

Education Scotland: Digital Strategy

Supporting education in Scotland through digital technology

For Scotland's learners, with Scotland's educators

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Executive Summary

Education Scotland is a leading public sector organisation in Scotland. It is therefore imperative that Education Scotland provides a leading digital service to all involved in education in Scotland. This Digital Strategy sets out the challenges, principles and aims of the organisation to achieve this goal. This Digital Strategy directly supports the delivery of the Education Scotland corporate plan.

Our digital challenges are:

- **Design and deliver digital services involving everyone** in summary we should include our users wherever possible in the creation of new digital services.
- **Supporting collaborative working across Scottish education** we must use our influence in the education landscape in Scotland to foster greater collaboration and therefore improvement.
- Support Education Scotland's strengthened inspection and improvement function help the organisation to deliver its enhanced remit through improving systems and reducing the burden on staff.
- Support professional learning and leadership in Scottish education deliver this new part of Education Scotland's remit to meet the needs of all our users.
- Build a modern, flexible, responsive and reliable digital service to support Education Scotland – the digital services team at Education Scotland needs investment in order to meet the aims of this Digital Strategy.

Our digital principles that will govern the delivery of all digital services are:

- **Value** Digital projects and services must provide best value for the public purse by reducing duplication of effort wherever possible.
- **Security & Privacy** All digital services, systems and projects must maintain the highest levels of data security and, respect and maintain the privacy of our users and data subjects.
- **Open Data & Data Sharing** The Scottish Government's Digital strategy states that organisations should seek to share and open up non-personal data as a source of innovation and efficiency. Education Scotland will align to this.
- **User centred** We will seek to design and deliver digital public services around the needs of all our users and ensure that they are designed with, and for, the people who use them.
- Agile Design, Delivery & Maintenance Digital Services will be delivered in an agile manner where possible and will continue to evolve to meet the needs of the changing education landscape.

In order to meet the challenges outlined above, Education Scotland has outlined the following aims for this digital strategy:

- Education Scotland will use digital technology to support and improve education in Scotland.
- Education Scotland will be a leading digital public sector organisation in Scotland.
- Education Scotland will have streamlined corporate systems providing a single source of truth for all corporate data.
- Education Scotland will have a leading digital services team.

The delivery of this digital strategy will be separated in to the following phases:

- Initial Scoping now complete.
- **Discovery & Remediation** to commence once the strategy is adopted 2019/2020 financial year.
- **Foundations** this phase will commence projects to prepare the organisation for digital transformation and test out new models of working and governance.
- **Grow** commence the delivery of new digital services.
- Accelerate increase adoption of ES digital services wherever possible and increase adoption of digital delivery methods.

Foreword

In April 2019, Education Scotland published its corporate plan for 2019 – 2022. In that plan we set out our strategic priorities for the organisation and made a commitment to:

- Put all leaners, regardless of age or where the learning takes place, at the heart of everything we do;
- Work in partnership with all our stakeholders to deliver the best possible outcomes for all learners;
- Engage with our staff and our stakeholders to constantly improve the support that we provide to our partners across Scottish education;
- Encourage innovative ways of working to ensure that continual improvement is delivered for Scotland's education system; and,
- Adapt to ensure the continued delivery of sustained improvement in learning, teaching and assessment.



It is clear that digital technology, alongside Education Scotland's professional support activities, have a part to play in delivering these priorities.

Our Digital Strategy sets out how we will use our digital services to deliver our corporate strategic priorities as well as working alongside educators to improve and transform Scottish education. This strategy clearly articulates the principles with which we will create and deliver our digital services. This includes a clear focus on putting our users at the centre of everything we do and being responsive to the changing needs of Scottish education. This is the only way to ensure that we provide the right tools, the right data, at the right time and to the right people. Doing so will mean that we can all work together to create empowered learners and educators.

