

MINUTES

APPG on Apprenticeships

AI and Apprenticeships

11 December 2023

Room R, Portcullis House

Chair: Lord Aberdare

Parliamentarians in Attendance or Represented:

- **Chloe Smith MP**
- **Dean Russell MP (speaker)**
- **Charlotte Nichols MP**
- **Lord Aberdare (Chair)**
- **Lord Hampton**
- **Lord Lucas**

Speakers:

- **Erica Farmer, Business Director, Quantum Rise Talent Group**
- **Mary Amanuel, Multiverse Apprentice in the NHS**
- **Dean Russell MP**

Lord Aberdare, chairing the APPG for Apprenticeships on behalf of co-Chair Jonathan Gullis MP, introduced the theme of the meeting, AI in apprenticeships. Lord Aberdare outlined how AI is already being used, and how the group would be discussing how AI can be further incorporated in apprenticeships, and how employers and providers can make the most of it.

Lord Aberdare ran through housekeeping for questions and then introduced the first speaker, Erica Farmer, Business Director for Quantum Rise Talent Group.

Erica introduced the work of Quantum Rise Talent Group and some of the clients they work with. Erica mentioned some of the apprenticeship programmes she has run and experience she has in the sector particularly around AI.

Erica said she speaks to employers about AI and frequently mentions that AI is the worst it'll ever be right now. She said employers can be super excited by this as AI will only get better but employers are also very unsure, people are worried about their jobs, or how much they know about AI.

Erica said young people looking at apprenticeships will be hearing this same narrative as well, and colleges and providers have a great opportunity to grasp the skills needed and embed them in the design and delivery of training.

Erica noted that 71% of learning organisations are already integrating AI tools into their organisations, and Deloitte report that this was the year we were learning to “trust our AI colleagues”. Erica highlighted, however, that there is a lot of fear around AI, which can be known as the “fear gap” of adoption.

Erica explained the fear gap as concerns about the future of AI – based on films, for example – and not knowing what it will mean for our future.

Erica said people are looking to each other to understand what others are doing in this space. She said some universities are already teaching machine learning and AI in their curriculum, but there are not a huge amount of youth cases where AI is actually being used and delivered as a skillset for young people, or information for education practitioners to introduce it to reduce cost or for content creation.

Erica said we need to win over learning providers, colleges and schools as there isn't an operations manual about how to use generative AI in learning. Erica noted the EU AI legislation that came out in December and the likelihood of more rules and regulations about how to use AI, along with consequences for not using it correctly. Speaking to providers, Erica said AI feels very conceptual, not practical or a "real" tool to enhance learning.

Erica said she's been trying to work with providers on a "plan of action" and she said she uses storytelling to get people onboard with something like AI that is so emotional. Erica said she likes to think of what the people need, the "armour" or infrastructure, and then the AI technology to bring it all together. By "infrastructure" Erica means the digital framework, regulations etc on how to use generative AI in one way, and how not to use it in another way, such as data privacy and data protection.

Erica said the sharing of best practice in AI is really important, so organisations speaking to each other internally, agreeing the terms of reference of AI usage, defining digital ethics and ensuring that behaviours are compliant when using technology, and also identifying distinctive human skills to build such as critical thinking, problem solving etc.

By getting learners to use AI, Erica noted that we can reduce the fear gap but we're not seeing much activity currently in this space. Erica said there's a huge opportunity for providers to shape this space and have a go, rather than waiting for someone else to pick up the reins.

Lord Aberdare thanked Erica and handed over to Mary Amanuel, Multiverse Apprentice in the NHS. Mary introduced her current work as a degree apprentice in data science, currently working in the NHS. Mary said then when she was younger, nobody was really speaking about AI but they weren't speaking about apprenticeships either, even in 2019.

Mary spoke about her background, growing up in a council house, getting free school meals and being on pupil premium. Mary said she knew she needed to do something drastic for social mobility and she recounted doing an internship where she learned a lot more from an engineering company in a week than her time at school.

Mary said this encouraged her to do an apprenticeship to get hard skills, and to help society. Mary mentioned Multiverse's data science scheme, which she is on, and how now she helps organisations understand complex data sets to make evidence-based decisions. These questions might be on A&E waiting lists in the next three weeks.

Mary said all her skills are directly relevant to her job: understanding how data works, how to get data from systems, understanding the bias systems might have, how to build her own models, how to apply this data to an organisation like the NHS, or other employers. Mary said it's a really practical education that focusses on soft skills, but really aren't soft, like communication but of technical issues. And also the "hard" side of getting stuck into practical work.

Mary said she works on the early warning system in the NHS, predicting admissions, troubleshooting, supporting with forecasting, and she also co-founded a Python community learning how to program, share their code, and to learn from each other.

