

2021 Green Paper

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Executive Summary

Ufi VocTech Trust is an independent charity whose mission is to support the development of digital technologies that help us all to obtain the vocational skills we need to get more out of our working lives.

More impact for those less well served by mainstream provision

The big challenge we foresee is that the communities who are not traditionally well served by mainstream provision, the focus of Ufi's core strategy, are now probably more at risk than ever from being excluded from education and training and being able to access employment. These are issues that precede the COVID-19 pandemic but have been further compounded by it.

The VocTech Challenge is our opportunity to explore these issues with an open mind and to use our funding, insights, and influence to support the development of digital solutions which can improve outcomes and deliver impact for vocational learners.

What does this Green Paper represent?

This Green Paper represents more than three months of dialogue and discovery to explore the challenge. We have sought new insights from representatives across learner groups, training providers, learning designers, further education colleges, SMEs, corporates, public sector bodies, and technology entrepreneurs.

We report the direct experiences of our participants and have tried to 'triangulate' what emerged from our discovery with evidence from our own funded projects and insights from other organisations working in the VocTech space.

How can VocTech break down barriers to learning and open up access?

What we outline in the Green Paper is a view of the 'VocTech Landscape' in a series of problem statements/opportunities. During the next phase, we will look at ideas for how to solve some of these problems, but for now, we are trying to be clear on the spaces in which action might be appropriate. We know we won't have captured everything and welcome feedback.

1. It isn't just the technology – although the technology is an issue

Access to technology and data is a big issue for those most at risk of being excluded from training. There is a significant equality gap that needs to be addressed urgently. Even where there was greater access, motivation to learn was a big issue. Employers were reported to be unwilling to accept that online training was 'real' learning and that perception may be a barrier to adoption.

The question our insights raise for VocTech is whether greater use of mobile-first learning is possible. And if so, how do you design and deploy great quality digital learning that doesn't rely on the latest

software or large amounts of data? How can good quality personalisation be supported affordably - as one-size digital learning solutions don't fit all? What can be done to help employers understand the benefits of digitally supported vocational learning?

2. It's all about confidence

The confidence to be an independent learner came through in most of our discussions and has two main aspects – the confidence to engage online and confidence in digital skills. Issues manifest themselves in several ways, for learners as well as for teachers and trainers, including fear of judgment, potentially chaotic working spaces, peer pressure, and concerns about online safety. Sharing openly online is just not seen as an option for some.

The landscape here is around supporting learners, whatever their personal and learning needs, to experience VocTech and blended learning in a way that is supportive and non-threatening. Developing resources or strategies to enable learners to become more independent becomes a priority and understanding how VocTech and emerging technologies can enable access for those with additional learning needs now becomes more urgent.

User design also needs to take account of the experience of the teachers and trainers, who facilitate that learning.

3. Digital skills are key to engagement

The second part of the confidence issue is digital confidence and goes across all actors in the learning and development space, not just learners. There are big issues for teachers/trainers, learning and development professionals, and managers across the piece – employers, training providers, FE. And a willingness to disclose a lack of digital skills is an issue.

The landscape here is about stepping back from our current assumptions of competence and finding ways to engage, inspire and motivate people to develop those skills and/or to make them well known and widely available.

4. Learning is a community activity and needs to include practical skills

Learning is generally not a solitary activity, either the learning or the practical application of skills usually involves others. Group learning remains the norm across providers, and in that context those not able to join online groups are disadvantaged. It is also a team sport for developers, learning designers, and trainers who value the ability to bounce ideas around, get inspired by others' thinking and ideas.

The landscape here challenges us to look differently at how VocTech connects people in the learning, teaching, and development phases. How can we innovate to include practical skills in the virtual world? How do we create more and better trained learning designers to be fully able to exploit the potential of VocTech to offer truly disruptive solutions? How can awarding and accrediting bodies engage to look at new models for modular and bite-sized, skills-based assessment? How do we engage employers to better understand their day-to-day needs?

5. It's a difficult business market for innovative developers and training providers

Participants spoke of the challenge of selling new ideas to a market that was not aware of the potential of what VocTech could do to change the face of learning. There are also challenges of proving ROI for digital learning, in part because 'traditional' methods of training have not historically been evaluated for effectiveness. Colleges are not set up to commercialise their ideas, reducing incentives for staff to create new content/platforms/tech that could have wider application beyond the College.

The questions from our insights here are around how to create a culture of innovation to support the development and adoption of the very best VocTech. The mood music in our conversations was that funding based on time and attendance rather than the acquisition of skills coupled with a poor culture of measuring the impact of training has a drag effect on innovation.

Have your say

We now invite our wider community to consider this green paper and contribute comments during the consultation period which closes on Friday 26th March 2021. Please engage via our online form.

Click here to respond on our website

ufi.co.uk/challenge/green-paper/feedback

What will Ufi do with the findings of the consultation?

Our aim is that to use these comments, suggestions, and ideas to frame the best use of our resources – be they funding, advocating for best practice, or collaborating with others – and develop specific solutions. We aim to present our findings back in the VocTech Challenge White Paper, which will be published in April 2021, including a statement of what Ufi is going to do to take this important agenda forward.

Foreword

Dominic Gill, Chair, Ufi – The VocTech Trust

"This is an exciting time for me to take over as Chair of Ufi. The work the team has done in developing this Green Paper reflects the best of how Ufi works. Our strategy is clear on our objective to act in partnership with others to develop the VocTech eco-system, across the private and public sectors, through grants and investments and by using our voice to move things forward.

The quality of the conversations we have had to form our thinking here has been incredible and we are very grateful to all of those who have offered their time to share their experiences. This isn't a document that will sit on a policy shelf. This is a living process that we are using to now engage with a wider community and which will shape what we do next. We hope that you see your own experiences reflected here and if not, please share with us your perspective. We look forward to hearing from you."

Rebecca Garrod-Waters, CEO, Ufi – The VocTech Trust

"This is the first time we've used 'design thinking' to look deeper into the issues in our world of VocTech and it has proved to be a fascinating journey for us. Ufi's position as an independent actor in this space has enabled us to bring together a wide variety of perspectives and just listen to what they wanted to share. I want to add my thanks to Dominic for the time and energy that people have put in to helping us to create this snapshot of the sector, at a very challenging time.

We now need our wider family and VocTech community to take a look at what has emerged and help us shape it into the best understanding of our current climate that we can. That then gives us a landscape on which to base our future planning – complementing not duplicating, building on what has already been achieved."



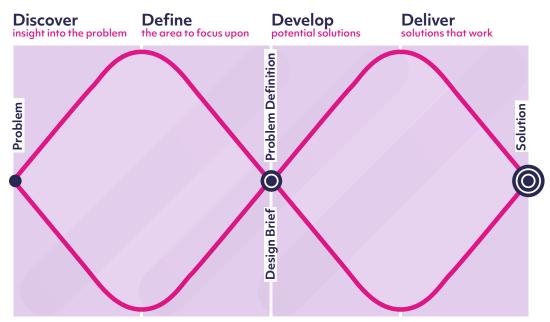
The 2021 VocTech Challenge – Overview and Approach

Ufi, VocTech Trust is an independent charity whose mission is to support the development of digital technologies that help us all to obtain the vocational skills we need to get more out of our working lives. At the core of what we do is our belief that we have a particular role in supporting sectors, locations, skill levels and individuals that have not been well served by the mainstream, so that they can positively contribute to the UK economy. At Ufi VocTech Trust we believe technology for vocational education, VocTech, can be part of the solution to problems of upskilling the UK workforce to be able to respond to the challenges of rapidly changing business models, greater remote working and training, restricted travel and social distancing.

The big challenge we foresee is that the communities who are not traditionally well served by mainstream provision, the focus of Ufi's core strategy, are now probably more at risk than ever from being excluded from education and training and being able to access employment. These are issues that precede the COVID-19 pandemic but have been further compounded by it.

The VocTech Challenge is our opportunity at Ufi VocTech Trust to tackle some of the biggest challenges in vocational learning with an open mind. But Ufi can't do this on its own, so, using design thinking principles, we have set about on an exercise of co-creation across the VocTech community.

We are using the Design Council's 'Double Diamond' innovation framework, which consists of four distinct stages – discover, define, develop and deliver.



img source: Design Council's Double Diamond

- In the discovery stage, we are deliberately re-checking that our understanding of the VocTech world reflects reality.
- We bring together our findings into a series of problem statements/opportunities (defining needs) in this Green Paper.
- Then we will move into the develop stage by asking "how might we (or others that we work with) make a real difference in relation to these key themes?"
- Finally, we will make a selection from those ideas and seek to deliver them in pursuit of Ufi's mission and the widest possible benefit. We will publish a White Paper to set out how Ufi will take forward those actions.

This Green Paper represents more than three months of dialogue to test our assumptions and seek new insights from representatives across learner groups, training providers, further education colleges, SMEs, corporates, public sector bodies and technology entrepreneurs.

What we outline here is a view of the 'VocTech Landscape' in a series of problem statements/ opportunities (defining needs), all of which have been derived from the challenges currently experienced by the stakeholder groups we've talked to through the discovery phase.

We now invite our wider community to consider this Green Paper and contribute comments during the consultation period which closes on Friday 26th

March 2021.

We welcome thoughts on:

- whether our problem areas have been identified correctly.
- what additional evidence you have to support or counter this.
- what work is already being done to tackle these challenges.
- where Ufi VocTech Trust, or others, may have a role to help close the gaps.

Our aim is that we then use these comments, suggestions and ideas to frame best use of our resources – be they funding, advocating for best practice, or collaborating with others – and develop specific solutions. We aim to present our findings back in the VocTech Challenge White Paper, to be published in April 2021, which will include a statement of what Ufi is going to do to take this important agenda forward.



What did we set out to explore?

We made a number of assumptions to create a starting point for our Challenge, based on some initial research and horizon scanning of the VocTech marketplace and wider economic and social context. COVID-19 has created one set of challenges, but there are other important factors like Brexit and the impact of automation and the 4th Industrial Revolution that these assumptions also apply to.