Gayle

Gayle Gorman Chief Executive / Chief Inspector

Introduction

This document sets out Education Scotland's strategic approach to establish the widespread use of digital services by our organisation, develop and maintain external facing digital services, and maximise the use of data to improve Scottish Education. Our primary aim is to embed digital into our inward and outward facing services and through time become an organisation in which digital is established as a cornerstone of our everyday functions. We will become smarter, harnessing the benefits that enhanced digital approaches can offer to improve how we operate and our contribution to the national education system in Scotland.

Background to the strategy

As a result of the education governance review, Education Scotland has been given an enhanced and strengthened remit. This includes increasing the extent of its inspection work and new responsibilities for professional learning and development. These additional responsibilities will require innovative approaches to maintain efficiency and avoid increasing staff workload. This is an exciting time for Education Scotland and it is important that we capitalise on this opportunity to improve our service to both internal and external stakeholders. It is important that any investment to our digital services is made in a strategic way to ensure value for money and return on investment long into the future.

Producing the strategy

The production of this strategy has involved a review of the following documents to identify key aims and action points:

- The Scottish Government Education Governance: Next Steps Empowering Our Teachers, Parents and Communities to Deliver Excellence and Equity for Our Children
- The Scottish Government Realising Scotland's full potential in a digital world
- The Scottish Government National improvement framework and improvement plan for Scottish education
- The Scottish Government Digital First Service Standard

The strategy has been consulted upon by internal governance groups including the Technical Design Authority, Digital Services Management Group and Education Scotland Executive Team to ensure its alignment with Education Scotland's strategic priorities and corporate plan.

Alignment to Education Scotland's corporate plan

This strategy is complementary and supports the strategic priorities laid out in the Education Scotland corporate plan for 2019-2022. The corporate plan is available at https://education.gov.scot/Documents/ES-Corporate-Plan-2019-2022. The corporate plan is available at https://education.gov.scot/Documents/ES-Corporate-Plan-2019-2022. The corporate plan is available at https://education.gov.scot/Documents/ES-Corporate-Plan-2019-22-new.pdf. The table below shows the alignment between the Strategic Priorities in the corporate plan and the challenges, principles, aims and actions set out in this digital strategy.

Strategic Priority	Digital Challenge(s)	Digital Principle(s)	Digital Aim(s)	Digital Action(s)
SP1 – A strong focus on learning, teaching and leadership	1, 2, 4, 5	1, 2, 4, 5	1, 2, 3, 5	1.1, 1.2, 1.4, 2.2, 2.3, 2.7, 3.6, 5.1, 5.3, 5.4
SP2 – National collaborative professional learning networks	1, 2, 6	1, 5	1, 2, 3, 5	1.1, 1.2, 1.3, 1.4, 1.5, 2.4, 2.5, 2.6, 3.3, 3.6
SP3 – Getting it right for every child	1, 5, 6	1, 4, 5	1, 2, 5	1.1, 1.2, 1.3, 1.4, 1.5, 2.4, 2.5, 5.2

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SP4 – Best use of high quality evidence	2, 3, 5	3, 5	1, 2, 3, 4, 5	1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 3.1, 3.2, 3.3, 3.6, 4.3, 4.7, 4.8, 5.1, 5.2, 5.3, 5.4
SP5 – Effective partnerships	1, 2, 3, 4	1, 2, 3, 4, 5	1, 2, 3, 4, 5	1.1, 1.2, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 3.1, 3.2, 3.6, 4.5, 4.6, 4.7, 4.8, 5.2

Our Digital Challenges

In order to operate as an effective digitally enabled public service, there are a number of challenges that Education Scotland needs to overcome. These challenges should be viewed as positive drivers of change and as a direct indication of Education Scotland's enhanced remit.

