakthrough stuff. You may have four engineers who translate that into something to manufacture, but then you have all sorts of people with all skill sets to support that. One company with one great technician, five or six very clever engineers and 10 other people could support another 30 or 40 staff in HR, finance, and sales and marketing. It is a wee bit dangerous sometimes to think that it is all about extremely rarefied technicians and engineers. Roughly speaking, the GVA for jobs in our sector is about 60,000 as opposed to 30,000.And obviously, then, the big winner for the economy is the exports — the number of companies exporting in our sector. What it adds to value is tremendous.

The Chairperson: Bryan, you mentioned forecasting and horizon scanning. If you are looking five or 10 years down the line and planning for that, how quickly does the Department for Employment and Learning (DEL) — I think this is something you were talking about, John; you have the access. How quickly can DEL respond to meet your needs, particularly if you are not sure what will be out there in five or 10 years' time? Is there an active input there?

Mr Keating: Yes, there is. DEL will come to people like Momentum, which is the industry body for ICT, or MATRIX to ask the question, on a continuous basis: tell us exactly what you need. What happens is, if you have somebody of John's size — or Liberty and Sony, who have got 1,000 employees — you can define all that. Or you get a group coming together from Invest NI. Say, the 12 of us think that we look like 45 engineers, and so on. That is a perfect storm, because you are saying that you want that skill set. When you go two to five years out and you have a diverse set of people — because we all know that the SME sector is, even in technology, across a very great spread, which is good in some ways — it is very hard to get the voice of 25 or 1,000 small companies. The best case is that you train for generic skill sets so that people like John can take people in and retrain them. John will tell you that they are on such a competitive edge that it is harder and harder to make up the gap, as it were. The answer is that DEL is very responsive and is delighted when people say that they need X, Y or Z. If you are a big enough and clustered enough industry you can say that you want X, Y or Z. The rest of it is about forecasting two to five or ten years out.

Mr Healy: I am very complimentary about DEL and its responsiveness around some of the skills gaps that are out there. The flip side of it is that it is quite costly to take people who have come through other routes and reinvest in them to convert their skills to what the economy actually needs to consume. It would be far better to have someone such as Hannah, who sat in this chair earlier, who came through an alternative route, through an HND — very practical, the exact type of skills that we would like to consume.

If we had a careers service that was channelling the resources into those kinds of programmes from the get-go, as opposed to channelling through — I cannot remember who it was in the previous

submission who said you do A levels and the idea is you go to university. Well, actually, if the careers service was orientated in such a way that it understood the landscape of where the jobs are in the economy, it could take a cycle out of the investment in skills and get it right first time round.

The Chairperson: That leads me to a three-tier question. DEL responds, but how quickly can our universities respond to meet that need? Secondly, where we are in our inquiry, we need to know how quickly the careers advisers in the schools can respond. If you are scanning five or 10 years ahead, how long does it take that information to get down into careers?

Dr Apsley: I am not sure of the precise answer to your question about how quickly the institutions can change. However, you have to remember that there is a lag in a natural way. I am grateful to the Council for the Curriculum, Examinations and Assessment (CCEA) because I am on a focus group that is looking at some of the qualifications for school kids, and I am grateful to one of its members for explaining a piece of jargon to me. I know that certain subjects such as my own, physics, are what I call "layered", but I have been told that I am properly talking about a "constrained" skill and an "unconstrained" skill.

If you are talking about jobs that have unconstrained skills, you can learn those at any time. At any time throughout your life you can go to a course and learn something you need for that kind of a job. However, an awful lot of the ones we are talking about are constrained, which means that you have to learn them in a layered order. You have to learn your arithmetic before you can learn your geometry before you can learn your trigonometry, and so on. That puts a lag into the system.

Nobody can ever fix that unless people have chosen the right platform. One of the things that we have to talk about at all the different levels, both your area in further and higher education but also lower than that, is that you have to end up with this good platform so that you can take up the constrained layers to all the subjects. The issue for us is that we are not a planned economy, and people react in their own way. Of course, the areas that John and Bryan represent have had a downturn artificially through the dot-com boom and bust. Parents and their children are savvy and they saw that but they misunderstood it, because despite the temporary boom and bust, ICT was still growing strongly to the point where it is today.

Those are issues that we have to be accepting of and strategise for. You can then ask how the institutes and institutions respond, but I cannot answer for them.