We took the assumptions from our original briefing paper and tested them against the evidence that we found from our participant's real, lived experiences. We have looked for new insights that are practical and actionable, not just what is already 'common knowledge'. We wanted to hear the voices of those that have not been heard, either directly or through their advocates. We have also tried to link our assumptions to existing evidence in the public domain so that we validate our thinking against the wider research background.

Appendix 1 gives further detail on what we found.



Insights and framing the problem

We offer here a summary of what we discovered, and the 'problem definitions' that our insights lead us to, which have emerged thematically rather than following each of our assumptions. The issues are explored further in the appendices where you can read more of the detail of our conversations and evidence gathering if you would like to dive deeper. What we report here are the direct experiences of our participants and we were struck by how consistent the messages we received were, coming from a variety of sources.



We have tried to 'triangulate' what emerged from our discovery phase with evidence from our own funded projects and our own experiences, to be clear that the conclusions we draw are generally applicable and not just issues for a few individuals. We have also drawn on the reports and insights of other organisations working in the VocTech space.

During the next phase we will look at ideas for how to solve some of these problems, but for now, we are trying to be clear on the spaces in which action might be appropriate.

4.1 It isn't just the technology – although the technology is an issue

Our deep dive confirmed that access to technology is a big issue for those most at risk of being excluded from training. Even where they have access to a smartphone, data is limited so many of the online solutions are not going to be viable for them and not everyone has the latest version of a shiny new phone – older tech is still very much in circulation. Trainers have fallen back onto postal delivery of resources to ensure learners are not completely excluded, supported by telephone contacts. This has covered the immediate crisis, but points to a significant equality gap that needs to be addressed urgently.

The issue spans socio-economic groups as well. There is evidence of families with an apparent access to laptops and broadband, but the pressure on that equipment for parental home working or siblings in mandatory pre-16 schooling means that some vocational learners, reliant on family resources, are not able to participate in live sessions during the day, making group and collaborative working impossible for them.

Assumptions of accessibility based on what looks to be the case on the surface may need to be challenged. Even where there was greater access, motivation to learn was a big issue if learners had not previously been strongly engaged with their programmes of study or had bad prior experiences of learning. And some of these learners, in the most disadvantaged situations, have complex needs that will require time and individual support to resolve – one size definitely doesn't fit all.

Employers were reported also to be unwilling to accept that online training was 'real' learning and expected apprentices to be in the workplace if they weren't physically at 'college', with many workplaces also not having suitable places or technology for them to be able to study. EPAs are also affected if employers do not have the technical capability to support remote assessment.

One very interesting conversation around business perceptions of 'digital' exposed that many smaller firms perceive 'digital' to mean big IT, mainframes and hardware rather than the broader definition of 'that which is accessible electronically'. That perception may be part of the barrier to adoption.

Problem area definition – technology

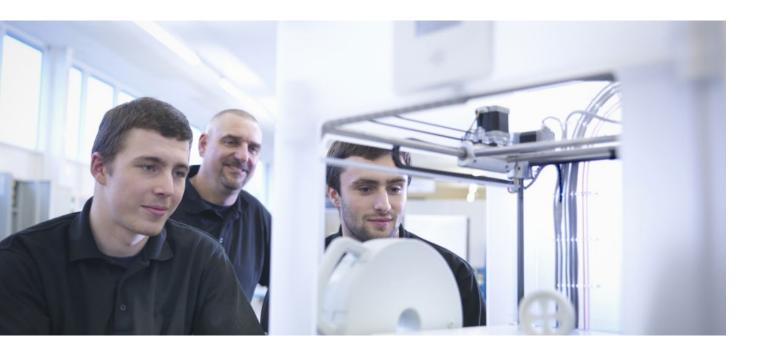
The questions these insights raise for VocTech and learning design in the digital world is whether greater use of mobile-first design is possible, the potential for more asynchronous learning that does not require set 'classroom' times and how to engage those learners who are not able to benefit from the social aspects of learning. Designing for the latest tech might also introduce unforeseen barriers where users are a few generations of software behind. Working with employers to understand and encourage digitally supported vocational learning could also be a way forward to reduce the burden on home-based resources. Overall, assumptions need to be set aside that 'everyone has access' and can therefore benefit from using VocTech.

The wider issues around access to technology emerging from this insight would suggest that deeper research is needed that focuses on the needs of vocational learners and the impact on access/opportunity/flexibility – and how this is contributing to the deepening divide – to create a compelling argument for action. There needs to be a clear identification of where the responsibility lies for ensuring that all vocational learners have equal access to opportunities. Acknowledging that they may not yet have the answers to how to solve this, we can collectively work with the responsible body(ies) to find creative ways to make that happen for both the technology and the bandwidth. But someone needs to take a lead. This is beyond Ufi's own mission, but is a necessary starting point and vital enabler for our goal to encourage the use of VocTech. If people don't have access, they can't learn.

4.2 It's all about confidence

As well as the engagement for this discovery phase, Ufi has a depth of evidence from the VocTech Now and Specialist Call projects that underpin this insight. The confidence issue has two main aspects – the confidence to engage online and confidence in digital skills which we look at separately below.

Confidence in learning manifests in a number of ways, when entirely online is the only option. Teachers and trainers report teaching to blank screens all day as learners are not prepared to put on their cameras. Experiences showed that reasons for this ranged from a fear of judgement of the background of their home, potentially chaotic working spaces with many family members sharing space, or a concern about personal appearance and peer pressure. Where people have had bad classroom learning experiences, it seemed that their confidence to show up online is even lower.



But the issues go deeper than this, with concerns amongst older learners about safety in the case of those experiencing domestic abuse or in communities where they fear exposure more widely in their home community for cultural or political reasons or because of past offending behaviour. Sharing openly online is just not seen as an option for some – where videoconferencing has opened possibilities for many professionals, it is a very challenging environment for others.

For learners with additional learning needs or limited literacy, engaging in a potentially fast-moving online session is also challenging as they typically cannot get the same kind of 1-2-1 support that they might have been offered in a classroom environment. Learners all work at different paces, and some need more time to engage with the material and collect their thoughts before responding. Remote, online and asynchronous learning need significant 'scaffolding' and preparation to enable these learners to benefit. Some of our participants reported trying to do that using 'how to' guides, but in the end it was human contact that helped them into their learning. Others are looking to VR/AR to offer a more visual engagement with learning and the chance to repeat learning at their own pace until they reach a level of confidence and competence.

And generally, the confidence to be an independent learner came through in most of our discussions. There were several schools of thought – some arguing that all learners need training to become self-starting and self-supporting in their development and others pointing to the vast world of YouTube and self-learning for every day tasks, asking why vocational learning should be different. The challenge is for learning providers to raise their game to create better content that allows people to learn more easily and intuitively.

Our conversations did not take us into the realms of cybersecurity, but this is clearly an underpinning issue in the confidence of all participants – for learners in the safety of their personal data, for providers in offering safe spaces for learning and ensuring their digital estate is reliable. Again, not an area that falls within Ufi's specific mission, but no discussion of this topic would be complete without it being a serious consideration.

Problem area definition – learner confidence

The landscape here is around supporting learners, whatever their personal and learning needs, to experience VocTech and blended learning in a way that is supportive and non-threatening.

Developing resources or strategies to enable learners to become more independent becomes a priority and giving them a chance to develop at their own pace is vital. Recognising that tried and tested techniques for establishing learning styles that can be done easily in classrooms takes much more time remotely. Understanding how VocTech and emerging technologies can enable access for those with additional learning needs now becomes more urgent.

User design also needs to take account of the experience of the teachers and trainers who facilitate that learning and to support them in being effective learning mentors in the online space – the whole concept of a 'teacher' changes in this new environment of flipped classrooms, non-linear content and self-paced study.

4.3 Digital skills are key to engagement

The second part of the confidence issue is around digital confidence and goes across all actors in the learning and development space, not just learners.

For learners, there are issues of basic digital skills to enable them to get online. When we dug below the surface, and our own projects bear this out, the level of digital competence in some of our target learner groups is even less than we had thought. If a learner does not have an email account, some of the basic processes for signing into online systems and password recovery become complex. If learners do not have basic word-processing or browsing skills, (often exacerbated by low levels of literacy) then many of the tasks set in LMS systems become daunting. And willingness to disclose lack of digital skills is an issue – this looks to be more widespread than we had seen in the written research. There is real reluctance to share and an element of shame in not being able to engage, or in some cases a resistance to wanting to change. There was some evidence that those with low literacy or learning difficulties have adapted and found 'workarounds' that allow them to access what they need with relatively little need to understand all that is on the screen, but responding to their underlying needs remains a priority.

But there are big issues on the teacher/trainer side as well. The speed of transfer to online forced by the national lockdown meant that there were staff with limited digital skills that were suddenly exposed to new scrutiny. Anecdotal evidence suggests that there were a significant number leaving the profession as they were unwilling to retrain in the new requirements. But amongst those who remained, the fear of online inspection of their teaching cast a shadow. Learning providers discovered that whilst they may have implemented sophisticated LMS systems, many staff had only used the most basic of functions and used the technology to support largely classroom-based pedagogies. Many still relied on downloading and printing teaching material rather than engaging with what is possible fully digitally. 'Content dumping' (as it was described to us) became prevalent with overstretched trainers putting masses of resources online rather than curating what was genuinely effective and offering a roadmap to success. The experience of many was 'emergency remote classroom learning' rather than genuine, well designed online learning.

Within management, the ability to support teachers and trainers in this new environment was also a new challenge, as they themselves had not had sufficient training to be confident as mentors or managers of change. There is a key leadership role here to be grasped across all parts of the sector and within employers. Learning and Development professionals in businesses where most of the past training they had commissioned had been face-to-face did not have the skills to understand what systems to specify or purchase to support workforce learning, and some costly mistakes have been made. And there was a resistance to new systems that took them out of their comfort zone. (See also the challenges of assessing effectiveness in the Business section below). Organisations have ended up with lots of overlapping but siloed content, and not enough learner-centred design. Learners are typically being forced down rigid paths rather than being led to explore their own route to development and allowed to create learning experiences that match their actual skills needs.

