The learner's journey

The future of education in four learning space scenarios.

Education is in the midst of unprecedented change, facing pressure to transform to meet the needs of the evolving job market and economy. The result is a truly disruptive approach to higher education - new strategies, business models and emerging practices to be best prepared for the years ahead. Here we explore some potential scenarios from the future, specifically around changes in the learning environment.

Deeper partnerships between employers and institutions may be forged, helping to prepare the workforce of tomorrow. Significant revisions to teaching and mentoring, student learning processes, planning and facilities management could intersect to create the types of learning spaces that would have only recently been possible in science fiction.

Technological advances and innovation is a key driver for the changes ahead - the internet of things, ubiquitous connectivity, 3D printing and the expansion of freelance, role-based working in the 'gig economy' are both facilitating and driving trends such as the maker movement, social and peer learning, entrepreneurship, gamified, virtual and collaborative, project-based learning. The following are scenarios that could become more commonplace across the UK higher education and vocational training sector, in varying degrees and combinations:

Scenario 1: Maker co-learning spaces

The maker movement has shown that unleashing creativity can have surprising results, both in terms of what is produced and in the experience that 'makers' have along the way. Individuals and groups both benefit, whether interaction occurs in person or via social media platforms.

Engendering an entrepreneurial spirit, this new style of learning is especially suited to designcentred curricula. In place of the traditional lecture theatre is a flexible space that can accommodate materials and shared workspaces adept at prototyping, testing and sharing perspectives. Often accessible 24/7, these spaces encourage learning that feels more

like play than work, but with a purpose - maximising creativity, problem solving and interaction. Walls are not just to manage acoustics, they become part of the learning experience including as carriers for technology. Motion is key to these spaces, seated and standing positions, moving from one group to another or various equipment present. Seating therefore has to prioritise portability rather than comfort, almost deliberately limiting a student's seated time. Devices will need to be at hand at all times, to share information but also to capture ideas and images, share and collate them, and store them for future use.

But, it's not all about high tech. In fact, sticky notes, whiteboards and flipcharts all have a role to play in these spaces. Storage and quick access to these materials is just as necessary as connectivity and power provisions.

Scenario 2: Boundaryless learning spaces

Has ubiquitous connectivity made bricks and mortar learning spaces obsolete? Far from it. While the narrow definition of a 'classroom' in the traditional sense has been replaced by 'anytime, anywhere' learning, dedicated, defined spaces are still necessary, particularly as fora for optimising interactive learning and project work.

In place of rote learning and spoon-fed content, the learner can personalise their experience to a high degree, tailoring their work to achieve results that are measured in project success rather than gaining points or credits. The role of the instructor becomes more akin to a curator of content, helping the learner find and utilise appropriate resources. This project-based learning will also create the need for students to engage in a wide variety of locations, across disciplines, off campus and outside of traditional hours.

The typical IT lab is no longer required as most of this kind of work would be done in the student's home environment. The dedicated learning spaces will need to facilitate project work and be able to function as a consultative space for one-to-one interactions. Therefore, furniture provided needs to be flexible and reconfigurable and accommodate portable technology.

Scenario 3: Immersive virtual simulation learning

Much is made of generational differences between the Baby Boomers, X, Y and Zs. While the validity of numerous claims and conjecture can be debated, one thing can't be denied. The electronic gaming revolution and its impact on young people over the past 30 years has been unprecedented, and profound. Virtual →

worlds host activities, interactions and require skills that are alien to those from just one generation prior. Billions of hours are spent here, especially as the technology to host these activities has become pervasive, pocket-sized, affordable and powerful.

The potential impact and opportunities presented by the gamification of youth culture is immense. Immersive, virtual learning environments has been around for decades - for example in training air traffic control - where the risks of failure in real life are catastrophic. The merit of such technology in the learning process has long been established, however it is now time to expand its reach. Wearable technologies, sensors, location devices, 3D printers, rendering software are just some examples where the lines between virtual and reality can be blurred to deliver content and experiences like never before. Research, testing and collaboration can be easily shared between fellow students, graduates, and instructors.

This is applicable to individual and group activities, the latter being essential when considering the learning space provided on campus. Not only is the virtual experience provided within the 'classroom', it also acts as a place to prepare, discuss and debrief. The physical environment will need to be more flexible than ever, furniture will need to portable, unobstructive, or integrate into the simulation.

Scenario 4: Free range learning

Throughout our lives, we acquire and refresh our skills and competencies - as students, workers and in everyday life experiences. The notion of extracurricular activities enhancing learning outcomes is nothing new, however 'DIY' learning takes this to another level of personalisation. With the economy transitioning away from process-driven work, requiring more uniform skillsets, students will look to be able to personalise their curriculum based on the job skills they will require once in the workforce. Competencies built around the employment ecosystem will influence the choices, pathways and behavioural patterns of future learners. The 'full time student' could fast become an endangered species, a possible outcome of the ever-increasing costs of formal tertiary education. By granularising and providing the learning experience in a 'knowledge-as-a-service' model, institutions can help students pick and choose what, when and how to gain certification, assessing and accrediting them appropriately.

While there may continue to be a role for more traditional learning pathways and processes, institutions will have to compete with each other to attract students - and one point of differentiation as we already observe today, is the power of industry partnerships. Working alongside major employers, colleges and univesities can embed learning environments off-campus, hosted within a company's own facilities. This immersive learning experience narrows the gap between skills acquired and skills required. It also allows the learner to 'graze' as required between learning and working spaces, gathering skills and experiences closely aligned to job availability and market demand.

Conclusion

Of course the scenarios suggested will be better applied to some disciplines over others with their varied research techniques, specialised instruments, materials and technology requirements. What is important to remember is that many of the jobs of the future don't yet exist, requiring skills and disciplines that may well be in their infancy today. Campuses will need to blend and future proof their spaces to ensure their long term viability. By being bold, disrupting and innovating the learning experience for students, leading institutions can gain a march on their contemporaries in this increasingly commercialised, globally competitive sector.

This is an edited summary of the KI whitepaper, 'The Learner's Journey - 4 Learning-Space Scenarios That Reflect 13 Dynamic Trends Impacting the Future of Education' by Dr Robert Brodnick and Dr Donald Norris, Strategic Initiatives. Published by KI Inc, 2016.

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