Mr Ross: A couple of questions. I noticed in your conclusions, following on in terms of the future needs of the Northern Ireland economy, in fairness to the Employment and Enterprise Ministers, they repeatedly say where our future jobs will be created and the areas that we need young people to study in. As a Committee, we understand that as well.

I had the opportunity to speak at a few events on some of this stuff. The Institute of Physics report on physics-based businesses and the amount of money that they generate for the Northern Ireland economy is interesting, as well. I think it is £1·5 billion or something annually. It is so important that we get that message through.

As a Committee we were down in the science park and saw some of the stuff that is going on there. We took a visit to CERN. We get excited about some of the opportunities that there are for young people studying STEM subjects, and that message is getting through.

My first question is, obviously careers guidance is one thing and we are encouraging young people to go on routes that are not necessarily medicine and law, which is always a challenge. In your view, is the way in which some of the science subjects are taught at school good enough to get young people enthused about science and understanding that there are real careers at the end of that? My question is in terms of how you see it being taught in schools. It is not necessarily for this Department; it is probably more Education, but it is important in terms of careers development. How is science being taught at school, and does that need to change?

Dr Apsley: I will have a shot at that. I have to confess to being the honorary president of the Association for Science Education, so as part of this study I asked the group I call my teachers for help. From my experience, you have a set of people who are diligent and earnest about what they do and the way that they are required to do it by CCEA and so on.

What they tell me in relation to careers, though — and I think it was one of these unintended consequences — is that careers teaching was elevated to the same status as subject teaching. Nobody minded that at all, but the consequence appeared to be that the relationship with other subjects was then broken. That is what they tell me, and it is essential for children and their parents to understand the relationship between a piece of science and what may be done with it in the careers field. However, that is broken historically as well as broken in today's world.

Last year we did a thing — John helped us — and it was basically showing, in an easy-to-read way, what our companies do. We had 26 in Titanic Belfast, and the most gratifying thing was to hear from teachers and their pupils that this explained why they had to learn some science and some mathematics and so on, to be able to build the composite body shell for the Lotus car or whatever it may be.

That is a broken link that could do with being fixed. It is an accidental consequence of what is otherwise a perfectly good thing, namely to elevate careers teaching to a higher level. There is probably more detail, but you would need to ask teachers. All that I urge — and the same would be true for universities — is that you have to think through all those things. It is a pretty regulated environment, so a change somewhere will cause changes in other places.

Mr Ross: That kind of leads on to my second question. Paragraph 15 in your conclusions talks about the importance of collaboration. Again, I think collaboration between academia, business and all those sorts of groups is very important. I do not disagree with getting industry involved in schools and visits. At what level is that going on now? Obviously, that would be an easier way in which to explain to young people: this is what you are learning, these are the practical applications of it and here are the exciting careers that you can get involved in. We hear about the challenges of getting businesses to take on apprentices and things like that. My first question, is what level of engagement is going on at the moment with getting companies into schools at all levels? Secondly, does there need to be an incentive for companies to take on apprentices and engage further with young people.

Mr Healy: A huge amount of collaboration is ongoing. Norman has alluded to a number of initiatives. The one that I would point to is Bring IT On, in the technology sector. That brings us together as a sector that wants to raise the level of interest in our profession as opposed to others. We do a lot of work together, and your question is why we want to do it. We do it because we want to drive our own profitability and sustainability. As a sector, we recognise that we have a responsibility in this as well and that we cannot always turn to government to help us. We come together on initiatives like apprenticeships. We at Citi work alongside Kainos Software and Liberty IT and we have come together recently around apprenticeships, and we are trying to open up alternative routes through to employment.

We are also very conscious that we have to get past being just a Belfast-centric kind of push. We are working in collaboration with universities around how we can do some outreach into the rest of Northern Ireland. Queen's University has a very innovative approach. In May, we are going to do a webcast as a collaboration — not just with the technology sector but also including companies such as Bombardier and PwC — to schools. Wheresoever they are, schools will be able to connect and find out what is happening from a science and technology perspective in our economy. So we are doing a lot, but there is a role for government to help put a framework around all that because one company cannot reach every school; we have to do it as a collective to be able to get the kind of penetration that we need to be able to drive kids into the right subjects and — as Norman says — layer on top of that the right kind of knowledge as to where the jobs are going to be and ensure that, when the kids come out of school and then subsequently out from the colleges and universities, they are ready for work.