Problem area definition – digital skills

The landscape here is around stepping back from our current assumptions of competence and designing processes which allow all users to be unconsciously incompetent, needing full support from day one of their digital learning experience. There are many programmes already that offer digital skills support – our challenge is to look beyond to find ways to engage, inspire and motivate people to develop those skills and/or to make them well known and widely available.

At the most practical level, a shared understanding of what 'digital skills' really means would be a starting point. Best practice solutions, communities of practice and opportunities for upskilling that do not require people to expose their current level of (in) competence may go some way to encouraging more trainers to step into new and more effective digital pedagogies. Demonstrators that show employers a positive ROI from investment in, and effectiveness of, new and emerging technologies could help to engage more end-users and lead to better UX (User Experience) for learners. For teachers/trainers, do digital pedagogies form an essential part of their digital skills – from initial teacher training through to lifelong CPD? Can we work to ensure that the next generation of learners is equipped sooner with the skills they will need lifelong both in basic digital skills and learning how to understand/interpret different media and sources? We need confident digital leaders at all levels in organisations to really grasp the opportunities that the tech has opened up and clear national champions in this space willing to step up and inspire others.

4.4 Learning is a community activity, and needs to include practical skills

The previous insights touch on this, but it is worth pulling out as a separate issue. Learning is generally not a solitary activity either the learning or the application of skills usually involves others. Our consultations exposed a view that best learning happens in community and those currently excluded from peer group engagement are having a lesser learning experience than before. Group learning remains the norm across FE and private providers, and in that context those not able to join those groups are disadvantaged. Joining an online group where you don't know anyone is also a challenge and strategies to help create online group coherence are needed. Whilst in the short term, the lockdown will ease, there are important design lessons here in how fully online and asynchronous learning experiences are put together to ensure that there is contact between learners and with skilled learning mentors to ensure their learning is a rich and enjoyable experience. This was seen to help with motivation, allow less confident learners to check their understanding and seek feedback before progressing and create a positive sense of shared achievement in teams or workplaces – for example engaging with a resource online and then coming together to discuss what has been learned.



There were counter-views that learning can happen just fine alone, where a learner is upskilling for a particular task rather than undertaking a longer course or where they actually prefer to repeat content until it is clear to them, without having to share that they need that extra time – a perception that the tech won't judge them as a peer community might. So perhaps the lesson is that the context is important in deciding the level of interactivity needed. Good learning design for VocTech and blended learning is different from face-to-face contact and needs to be recognized as such.

It is also a team sport for developers and trainers. In several of our conversations, the ability to bounce ideas around, get inspired by others' thinking and ideas came up as issues for L&D professionals. Many of the leading innovators in the sector have been engaged in firefighting to get learners engaged in these very difficult times, and their ability to push the envelope of what is possible has been set aside for now as small teams in training providers have been overwhelmed with supporting colleagues on basic digital platforms. There are simply not enough trained learning designers and

technologists to meet the current challenges, and not enough recognition of this pathway as a valid career in its own right to encourage others to specialise.

We were delighted to hear from some progressive employers that they wanted to be part of that conversation – there was evidence that they were being 'sold to' rather than engaged in discussions around what L&D solutions were needed for their business. They were asking for flexible, nonlinear content where team members could upskill quickly in areas of immediate training need rather than having to follow inflexible curricula designed to meet external standards that the employer did not necessarily buy into. Speed of change meant that those standards were often not keeping pace with change in the real business world.

We also heard the challenges, particularly in practical subjects, where teachers had prioritised the 'academic' content of courses early in lockdown to keep learners engaged, but a moment arrived where there was currently no way to move that into the practical sphere of 'hands on' learning – as one participant explained, you need to hear, feel and smell a lathe to know if you're doing it right. How that translates into new, digital experiences needs to be explored, in ways that are affordable and accessible. New technologies such as haptics and fully immersive experiences are available and making more of an impact in gaming, but currently little used in education on any scale.

Developers and trainers shared with us that they had to routinely re-author content several times (for the same learning experience) to meet the differing requirements of learners and accrediting bodies as there was a mismatch between expectations and reality on the ground, particularly for those with English as a second language or lower levels of literacy. The 'academic' language needed to demonstrate the standard (level 2,3,4) had to be re-translated into everyday language to enable the learners to pick up the actual skills and competences.

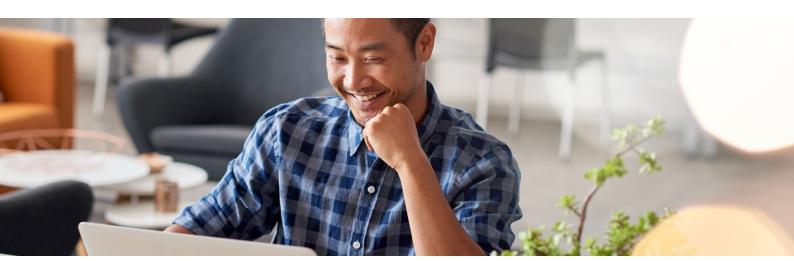
Problem area definition – social and practical learning

The landscape here challenges us to look differently at how VocTech connects people in the learning, teaching and development phases. How can we innovate to include practical skills in the virtual world? How do we support our innovators? How do we make learning design and technology an attractive profession in its own right? How do we create more and better trained learning designers to be fully able to exploit the potential of VocTech to offer truly disruptive solutions for academic and practical subjects? How can awarding and accrediting bodies engage to look at new models for modular and bite-sized, skills-based assessment? How do we engage employers to better understand their day-to-day needs and give them a voice in the process? There may already be initiatives under way to solve some of these challenges – how do we make them more visible and increase take-up?

4.5 It's a difficult business market for innovative developers and training providers

Whilst it is clear that some of the biggest training providers and technology platforms have prospered in this new, digitally connected world, the same is not true for some of the smaller providers who loyally serve the market with niche products and exciting new ideas.

There are issues of client comparison with the 'Xbox experience' and do not understand the cost or delivery implications of 'all singing all dancing' solutions. There are issues of supporting clients with limited knowledge of digital learning who do not fully understand what they are commissioning, and often drift to well-known solutions as a 'safe' default, even though they are not really fit for purpose. In the current world of restricted social contact, there are real problems of meeting people and being able to pitch new ideas, with most of the exhibitions and conferences on hold at least for now and access to employers restricted as they firefight within their own businesses.



Participants spoke of the challenge of selling new ideas to a market that was not aware of the potential of what VocTech could do to change the face of learning. If a client had not experienced what VR/AR or AI/ML could offer, getting to the point of show-and-tell was generally prohibitively expensive for a small developer. Learning designers themselves need confidence in their approach and positive case studies to back up their offer if clients are to follow them confidently into a world of good digital learning, rather than having to fall back to the lowest common denominator. There may be some uncomfortable conversations to be had that 'calls out' existing not-so-great online provision that was put together hastily and with the very best intentions and points instead towards what best practice can look like.

There are also challenges of proving ROI for digital learning, in part because 'traditional' methods of training have not historically been evaluated for effectiveness so there is no benchmark against which to prove VocTech is better/faster/cheaper. And the laws of inertia apply to selecting radical new solutions. Perhaps finding a way to show that not investing also has a cost could move this forward. Compliance training is very cost sensitive and 'time off the job' is a key feature, so cheap, box-ticking solutions remain an easy option. Employers were noted to be loath to train workers in low-wage employment and the 'gig economy' due to high turnover levels, making it vital that individuals can access training easily if their employers are not willing to invest.

Developers and trainers spoke to us about the challenges of keeping a pipeline of clients coming in to enable their businesses to first survive and then grow. Being busy working in the business meant that they had less time to work on the business to develop new leads and acquire new clients. They spoke of current business advice being targeted either at start-ups or at manufacturing-style businesses and not at the kinds of creative industries models that they run. Colleges similarly are not set up to commercialise their ideas in the way that the HE sector has capitalised on their IP over recent years, reducing incentives for staff to create new content/platforms/tech that could have wider application beyond the College.

The current models of funding for training mean that the present dip in apprenticeship starts may seriously affect a significant number of training providers in the next year, although other Government initiatives may counterbalance that dip. Whether that continues to be an issue remains to be seen. But generally, the mood music in our conversations was that funding based on time and attendance rather than acquisition of skills will have a drag effect on innovation.

Problem area definition – the VocTech Market

The landscape here is a need for more robust business support and guidance for the smaller businesses both on the developer and trainer side of the VocTech market. Development of a stronger capability across FE to manage and exploit their IP would be an advantage. Access to investment for business growth or product launch is an issue. Access to appropriate mentoring and advice similarly. Access to alternative thinking and business models would be helpful. Are there options for smaller developers to come together to offer solutions collaboratively as happens in other industries? A clearer offer to employers and an invitation to be part of the solution seems likely to appeal to some. Demonstrators that show how to design, deliver and evaluate training could help to level the playing field for VocTech. Funding models could be redesigned. And a better-informed client base, willing to specify new delivery tools would be the icing on the cake.



How we would like you to respond

The problem areas identified above are the result of our discovery conversations. We are very grateful to all of those who have contributed so far – we are not naming them here as we promised confidentiality within the discussions to encourage free speaking, but you know who you are and you have our deep thanks.

We are keen to add to our understanding of the root causes of these issues and also be clear on what work is already being done on the ground to tackle some of them. We want to enhance, not duplicate. The discovery process has a focus on the real experiences of those we speak to, but it does mean we know we will have missed things. We now need you to help us fill in those gaps and make our subsequent White Paper as robust as we can, based on good knowledge of what is going on in the sector.

Our consultees have encouraged us to be courageous in taking this forward and to lead with examples of excellent practice that can inspire others to think about things differently. So we also welcome your good news stories and case studies of where these challenges have already been successfully tackled in one area that could be more widely transferred.