Challenge 1: Design and deliver services involving everyone

Education Scotland must recognise that it has a diverse and broad range of stakeholders. The digital services that it provides must not solely focus on the needs of internal staff or those staff from our partners. Education Scotland must design and manage services that are created collaboratively and in partnership with all of those involved in education e.g. teachers, headteachers, internal staff, HM Inspectors, Scottish Government staff, pupils, parents and others in the community who support Scotland's learners, taking a shared approach where possible. Throughout this document we refer to this diverse group as our 'users'.

Challenge 2: Supporting collaborative working across Scottish education

Education Scotland must use its position and influence in the education system in Scotland to foster greater collaborative and partnership working. With regards to digital services this should include fostering data sharing and access wherever possible, whilst still upholding the highest standards of information security. Education Scotland should work with other organisations involved in the delivery of Scotland's education system to remove barriers to sharing of data and information. Education Scotland should also make efforts to enable a greater understanding of the various datasets pertaining to the performance of the education system in Scotland through providing greater opportunities for data interrogation, reporting and visualisation. Scotlish Government has published an Open Data Strategy and any developments in the above would support Education Scotland's delivery of this.

Challenge 3: Support Education Scotland's strengthened inspection and improvement function

As a result of the education governance review in 2017, Education Scotland now has a strengthened inspection and improvement function. In order to deliver this in a sustainable manner it is necessary to improve the digital services which support these functions. Without robust, easy to use and efficient digital systems there is a risk that this enhanced remit would be unable to be delivered as it would increase the burden on both the educational and support services functions of Education Scotland.

Challenge 4: Support professional learning and leadership in Scottish education

Education Scotland now has lead responsibility for the support of professional learning and leadership in Scottish education. It is essential that this is delivered in a flexible, sustainable and accessible manner that meets the needs of all education professionals. Education Scotland should continue to build on the professional learning digital frameworks in order to provide this function. Education Scotland should also commit to continuous improvement of these professional learning delivery methods to ensure that they remain fit for purpose and engaging to our users. These sources of professional learning should be appropriate to their audience and use and it should be clear to our users where to find the right information for their tasks e.g. teachers should be able to find the information they are looking for within minutes and without searching multiple sources.

Challenge 5: Build a modern, flexible, responsive and reliable digital service to support Education Scotland

In order to meet the challenges set out above, Education Scotland will be required to provide an internal digital service to build, manage and maintain its digital services. This must include retaining existing staff and attracting the right digital specialists to create a true digital engagement & delivery, and 'intelligent customer' function.

Challenge 6: Expand the use of Glow whilst retaining the core learning and teaching capability

The Scottish Government digital strategy encourages the adoption of existing digital services as far as possible. This statement specifically mentions the Glow service as a service to be expanded upon. As the managing authority for the Glow service it falls upon Education Scotland to encourage these additional uses where

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appropriate whilst ensuring that the core purpose of Glow, the provision of a platform to facilitate digital learning and teaching, is retained and not negatively impacted



The Vision – Where are we going?

The Education Scotland organisational vision is 'Achieving excellence and equity for Scotland's learners with Scotland's educators'. In support of this vision, our digital vision can be summarised as:

"Working collaboratively with Scottish education to deliver digital services to support and continuously improve learning and teaching"

Digital Principles

In order to support the delivery of this vision it is necessary to set out a series of digital principles that will govern our approach to transforming Education Scotland's digital services. These principles must be referred back to at each decision making point in any digital project or activity that the organisation carries out. These principles must also be reviewed on a regular basis to ensure that they continue to be relevant.

Principle 1: User centred

The Scottish Government Digital Strategy states that the government will seek to design and deliver digital public services around the needs of their users and that they are designed with, and for, the people who use them. Additionally the 2017 Education Governance Review received feedback that too much bureaucracy means that teachers and head teachers spend too much of their time on paperwork and not enough time leading their schools and focussing on learning and teaching. Also, evidence shows that involving young people in their own learning and promoting the student voice is an important lever for improvement. It is therefore essential that we put our users at the centre of our digital services by:

- Commissioning high quality user research and using the findings in our work.
- Involving our users in the design and development of new or improving digital services.
- Ensuring that a complete list of our users is consulted regardless of their role (e.g. teacher, practitioner, RIC staff, LA staff, pupil, parent or wider community member) and using innovative solutions to consult with them and involve them in the service design process.

