



Background Paper for QQI Conference - The Digitalisation Agenda – Re-thinking the Role of Qualifications and Skills

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Introduction

Creativity, entrepreneurship, learning-to-learn, digital competence and other skills and competences are emerging as more and more important for innovation, growth and participation in a digital society and economy. The key challenge for research and policy is to make sure that supply and demand for new skills and competences are well matched¹. Quality and Qualifications Ireland is bringing together experts and an audience of enterprise, educationalists and policy-makers to consider how these new skills and competences can and should be defined, described, taught, acquired and recognised.

The purpose of the conference is to explore the implications of digitalisation on the demand, delivery and recognition of skills and qualifications. The issues will be explored through three inter-related themes.

- I. Digitalisation and Skills for Work
- II. Digital Student Data Ecosystem
- III. Digitalisation and Teaching, Learning and Assessment

I. Digitalisation and Skills for Work

Digitalisation is enabling government, business and individuals to deliver and avail of services, to inform themselves and to participate in all aspects of economy and society. Still at an early stage, digitalisation looks set to bring significant economic and social benefits. While it has the potential to replace certain jobs, it also creates jobs and employment opportunities, often well-paid ones. More importantly however, digitalisation is transforming employment, both by changing the skills requirements for most jobs and likely to profoundly alter the current

¹ European Commission [Learning and Skills for the Digital Era](#)



ways that work is organised in our society². While it is important to separate fact from fiction, there can be little doubt that soon, most jobs will require some level of digital skills.

Digital capacity has been defined as the ‘skills, competencies, attitudes, infrastructure and resources that enable people to work, live and learn in a world that is increasingly digital’³. Launched in 2013, Ireland’s *National Digital Strategy* (NDS) is a foundation step in building our national capacity to reap the full rewards of a digitally enabled society⁴. The NDS reflects government commitment to exploit the potential of digital technologies to transform the way people live, learn and work in Ireland. Education and training is recognised as a key strand in government strategy for enhancing our national digital capacity.

We also see that at European level, digital skills and the digitalisation of work and learning are a high priority. On 10 June 2016, the European Commission published a new *Skills Agenda for Europe*⁵, intended to strengthen human capital, employability and competitiveness. A range of supporting actions are aimed to improve the quality and relevance of skills formation, to make skills and qualifications more visible and comparable and to advance skills intelligence, documentation and informed career choices. The *Digital Skills and Jobs Coalition*⁶, is one such action, targeted at tackling the digital skills deficit in Europe. Ireland’s National Digital Skills Coalition was launched in April 2017 and will co-ordinate and report on progress towards national and European ambitions in the area of digital skills.

The mid-term review of the *Digital Single Market strategy*⁷, argued for digital skills oriented actions to contribute more to the digital transformation of our society and economy. It

² European Commission Concept paper on Digitisation, Employability and Inclusiveness, 2017. See also the Eurofound foundation seminar series 2016 on the impact of digitalisation on work.

³ The National Forum on the Enhancement of Teaching and Learning in Ireland (p. iv)
<http://www.teachingandlearning.ie/wp-content/uploads/2015/03/Digital-Roadmap-V2-EXEC-SUMMARY.pdf>

⁴ In 2013, the Department of Communications Published the [National Digital Strategy for Ireland](#).

⁵ The [New Skills Agenda for Europe](#) aims to make better use of the skills that are available; equip people with the new skills that are needed - to help them find quality jobs and improve their life chances.

⁶ The [Digital Skills and Jobs Coalition](#) brings together Member States, companies, social partners, non-profit organisations and education providers, who act to tackle the lack of digital skills in Europe

⁷ The mid-term review (May 2017) of the [Digital Single Market Strategy](#) takes stock of the progress made, calls on co-legislators to swiftly act on all proposals already presented, and outlines further actions on online platforms, data economy and cybersecurity.



concluded that digitalisation is not a choice but a necessity for European businesses and economies. Many citizens will need support to make the transition to new ways of living and working. The challenge for education and training is to ensure that people have the adequate skills to thrive in the digital world. The review concluded that digitalisation requires a strengthening of education and training policies, with a special focus on how to help those negatively affected by changes in the work-place.

It seems self-evident that as digital technologies transform economic and social life, digital skills and competence become essential for individuals and for businesses. Digital literacy extends from basic user skills that enable individuals to interact online and consume digital goods and services, to advanced skills that empower the workforce to take advantage of technology for enhanced productivity and economic growth. There is much to do however, 37% of the European labour force do not have basic digital skills⁸. Ireland too is facing a digital skills gap that threatens to constrain our capacity to fully benefit from digital opportunities and to lessen the potential inequalities resulting from digitalisation⁹.

II. Digital Student Data Ecosystem

Digitalisation of learner data has the potential to transform how information about learners and their learning achievements is interpreted, represented and recognised.

The transition from paper to digital sharing of records in education is well advanced within and between many countries and institutions. Arguably, paper certificates have become an information dead-end and it is now time to promote the acceptance of digital student data in lieu of paper documents when recognising student achievements. It is now possible to imagine a common international system where all aspects of a person's learning are digitally documented, authenticated and exchanged. A system where data can be accessed anytime, anywhere and can be amended by the owner. Where other bodies such as learning providers,

⁸ Eurostat

⁹ See for example the last round of OECD PIAAC data and more recently Ireland's performance in the EU 2016 Digital Economy and Society Index (DESI) which tracks the evolution member states performance in digital competitiveness and which showed that just 44% of people in Ireland reported sufficient digital skills to operate effectively online.



accreditation agencies, employers and professional recognition bodies can contribute to digital profiles and, in real time, verify the learning achievements of the owner.

