Digital Learning

A Vision and Roadmap for Transforming Scottish Education for the 21st Century

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Digital Learning Scotland: A Vision and Roadmap for Transforming Scottish Education for the 21st Century

In the heart of Scotland's rugged landscapes and vibrant cities, a quiet revolution is brewing—one that could redefine how generations learn, innovate, and thrive.

Digital Learning Scotland is not just a policy proposal; it's a bold vision to catapult Scottish education into the 21st century.

Imagine classrooms where every child, from the Highlands to the Central Belt, wields the power of technology not as a tool, but as a gateway to boundless curiosity and global opportunity. This roadmap isn't about replacing teachers with screens—it's about empowering educators, students, and communities to build a smarter, fairer, and more resilient Scotland.

The Urgency of Change: Why Now?

Scotland has long prided itself on its world-class education system, rooted in enlightenment values and a commitment to equality. Yet, in an era dominated by artificial intelligence, climate challenges, and rapid technological shifts, our schools risk falling behind. The COVID-19 pandemic exposed vulnerabilities: unequal access to devices, digital divides in rural areas, and a curriculum that sometimes lags behind real-world skills.

But here's the inspiration: Scotland is uniquely positioned to lead. With initiatives like the Scottish Government's Digital Strategy and investments in broadband via Reaching 100% (R100), we have the infrastructure backbone. What we need is a unified vision—Digital Learning Scotland—to weave technology seamlessly into the fabric of learning. This isn't about gadgets; it's about fostering creativity, critical thinking, and collaboration in a digital age.

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The Vision: A Digitally Empowered Scotland

Picture this: A pupil in Orkney collaborates in real-time with a classmate in Glasgow on a virtual reality project simulating the Jacobite risings. A teacher in the Borders uses AI-driven analytics to tailor lessons for neurodiverse learners, ensuring no child is left behind. Graduates emerge not just with qualifications, but with digital fluency, entrepreneurial spirit, and a deep sense of civic responsibility.

Digital Learning Scotland envisions:

- **Universal Access:** Every learner, regardless of postcode or background, equipped with devices and high-speed internet.
- **Personalised Pathways:** AI and data insights customising education to individual strengths, passions, and needs.
- **Lifelong Learning:** Seamless transitions from early years to higher education, apprenticeships, and adult upskilling.
- **Global Connectivity:** Partnerships with international innovators, preparing Scots for a borderless world.

This is a Scotland where education drives economic growth, tackles inequality, and champions sustainability—turning learners into leaders.

Erskine Stewart's Melville Schools - A Flagship Pioneer of Scottish 21st Century Learning

Interviewing Mr Simon Luxford-Moore, Head of eLearning at ESMS, was a thrilling, inspiring and quite mind blowing experience. He was understandably recognised as one of the TES Edtech 50 leaders in 2020.

Clearly he has a deep passion for teaching and importantly, for modernising it to deliver the best learning experience for students.

He is not a technologist; Simon spent sixteen years as a primary school teacher and took on his new role when the school recognised the critical importance of the role of technology in learning.

The key factor is that ESMS is not using technology for its own sake but rather applying it such that it enhances and supports the learning process.

Most impressively Simon has an inspiring passion for Scotland realising its ambition to become a world leading digital nation. This modernized education is central to that goal, as it is equipping the young people with the skills they need for the 21st century economy in which we now participate. Students may be competing with peers from India for jobs that are entirely remote, and he has to be preparing them for jobs that don't even exist yet.

The Erskine Stewart's Melville Schools was first founded in 1694 by a co-founder, Mary Erskine. An entrepreneur and a woman who was generations ahead of her peers.

Stewart's Melville College began life with Daniel Stewart bequeathing money for the foundation of a school for orphan and destitute boys in 1814, a belief in the best of education for all that Mr Luxford-Moore is endeavouring to live today, through an ambition for all Scottish schools being able to access the innovations they are pioneering.

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21CLD

Simon's teaching ethos is headlined by '21CLD' – 21st Century Learning Design. As the name suggests this combines technology with a new philosophy for education, one that avoids the traditional repeat-to-learn approach and instead emphasises self-discovery and self-regulation for students.

It's based on a principle that there isn't necessarily one right answer in every scenario, and that the journey of investigation and critical thinking is more important.

It also emphasises key personal skills like collaboration, and Simon utilises technology to encourage and enable this and does so within the context of a particular curricular topic. For example, he runs a Minecraft club, where the students were set tasks about climate change, and freed to imagine their own solutions they created a number of innovative scenarios, such as houses that dealt with flooding and drought in new and creative ways.

He has also used Microsoft Teams to twin with schools in India where they engaged with peer students and explore topics like how to conserve the local ecosystem.

Experiential Learning

ESMS is a flagship example of a school using Virtual Reality to enhance learning, via the ClassVR technology.

Mr Luxford-Moore explained how this adds a new category of learning modes. There is visual, auditory and kinaesthetic, and Simon defines 'Experiential' as a fourth, with quite profound implications and benefits for teaching.

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He is passionate about inclusive learning, where if you design teaching to accommodate a neuro-diverse audience the minority of whom may have the most difficulties, from physical to mental challenges, it will be all encompassing, beneficial to all the students. VR offers a mode of engagement that addresses these challenges and removes barriers to learning in a way that traditional media cannot.

An example of an experiential lesson was a virtual tour of the Mecca pilgrimage, where students participated via VR in the Hajj, something that no non-Muslim can do. This is an excellent and simple example of fostering cultural and religious appreciation and understanding. The students also learned about rainforests through a VR tour and as one young pupil described it enables an experience "beyond the rectangle of a picture".

Harnessing the Creator Economy

Simon reviewed a number of potential VR solutions for the school, settling on ClassVR because of one critical feature – the ability to create and upload one's own content. Others could only make use of content pre-built by the supplier.

This is the key to unlock Scotland's digital education future. Using advanced tools like Blender ClassVR can create sophisticated virtual tour content for schools, and being UK-based have been very responsive to Mr Luxford-Moore's requirements, such as creating a castle siege scenario, even endorsing the flags with the school logo, but critically he can also create his own using simple 360 camera devices and enhancing it with tools like ThingLink.

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For example he used this approach to create a virtual tour of New Lanark, closed to the public due to the pandemic, and has even shared tours of their own school, a historic Victorian building. They also act as a hub centre, where other schools who don't have the technology can visit and make use of it.

The two biggest trends of the technology industry for the 21st century are 'the Metaverse' and the 'Creator Economy', an evolution of the Internet to a wholly immersive virtual world combined with the tools that enable everyone to create the experiences within it.

Scotland's ambition to be a world-leading digital nation lies in harnessing these trends to transform our Education system, where schoolchildren are empowered to create learning content shared with other students, using the tools and technologies central to the future of the 21st century.

Critically it breaks down the barriers between public and private schools, creating a single playing field where investments and learning by one school is contributed to a shared pool from which all can benefit.