Principle 2: Agile Design, Delivery & Maintenance

The Scottish Government's Digital Strategy states that it aims to achieve a public sector that operates on contemporary, digital platform-based business models. There is also a requirement for Education Scotland to be responsive to the changing needs of the educational landscape and to the government's priorities. With that in mind it is proposed that Education Scotland aims to:



- Deliver its digital services on best of breed technology utilising a **cloud first** approach to retain flexibility of platforms and reduce maintenance overheads.
- Where possible utilise the capabilities of development platforms, retaining only sufficient in-house skills to maintain an 'intelligent customer' function.
- Move towards agile methods of project management, service delivery and governance where possible to ensure that the organisation can respond swiftly to the needs of its users and continue to deliver a world class digital service.

Principle 3: Value

Digital projects and services must provide best value for the public purse by reducing duplication of effort wherever possible. The Scottish Government's Digital Strategy states that the government will deploy common technologies that can be built and procured once rather than multiple times and that efforts must be made to extend the use of existing national assets such as mygov.scot, Glow and SWAN across the public sector. Additionally the strategy states that the government will simplify and standardise ways of working across the public sector so that it becomes easier to use government services and time and money are not wasted reinventing wheels. Education Scotland can help to achieve this by:

- Commissioning new systems and projects using the following methods in order:
 - Re-use existing technology wherever possible. This should include investigating the possibility of using other public sector organisation's technology and sharing platforms. This can also be applied to staff resources whereby the skills of others within Education Scotland and other public sector bodies should be used over hiring new staff or interim workers.

- 2. **Buy** off the shelf solutions where they exist. Where opportunities for re-use are deemed to be unsuitable, efforts should be made to purchase off the shelf industry standard solutions which support Open Standards and with a preference for Open Source. This should reduce the implementation time and cost as well as making the systems easier to maintain.
- 3. **Build** bespoke solutions as a last resort. Where a business requirement cannot be met through reuse or purchase it may be necessary to design and build a bespoke solution. Efforts must be made to ensure that any bespoke solutions are integrated with other corporate systems and that vendor lock-in is avoided.
- Any new systems or solutions should be continually assessed in relation to the sustainability of support and maintenance. Technology that will require high levels of staff involvement in their ongoing maintenance should be avoided.
- Working to enable existing Education Scotland systems such as Glow and the National Improvement Hub to be used by other public bodies and those involved in education in Scotland wherever possible.

Principle 4: Security & Privacy

All digital services, systems and projects must maintain the highest levels of data security and respect and maintain the privacy of our users and data subjects. Activities to support this principle might include:

- Including considerations of security and privacy at the outset of any work.
- Protecting data to the highest practicable standards where possible
- Ensuring data governance is given the highest priority.
- Rationalising our data holdings, ensuring that we only hold data for its intended purpose and for no longer that it is required.
- Where our systems include a vulnerable group as its primary user base e.g. Glow we must balance all projects against any security and privacy risks to that user group and the educational benefit they will provide.

Principle 5: Open Data & Data Sharing

The Scottish Government's Digital strategy states that organisations should seek to share and open up non-personal data as a source of innovation and efficiency. In addition to this the 2018 National Improvement Framework states that as the quality and quantity of available improvement data increases, it is essential that intelligent use is made of that data and wider performance information. The 2018 National Improvement Framework also states that the government must take steps to improve information sharing in the early years and make it more systemic to improve support and protection for our most vulnerable children. With this in mind, Education Scotland's digital services must:

- Foster and empower collaboration wherever possible.
- Publish open data where possible to foster innovation in Scottish education.
- Remove barriers to data sharing in order to enhance and provide input to improvement efforts across Scotland.
- Be easy to use by all types of users including parents and teaching staff and not just statisticians and other data professionals.