Digital enabled learning analytics and educational data mining, can lead to insights about the student experience and how to optimise the conditions in which effective learning occurs. As more and more student data is digitalised, it is possible to identify ‘what-works’ for different educational programmes and to predict what factors contribute to a successful student experience. In this way, digitalisation can contribute to the strengthening of education systems by enabling data driven, evidence informed decision making.

Efficient and fair recognition of skills and qualifications are important so that labour markets can respond flexibly to industrial change and economic restructuring¹⁰. Inadequate recognition of existing skills and qualifications contributes to significant mismatches and inefficiencies between skill levels and labour market outcomes. Mobility of skills locally, nationally and across borders requires trusted and responsive recognition systems for all learning, qualifications, credentials and certificates achieved within and beyond formal education and training settings. Portable digital learner data and the emergence of digitally enabled representation and verification of credentials such as digital badges, can enhance the visibility and mobility of learning achievements.

More recently, digital badges have emerged as a kind of mini-qualification that testifies to achievement in small but significant areas of learning. Their use is expanding rapidly in many settings¹¹. The use of digital badges, without the paraphernalia that surrounds formal qualifications, brings challenges to interoperability between different badging systems. There are challenges for how we manage the interface between formal qualifications and other forms of credentials and between all types of qualifications and the emerging range of digital student data depositories¹² and skills passport systems such as Europass. Digital micro-

¹⁰ See European Commission [2016 Final Report on Obstacles to Recognition of Skills and Qualifications](#) for a comprehensive account of the effectiveness of skills recognition practices in Europe.

¹¹ Quality and Qualifications Ireland 2017, [National Qualifications Frameworks Reflections and Trajectories](#)

¹² See for example [Digitary](#)



credentials and blockchain technologies are already changing how we represent and recognise learning and how we assure quality and promote trust in all forms of credentials.

However, we are still at the early stages of unleashing the full potential of digital learner data for understanding, representing and recognising learner performance and achievements. There are important issues still to be resolved, they include, privacy rights, ownership of data, identification, access, forwarding/sharing of data, compatibility of systems and comparability of data¹³. Digitalisation is a potential mega-trend changing how information about individual's skill achievements, including their qualifications, are issued, stored, validated, updated and exchanged. Qualifications ecosystems need to pre-emptively disrupt from within or risk being unprepared for digital transformation. This will require leadership, new ways of thinking about the nature of qualifications, their source, governance, trust and recognition. Most importantly it will require a shift in focus away from internal and traditional structures towards a reality where new ways of developing, representing and recognising skills and qualifications are made possible by digital technologies.

III. Digitalisation and Teaching, Learning and Assessment

Digitalisation is changing how people learn and teach. It changes where and when people learn. It changes the nature of the skills and competences required to participate in a digital world. In addition to facilitating general learning, an enhanced focus on digital learning can also assist in building and renewing the digital competence of all citizens.

National and European policies for a successful digital transformation, emphasise the centrality of lifelong learning and workforce training as young people and employees will need to constantly acquire and renew their digital skills and competence. Industry, policymakers and educators are required to collaborate to equip people with the skills required to live, work and learn in a digital world. Further investment in quality lifelong and lifewide learning opportunities is essential. People in their 30s today will still be in the labour force in 2040 and will be using e-government, e-banking and other digital services well into the 2060s.

¹³ The [Groningen Declaration](#) commits signatories to move towards convergence on digital student data depositories, sharing best practices in digital secure systems and relevant policy co-ordination.



The use of digital technologies to change the way we teach and assess learners and the way that learners access and engage with learning resources, is underway across our schools, further and higher education and training system. In 2015, the Department of Education and Skills published a *Digital Strategy for Schools 2015-2020* which aims to ‘realise the potential of digital technologies to enhance the teaching, learning and assessment so that Ireland’s young people become engaged thinkers, active learners, knowledge constructors and global citizens to participate fully in society and the economy’¹⁴. We also see the development of digital strategies in our further and higher education and training systems. These share a common ambition to build the capacity of the post-school sector to take advantage of digital learning as a tool both for enhancing the quality of teaching and learning and for the formation of transferable digital skills¹⁵. National strategies and policies for digital learning are important, they signal digital learning as a priority concern and they offer direction and guidance for reform and innovation. In addition, we need to gather and use appropriate evidence to inform the making, re-making and evaluation of digital policy in education. Understanding the nature of change in the student learning experience brought about by digital interventions in schools, colleges and universities will require ongoing analysis, critical and reflexive thinking. Claiming that digital innovation ‘works’ in education, is not enough, we need to know why, for who and under what conditions ‘it works’.

¹⁴ In 2015, The Department of Education and Skills published the [Digital Strategy for Schools, 2015-2020 Enhancing Teaching learning and Assessment](#).

¹⁵ See the SOLAS [Strategy for Technology Enhanced Learning in Further Education and Training](#) and the HEA [Roadmap for Enhancement in a Digital World](#).