

Transcript – Future careers in engineering and the built environment

Host: John McLuckie

Guest Speakers: Alan Ogg

John McLuckie: 0:16

This podcast has been brought to you by the University of the Highlands and Islands Careers and Employability Centre. In this episode we'll be talking to Alan Ogg, Subject Network Leader at UHI for Engineering and the Built Environment, about future careers in construction, the built environment and engineering. I'm John McLuckie and I'm joined today by Alan Ogg. Welcome to the podcast Alan.

Alan Ogg: 0:35

Hello John. Thank you for asking me to come along and talk.

John McLuckie: 0:39

Yeah, thanks for agreeing to take part. Do you want to start by telling us a bit about yourself and your career route into becoming Subject Network Leader for Engineering and the Built Environment?

Alan Ogg: 0:48

Yeah, going back into the very distant history, I started off as an apprentice many years ago in 1985, at the MoD, Ministry of Defence site at Rosyth Naval Base as an apprentice mechanical fitter-turner, and once I finished my apprenticeship, I then moved into the design office, and by that time, the site have been taken over by Babcock. And I worked there until 1999 as a mechanical draftsman, and then I left and started off my own business and ran my own business for two or three years, doing consultancy, design and drafting work around the globe. Then I had a family, so I decided it was time to come back home. So, I came back to Scotland and worked for a few major companies in Scotland, the likes of AMEC and Wood Group and companies like that. And then in 2001, I had an opportunity to move up to the far north of Scotland to work as a design engineer on the Dounreay site. So, I moved up to Lybster on the east coast of Caithness in 2001 where I still live. And in 2004, I applied for a job as a lecturer at North Highland College in engineering and the reason I really applied for that is because I never really was much of an achiever at school. School wasn't really for me, I'm more of a practical person, I was much more comfortable out on my motorbike or out with my friends, rather than being in school. So, I didn't really have a lot of school qualification. So, when I went to college, when I did my apprenticeship, I really enjoyed college. It was a place that I really enjoyed learning and the types of learning as well that we did. Then it was Lauder College down in Dunfermline. So when the job opportunity came up at North Highland College in Thurso in 2004, I thought, well, is this chance to sort of, it's going to sound like a bit of a cliché, but is this a chance to give something back here, I think in some way. And it was a bit of a career change, I suppose, but I think reflecting on where I am now, it's probably a good thing. So, I started as a lecturer in April 2004 it was in Thurso, and then did my teaching qualifications when I was in that job role. I also then increased my academic qualifications as well because I actually only had an HNC when I started at North Highland in 2004. So, over the next four-five years, I did two teaching qualifications, I did an HNC to degree course, I did an ordinary degree through UHI and I did an honours degree in

engineering through Aberdeen University as well. So, I did a lot of part-time study over those five years. But the benefit from that is at the end of it, I then got the role of Curriculum Manager for Engineering at North Highland, in about 2009-2010. And then latterly, I was Assistant Director of Learning and Teaching and Head of Engineering and Built Environment at North Highland. And I left North Highland in 2018 and started in a role in Fort William at West Highland College as a project director for STEM, looking after the STEM strategy down in the Lochaber area. And a year or so later, the opportunity came up to take on the role as Subject Network Leader for Engineering and Built Environment across the region. So, it was a roll I'd actually quite coveted for a while actually to be honest, so when the opportunity came up to take on a more regional role, I jumped at the opportunity and here I am now.

John McLuckie: 3:54

That's a fantastic journey and there's a lot in there in terms of your focus earlier on in your career at a practical level, with the academic side becoming more prominent the further into your career you've developed. I'm interested to know more in terms of your Subject Network Leader role, what does that actually involve?

Alan Ogg: 4:10

Yeah, I suppose you have to really understand the University of the Highlands and Islands to understand what the Subject Network Leader role is. We are a wee bit of a silent group of people. Most of the students who work within the partnership will be very aware of all the people that work within the partners, whether it's North Highland College or Inverness College or Perth College, or wherever, they will be very much aware of people they see on a day-to-day basis. Whereas the Subject Network Leaders, we're very much in the background, I suppose, a little bit. UHI in terms of the academic side has two Faculties. There's the Faculty of Arts, Business and Humanities, and there's a Faculty of Science, Health and Engineering. So, I work within the Faculty of Science, Health and Engineering and within that there's a Dean of Faculty and there's three Subject Networks. So, in a traditional University you would probably have a faculty and underneath that departments, in UHI we have Subject Networks. Underneath that, the Subject Networks' real responsibility is for making sure that the University strategic plans, and the academic partner strategic plans all align, so that our curriculum is lined up, it's fit for purpose, is forward looking, and also to make sure that when the curriculum is delivered throughout the partners, because it's sort of subcontracted in some way to different colleges, also that the quality assurance arrangements are the same across the partners as well. So really the Subject Network Leaders' job is a sort of facilitative role to ensure that the strategies of the university and the partners align, the operational curriculum that comes out that is aligned, and also that the quality assurance arrangements across the partners is on par as well. So, if a student is studying at academic partner A, he has the same experience as he has if he's studying at academic partner B. So, some people would say the role is akin to herding ducks in some way, because it's something can feel a little bit like that, but it's generally a role of facilitating and collaboration across the partnership really to make sure that the UHI partnership works as it should across the region.