We have a specific mission around VocTech, so we're going to need partners with other missions to come alongside us to tackle things that are not ours to do. We need to understand where the responsibility lies for making some of these big changes so that we can work alongside them to share innovative ideas and co-create solutions that really work. We want to be clear that our next actions will lead to a real change in the skills of the UK workforce.

So please send us your thoughts using the online form below.

Click here to respond on our website

ufi.co.uk/challenge/green-paper/feedback





Appendix 1

Our Assumptions – did they hold up to the test of reality?

Here we look at whether the assumptions we created to start this discovery process were confirmed or rejected by the process of exploring the lived experiences of teachers, learners, developers, learning designers and employers across the sector. We think about some of the evidence and there are some quotes from our conversations to illustrate the points.

Part 1 – Were our assumptions about risks correct?

Home working and home learning will continue to be more prevalent for the long term

Confirmed? Yes - and maybe

Research into working patterns, employment practices and demand for online learning indicate that the trend towards home working will stick. According to the CIPD, evidence suggests that after the crisis there will still be a significant shift towards more working from home, possibly the biggest long-term shift in working patterns directly attributable to the crisis.

Embedding new ways of working: implications for the post-pandemic workplace (cipd.co.uk)

On home learning, it is not clear what the trend is for vocational learners. We know from our discovery that for young people in FE or studying for apprenticeships that home learning has taken precedence, but the model going forward is likely to be a 'blended one'. However, for many of the workers who cannot work from home opportunities for upskilling are work based and increasingly, where possible, delivered online via mobile devices.

What is clear is that opportunities offered by online and digital learning, whether at home, in work or on the go via a mobile device have been rapidly opened up and that is likely to stick.

The World Economic Forum report a four-fold increase in the numbers of individuals seeking out opportunities for learning online through their own initiative, a five-fold increase in employer provision of online learning opportunities to their workers and a nine-fold enrolment increase for learners accessing online learning through government programmes. WEF_Future_of_Jobs_2020.pdf

Access to practical and vocational skills development will continue to be restricted for an unknown duration and potentially will change for good

Confirmed? Highly Likely

Social distancing measures are likely to be in force in some form for the duration of 2021 in the UK whilst the vaccination programme rolls out and maybe beyond. It is difficult to predict what will change for good at this stage.

The lockdown rules have differentially affected some private training providers as schemes for testing in colleges were not applied across all training settings.

Our 'highly likely' rating on this is based somewhat on the evidence that permanent changes to home working and learning are likely to ripple out to practical skills development as technologies emerge that can simulate work-based environments in a more realistic and 'hands-on' way.

"It's one thing getting them in the classroom, where you can engage with them, but from an employee's perspective, now, we're so far away from these young people, we just can't, we can't get near them because of this pandemic"

3. Certain groups of learners will be disproportionately impacted by the economic challenges we will face in 2021 and beyond. Particular risk factors for digital and economic exclusion include low skill levels, low-wage employment or unemployment, remote geography, industry sector restructuring

Confirmed? Yes

There is a growing body of research evidence that supports this assumption, for example:

- Young people (under 30) have been particularly hard hit by the pandemics disruption to the jobs market (Employment: Seven ways the young have been hit by Covid BBC News) and are in the highest risk category for jobs likely to be most impacted by automation and at risk from COVID. Research by the RSA identified that those jobs tended to be in industries with high levels of young, male workers and tend to be lower paid and are less likely to have higher levels of education in industries such as hospitality, sports and recreation and parts of manufacturing and construction. Which jobs are at risk from Covid-19 and automation? RSA (thersa.org).
- People with a disability make up over one in ten of the working age population. Research from the
 Joseph Rowntree Foundation in their report <u>Enduring economic exclusion</u>, <u>disabled people</u>, income
 and work concluded despite policies over the past two decades to promote employment and direct
 more help to those in greatest need, they remain under-represented in the workforce and overrepresented among those on low incomes.
- HOLEX and FETL report that the UK is one of the most spatially unequal societies among developed nations. Communities have been 'left behind', especially in the industrial heartlands of the North and Midlands and also in coastal and rural communities across the country <u>Levelling Up Adult</u> <u>Community Education - What does the data tell us?</u>. In their report they argue that COVID has made tackling the issues of levelling up more difficult.

- Just one in five (20%) of adults who left school at the first opportunity took part in lockdown learning, compared to three in five (57%) adults who stayed in education until 21. Adults in lower socio-economic groups (29%) were half as likely to take part in lockdown learning as adults in higher socio-economic groups (57%). Just one in three (34%) of adults who were out of work took part in lockdown learning, compared to over half (52%) of those who were in employment. Levelling Up Adult Community Education What does the data tell us, HOLEX, FETL
- The 2019 Social Mobility Commission Report <u>The adult skills gap: is falling investment in UK adults stalling social mobility?</u> highlights the issue that low skilled, low pay adults are missing out on training and people from the lowest socio-economic backgrounds are the least likely to receive adult skills investment.

"But one of the biggest issues is particularly with some of our level one learners and our level two learners is that they come from really unstructured families and they've got nowhere to be. The space at home is really an issue. They wouldn't even have a desk. There's nobody saying, "You're supposed to be in S 7.4 now. Why aren't you in S 7.4?" There'll be nobody there to provide that kind of support around them and direct them to where they need to be"

4. Some groups of learners are disproportionately affected by the digital divide (not an exclusive list) – care leavers, people with special educational needs or physical challenges, involvement in the criminal justice system, older learners or 'second career' learners needing retraining where industries have automated, BAME groups, workers in low-paid jobs

Confirmed? Yes

The digital divide in the UK is very real, the Good Things Foundation report <u>Blueprint for a 100%</u> <u>Digitally included UK</u> that 9 million people in the UK struggle to use the internet independently, and there is also a north/south divide. In England, the digital divide is also a north/south divide; 49% of people in the South East using the internet fully compared to 18% in the North East, and 31% in the North West.

"Most don't have a computer or a laptop or iPad or anything similar and even if they did, to have been able to access training and all the things that you have to go through would be incredibly difficult for them. And they just wouldn't be able to engage, their levels of self-confidence are low and the knowledge would be the barrier. So that is one of the biggest problems and it's not just us, we're seeing it now through this pandemic, the inequality, people don't have, and there's always this assumption, everyone must have a smartphone, yeah? Everyone must be online. Everyone knows how to get onto X, Y, Z. Actually, people don't, it's surprising the number."

The impact of this divide has many consequences for vocational learners, with devices, data and digital literacy providing a real challenge to access. Vocational teachers and trainers in FE, learning providers and community adult education told us of their frustrations around access issues which disproportionately impact certain groups of learners, for example students with learning difficulties being unfairly disadvantaged due to challenges accessing online content which has been 'content dumped' onto an LMS without consideration of the needs of different learners.

Practitioners observed that their collective experience was groups of learners who have had bad experiences with schooling as well as bad personal associations of tech and the risk factors for digital and economic exclusion increase.

"A lot of people with convictions are very frightened of being exposed on social media and certainly Zoom is a big step for some of them, especially if they've got convictions that may be related to a locally high-profile case "

And we discovered that too often damaging assumptions about digital literacy pervade and learners are embarrassed to challenge these assumptions. These included the notion of the digital native – someone born into the era of digital technology and therefore digitally literate by association, and assumptions about their ability to engage digitally is having consequences in terms of engagement and equity.

"I think that the biggest danger, the biggest thing that's missed is that there's an assumption that people know how to self-study"

Instead of digital literacy operating in such a vacuum, it is necessary to recognise that, as with lived experiences of schooling, technology has personal associations both good and bad, and these need to be carefully taken into consideration in learning design and product development in order to harness the enabling aspects of technology for learning.

"It's blown my mind this morning that somebody said, we didn't show them how to do it, to engage in it in the first place, and I realised we've done that too. So that not only do you have a lack of I.T. engagement, but you also have huge literacy and numeracy barriers, so in a normal adult learning setting, would probably have want to support, and we're trying to do this remotely."

There are some further thoughts here that underlie this theme on how Social emotional learning is managed in the US (https://tytonpartners.com/library/k-12-social-emotional-learning/) and evidence from a national survey of adult learning – 'winners and losers' in the new digital world (https://learningandwork.org.uk/what-we-do/lifelong-learning/adult-participation-in-learning-survey/).

5. There is a risk that low-cost, low effectiveness models of digital learning delivery will be adopted to achieve instant mass reach, at the expense of quality and good long-term outcomes for learners (low cost can be good – our concern is about low quality provision)

And

The affordability of training, upskilling and reskilling to employers, individuals and Government will become critical if recession bites and even less resource is available, driving people to poor quality, low-cost solutions

Confirmed? Yes

We found evidence from our 'deep dive' conversations with developers, learning designers and employers that low effectiveness models of delivering digital learning are prevalent and that there is a risk that this will continue.

Whilst the initial speed of shift to remote learning was impressive, often the cost implications of online platforms meant that free, generic platforms were used that weren't specific to the needs of all learners.

However cost wasn't the only issue driving poor quality. We discovered a lack of understanding of what digital could offer L&D alongside a poor culture of measurement of the impact of training in the HR and L&D profession which meant that employers were not always able to make good choices about the provision of online learning. Too often:

- employers don't understand how to (or don't want to) measure people development and upskilling, favouring compliance over competence
- employers don't have enough knowledge of digital solutions to ask the right questions of vendors or to engage with smaller developers who might be more able to develop agile, responsive solutions to meet their needs
- there is insufficient Board level support for training as their focus is on things that can be measured
- compliance drives training, rather than skills development as this can be easily ticked off.