Mr Ross: Just one more, Chair. Obviously, we have not given up on the idea of corporation tax. That is still something that we want to see delivered. If we can get corporation tax devolved, we hope that there will be a huge number of jobs created and that we will be even more successful in attracting inward investment and getting some of the high-tech companies to come to Northern Ireland. That will present challenges in itself in ensuring that we have enough highly skilled people to fill those jobs. However, we are obviously in competition with elsewhere in the world in trying to attract those jobs. If you were to point to any other area of the world where they are getting it right and where they are able to get enough highly skilled people in the areas where there will be future employment, where would you look to? I imagine that, as Northern Ireland is a small place, we should be better at being flexible in terms of changing how we do things. Where would you look at in the world as our main competition? Who is doing it right at the moment?

Mr Keating: That is a very interesting question. John has built up a tremendous set of people with great skill sets in Belfast, but they are actually an American-based company, so in fact they have clearly gone to where the skill sets are. John can talk about this better than I can, but a lot of these companies come here and, yes, you do have to have an incentive. The incentives from Invest NI, etc, are almost like an indicator of the willingness of the population to engage, as much as the money What they really come for is another 200 people with the right skill sets who are hard-working and prepared to be flexible and to do the job in a certain time: the culture that is the same as the ones that are actually being offshored. The same goes for indigenous ones.

Corporation tax would be a tremendous boost. In our armoury at the moment, in terms of R&D tax credits, R&D support, the DEL-type work and the assure stuff — there is a lot in our armoury already for all of that. The big issue, as Norman said at the beginning, is this gap. You go back to the timescale for supply against demand: I can tell you now that we could sit here in 30 years' time and always have — it is never going to be perfect. There are going to be another 1,000 people too many or 1,000 too few. Having invested in companies all my life, my view has always been that it is easier to have 1,000 too many who may have to wait a little bit as opposed to 1,000 too few. The opportunities in this business are so short, and the world is getting so small — which is good, because we can globally sell, but the issue is that if you miss an opportunity in big data or analytics —

Mr Ross: Jobs are mobile.

Mr Keating: You will never catch up. Individual companies will succeed, but you will never catch up with the big ones. I am not trying to put down the value of lower corporation tax, but I am great believer that what we have is what we have, and as Norman and John said, this gives us an opportunity, and anything on top of that is on top of that.

Dr Apsley: I am not usually parochial but, in this instance, there is nowhere better than here. The studies that were done prior to STEM showed that more people in China did STEM, but they did not like it any better. We have a very strong tradition of education and a respect for education. If we tackle the skills gap and the true origins of it, which includes those who disengage early and who, therefore, can never get to the starting gate, we will have enough skills for all the foreign direct investment and foreign indirect investment that we are perceiving. We have the culture to do it. As I said, other areas may be different, but the skills gaps problem is a Western problem that does not exist in the East yet. The competition is to solve that quicker than anybody else, and our size could help, because we could make the changes.

Mr Healy: I echo exactly what you say, Norman. We can be very down on ourselves here, but we do a lot of things very well. The fact that we can come together collaboratively much quicker than other places is to our credit. I have a unique perspective because I get to see into the 12 other technology centres that Citi has around the world. Singapore might be a more open economy and be able to attract migrant workers in a way that we cannot here in Northern Ireland, and China may well have higher volumes because of its sheer population size, and it can fill the roles much faster than we can fill the roles here. However, we are building a quality output from here in Northern Ireland because we are able to influence, in many ways, the direction of the skills. We just need to do it a bit faster.

Ms McGahan: Thank you for your presentations. Departments always encourage young people to stay on and do their A levels, regardless of what the A levels are. However, if a young person decides that they want to do an apprenticeship, that is where they find difficulties, because there is no support for them. They have to look for their own apprenticeship, and if they cannot find one, they cannot do a course, whereas if they leave school at 16, the support is there for them. Is that a problem that you have come across? What is your assessment of it, and should there be more flexibility around this? You also said that the jobs are there but that the skills are not. I would like you to give us examples of that, if you can, please.

Dr Apsley: Can I tell you a story about apprenticeships? This is not policy here in any sense. In my last job in the 1990s, I was director of a big establishment that included an engineering centre that had, in the past, had apprenticeships which had gone into the three counties of Gloucestershire, Worcestershire and Herefordshire. I got invited to the apprenticeship prize-giving by the man who became the chair of the CBI in the area. He ran a building company. When I got to the prize-giving, I saw that there were people like him sitting all around. He said, "You do not know why you are here, do you? You have more degrees than us put together, but we all run companies. He has three planes and two Mercedes Benz. We were all apprentices, and we were taught by your predecessors."

