

GLOBAL TRENDS IN THE CONTRIBUTION OF UNIVERSITY LIFELONG LEARNING IN SHAPING THE LABOUR MARKETS AND ITS APPLICABILITY TO EU - AN IACEE PERSPECTIVE

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ABSTRACT

The International Association for Continuing Engineering Education (IACEE) supports and enhances lifelong learning in engineering around the globe. Located worldwide, the academic and professional members of IACEE often engage in creating professional higher education programmes that provide relevant content in an appropriate mode of delivery to advance the knowledge of engineers and scientists, thus providing professional development to upskill them. For the past 28 years, IACEE member institutions have been platforms for innovation in continuing education with respect to programmes that proactively shape the labour market regionally and globally. In this article, six IACEE Council members from institutions located in four countries reflect upon their experiences in their organisations and critically analyse the trends in Australia, Mexico, Norway and the United States of America, and discuss the applicability of the global trends to the continuing higher education landscape in the European Union.

INTRODUCTION

Very often, academic institutions fail to understand and thus respond to the needs of the region's or the nation's workforce. With the mission of delivering education that transforms people's lives, continuing education units can now leverage the technology platforms to reach global citizens, create unique and relevant training to address the learning needs of international audience with various cultural backgrounds and form partnerships with other universities and organisations around the world to deliver such training. The audience has changed, too. Many of our learners are completely dependent on (or addicted to) mobile devices and their attention spans are very limited. We now have this incredible opportunity to create innovative learning modules for these learners. Today's continuing and professional education landscape provides much challenge but also offers a plethora of opportunities to innovate, and only through that innovation will we be able to sustain ourselves.

By systematically analysing the needs from both the employee's and employer's viewpoints, citing effective partnerships between industry and ULLLS, and discussing the innovations in technology enhanced training in the continuous professional development of working professionals, the universities contribute in shaping the labour markets in various regions. The following descriptions of such activities from six institutions in four countries reflect upon such thoughts.

COUNTRY 1: AUSTRALIA

Australia recognises that the world of 2025 will have over one billion students actively seeking education and skills (Australian Government, 2016). Learning will increasingly be

borderless. Future students will need to have a broad range of education; individuals will seek learning through on-the-job skills development, and through professional and executive education. The three strategic pillars in achieving such goals framed by the Australian Government are: strengthening the fundamentals, making transformative partnerships and competing globally (Universities Australia, 2016). In preparing tomorrow's workforce today, the roadmap puts emphasis on the culture of success that is characterized by collaboration, innovation, anticipation and reciprocation. CPDlive Pty Ltd (CPDlive, 2017) has put all four characteristics at its core in educating the Australian labour market through its Cahoot platform that embodies collaborative learning by providing human learning experience in a digital world. Through partnership with Stanford University in delivering entrepreneurship and innovation programmes for the Australian and New Zealand workforce, and through regional and other global partnerships, it offers flexible, accessible, collaborative and innovative lifelong learning opportunities for accountants and other professionals in an affordable way.

COUNTRY 2: MEXICO

Lifelong Learning or Continuous Education at the Tecnológico de Monterrey (ITESM, 2017) embodies personal development and realisation through holistic learning, which in turn contributes to society through the development of the workforce. Thus, all lifelong learning programmes are designed with three value proposals: (1) Emotional or affective: Encouraging a lifelong learning mentality during his/her professional life and afterwards; (2) Functional: Supporting his/her professional and personal development by using different formats, technologies and models; and (3) Tactical: Developing new knowledges, skills and competencies.

With a predicted 15-16% increase in adult population in 2025, Tec de Monterrey has dedicated itself to using the above value proposal for developing working professionals, especially in executive education and advanced engineering training. In doing so, it focuses on pedagogical innovation through use of educational technology, assessment of learning needs and upskilling individuals through personalised realisation of learning. It substantially differs from the concepts that many other countries have, but this holistic methodology is in alignment with ITESM's mission of providing education that transforms lives.

COUNTRY 3: NORWAY

Located in Trondheim, the Centre for Continuing Education at Norwegian University of Science and Technology or NTNU (NTNU, 2017) offers programmes for continuing education and professional development. These courses and programmes, which cover a vast array of subjects, meet the demand of professionals in need of new and updated competencies as well as those of companies looking to be in the forefront of innovation and technological breakthroughs.

Continuing education at NTNU is often driven by the faculty at the University and largely focuses on large Government-driven CE to enhance basic skills of teachers, and management and technology courses and programmes. As identified by the World Economic Forum (World Economic Forum, 2017), NTNU is committed to

1. Reskilling and development of generic competences;
2. Collaboration among government, educators and industry;
3. Providing education for employability; and
4. Career employability.

The questions that are critical for programme innovation at NTNU are

1. What are the general new skills needed in the workforce?
2. How do we better cooperate with industry?
3. How do we work to get more demand-driven development inside the university?
4. How can we shorten the development time, that is, time-to-market?

COUNTRY 4: UNITED STATES OF AMERICA

There are four major issues facing continuing and professional education in the United States:

1. Changing demographics: In a few years baby boomers will be completely retired, leaving a void in knowledge, and the millennials and Generation X will be in the workforce. How do we prepare these two groups for high level leadership and subject specific knowledge attainment?
2. Learning economy: Previously, engineers changed jobs two to three times in their careers, and mostly did the same type of work that required the same type of skillset. The world has changed. An average engineer may change career path even as many as 20 times and each time that person will need to learn new skills for jobs which never existed before. How do we train these people quickly so that they perform the jobs well?
3. Globalization: The current jobs are distributed everywhere in the world; people connect in many possible ways via technology. So, how do we train these people all at the same time, considering the fact that the learners are from different cultures?
4. Affordability: How will we give people access to education at an affordable cost while we remain financially sustainable at the same time?