John McLuckie: 5:48

That's great and are there any particular aspects of your role that align with careers and employability in engineering and the built environment?

Alan Ogg: 5:56

I think that the key aspects of the curriculum need to be designed to ensure that we give the students the best opportunities of securing high quality employment. So, the curriculum needs to be in a position to allow the students to be as work ready as possible, so they can slot straight into roles when they go out into the workplace, or, indeed, for students who are already employed, to allow them to access opportunities for CPD to enhance their career opportunities. And, again, I go back to reflect on my experience, you know, about what I've done since I joined UHI. Most of the qualifications I've achieved have been through UHI when I've worked at the same time. So, it's important not just to focus on the students who are looking to get employment, once they've finished their studies, but also to equally focus on the students who are with us who are already studying as well and in employment.

John McLuckie: 6:41

That's really interesting and just looking at careers in a wider sense, there's a view that we often hear that many of the careers that will exist in the future don't exist today. Do you have a view on that particular point?

Alan Ogg: 6:52

Yeah, I do actually, as you would expect. I think we have to be careful, I suppose, and it's a note of caution on this one, is that we have to be careful we don't fall foul of policy statements and rhetoric from on high. And I think we really need to have a nod to the careers of the future but also make sure that we also have a nod to the current careers that are on offer as well. I think the important thing for me is to build the skills in the students that allow them to transition to new careers and opportunities as they come along. So it's about, I suppose, putting the building blocks in to allow these transitions to happen to new careers rather than just wholeheartedly focusing on opportunities that may not exist yet. It's a balancing act to be honest John, that we need to be aware of constantly to get that balance right. I remember a few years back when I was at North Highland College, when we purchased a whole load of new welding equipment for the students, and we had some employers coming in to sort of show off what we'd bought. And the employers came in and this welding plant was all singing, all dancing, it was all you know, digital displays and did everything for you. So, the employers said, "yeah yeah, that's great, but we don't have those. It's great you're exposing our apprentices to this type of equipment, but the reality is that when they go into work, they're not there yet". So, it's about making sure that we balance up what we have in the curriculum with what employers actually have, as well, what they're actually using in industry, I think, that's quite important.

John McLuckie: 8:04

That's a really good point there and you've mentioned transitions in terms of how careers evolve. Do you think there are a set of key skills and attributes that students should be developing through their time at University to help with these transitions?

Alan Ogg: 8:16

I'm a great believer in, it maybe sounds quite strange coming from somebody who looks after engineering and built environment, but really, the actual subject content is somewhat secondary, in my opinion, to the development of the individual, I suppose. So you've really got to have somebody who's ready to go to work and be work ready, and to have the skills to be able to transition across various job roles within their careers. As we mentioned already, the jobs of the future are not here yet, a lot of them, but the people are, so the people need to have the skills to transition. One thing I think is actually really good in terms of a reference document is Skills Development Scotland - Skills 4.0, a skills model to drive Scotland's future. It's a document that Skills Development Scotland has produced, and what it talks about in there is, and it's just what we talked about John, that it's very difficult to predict future skills and very difficult to predict what the future work will be. So, what they've proposed in the document is what is termed 'meta skills', which maybe seems a new word to some, but maybe not to others. Certainly for me, it's something that we hear a lot now. So the meta skills are around things like self-management, social intelligence, innovation, creativity, and all these type of things, which really are skills that can be transferable to really any job role or any sector, but in order for a young person to do that type of thing as they go through their careers, that's the type of skills we need to build into our students at UHI, I think.

John McLuckie: 9:29

Yeah, absolutely. The term meta skills is becoming more commonly used now, and I think in parallel, the term graduate attributes links into that discussion as well. Do you have a sense of what will be some of the growth industries within the Highlands and Islands region in the next 10 to 15 years?