He said that they wanted us to restart the apprenticeship, because it had been closed as a part of cost-saving exercise. So, I am a big fan.

However, the point about it is that we do not give careers guidance; we give job guidance. Those guys were telling me that they should have careers guidance so that, wherever you start, whether that is on a degree course or an apprenticeship, you can still get to the top. Indeed, our own Sir John Parker GBE is another example of that. So, you can begin to look at it that way.

Another man who passed through Belfast on Friday was Doug Richard, who wrote the report on apprenticeships for the English Government. They have done exactly that: they have made it easy for kids to choose where they spend their money and whether they spend it on a degree or on an apprenticeship. I would not look at an apprenticeship as being terribly different; it is a style of learning. The degree is still somewhat academic on paper and a wee bit ethereal in how it is done, whereas the apprenticeship is more practical. The point is that you have to reach the same place at the end of the day. Gavin Campbell from Bombardier should have been with us today, and if he were here, he would be telling us that two thirds of his workforce started through apprenticeships but are now at tertiary level. I think that you probably have to think about it in that context and then make policy appropriately.

Mr Lyttle: Thank you for your presentation, gentlemen. I found it extremely useful and insightful. If I had known when I was at school how exciting science and science-based careers are, I think that I may have applied myself differently. The key challenge that Alastair touched on is how we make sure that we make available to young people when they are making the key decisions the information that we are privileged to have as we get older. That seems to be a challenge that we are still grappling with to a certain extent.

Your recommendations are really useful and are in line with a lot of what we have come across already. One particularly interesting point that you touched on was engagement with past pupils. Before I came to the Committee this morning, I was thinking about assessing outcomes of careers guidance. I just touched on that in my own account. I do not know how frequently schools, the Department of Education or the Department for Employment and Learning ask people about or assess the outcome of careers guidance in education in the later stages of people's lives. I think that we need to look at that in much greater detail. Maybe you would like to comment on that.

Mr Keating: That is a very good point. Last year, I think it was, MATRIX supported an event at W5 where I was asked to say a few words as chairman. There was a young woman from Schrader, whose name I have forgotten now, who looked to be the same age as the people she was talking to. I think that she was about 23, and the kids were about 16 or 17. I did not need to say anything; she said it far more eloquently. She was walking the walk, and they could recognise themselves standing there. She spoke for about 10 or 15 minutes on her work at Schrader and about the research that she was doing. She was followed by a gentleman from Michelin, and there is no substitute. That is because, at my age, I can say only a few things on the subject. So, I could not agree more.

I know that someone spoke about social networking. We are the wrong age group for that, but they hit it on the head. The same goes for the people who are giving careers advice. The Assembly was sitting last Monday, and two people from Andor and Queen's University were in the Chamber. We had Nagin Cox, who was deputy head of engineering for the Mars Rover. Even at my age, I was totally enthused by it, and I felt as though I should go back and do astronomy. The coolest thing that she had was a Martian watch. I thought, "What is a Martian watch?" She had two watches, one of which displayed a day on Mars, which is about 43 minutes longer than a day on Earth. For 90 days after the Rover lands on Mars, they go in at eight o'clock Martian time, so they go 43 minutes earlier every day for 90 days to maximise the system.

Those are the stories that should be told more often to kids, so the people who are giving the advice need to go to the Andors and Randoxes just to see the science. It is about curiosity and about seeing it and listening to young people. That is what inspires more than anything else.

Mr Hilditch: In the conclusions and recommendations, you mention the work experience periods. In your sector, is a week or three days sufficient? Are the people who are involved really given a flavour of the way forward?

Dr Apsley: It is better than nothing, but nothing beats doing a proper project. Again, I am going to be slightly parochial, only this time for the Science Park. We have a couple of projects, one of which is

called the US-Northern Ireland mentorship scheme and which is for post-degree people. I did not invent it; it came about as a result of a telephone call that Declan Kelly made on our behalf. Joanne Stuart is the chair. Recent graduates are selected to be apprenticed, for want of a better word, at top level, CEO or MD level in US corporations. That changes them. The graduate who now works for us, although he will not stay with us, did geography at Queen's University. His only aspiration, as for many of us who were on the uppermost rungs academically as we left school, was for an invitation to go back again and teach. That is all that he had intended to do until he went on that course.