"I would say, across my 100 sizeable clients that use our stuff, less than 25% truly measure that what we do for them makes a difference that they could go back to the Board"

Conversations with Learning Designers unearthed that the prevailing model is for "content dumping" rather than user determined learning and too often course design is linear, rather than modular and personalised to each user. These approaches are time-consuming, requiring learners to click through content which they may already know, and content geared towards an "average", not unique, user. Whilst cost was sometimes a factor, which limited the creative process, it was also true that the 'safest' and often default option was to rely on incumbent providers, volume training, and generic content rather than look for new solutions.

Learning designers themselves explained it was also hard to change their own practice.

"It's really hard to break this fundamental mental model about what I will do is get more content and I will fill your brain with this content until it is full. Breaking that model – it's pretty much the hardest thing I think we have continued to face, I think. That model of delivering a five-day course with a PowerPoint hasn't changed much, ever"

6. A likelihood that without positive intervention, 'hard to reach' learners will remain excluded, with mainstream providers focusing on easier-to-serve communities.

Confirmed? Yes

The World Economic Forum Future of Jobs Report 2020 argues that the future of work has already arrived for a large majority of the online white-collar workforce and argue that in the absence of proactive efforts, inequality is likely to be exacerbated by the dual impact of technology and the pandemic recession. And whilst online learning and training is on the rise it looks different for those who are in employment and those who are unemployed.

The individuals and communities most affected by the unprecedented changes brought about by COVID-19 are likely to be those which are already most disadvantaged-living in neighbourhoods with poor infrastructure, who have poor employment prospects and whose income does not equip them with a comfortable living standard, healthcare coverage or savings.

The following wide array of characteristics typically pose a risk of social and economic exclusion among these populations: age and generation; gender and gender expression; sexual orientation; mental and physical abilities; level of health; race, ethnicity and religion; in-country geographic location, such as rural and urban.

These characteristics are typically reflected in outcomes such as levels of education, employment type, income level and socio-economic status. The World Economic Forum Future of Jobs Report 2020.

This view from the WEF (World Economic Forum) was supported by the experience of practitioners we spoke to, working 'in the field'. They highlighted that for groups of learners already disadvantaged and vulnerable, the legacy of 'bad' school experience and bad online learning practices due to the rapid shift to remote learning in 2020 has created real barriers to engagement, whilst also demotivating teachers tired out from sessions of "blank screens". This was especially important for more vulnerable learners where human contact and support of face-to-face learning was a big part of the learning experience.

"I imagine a lot of our learners have experienced bad online learning and it has made an imprint. They would rather not engage or engage less, due to bad experiences."

7. A probability that enduring low skills levels will impact the ability of the economy UK plc to recover quickly

Confirmed? Yes

Evidence for this premise has underpinned UK economic development policy for many years and there is no reason that will change in the post-COVID recovery and transition into a post-Brexit, 4th Industrial Revolution context. Investment in human capital – education and skills has a positive effect on growth.

Our session with employers confirmed the critical importance to their success and growth of a highly skilled, adaptable workforce and the ability to retrain them quickly in key skills on a 'just-in-time' basis.

The Government's Levelling-Up Lifelong Learning Plan highlights how learning new skills as an adult supports the economy, improves productivity, facilitates integration and improves personal wellbeing. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/957856/Skills_for_jobs_lifelong_learning_for_opportunity_and_growth_web_version_.pdf

- UKCEs, in their 2011 report Low Skills and Social Disadvantage in a Changing Economy found evidence to show that the prospect of employment for people with low skills has barely changed in recent years and has worsened during the recession, especially so for people with no qualifications.
- The disadvantaged position of people with low skills is often reflected in the position of other household members. The benefit system provides many disincentives for partners of non-working people to take employment, especially if that employment is low paid. Many households (around 12%) consist of two low skilled individuals where neither is working. In addition, the educational performance and aspirations of children and young people whose parents are low skilled are well below the average, suggesting that disadvantage related to poor skill is being reproduced across the generations.



8. A tendency that practical skills will prove more difficult to deliver online than 'academic' subjects

Confirmed? Yes

Teaching and evidencing practical skills online or via digital methods is inherently more complicated than testing knowledge and our deep dives point to evidence which supports this assumption.

For example, delivering the practical nature of much vocational learning is being challenged by the new online environment. Funding mechanisms underpinned by number of in-person hours delivered, and end point assessments for apprenticeships, dependent on being on site, were two examples which delayed vocational learning credentialling and affected learners' progress. This was not merely a pandemic issue and has been noted and challenged for many years as an issue where vocational technology and digital portfolios can effectively register learner progress.

"There is a desperate requirement for really clever VR assessment that takes into account all sorts of other things, not just the skills but the weights of the piece of metal, the sounds that you hear in an engineering workshop, the smells, etcetera."

There is also a risk that investment in innovation in digital methods for practical skills will be hard to secure, as assessment and awarding body practices currently are not geared towards these models of delivery. And a fear that the institutions that sit around vocational education won't keep flexing when the COVID restrictions are lifted.

We discovered not only that practical skills development via digital methods is harder than sharing more 'academic' or theoretical content and but also that assessment and awarding bodies are not currently geared to recognise digital forms of assessment.

"For higher level learners, like A level learners and those on level three vocational qualifications, more competent learners who are probably from much more supportive families, they manage okay but it's still at a lower fidelity than actually turning up to a class in a college."

The issue is exacerbated by a mismatch between formal training institutions, assessment bodies and industry needs. The employers we spoke to explained that what is needed is skills development, not mastery, so employees can operate within dynamic, fast moving markets, with support for remote technology-enabled alternatives for in-person end point assessment for apprenticeships.

"Everyone wanting to do the same thing (sic develop skills) and yet we're talking apples and oranges... from day one when we start talking, we're on different planets. And that's, for me, what needs to change big time."

Part 2 – Were we optimistic about the right things?

The pandemic has also shone a light on the opportunity and potential for VocTech, done well, to break down barriers to learning and create new business models. We thought some important things had changed, this is what we found out about our hopes.

9. Resistance to online learning has reduced for both trainers and learners

Confirmed? Not sure

Whilst the World Economic Forum report a four-fold increase in the numbers of individuals seeking out opportunities for learning online through their own initiative and the rapid adoption of digital delivery methods by training providers as a result of the COVID restrictions it is difficult to say that resistance to online learning has reduced across the board.

Our conversations with stakeholders pointed to this being another area where it could be easy to make damaging assumptions which impact on product and learning design and engagement strategies.

Whilst there was a buzz around early action, many people's perceptions of digital learning have been shaped by some of the poor experiences of rapid adoption and unwillingness to engage in new models of learning which fall outside of professional, cultural or generational norms.

"Our teachers are really struggling with learners who simply do not want to engage with a screen, that this generation are thumb texters, they will not turn their cameras on. They won't even turn that audio feed on. They will only communicate via text. So, for our teachers, it's a horrible experience because they're talking to a blank screen the whole time, and they'll be online from like nine o'clock until four o'clock teaching classes with very little interaction from those lower-level learners."

We discovered that for many employers, classroom training still dominates. There is a deep rooted and conservative notion of what training is, which is reliant largely on PowerPoint presentations in a classroom environment. This makes it hard to try new approaches and hard for developers to demonstrate the value of their products and innovations.

"Fear of technology is our biggest problem when we try to engage everybody to use the system, especially with staff who have only worked with paper-based portfolios".

Digital strategies are not often well baked into organisational strategies, in employers, FE Colleges and learning providers. The burden of digital learning and technology, is too often still on the shoulders of a few 'digital mavericks' and champions within organisations who don't have the equal share of voice at strategy/board level to make the systemic changes needed for successful adoption and deployment of digital training. And there are not enough of them to make change at the pace needed.

Excellent work is being done in the sector however to understand what the reality on the ground is and plan for a better future:

Jisc/AoC Shaping the digital future of FE and Skills report https://www.jisc.ac.uk/sites/default/files/shaping-the-digital-future-of-fe-and-skills-report.pdf

AOC (Ufi funded) e-book https://www.aoc.co.uk/news/close-the-digital-divide-enable- %E2%80%98digital-first%E2%80%99-fe-sector-post-covid-%E2%80%93-argues-new-ebook

JISC digital insights https://www.jisc.ac.uk/digital-experience-insights

Employers are allowing greater access to online communications and learning platforms

Confirmed? Probably

There is evidence that some resistance to opening secure local networks has subsided, but there are still platforms that employers – particularly in the public sector – are reluctant to allow workforce members to use. This can complicate delivery for training providers as there may be differing client requirements.

"It's also about trust. We're finding a lot of our care home managers are not willing to trust people to log on from home, where they've got their own devices and it's not possible to put 10 people around one screen in a care home and also, it's not wise in terms of social distancing to do that and infection rates. So, we've delivered in a way or developed in a way as many providers have, that we can deliver through phone technology. But still even basic things people struggle with and needing people to access visually as well, so it's more immersive. It can be a huge problem."

Some successful examples of remote End Point Assessments being done on employer premises were reported, but these remain a minority of cases.

11. Local face-to-face providers have or are planning to switch to some use of digital or blended learning models

Confirmed? Yes

Our VocTech Now call for proposals generated over 600 applications from private training providers and FE colleges looking to rapidly transition online in March 2020. These were some of our insights from that cohort of projects and the many applicants we could not support.

The vocational training sector was not well prepared for a rapid move to digital. Most had it on their radar to adopt more VocTech solutions and some were in the early stages of planning. But for most, a chronic shortage of resources meant that in reality they could not afford the staff time, software licenses or equipment to make the transition.

"We had been intending to develop our use of VocTech in step with commissioned work. As no one customer would pay us to develop this, a step-by-step approach was a viable, albeit relatively slow path."

"We have been trying for some time to identify internal funds to source a solution such as this, but cuts to FE funding has meant that this has not been possible. Unfortunately, this now means that we have apprentices who may not be able to finish their programme without a technology-driven solution such as that we will deliver through this project."

The business models of many of the private providers meant that they were not well placed to withstand a financial shock of this scale. Operating margins are very low and without reserves, staff were quickly furloughed, taking support that learners needed very early in the pandemic. Several projects asserted that they were 'a' or 'the' major provider in a geographical location or a niche learning area. After a return to full movement, the extent of the losses in the sector will need to be analysed to ensure that all learners have access to appropriate opportunities.