Alan Ogg: 9:44

Yeah, again, you have to in some way cut through all the rhetoric and some of the politics in all this as well, and be realistic and reflect on experience from the past, I think. And when I say the past, I mean, going back way into the past, and looking as to how some of these things have been very important to politicians, but not necessarily materialised into actual jobs. But what I probably would suggest, would be the sectors that are on the brink of really becoming important, would be anything to do with the net zero agenda, so anything to do with the climate agenda, and anything that's going to help that so it could be for example, offshore wind and floating offshore wind in particular, and everything that goes with that, not just the manufacture of the of the structures, but the through life support and operations and maintenance and everything, because the reality is that you can build a structure and it's a finite project, but then once that goes out into the sea, it could be there for 25-30 years, even longer. Other things, aviation in terms of transport and hydrogen as well. So, all these technologies that are bubbling away at the moment but in the background just waiting to be more commercialised, I think, is where the Highlands and Islands have got a really big role to play. And I

think our geography, our people and also the types of innovation that we can generate within the Highlands and Islands as well, we're really ripe to take up these opportunities, I think. And you can see that they come through fairly consistently through things like the local growth deals, the Moray Growth Deal, etc, and through initiatives, for example, Future Flight that UHI's involved in, and the Cromarty Freeport Initiative as well. So, there's lots of things just now that are bubbling away that could have a substantial impact in the sort of sectors that we're interested in within engineering and built environment.

John McLuckie: 11:06

A lot going on across the Highlands and Islands region just now and it will be interesting to see how that develops from the political side as you say, as well as from the academic and industry perspectives. Another term that's been in the news recently is Industry 4.0 and links to automation and robotics. Do you think these areas will have a role to play as the economy of the Highlands and Islands develops in the next few years?

Alan Ogg: 11:27

I think so, it's very much about understanding what industry 4.0 actually means and what it actually means to business as well. To get to industry 4.0 might not be the plan. Some businesses that might be where they are already, some businesses may be on a journey there, and some maybe use part of industry 4.0, but not it all. So, they might adopt some automation, but not fully automate, for example, for various reasons. So, it's something that's a key driver, there's no doubt about that. But again, it's about understanding where businesses are and where they want to be on that journey, and if they do need support as well, how they can be supported to get to the point where they can start to really adopt, you know, these new types of technologies, moving their business forward. The challenge, I think we have within the Highlands and Islands, as well is that we very much have a large number of small to medium employers within our area. We've got some larger ones as well getting involved in, you know, in manufacturing, for example, but we also have lots and lots of small SMEs across a very large geographic area. And again, it's how we can support these many small businesses to start to move along that road towards Industry 4.0. And I think that's one of the areas where we need to change our curriculum a little bit as well, where we've always been slightly guilty of having big chunks, as I call it of curriculum. Four year undergraduate degrees, or one year HNCs but really, I think that a lot of smaller businesses are looking for a lot of smaller chunks of curriculum that they can access when and where, so I think that's where we need to think about moving our focus as well, a little bit within the curriculum side at UHI.

John McLuckie: 12:44

That's great, really interesting Alan. I guess as a final question what would be your advice to engineering, built environment and construction students, in particular, about how they could maximise their future career options?

Alan Ogg: 12:56

Well I think for both built environment and construction and engineering, my view would be that the people who tend to succeed in these career roles tend to be ones who've got that good mix of an understanding of the practical elements of the disciplines, you know. Both construction, built environment and engineering have disciplines, whether it's on the construction side a joiner or a plumber and on the built environment side, maybe the technician side, civils or architectural technologist, and on the engineering side, mechanical, electrical, fabrication, welding, whatever else, so it's really about having a mix of the academic qualifications and also the practical skills as well to augment that. They both need to be developed really simultaneously. That's maybe where I went wrong, I think, if I would reflect back on my career path a little bit, is that had quite good practical skills, even when I was in an engineering, design, drawing office environment, I had a very good understanding of how things work, and how things got put together but anything I produced in terms of design had to go to somebody else to get signed off because I didn't have a degree. So, it's about getting that mix I think, that'd be my advice for anybody who wants to enter their career path in built environment, construction and engineering. It's bring your development along at the same time if you possibly can, so you don't sit like me when you're in your 40s having to sit and study part time, for nights and nights on end, when you'd rather be doing other things. So that would be one thing I would say, and also developing the individual is key, so it's about having that attitude, to be able to be flexible, being able to adopt new technologies and new processes when they come along, be very open to change, be very open to being able to do things differently very quickly as well. It's a moving feast out there at the moment, very much so and I think the fact that we're living under the cloud of COVID-19, as well has really highlighted that where things are changing really rapidly, and people need to have the skills to be able to do that. So again if I go back to meta skills and what SDS are saying in their skills 4.0 document, that's really what they're trying to do is build up these type of skills in the individual to allow them to succeed in their career as they go through their career pathways.

John McLuckie: 14:37

That's really valuable advice Alan, and thanks very much for taking part in the podcast. It's been really good to talk to you.

Alan Ogg: 14:42

Thanks very much, John, no problem.

John McLuckie: 14:44

We hope you enjoyed this podcast and remember that after you've completed your qualification at UHI you are a graduate for life and that means that you can access careers and employability guidance whenever you need it. Students and graduates can get in touch via the Future Me platform at targetconnect.uhi.ac.uk, or by emailing careers@uhi.ac.uk. For more information please visit the UHI website and search careers.