

Microsoft Ireland

Digital Literacy

Opening Remarks

Submitted to

Joint Committee on Education and Skills

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Introduction – Historical Context

We live in an amazing time of technological change. The pace of advancement is greater than any time in human history. Yet there are things we can learn from the history of technology and human production that can serve us well. Brookings just did a great piece on looking at the history of technology to inform the regulation of AI. There is more than regulation – how do these technological advances impact our workforce?

In the 1930's John Maynard Keynes discussed "technological unemployment" – but even in 1930, this was not a new idea.

If you transport yourself back 12-20,000 years, imagine having the conversation with the field worker, "Hey Scott, you've been doing great work irrigating the soil to help our crops – and the work you're doing at hauling firewood has been top notch. But we just domesticated the cow and the horse, and I'm sorry, but your job is being eliminated. I'm sure with your skills and your energy, we can find you a new role, but it's time to think about something else in your career."

And then, fast forward about 8,000 years, and now you are having another conversation with our metaphorical Joe. "Hey Scott, the work you've been doing the last few years hauling stone – and bringing crops to market has been off the charts. You are one of our fastest and most reliable workers. But, the folks in the lab just invented this new technology they are calling a "wheel" – and it's much faster. The good news for you Joe, is that the wheel doesn't replace your job – it will help you be more productive. We'll be rolling out (pun intended) this new technology in the coming months – and there will be retraining options for you, but I wanted to give a heads up and let you know that you are a valued employee here."

This conversation played out with the invention of Paper (Yun Li in China), water wheels, windmills, the mechanical clock, printing press, steam engine, power loom, railroad, car, TV, internet, mobile phone, and now artificial intelligence.

The Question: Is this time different? Who knows.....?

We can learn from these examples about we need to think and manage change and transition. If your job were to carry water jugs in ancient Rome, you had a rude awakening when the Aqueduct came to town.

What are the skills we need to learn in today's world of worker displacement to have these conversations? - which are certainly not going away – and arguably happening more frequently, for example, with the new touch screen menus, we don't need waiters anymore" or with the new autonomous car eliminated the need for taxi drivers, but you'll need some new training."

Several studies show that 40-50% of the workforce will have their jobs impacted by AI in the next 5 years – and McKinsey suggests that as many as 800 million workers could be displaced by 2030.

How do we prepare?

There is a need to address this issue now across all sectors of education, particularly in schools and in Further Education and Training. The European Commission has developed DigComp 2.1, The Digital Competency Framework for Citizens¹ is a tool to improve citizens' digital competence. The Framework addresses the following competences

¹ [https://publications.jrc.ec.europa.eu/repository/bitstream/JRC106281/web-digcomp2.1pdf_\(online\).pdf](https://publications.jrc.ec.europa.eu/repository/bitstream/JRC106281/web-digcomp2.1pdf_(online).pdf)

Competence area 1: Information and data literacy

- 1.1 Browsing, searching, filtering data, information and digital content
- 1.2 Evaluating data, information and digital content
- 1.3 Managing data, information and digital content

Competence area 2: Communication and collaboration

- 2.1 Interacting through digital technologies
- 2.2 Sharing through digital technologies
- 2.3 Engaging in citizenship through digital technologies
- 2.4 Collaborating through digital technologies
- 2.5 Netiquette
- 2.6 Managing digital identity

Competence area 3: Digital content creation

- 3.1 Developing digital content
- 3.2 Integrating and re-elaborating digital content
- 3.3 Copyright and licences
- 3.4 Programming

Competence area 4: Safety

- 4.1 Protecting devices
- 4.2 Protecting personal data and privacy
- 4.3 Protecting health and well-being
- 4.4 Protecting the environment

Competence area 5: Problem solving

- 5.1 Solving technical problems
- 5.2 Identifying needs and technological responses
- 5.3 Creatively using digital technologies
- 5.4 Identifying digital competence gaps

An Cosán Virtual Community College is developing Digital Stepping Stones², an online assessment based on DigComp 2.1. This can be used to help learners understand their own level of digital competence and direct them to appropriate training a part of their Digital Path to the Future. This program is being funded and supported by Accenture and Microsoft Ireland.

It is imperative that courses are made available to citizens, particularly our most marginalised to develop these competences in supportive adult education centres. Many of these learners lack confidence and access to digital technology, so it is imperative we provide a range of courses to our citizens so they can progress from basic to more advanced courses in digital literacy.

The Code Institute suggests that, over the next two years, an expected 12,000 jobs are to go unfilled in the Irish ICT sector and we need to address this issue now by initiating quality training programmes for adult learners to develop their digital literacy skills, so they can participate and contribute to our growing economy.

In conclusion, collectively, we need to develop and enhance our strategic approach to handling these issues – starting with an integrated approach to policy development across the various agencies and partners. This approach coupled with a strong and focused implementation plan can provide pathways for all individuals.

² www.digitalsteppingstones.ie