"Our key staff are prepared to deliver for us, however without the funding face redundancy."

The enthusiasm of the sector to take the plunge and try digital was refreshing. Some cited pressure from clients to remain face-to-face as a reason for not going digital before. With that resistance now gone, there was an opportunity and an urgency to take the chance to change the way things were delivered.

"We have long hankered for an online option of learning for people who cannot take time out of work to travel or attend or who live a long distance from the location of our courses. This is the perfect time to make this happen."

"This is (also) an unparalleled opportunity to realise some the cornerstone principles advocated by FELTAG and if we plan our activities in these difficulties to best advantage it is possible to bring about a lasting quantum shift in our delivery style."

12. Overall engagement with digital tools has increased – online shopping, digital use of Government services, remote healthcare access – resulting in greater familiarity and acceptance and many employers have now implemented digital tools to support business processes or communications

Confirmed? Yes

The explosion of online shopping is confirmed in the ONS's interesting time-series of the percentage of purchases made online. https://www.ons.gov.uk/businessindustryandtrade/retailindustry/timeseries/jamc/drsi

Industry sources for retail predict that those trends are here to stay. https://www.retailgazette.co.uk/blog/2020/07/17-2m-brits-plan-to-switch-to-online-shopping-permanently/

In healthcare, Deloitte's report shows trends towards much greater adoption of e-health solutions https://www2.deloitte.com/content/dam/Deloitte/uk/Documents/life-sciences-health-care/deloitte-uk-connected-health.pdf and a number of Ufi's own projects are looking at how technology enabled healthcare can improve outcomes for patients as well as upskill carers and healthcare providers.

There is a Government site dedicated to helping public sector providers to offer better services to their users https://www.gov.uk/service-manual/helping-people-to-use-your-service/encouraging-people-to-use-your-digital-service which interestingly sees training as a big part of the solution "Train staff to improve users' digital skills, confidence and trust".

In all aspects of public and private sector provision, we have seen a move to more services being online. The extent to which they remain online will have to be seen once restrictions are lifted, but it seems that the hope on the side of providers is that the bulk of their user base will remain online to reduce costs and improve productivity.

How all these online services are adapted to the needs of those with a disability is less clear and this should remain a focus for future understanding.



13. The market for digital learning and communications tools has matured very quickly, with many technical solutions providers experiencing rapid growth, and that is set to continue

The worldwide e-learning market is projected to be worth \$325 Billion in 2025. (Source: Forbes). Corporate e-learning developed by a stunning 900% between 2001 and 2017. (Source: eLearning Industry). There are strong indications that growth will continue and across a greater diversity of opportunities.

Emerging tech such as AR/VR and AI/Machine Learning have just started to find use cases that make investment in them more likely within the mainstream.

Statistics on online usage of learning are significantly better for school and university level than for vocational level learning – there are questions generally about how well understood or studied this group of learners really is.

Our work with Tyton Partners keeps our finger on the pulse of the investment market and how it is developing in the UK and internationally. Successive quarterly reports indicate that skills platforms focused on upskilling remain generators of market activity.

"The European digital learning market continues to be buoyant. But the increasing diversity and complexity of solutions means it is becoming a more bewildering place to navigate. Performance support, content curation, video, augmented and virtual reality, microlearning, social learning, learning experience platforms and AI are all vying for a role alongside traditional tools like e-learning and blended programmes. Finding a digital learning partner that helps you make good choices beyond what you can buy from them, is becoming critical for client success – more so now than ever before."

David Perring, Director of Research Fosway Group (and their 2021 survey looks to gather some interesting new insights)



Appendix 2

Supporting Information – Insights from our conversations with stakeholders

In this section, we share in more detail some of the outcomes of the conversations we held to look deeper into the lived experiences of people across the vocational education and training landscape. In each section, we have also linked some of the supporting evidence that we have uncovered that offers more insight into the issues raised.

1. Teachers and trainers

(The people responsible for training trainers in online learning within the vocational training settings)

Challenges:

- Staff leaving when there was a move to online. Online teaching was outside their skill set and so they retired. This created a trainer skills gap.
- Trainers found that online teaching was a diminished experience and never the same as face-to-face (f2f) and even f2f was challenged due to social distancing and small groups.
- Resource and expertise sourcing is a challenge it takes time to both adapt or create resources and source expertise in online pedagogy.
- Practical skills how do you remotely teach or assess engineering students who need access to lathes and other practical tools?
- Existing vocational pathways being challenged and less apprentices being taken on because of problems in f2f or blended learning.
- Socialising and the human element is a huge part of learning and it is difficult to recreate in purely online environments.
- Disabled or shielding students even further disadvantaged by not being able to do f2f and potentially online either.
- Culture of retrofitting technology back into the existing or traditional FE culture i.e. printing handouts risk of reverting back whole heartedly and losing benefits.
- Structural issues around delivering end point assessments remotely.

We spoke to a small group of educators working within the vocational education system in training providers and colleges, who also support colleagues in the delivery of vocational learning, often through technology.

The group reported back that the pandemic had exposed wide gaps in understanding of online teaching and learning, on the side of both the students and the staff. From a resourcing point of view, a number of teaching staff, who felt that they could not adapt to the new demands of working online, left their positions. Existing staff, further stretched by these colleagues leaving and having to adapt their resources to new online environments, were challenged by what they perceived as a diminished experience vs. face-to-face teaching. This included frustrations around access issues: shielding or disabled students being unfairly disadvantaged due to challenges accessing face-to-face or online, apprentices dropping out due to employers discontinuing their training because of the inability to conduct end point assessments in person, or merely lots of students not turning up to online sessions, and not turning on their cameras or audio.

Whilst the initial speed of the shift to remote learning was impressive, often the cost implications of online platforms meant that free, generic, platforms were used that were not specific to the needs of the vocational sector. And, when face-to-face learning was available, this was also slower, and less engaging due to smaller group sizes and social distancing rules, with less practical hours. The social element of learning was very hard to recreate in all these circumstances, and especially difficult was the creation of authentic cohort relationships where people had never met in person previously.

For the group we spoke to, the shift to online meant that previous time available to think about digital innovation was curtailed and all prioritisation given to day-to-day delivery of service and fire-fighting. This put increased and unsustainable time demands on a few "digital mavericks" working twelve-hour days to keep the wheels of the colleges and training providers moving.

Delivering the practical nature of much vocational learning was also challenged by the new online environment; funding mechanisms underpinned by number of in-person hours delivered, and end point assessments for apprenticeships, dependent on being onsite, were two examples which delayed vocational learning credentialling and affected learners' progress. This was not merely a pandemic issue and has been noted and challenged for many years as an issue where vocational technology and digital portfolios can effectively register learner progress. On top, market conditions have pushed apprenticeship training down the list of priorities for employers.

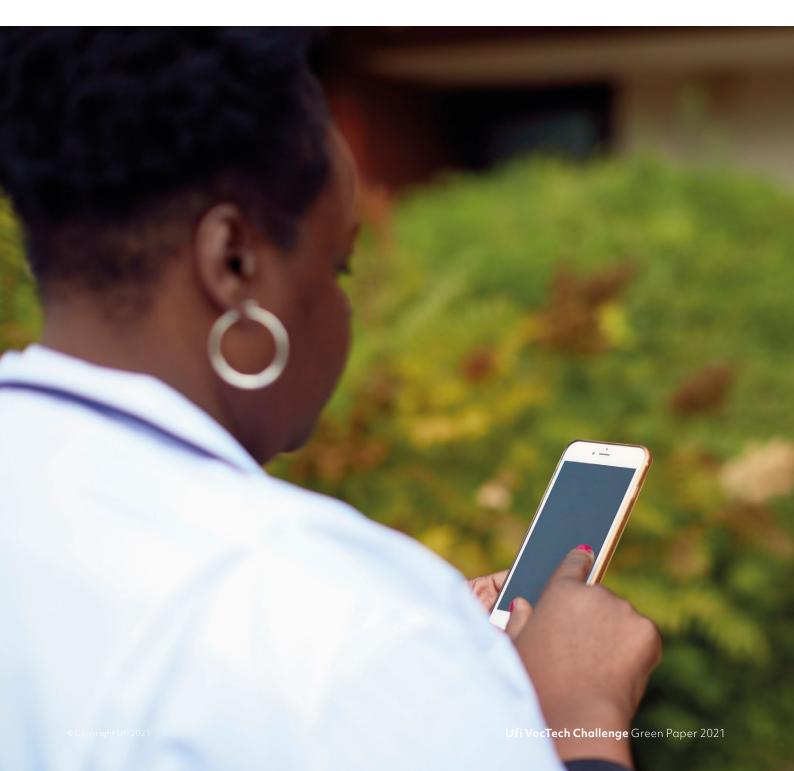
Finally, a persistent culture of 'retrofitting' analogue administrative processes – using only the most basic elements of LMS and continuing to print off materials, for example - has frustrated the ability of innovators to make substantive change to some of these fundamental challenges. But, the initial pause of the pandemic has also provided an opportunity to think more carefully about inclusive and more up to date resources and learning design going forward, and building assessment into existing vocational technology solutions, such as VR platforms.

Supporting evidence:

- http://www.steve-wheeler.co.uk/2019/08/assessment-in-digital-age.html
- Levelling Up Adult Community Education What does the data tell us, HOLEX, FETL
- Excellent work is being done in the sector however to understand what the reality on the ground is and plan for a better future:

- Jisc/AoC Shaping the digital future of FE and Skills report.

 https://www.jisc.ac.uk/sites/default/files/shaping-the-digital-future-of-fe-and-skills-report.pdf
- AOC (Ufi funded) e-book. https://www.aoc.co.uk/news/close-the-digital-divide-enable-wee2%80%98digital-first%E2%80%99-fe-sector-post-covid-%E2%80%93-argues-new-ebook
- JISC digital insights. https://www.jisc.ac.uk/digital-experience-insights
- Ufi's VocTeach and Communities of Practice projects are developing content and support to help educators to meet some of these challenges.