Mary said she has three recommendations:

- Firstly, forget about AI. Mary said she was teaching data skills to 15-16 year olds in an under-served school where they are social-media savvy but they can't send an email with an attachment. Mary said we need to focus on computer science education first and that foundational learning, rather than AI.
- Second, AI is the biggest benefit to those with the least experience. Why don't we extend that to education? Mary said we should let AI support those who are the most disadvantaged in our society, and use it to level up.
- Finally, think about AI not as a replacement but as an augmentation, as an aid, for critical thinking skills. Mary noted that AI has no soul, but humans do, and we need to teach young people to use them mindfully and in their roles.

Lord Aberdare thanked Mary and said he really appreciated the insight of the difference between social media skills and computer skills. Lord Aberdare also noted that Lord Hampton was present, who was a teacher. Lord Aberdare then introduced Dean Russell, MP for Watford, the final speaker.

Dean noted that his background was in physics and worked in the digital creative industries. Dean said that 15 years ago was Second Life, the "first" Multiverse, and that Dean created a brand for a university around Second Life.

Dean said he was of the generation where not just social media happened while he was in work, but he didn't get his first email until at university. So, when talking about apprentices, there needs to be an understanding that we can't predict what skills they might need, but we can be creative and flexible in our approach and think about how the world might change.

Dean said that social media can be used for great good, but also great bad, in the world, and AI could have a very similar effect. Dean asked how we can create jobs and the seeds for careers when we don't know those careers might turn out in 10-15 years. Dean noted the example of technology being introduced into manufacturing, and the effect on jobs in factories.

Dean said his "8 Cs" for AI and apprenticeships are:

- Competitiveness, in one's career, in businesses, and how AI is applied in the workplace, as well as normalising access to AI.
- Consistency, ensuring consistent access and consistent usability. Dean noted working with the RNIB on the first accessible game, but that there continue to be barriers.
- Collaboration – how do we use these tools to develop collaboration in apprenticeships?
- Copyright, and understanding how it goes with creativity, and that people coming into apprenticeships may not fully understand brand risks, risks to colleagues, to organisations, and their own career.
- Creativity
- Communications, and how we use it better to communicate internally, are apprenticeships given wider access to learn, is more than one Department able to access AI in a company?

- Careers, and looking at what AI means as a partner in the journey of one's career. How much is it a threat, and how much an opportunity?
- Correct – is what is being shared through AI correct? Is it being used correctly, and giving accurate information?

Lord Aberdare thanked Dean and opened the Q&A with a question of his own. Lord Aberdare asked Erica, what is an AI tool and is there a definition that distinguishes AI from other digital tools?

Erica said that many people would be asking this and that AI has been around for about 30 years, with many of using it through services such as Alexa and Siri, or even having groceries delivered and receiving recommendations about them through websites and apps.

Erica said there are different species and sub-species of AI, and a “large language model” that has been trained on a number of data points to feed the AI. Models like Chat GPT have data points sat within them to respond to in a certain way, as they draw information from the internet.

Erica noted “hallucinations” where the AI presents data but it doesn't make sense, because it doesn't understand context or have an agenda; it isn't self-aware. Erica said that “super AI” can spot minutiae amount of cancer within tissue, for example, or predict if someone in a social care role might need to go in and see a patient because the data is predicting that there might be an issue. Erica summarised by saying that AI is a big term but we're currently focussing on “generative AI” which is that training data that is responding to you when prompted.

Lord Hampton asked whether speakers thought AI was the fundamental skill, or whether coding or something else was. Could speakers see a time when AI delivered coding? Mary said that coding is already delivered by AI. But if you interact with Chat GPT and start coding, and test some of the outputs out, it doesn't actually work. It's not that AI can't replace code, or write code, it's that people who know how to code know whether it's right or not. Which is why digital and coding skills are so important, even if AI is super intelligent/

Dean added that Bill Gates had said in 5 or so years, you won't need lots of different software; relevant use of AI in the workplace will involve using AI for multiple documents and tasks.

Charlotte Nichols MP asked about biases in generative AI and what it uses as its information, particularly around AI's lack of accuracy when it comes to racial minorities. Charlotte asked what we need to do in terms of digital literacy so people can understand when something is generated by AI and when something is organic, such as people making fake videos and photos.

Dean said he had raised this in Parliament and that his take is it is often the dataset that is the bias. On how to protect people, Dean said that he would like to see a ‘Turing Clause’ within AI so that with anything that purports to be human, there should be a warning of some kind. Dean's analogy was with anti-virus software when there was mass access to the internet. Dean said that UK could be an AI policing force and, through technology, warn people that it some messages or photos are pretending to be something it isn't.

Charlotte mentioned that all her digital teaching at school was to not put information online and to use trustworthy sources but that her parents haven't been taught the same kind of skills. So what do we need to do in our education institutions to ready people to have that critical awareness around AI?

Mary said that there is so much AI around, one has to declare that what they are doing is AI, so people can distinguish between real and AI. Mary said she doesn't use AI unless it can verify its outputs, so she can check and cross-reference. But what about when learning something new? Mary said we need

to teach people to verify the outputs, and teach them the actual definition of AI, and how AI works inside.