Georgia Institute of Technology

Professional Education at the Georgia Institute of Technology (Georgia Tech Professional Education, 2017) primarily focuses on advanced STEM (Science, Technology, Engineering and Mathematics) education of working professionals in Atlanta, in the state of Georgia and worldwide. Until the Massive Open Online Courses (MOOCs) emerged as a vehicle for mass continuing education at almost no (or, in some cases, little) cost and challenged the status quo, continuing and professional education units had never faced such disruptive pedagogical innovation that threatened a standard fee-based face-to-face or online education.

In January 2014, by teaming up with Udacity and AT&T, Georgia Tech Professional Education launched the first accredited Master of Science in Computer Science that students can earn exclusively through the "massive online" format and for a fraction of the cost of traditional, residential programmes, and stunned the academic and business world. This affordable and accessible education from a top tier accredited institution gave an incredible opportunity to a number of working professionals to further their career. Through online and face-to-face programs, this institution touches the lives of 24,000 learners a year to advance their career through academic and professional programs. This institution has focused on affordability of the programmes and accessibility of learning resources. Its newest MicroMasters[®] with edX and several MOOCs with Coursera, Udacity and edX are other examples of such innovative approaches in shaping the lives of the lifelong learners.

The State University of New York

The State University of New York (Open SUNY, 2017) is comprised of 64 universities and colleges located throughout the state of New York. The mission of the of SUNY system is to provide highest quality, accessible educational services that are fully representative of all segments of the population in the state. In doing so, it provides a complete range of academic, professional and vocational postsecondary programmes.

In support of these endeavours, Open SUNY is a SUNY-wide collaboration that provides online-enabled learning opportunities in a flexible, seamless way so that students from any of the 64 campuses can access any Open SUNY course wherever and whenever they want. In this way, Open SUNY supports working professionals to complete their degrees and prepare them for the workforce or the labour market. Flexibility, simplicity and accessibility are key to these programmes that are taught by faculty who are provided with tools for learner-centric teaching. Also, Open SUNY Affordable Learning Solutions provides faculty with an easy way to locate and utilise free and open educational materials to provide students with high-quality free or low-cost textbooks and other learning resources. Thousands of deserving, under-represented student population have benefited from this flexibility and accessibility at an affordable cost, and the University has contributed substantially to the economic development of the state of New York.

University of Delaware

Located in the northeast corner of the state of Delaware, the University of Delaware (University of Delaware, 2017) concentrates on traditional face-to-face learning experiences with mentoring and personalised attention, and also provides graduate online programmes for professionals. Most of its students come from the neighbouring states and also work there after graduation. Through face-to-face mentoring with supporting technology-enhanced learning experiences, UD's objective is to prepare learners for the workforce, in full awareness that they will not only remain in the state of Delaware or in the neighbouring states, but also travel to work in other part of the world. It has stressed time-tested personalised, learner-centric face-to-face coaching, and introduced DC6 – the six Diversity Competencies that prepare the learners for a culturally diverse, global world. To upskill the regional workforce, it has introduced semester-based concentration on non-credit programmes that are applicable to the regional economic development. The lifelong learning units at the above three universities have taken different routes to contribute to economic and labour market development. Addressing the four major issues existent in the continuing higher education arena, as stated earlier, these universities are shaping the regional and global workforce.

CONCLUSION

While ULLL units are different in different countries and their approaches in shaping the labour markets are different, there are some similarities. There is a core belief that the programmes have to be affordable and accessible, learner centric, collaborative, globally acceptable but locally applicable so that regional workforce demand is met. Since the regional labour markets are different, a programme that is successful in one region may not be useful in another region. All programmes may not have global applicability. Even what is applicable in northern Europe such as in Norway, Sweden, Finland or Denmark may not be sustainable or even useful in other parts of Western Europe such as Portugal or Spain or Eastern Europe. Atlanta and Philadelphia – the two metropolitan areas are different in industry concentration. Hence ULLLS have to respond to that area's needs to shape the labour market for economic development.

REFERENCES

Australian Government (2016) *Australian International Education 2025*. [ONLINE] Available at: <https://www.austrade.gov.au/ArticleDocuments/6719/AIE2025-Roadmap.pdf> [Accessed 24 Jul. 2017].

CPDlive (2017). *CPDlive Home* [ONLINE] Available at <http://www.cpdlive.com> [Accessed 24 Jul. 2017].

Georgia Tech Professional Education (2017) *Georgia Tech Professional Education*. [ONLINE] Available at: <https://pe.gatech.edu> [Accessed 24 Jul. 2017].

ITESM (2017). *Continuous Education* [ONLINE] Available at: <http://maestriasydiplomadostec.mx> [Accessed 24 Jul. 2017].

NTNU (2017) *Continuing Education – NTNU* [ONLINE] Available at: <https://www.ntnu.edu/continuing-education> [Accessed 24 Jul. 2017].

Open SUNY (2017). *Open SUNY* [ONLINE] Available at: <https://open.suny.edu> [Accessed 24 Jul. 2017].

University of Delaware (2017) *University of Delaware*. [ONLINE] Available at: <http://www.udel.edu> [Accessed 24 Jul. 2017].

Universities Australia (2016) *National Strategy for International Education 2025* [ONLINE] Available at: https://nsie.education.gov.au/sites/nsie/files/docs/national_strategy_for_international_education_2025.pdf [Accessed 24 Jul. 2017].

World Economic Forum (2017) *Realizing Human Potential in the Fourth Industrial Revolution: An Agenda for Leaders to Shape the Future of Education, Gender and Work* [ONLINE] Available at: http://www3.weforum.org/docs/WEF_EGW_White_Paper.pdf [Accessed 24 Jul. 2017].