2. Training provider insights into learner challenges

(The people who practice in 'the field' across society to support a variety of learners)

Challenges:

- The fallacy of the 'digital native' leads to false assumptions on learner understanding and access to learning technology.
- Associations of technology as with education is contextual, depending on lived experiences. Negative associations need to be factored into learning design and tools used.
- The digital divide is very real, with devices, data and digital literacy providing a real challenge to access.
- Mobile technology offers the best access but can be distracting.
- Conversational training methods often don't connect with learners due to generational, sector, or learner preference for written/visual communication.
- Challenges for effective engagement in learning are complex; there can be social isolation, digital isolation, and educational isolation all at once.
- There is a challenge to take into account individual user identity and motivation, whilst scaling solutions.
- Self-directed learning is often not motivating for learners who have had bad prior f2f learning experiences and not attained higher qualification levels.

We spoke to a group of training practitioners who work with various learner groups across socioeconomic groups and across the 4 nations of the UK.

This group stressed the importance that, as with lived experiences of schooling, technology has personal associations both good and bad, and these need to be carefully taken into consideration in order to harness the enabling aspects of technology for learning. For example, victims of domestic abuse may be more in tune with the potential monitoring nature of technology, and someone may be scared of being identified and 'exposed' among their local community if joining a Zoom video conference call. It is also necessary to break down common assumptions, such as the idea of the digital native applied to a generation of learners, and to recognise that attitudes towards technology actually depend on personal experiences and industry sector norms. This must then feed into subsequent learning design to ensure targeted support for learner needs.

Challenges to effective teaching are complex; issues such as social isolation, illiteracy and innumeracy, are compounded by the digital divide and the deep-rooted inequalities which have been exacerbated by the pandemic. Is the new definition of working-class a job that you can't do remotely from home, for example? Or are communication preferences benefitting various groups vs. others? For example, ex-offenders might not be able to access technology or the internet if they are on restricted probation or learners at lower skills levels can struggle with online learning where it relies more heavily on self-study and independent motivation. Similarly, employers may not be confident that self-study will be completed if staff are working offsite and reduce time allowed as a result.

For more vulnerable learners, there was a feeling that the human contact and support of face-to-face learning environments was a big part of the learning experience and self-directed learning did not provide this. In addition, the unfortunate legacy of experiencing bad online learning practices, during the rapid shift to remote learning in 2020, created further barriers to learner engagement, whilst also demotivating teachers tired out from sessions of 'blank screens'. This group of training providers agreed that the challenge was to engage learners on a personal level, scaffolding how to access online learning from the very ground up, whilst scaling their efforts efficiently. Micro-learning on mobile could plug some of these gaps.

- In Summer of 2016, the United Nations Human Rights Council released a non-binding resolution condemning intentional disruption of internet access by governments. The resolution reaffirmed that "the same rights people have offline must also be protected online".
- SDG 4.4 By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship.
- JISC Digital experience insights survey 2019: findings from students in UK further and higher education. https://www.jisc.ac.uk/reports/digital-experience-insights-survey-2019-students-uk
- Mobile-enabled education GSMA impact report. https://www.gsma.com/
 betterfuture/2020sdgimpactreport/sdq-4-quality-education/
- A study in the Journal of Applied Psychology found that micro-learning was 17% more efficient in transferring knowledge than typical classroom training though there were concerns about mobile phones also providing distraction.
- https://www.technologystories.org/first-and-second-laws/
- Bridging the communication gap between Generation Y and the Baby Boomer generation. Volume 22, Issue 4. https://www.tandfonline.com/doi/full/10.1080/02673843.2016.1267022
- https://www.ispringsolutions.com/blog/what-is-microlearning



3. Employers

(The learning and development professionals who train their employees and recruit new talent)

Challenges for employers:

- Classroom training dominates. There is a deep-rooted and conservative notion of what training is, which is reliant largely on PowerPoint presentations in a classroom environment.
- Often there is little to no monitoring of learner outcome: compliance drives training, rather than skills development.
- Existing training is often out of sync with what learners need. Instead, "competence and confidence"
 being able to use a skill quickly should replace outdated notions of skills mastery.
- Structures that prioritise whole, linear courses and in-person assessment are delaying talent development that needs to be just-in-time.
- Learning how to learn is a skill. If employees have never gained this skill from previous educational experiences, they cannot successfully identify their own skills gaps and close them.
- Existing solutions often do not recognise challenges to learner confidence and motivation.
- There is a mismatch between formal training institutions, assessment bodies and industry.

We spoke to a group of employers, public and private sector, small and large organisations, UK and international.

Employers require responsive and agile learning technology. Often formal qualifications and credentialing are deemed overkill. Instead, what is needed is skills development, not mastery, so employees can operate within dynamic, fast-moving markets, and because employees can also move on and invalidate the employer investment made in their formal qualification. Employers wanted intuitive, friction-less training via mobile devices and as easy and simple to use as Netflix or Amazon.

Internally, employers are dealing with a lack of self-awareness from their employees as to what their own learning 'black spots' are – and this is at every level. For example, senior leaders can assume they don't need to upskill (or are reluctant to reveal that they need to reskill) and shop floor operatives query the benefit of training offered as it does not seem relevant to their day-to-day work.

Often there is resistance to training due to negative lived-experiences of traditional education, which are not taken into account even at managerial level. The employers we spoke to wanted their organisations to move towards a culture of 'conscious incompetence', where individual employees understood what their skills gaps were and were enabled to close these gaps through a self-directed learning approach. This needs board-level buy-in, and allocated learner time, as well as an understanding of how to learn at each individual level. Too often this was lacking with L&D professionals not getting the support they needed at higher levels to be able to innovate.

Indeed, it was often consumer technology which fuelled curiosity and acceptance of digital strategy at work, along with engaging platforms using gamification. Existing 'off the shelf' technology solutions were often deemed too generic, with little regard for factors including employer position, specific

learner need (including dyslexia), or barriers to learning including English as a second language or digital literacy, all of which can become a source of embarrassment for employees.

The employers recognised that too often, internal learning and development culture is driven by compliance, as opposed to measuring learner outcomes and there is a reluctance to measure as it might reveal poor past practices.

There was a sense that the technology to enable learning is there, but the culture of prioritising learning within organisations was not yet established. Infrastructure and systems issues still prevented the best learning available; this could be lack of devices or connectivity, or the prevailing systems of external funding and assessment. For example, apprenticeships still largely rely on end point assessments (EPAs) which have been disrupted and delayed due to the pandemic. Whilst there are some efforts to enable assessments remotely through the use of simulations and haptics technology, this requires a substantial shift from the funding and accreditation bodies which is yet to happen at scale. This has frustrated efforts to onboard new and diverse talent within organisations. (For example, Apprenticeship starts fell by 18% to 319,000 in the academic year 2019-20 compared with the prior year, figures from the Department for Education showed.)

- https://www.fosway.com/the-power-of-virtual-classrooms-in-a-post-pandemic-world/
- <u>CIPD Digital Learning Factsheet 2020</u>
- Learning and Skills at Work 2020: Mind the gap: time for learning in the UK (cipd.co.uk)
- https://help.apprenticeships.education.gov.uk/hc/en-gb/articles/360012702860-Changes-to-apprenticeship-assessments
- GSMA M Education. https://www.gsma.com/betterfuture/2020sdgimpactreport/sdg-4-quality-education/
- FE White Paper. https://www.gov.uk/government/news/pioneering-reforms-to-boost-skills-and-jobs
- Sutton Trust Mobility in the workplace. https://www.suttontrust.com/wp-content/uploads/2020/07/ Employers-Social-Mobility-Toolkit.pdf
- College Commission. https://www.collegecommission.co.uk/blog/2020/11/17/new-england-report
- Impact Investing framework. https://www.impactinvest.org.uk/publications/the-impact-investing-learning-framework/
- Innovation AOC in FE Colleges. https://www.aoc.co.uk/system/files/AoC%20Innovation%20in%20 Further%20Education%20Colleges%20survey%20summer%202020%20final.pdf
- EEF Remote Learning. https://educationendowmentfoundation.org.uk/news/eef-publishes-new-review-of-evidence-on-remote-learning/#closeSignup
- Apprenticeships. https://www.instituteforapprenticeships.org/reviews-and-consultations/reports/covid-19-pulse-survey-september-2020/

- CIPD Digital Learning Factsheet 2020, David Hayden https://www.cipd.co.uk/knowledge/fundamentals/people/development/digital-learning-factsheet#gref CIPD digital learning factsheet, which found that "Mobile learning came out top of those digital methods most likely to have the greatest impact in the next five years" with "flexibility of access from anywhere at anytime" a key benefit of digital learning.
- 80% of MOOCS taken by those with a university degree. https://edtechmagazine.com/higher/article/2013/12/80-percent-mooc-students-already-have-college-degree
- https://www.fosway.com/the-power-of-virtual-classrooms-in-a-post-pandemic-world/
- https://help.apprenticeships.education.gov.uk/hc/en-gb/articles/360012702860-Changes-to-apprenticeship-assessments
- https://feweek.co.uk/2020/04/17/despite-constraints-flexibility-means-assessment-of-apprentices-can-go-on/
- $\bullet \ \, \underline{ https://www.thetimes.co.uk/article/number-of-new-apprentices-falls-to-its-lowest-in-ten-years- \underline{8ndkb0gdf} } \\$



4. Learning designers and technologists

(The people who design learning content and platforms for companies and clients)

Challenges:

- Most workplaces favour 'box-ticking' over genuine efficacy; compliance over learning outcomes.
- The drive for return on investment can limit creative approaches to training; there is a gearing towards the big, generic providers.
- Internal HR and L&D professionals can lack the board level influence to change training systems.
- The prevailing model is for "content dumping" not user-determined learning. This is reflected in standard course design which is linear and time-consuming, not modular and self-selecting.
- Too much training is not measured effectively; this limits the improvement of courses and how they can be personalised to user needs.
- There is a general lack of understanding of the import of upskilling alongside big strategic and procurement pieces like whole organisation digital transformation.
- Balancing learner motivation, high quality content and good learning design.