More recently, we arranged internships through the Institute of Physics. We do that in the final year during the holiday, and we work on projects. That too changes those who are involved. So, there is no doubt that that is breaking down the barriers between the academic silos of excellence and the business silos of excellence. I think that there is a need for a mutual respect between them. I confess freely that I did not make that journey until the '90s. I do not think that I had met a businessman until my organisation, which was a research organisation, joined the CBI. That is where I met senior businessmen and discovered that they were as cerebral, thinking strategically and full of gamesmanship as any academic. So, I think that there is a big job to be done to break that silo further. However, you have to keep the excellence, so you have to have intercommunication between those silos while keeping all the good things.

Mr Hilditch: Taking it down to the secondary tier, an example in recent times is one school that I was in touch with. It had 27 pupils in a class, and 19 of them went out to other schools to do teaching experience. I know that there are no jobs for teachers, so there is obviously something not connecting right.

Mr Healy: I think that three days or five days of work experience is better than nothing. The difficulty is that all the schools tend to come asking at exactly the same time, and there are only so many that a company can support. We do as many as we possibly can, but we cannot meet the demand that is out there.

I would extend that point and say that I do not think that it is even just for the kids in the schools to do work experience. I think that it would useful for the careers teachers to do work experience and to come out and spend some days cycling through some of those companies, whether they are engineering companies, technology companies or science companies, to see what it is that we actually do so that they can bring some of that knowledge in and spread it to the kids who do not make it into the companies.

Mr Douglas: Thanks very much for your presentation. Like Chris, I think that it has been very helpful. In your executive summary, you state that the further and higher education provision is quite effective and that it benefits from having professionally qualified staff. I recently went to the Belfast Met, accompanying a young person who was interested in doing an access degree there. My experience was very positive; it was excellent. Interestingly enough, John, that person wanted to go to Queen's to do a degree but through an access course. The careers adviser said, "Look, why do you not think about doing a HND?", and that is the route that they went down. Some people have a very positive experience, but is that the experience right across the board? You mentioned that consideration should be given to monitoring, managing and reducing the number of students dropping out of courses. Is that a big problem, and does it link into careers advice?

Mr Keating: On the first point, I am going down to see the fresh system at Belfast Met at the beginning of next month, and I have been to the South East Regional College, the Dungannon campus and the Cookstown campus. They provide a classic example of apprenticeships, especially in ICT. We had a great tour and went down to the workshop. The great news there is that the fellas and girls on the welding course are involved with firms in and around Dungannon, including Terex and all the spin-offs from Powerscreen. So, they do practical welding, which involves all that work. That is very simple, but you could not get a better marriage for providing great life skills, which, in the short term, are useful for employment.

The proximity of those colleges is important, and I know that the South East Regional College provides different skill sets in different areas. That is the best example ever of a great marriage. As I say, I am going down to see the fresh system that the Met is using, and I will be going round all the other colleges as well.

I am not exactly sure about the dropouts. Funnily enough, one of the previous speakers talked about the extra support that is given to students who were considering dropping out. I was not aware of that, and I do not have any detail at all. Do you guys know anything?

Dr Apsley: I do not have any figures for the number of dropouts. I think that, having chosen the wrong course, it is hard to get back round again, so you probably need to separate that. I suspect that the Met has worked very hard at improving its student experience. However, some may not have done quite as much, so it may still vary. I suggest that it is probably worth doing some kind of benchmarking across the six colleges and to let the best practice spread. That is the way that I would do it.

Mr Healy: Belfast Met has done very good work to build connections with employers and to bring the circle together.

On the issue of dropout rates, I think that technology is the subject with the highest dropout rate at university. I think that you can link that back to that fact some people who go into it do not really understand what it is about. Kids study ICT at school and think that that is what they are going on to study at university, but it is not really.

Mr Douglas: That must be very disappointing for you, given what you said about attracting technologists. Is that not right, John?

Mr Healy: Yes. That relates back to Bronwyn's question about how we engage with kids to make sure that they make the correct choice and do not choose something based on some false expectation about what ICT is in the real economy. I think that there probably is a place there for careers teachers to guide kids into the correct subjects that will lead to future employment.

