108 The shifting goalposts of Digital Technology Skills in Scotland

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Research Domains

Higher Education policy (HEP)

Abstract

Digital technologies and skills are critical to economic growth and embedded in everyday life[1]. This paper presents a work-in-progress study that examines the effect of education policy on digital skills within Scotland. Through literature analysis, exploring education policy over the last 10 years, this policy study found that despite numerous attempts and frameworks in place by the Scottish government, the digital technologies skills gap remains a challenge[2]. Although the pandemic is seen as a catalyst behind the fast adoption of digital technologies across institutions and the population, it also slowed down the progress of Scotland's digitalisation and implementation of the Government's frameworks[3] due to delayed infrastructure developments during this time. Over the last 10 years, the criteria and key areas included under the digital skills banner have altered significantly making progress difficult to track in an important area of policy development.

Full paper

Introduction

Scotland is an ambitious country with plans to be among the top 25% of most productive countries in the EU, to be the next digital capital of the world, and to achieve net zero by 2045. Digitalisation is regarded as the key method of achieving these aims, with digital skills adoption seen as core to driving forward this ambition[4]. Research shows that basic digital skills are required in over 75% of all job advertisements classified as 'low-skilled'[5].

Throughout the last 10 years, the Scottish Government has introduced several measures and various initiatives to tackle skills shortages in the labour market[7,8,9]. Most of the actions and frameworks involve higher and further education institutions collaborating with industry to create programmes that will satisfy the demand for critical skills. However, despite these initiatives, there are still significant digital technology skills gaps amongst the Scottish workforce[2,4,6].

The COVID-19 pandemic influenced the development of digital skills in both a positive and negative manner. The lockdown forced people to go online, developing key skills in online tools and methods of communication, acting as a catalyst for upskilling[10,11]. At the same time, infrastructure development slowed halting the implementation of Scotland's Digital Participation Strategy[3,12,13] and reinforcing the digital divide.[7] A lack of digital skills acts as a barrier to work and the impact of the pandemic on online working, means these skills are needed for job success[14]. Much of the work published in academic journals surrounding Covid examined the impact of the pandemic on education and individual experiences, with little work exploring the impact of digital skills development[11].

This short paper summarises findings into the development of education policy, including the keywords used and the growing relevance of digital skills in Scotland.

Methodology

The frameworks and policy documents introduced by the Scottish Government that impact Education Policy were reviewed from 2014 to 2023, with a specific focus on digital skills and STEM-related subjects. Additionally, a review of relevant white papers was conducted to establish to what extent these initiatives have been successful in achieving their key aims. The research questions are:

- What changes have been made to education policy in Scotland in the last 10 years?

- How are digital skills identified?

The rest of this paper reports preliminary findings from this review.

Digital technology skills – the evolution of demand

In 2014, the Scottish government presented its Skills Investment Plan in response to the prevailing digital skills gap and high unemployment rate amongst the young workforce[8,9]. The current Education Policy was introduced in 2017 and does not directly address the lack of digital technology skills. Rather there are different frameworks and initiatives across multiple Government departments aiming to address digital skills gaps, via the provision of further or higher education, or directly upskilling the existing workforce[15,16]. Since 2014, these skills have been changing in response to market needs, indicating a need for a degree of agility to be able to respond to these changes. Figure 1 presents the major shifts in digital technology skills, as well as the expected need for skills in the next 5 years. The figure highlights the changes, with some key areas dropping off and others being introduced with alarming regularity. This demonstrates that the market is changing faster than policy can keep up with.

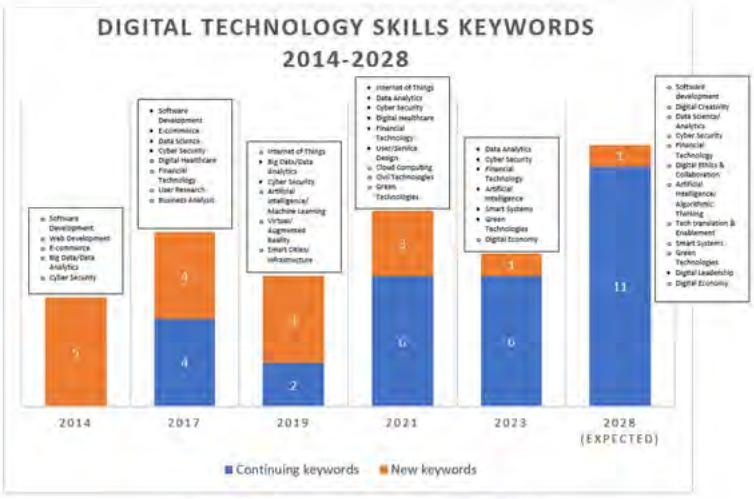

Figure 1: Digital Technology skills, keywords 2014 to 2028[2,4,8,9]

Conclusion and Impact

Early initiatives aimed at addressing the skills shortages in the workforce have met with limited success, and in recent years the focus on digital skills has only intensified. The findings of this policy review indicate that despite various efforts to close the digital skills gap, it not only remains a challenge but is becoming more acute, especially within more advanced fields. Digital skills policy faces constantly changing demands from both current industry and further advances in technology. This means that goalposts frequently shift and are likely to remain unstable and challenging. This short paper has highlighted the need for future studies to focus on the perspective of measurable outcomes of frameworks and the need for renewed efforts to close the gaps in providing a digitally skilled workforce.

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