We spoke to a group of professionals whose expertise lies in creating learning experiences for employers and organisations.

The learning design and technologist group shared similar frustrations as the employers, but their experience was largely framed by being outside the organisation and bringing their pedagogical and user experience (UX) expertise 'in'. This group is extremely passionate about how they can assist upskilling and learning objectives within the workplace, but they felt that too often 'box-ticking' and compliance was favoured over evidence-based learning. Notably, this is a perspective shared with the internal HR and L&D professionals we spoke to from within progressive employers, so there may be a natural alliance. However, the learning design technologists we spoke to stressed that often these advocates for good practice from within organisations don't have the equal share of voice at board level to make the systemic changes needed for successful training. In some cases, it was also argued that these specialists from within organisations also did not have the pedagogical understanding to assess a good learning product and that there was not a consensus yet on 'what good looks like' for a workplace learning tool.

On top of this, the drive towards profit within a commercial environment was understood to limit creative processes with the safest and often default option being to rely on incumbent providers, volume training, and "content dumping" as opposed to a personalised approach to what each employee needs, which might be more effective. There is a culturally ingrained assumption of what training is, often influenced by the culture and tradition of the business/industrial sector. Crucially, business performance monitoring – or measuring the impact of training – is not yet embedded into the workplace culture. This is partly due to cost, but also to negative implications if return on investment cannot be proven or it showed up past training as ineffective. Measuring learner outcomes was identified as a risk, because of the precarious position of the person signing off on training budgets if the outcomes were not positive.

This is a problem for learning and design technologists who would like to identify abandonment or fail points in courses to adapt and improve course content to make it more impactful. They argue that these kinds of metrics are far more indicative of learner aptitude than mere course completion or formal end point assessments.

In addition, too often course design is linear, rather than modular and personalised to each user. This linear approach is time-consuming, requiring learners to click through content which they may already know, and content geared towards an average, not unique, user. This is at odds with educational technology development, which generally seeks to support personalised learning.

Finally, our group identified that whilst digital transformation of company systems was often being given strategic import within companies the requisite upskilling for employees wasn't properly supported. As we have identified from other groups, this will have consequences in terms of employee engagement and equality of opportunity to progress and is often largely based on false assumptions of digital literacy. The holy-grail for learning designers and technologists is to be able to develop and deploy properly, good user-experience, good content, and good learning design to a fully engaged employer.

- Teacher Development Trust: learner outcomes are improved when professional development is self-identified (bottom up) rather than top down.
- Moving away from the average learner: "End of Average" by Todd Rose.
- L and D reports Fosway Group.
- Taylor, Donald H. GLOBAL SENTIMENT SURVEY 2019. 2019. https://donaldhtaylor.co.uk/research_base/global-sentiment-survey-2019/. Accessed 28 Nov. 2019.
- Overton, Laura; Ridley, Tom. Webinar: Using Data to Help L&D Make Better Decisions. 5th Dec 2019.
- Niles-Hofmann, Lori. Training Industry 2018. Use Data to SuperCharge Your Performance Consulting. https://trainingindustry.com/articles/professional-development/use-data-to-super-charge-your-performance-consulting/Accessed 15th Jan 2020
- Overton, Laura. Interview. Conducted by Jenni Härkin, 25 Nov. 2019.
- Niles-Hofmann, Lori. eBook Data-Driven Learning Design. http://www.loriniles.com/ebook. Accessed 24 Oct. 2019.
- Center for Evidence-Based Management. Four Types of Business Analytics to Know | Analytics Insight. 2017. https://www.analyticsinsight.net/four-types-of-business-analytics-to-know/ Accessed 24 Oct. 2019.
- "What Is Evidence-Based Management? Center for Evidence. https://www.cebma.org/faq/evidence-based-management/. Accessed 28 Nov. 2019.
- SCORM vs the Experience API (xAPI). https://xapi.com/scorm-vs-the-experience-api-xapi/ Accessed 22 Jan. 2020.

- This is in line with the CIPD L&D: evolving role, enhancing skills report which highlights that confidence and competence of corporate learning and development professionals in using learning technologies is holding back the effectiveness of digital learning. Whilst learning analysts at Towards Maturity found out in their study about L&D's relationship with data that "51% [of L&D professionals] say they cannot use data effectively due to L&D lacking in-house data skills."
- https://www.cipd.co.uk/knowledge/strategy/development/roles-skills-report
- Ahmetaj, Gent; Overton, Laura. Towards Maturity 2018. L&D's Relationship with data. https://towardsmaturity.org/2018/08/07/lds-relationship-with-data/
- https://tdtrust.org/about/work-and-evidence/
- https://www.harpercollins.com/products/the-end-of-average-todd-rose?variant=32207561556002
- https://researched.org.uk/2019/06/24/myth-busting-children-are-digital-natives/



5. VocTech developer discovery session

(The entrepreneurs creating learning technology)

Challenges:

- Small businesses torn between 'educating the market' and spending time on critical sales pipeline to remain cash positive.
- Clients not always aware of the potential of technology to transform vocational learning or the time or investment needed to develop VocTech.
- Whilst investments in VocTech can be made, this doesn't always translate into actual user-behaviour which may revert back to old habits and normal workflows.
- Existing business support often feels irrelevant to VocTech developers either because it is too focused on start-up culture, relevant to manufacturing companies rather than digital and creative ones, or too based on MBA-thinking.
- Smaller businesses can't compete with the UX of big tech, even if their learning design is better.
- Developers need to be more astute at targeting relevant customers and partners to save themselves time across the business.

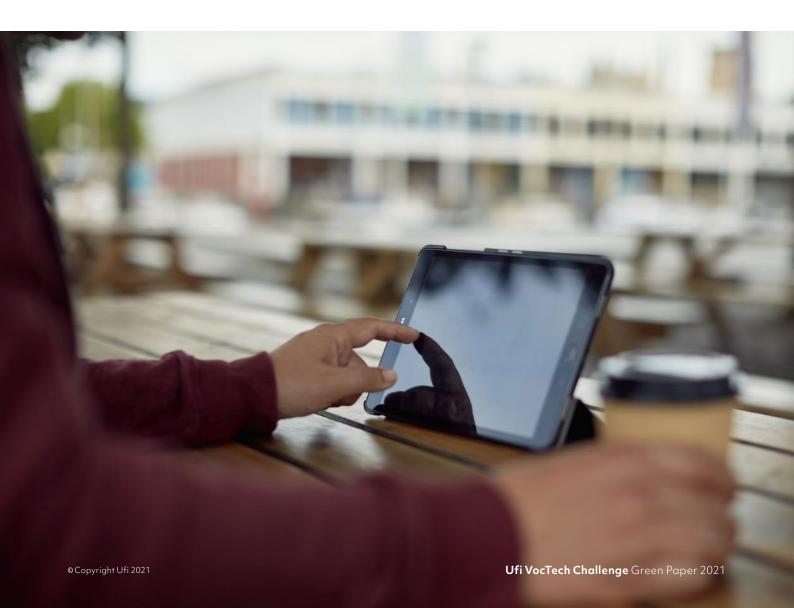
The vocational technology (VocTech) developers we spoke to were passionate about the enabling power of technology to drive relevant vocational learning, and many were established businesses in this space. However, as small SME businesses in their own right, they often experienced friction between the need on the one hand to educate their markets to create more aware customers for their developing and new technologies, and the drive to generate revenue to survive on the other.

Many of the developers spent a lot of time educating the market as to the benefit of the technologies they were developing and their useful application and wanted to be more targeted on identifying receptive customers. But many of their respective clients were not aware of the potential of the technology being developed and often did not extend their use of technology beyond basic functionality. In worst case scenarios, clients would buy in technologies because of board level strategic plans, but the work flows of users stayed the same and the technology went unused. This was because the normed behaviour of the business went unchanged and, in some cases, users worked around newly deployed technology and retreated to existing practices, due to the comfort of "what I know best". This was a frustration, and they were keen to spend time efficiently to better target customers and help them realise the full benefit of their investments. (Indeed, The ScaleUp Institute 2020 Scaleup Survey identified access to markets as the biggest issue for scaleup leaders, now ahead of access to talent.) A well-informed client, willing to go on a journey with a developer to co-create content or systems that were really fit for purpose was the ideal commission.

Many developers also spoke about their frustration that existing support for businesses was not well-aligned, either being designed for traditional 'manufacturing' style businesses, or start-up specific and often geared towards entrepreneurs in their late-twenties with minimal other personal responsibilities to consider. So there was mismatch between what was offered and what was needed. This loss of relevant community was further compounded by the COVID pandemic, which stopped like-minded entrepreneurs being able to swap notes at face-to-face events. As with most of the Creative Industries, many developers were micro companies and operated on a very lean basis.

Finally, the developers we spoke to prided themselves on truly understanding the sectors they worked in. However, whilst their content and pedagogical expertise was very well honed to their users, they struggled to compete against the user experience (UX) and developer budgets of "big tech", with all agreeing that user experience was essential to driving UX and learning outcomes. This tension between the size of the developer organisations and how to scale was the central focus of the group, although one self-identified benefit of their smaller size was the ability to provide astute, timely and tailored feedback to clients and rapidly prototype new vocational technology solutions, in line with their needs. Although, in some cases, the client was not aware of the cost or time involved in making a bespoke change to solutions because of a lack of understanding of "how digital works", and the effort involved in personalising offerings.

- ScaleUp Institute: https://www.scaleupinstitute.org.uk/scaleup-review-2020/introduction/#
- Tech Nation: https://technation.io/jobs-and-skills-report/#uk-regions
- Both of these links point to regional disparity of scale up activity and support, often skewed towards university locations.





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