Mr F McCann: I just want to make a couple of points. I have to say that the presentation was enjoyable, and a lot of interesting stuff came through. I think that it was Norman who raised this point. We were at CERN recently, and we saw where the whole event takes place. Given that I am approaching 60, it was hard for me to take in that they create collisions at 600 million miles a second. I could not get that into my head, but when I explained it to some young people, they thought that it was perfectly acceptable that that could take place. That shows you the gap that is there.

This was touched on in the MATRIX response on careers to primary and post-primary schools, but a couple of scientists who gave evidence to the Committee said that they believed that primary school was a good place, especially for the sciences. That is because when they go in and speak to children there, they can see that they are excited and enthusiastic, although that is knocked out of them in the following couple of years and they are pointed in another direction. That seems to contradict that when it says that a lot of resource needs to be put not into primary but post-primary.

Mr Keating: That is a good point. That was specifically about the careers side of it. To go back to what you just said, I have never been to CERN — it is one of the things that I would love to see — but at primary school level, it is about curiosity and inspiration. There is a science bus that goes around doing little experiments. I think that it is the STEM truck; I always get the name wrong. It does 'CSI: Crime Scene Investigation' experiments such as fingerprinting and whatever. They see 'CSI' on TV with the lights and all the rest of it, and that is what it is about. It is not about hard science; it is about inspiring curiosity. You never lose that.

Dr Cox said something very telling, apart from what she said about her Martian watch, which I was totally impressed by. She comes from a Muslim family. She said that, during the '60s, as a woman in a Muslim family, it was not her place to do science. So, at 14, she said that she was going to do it, and she picked astronomy. She said that, once she became an engineer, she could do what she wanted. The concept of having a job for life has gone. However, if, God forbid, something happened to John's company, those engineers would be transferable. It is like what happened at Nortel. When Nortel imploded, it was awful for all 650 engineers, but they spread throughout Northern Ireland and seeded so many companies. So, you are quite right. The point about post-primary school is about making science about the fun and curiosity that it really is. Then, afterwards, at post-primary level, you are looking at careers, which is slightly different.

Dr Apsley: I have to agree with you, Fra. When I agreed to that sentence, I was maybe being polite about the other end. Just as you said, we said that primary school kids are brilliant. We are going to see a bunch of them here on Friday — for those who have room in their diary, they can see some of

the projects that they have done. They are little vessels full of bubbling energy. Now, given that we knock that out of them in the first three years after we send them to post-primary school, that is where we would say we should put in the effort — we should stop knocking it out of them. They have to learn some new things and new skills and refine it a bit, but we should try not to knock out the enthusiasm at the same time.

Mr F McCann: I have two quick points. One is to finish off the CERN story. What really came through to me was that the director, the head of human resources and one of the lead scientists are all from here. That sends all the right messages.

We spoke about primary, post-primary, FE and third-level education. In between, after young people leave primary school, there is another element, and that is the people who go through government training schemes. Quite a number of young people going through that feel that they do not get the encouragement or level of training that allows them to go into apprenticeships. Literally thousands of young people do that. How do you feel about that? Should a different focus be put on how people are trained?

Dr Apsley: I am not sure what we could do with the budgets that are available. However, in principle, we should accept that people learn in all sorts of different ways and do things in all sorts of different ways and that that does not devalue the outcome. You then somehow have to bring that together. In the taxi that I came up here in, the guy was complaining that he had learned to be a pastry cook but said that there are no jobs for pastry cooks so he is taxiing. We had a chat about it, and I thought that, if he were good at making pastry — and given the news this morning about how much we are selling to Fortnum and Mason — and if he had any business training, he could probably be selling his pastry to them too. It is that thinking that needs to go in rather than any specific policy that I can think of.

Mr F McCann: I thought that you were going to say that he was selling pastry out of the boot of the car. *[Laughter.]*

Dr Apsley: I would not even mind if he did that.

I will add to your CERN story, if I might. I can tell you that the deputy chief executive of the firm that makes most money selling to CERN is also from Northern Ireland. He is a graduate of Queen's and deputy director of Oxford Instruments. He is an engineer who then added accountancy to that — the one thing that you can learn later is accountancy. He became finance director to the company, and through the finance and his knowledge of engineering, he then became deputy director.

The Chairperson: Gentlemen, thank you very much for your time. It has been insightful for our inquiry. Thank you for taking time out of your busy schedule to come before us today.