Lord Aberdare made the comparisons of checking calculators' outputs by doing maths in your head, but that AI is such a complex level, it can be hard to verify.

Philip Virgo, Lord Lucas' research assistant, asked how do we set about educating those in the workforce, and young people? Philip said Lord Lucas is looking at micro-modules where you teach an audience how to use an AI model and enable people to assemble these micro-modules bit by bit as a way of educating large numbers of people quickly. Philip asked if this is a good way of approaching it?

Mary was supportive of the approach. She said Multiverse had created an AI jumpstart module for all apprentices which was hugely helpful. Mary said we need to be pragmatic and most people don't have time to fully learn AI, but they need to know enough to help them apply it ethically and intelligently. Mary said micromodules, if compulsory, could be a great idea.

Erica said it's a wonderful idea for those able to study in that manner but that won't be anybody and it won't be as inclusive as we need. Erica noted that for those who need to learn in a different way, such as those who are neuro-diverse, may need other methods such as using large-language models for our personal life and in ways that were useful to them, such as for cooking or buying gifts. People may then learn without realising that they're learning, and it's simple for as many people as possible, alongside the formal education routes.

Lord Aberdare mentioned integrating AI to improve the apprenticeships offer, and asked if AI should be a required element of apprenticeships, or what should we be looking for to make sure apprenticeships include an appropriate element of AI?

Dean said a ninth 'C' in his list would be 'convenient'. Dean said apprenticeships are tough but brilliant and when Government tries to force things into the curriculum it can be a distraction from what is needed or can be really valuable. So it needs to be convenient for providers, and take in account how quickly technology moves. Dean said the approach to be using these needs to be creative, and those skills are more important than teaching Chat GPT itself.

Mary said she agreed with Dean and said students are already using AI so they need to know how to use it ethically and intelligently.

Erica said her only addition to that would be the gap with teachers, providers, and organisations in feeling confident in teaching AI and digital skills. Erica said these providers don't always have the time or headspace to go and teach themselves so we need to dial up the "what's in it for me" and incentives for providers. Erica said young people already bring the intellectual curiosity, so we need educators to embrace it too.

Lizzie Gauntlett, Senior Policy Officer, Federation of Awarding Bodies mentioned that the chat was disabled and went onto introduce the work of the Federation. Lizzie was interested in Erica's point around fear of AI or using AI and that some Awarding Bodies are concerned around malpractice with AI while some are looking to embrace new assessment methods and making it clear to apprentices, employers, and providers how they are permitted to use AI. Lizzie asked Mary whether it's appropriate in her assessment to use AI or whether she needs clearer guidance?

Mary said her endpoint assessment for her apprenticeship is not until 2025 so she isn't sure what it looks like, but they do have a clear AI policy and that if you use it, you need to change a significant portion, or you need to reference it, like you would any other source.

Lord Aberdare asked the speakers to each quickly summarise their position.

Erica said research from the World Economic Forum found that 66% of children in school right now, aged 5-11, will go into a job that doesn't exist yet. Erica said we need to backtrack and look at how education is enabling and providing the skills for young people to look into that crystal ball of careers we can't see. Erica said we do know that our foundation of technical knowledge, that gives us power and confidence, we won't be able to rely on this in an AI-centric world, as the AI will hold it for us, and do it for us. Erica said we need to get people embracing the "art of the possible" with their own career, whether it's side-stepping or a role they can't see right now. Erica said her ask was that we think about the skills that sit around any kind of technical adoption and start to map out what our specialisms look like when we know that AI is going to take a certain amount of those tasks from us. Erica said this is the critical thinking, applying new skills quickly, that we have already mention. We can't rely on a static curriculum, Erica said, we need to be agile and use flexible, creative approaches to learning.

Lord Aberdare said he's been sitting on the Lords Committee for 11–16-year-olds and they're publishing a report touching on many of these issues about the current education system not being fit for purpose.

Mary said she thinks this is a great time to be an apprenticeship. Mary said she thinks apprenticeship curriculums have to be dynamic so apprentices can apply real skills in real settings, and not to forget critical thinking skills, thinking about bias, and using systems ethically, as these are really important skills to still teach.

Dean said there's a lot of learning from social media in that we should make decisions rather than letting something run amok. Dean said we need to make sure that in the education space, students are at the heart of everything, and AI could help with this, such as identifying the best way for a child with dyslexia to learn. Dean said there's been a challenge in building big IT systems and AI means the patient can be centred, it'll be much more simplified, and easier to do. Dean said it's not about forcing people to learn new things, but being sceptical enough to be able to questions things while also not being so fearful as to not embrace something. Dean said for the UK to be the hub to police AI is a great opportunity and something that will make us world-leading and protect citizens in the UK and around the world.

Lord Aberdare closed by thanking all the speakers in the session and those who joined in person and remotely.