Professor Ian Allison: Virtual reality is just the job for learning future workforce skills

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Recent progress in technology has significantly enhanced the capacity of computers and they are increasingly replacing routine tasks, even among skilled workers.

The accelerated speed of this evolution has unquestionable consequences for the labour market. It will affect employment and wages across many fields, and the type of employment available in individual sectors. Most notably, however, a further deepening of job polarisation over and beyond what is currently already visible should be expected, shifting labour demand away from middle-skilled towards both high and low-skilled jobs.

In developed economies, a key policy area is the development and expansion of education, skills and (re-)training policies. Workers with some labour market experience need to have the opportunity to expand their knowledge and develop new competencies and expertise in other areas.

Recent studies have shown that about 60 per cent of all occupations can and will have at least 30 per cent of their activities automated. That is an alarming statistic! Does this mean that we will see huge losses in employment? No, the current demand in the UK for high end skills in engineering and software technology is enormous and this will grow. The inevitable consequence is that the current work landscape will change in a fraction of a generation – and will continue to change. Hence, changes in occupations and skills need to be actively encouraged and supported by companies. Technology is changing the job function, but it can also be used to help fill the skills gap. Take virtual and augmented reality (VR/AR). These technologies provide an innovative educational tool through immersing learners in a simulated working environment, enabling the learner to acquire new knowledge and skills.

This level of immersion and interactivity provided by VR/AR provides an engaging and effective means for learning, that cannot be ignored in any attempt to establish a future workforce for high end technology disciplines.

VR allows for the simulation of an environment and allows the monitoring of how people learn to operate the environment. Alternatively, VR has been used to teach new skills. The level of immersion and interactivity provided by VR/AR provides an engaging and effective means for learning. In the global economy, computer-mediated communication and distributed work environments are becoming increasingly important. In particular, large enterprises maintain widespread operations and large numbers of employees working on the same project and with similar tools, although they are geographically separated.

Learning can also be distributed in this fashion, either through sharing knowledge across companies or by accessing a preferred learning organisation across the globe. This is now feasible through programs of distance learning which are based on the imitation of a presence in the same spatial environment (as virtual or mixed reality). It can help to learn remotely and in the local context, so learning new skills is not just for those studying formal qualifications. Dr Adelaide Marzano, programme leader for Engineering Design and Manufacturing graduate apprenticeships at the University of the West of Scotland, said; "We are already working with organisations using VR/AR technology including companies within the membership of **CeeD** -**Centre for Engineering Education and Development** to help engineering workers visualise scenarios without having to personally experience them. Examples of this are hazardous, risky, expensive or novel environments to undertake training in.

"AR and VR, as well as more traditional online learning, are being used to support graduate apprentices to equip themselves with higher levels of academic learning and industry accreditation, which helps them progress as professionals while tackling industry skills gaps. Graduate apprenticeships provide new routes into degree-level study for individuals who are currently employed, or who want to go straight into work from school, thus filling the changing skills needs in the sector. This approach enables learning in the workplace – bringing together both theoretical and practice-based knowledge and skills.

This combination of real-world experience and the use of technology to learn new ideas is a perfect means of addressing the demands of the right skills for a future workforce.

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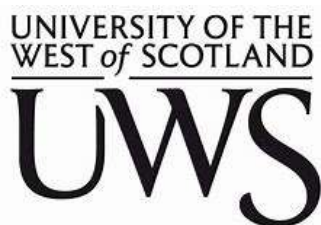
For more information about graduate apprenticeships contact Fiona Kennedy on 0141 849 4346 or email Fiona.Kennedy@uws.ac.uk

Read more at: https://www.scotsman.com/news/opinion/professor-ian-allison-virtual-reality-is-just-the-job-for-learning-future-workforce-skills-1-4766043