Digital Aims

In order to improve the service that Education Scotland can offer the following aims have been identified. These will be delivered over the coming years and will be regularly reviewed and updated where necessary.

Aim 1: Education Scotland will use digital technology to support and improve education in Scotland.

Education Scotland has a central role in the improvement of education in Scotland. With this in mind it is essential that Education Scotland capitalises on the best of breed digital technologies and its in-house skills to carry out its extended remit.

Action Points

- 1.1. Education Scotland should commission research in to the ways in which educators access digital resources for professional learning, best practice and other advice. This research should feed in to an options appraisal that will inform how the Education Scotland web estate and other digital services should be developed.
- 1.2. This new development of the Education Scotland web estate should encompass the functions currently provided by the National Improvement Hub, the SCEL professional learning framework and less formal sources of information available through Glow. The development work should streamline



these sources of information wherever possible to enable our users to more quickly access the right information. The development work should be delivered using agile principles to ensure that we deliver benefits as soon as possible and that the services can be adapted to meet changing user needs and the changing education system.

- 1.3. Work should be undertaken to foster better data sharing and analysis by internal staff, Regional Improvement Collaboratives, Local Authorities, head teachers, teachers and parents. This should include the provision of a central data repository for education data in Scotland.
- 1.4. Education Scotland should take the lead in working with other members of the Scottish Education Council to work on removing barriers (technical, regulatory and reputational) to sharing data between everyone involved in Scottish education.
- 1.5. Education Scotland should investigate the possibility of creating a data interrogation and visualisation platform for education in Scotland that is easy to use and is accessible by all stakeholders.
- 1.6. Work should be undertaken to fully digitise the inspection process in particular work to reduce the bureaucracy and paperwork required of headteachers and teaching staff in the preparation for inspection.

Aim 2: Education Scotland will be a leading digital public sector organisation in Scotland.

Education Scotland is a leading body in the public sector in Scotland and is the national agency charged with delivering improvement and quality in education in Scotland. This role means that it is imperative that Education Scotland should seek to be a digital leader in the public sector in Scotland. To achieve this, Education Scotland must have a mature set of digital services that are used by staff and all stakeholders. These services must be continually reviewed to ensure they are fit for purpose, meet user needs and provide value for money.

Action Points

2.1. Build upon the enterprise architecture activity to fully understand the business processes and requirements with regards to corporate systems. Undertake a discovery phase to document user journeys and our business requirements.

- 2.2. Involve internal staff in the design and build of systems that will be used to support their daily work.
- 2.3. Reduce barriers to use for staff in working with digital tools.
- 2.4. Investigate the use of Glow productivity suites (e.g. Microsoft Office 365 and Google G Suite) for internal business activities.
- 2.5. Re-establish and re-invigorate the digital consultancy elements (engagement, user research, design and business analysis) of Corporate Digital Services to encourage staff to engage and to be innovative in proposing, designing and delivering new digital services for our users.
- 2.6. Re-define and reduce the inflexibility of the governance procedures surrounding digital projects to enable the organisation to be more flexible. Utilise agile development principles wherever possible.
- 2.7. Education Scotland should work with and influence Scottish Government iTECS to drive innovation in the SCOTS network to shape the service to better fit the organisation's needs. This should include better support for our mobile staff (e.g. regional improvement teams and HM Inspectors) and rapid adoption of more innovative technology.

Aim 3: Education Scotland will have streamlined corporate systems providing a single repository for all corporate data.

Education Scotland must seek to reduce the complexity of the corporate digital services landscape and to reduce or eliminate the risks that are posed by the lack of a 'single source' for corporate data and the workarounds that have been put in place by staff to support field working. Education Scotland must capitalise on the opportunity of using all information and data being generated by the organisation in the improvement of education in Scotland. Any data which is not available to all either internally or externally (where appropriate) is an opportunity wasted.

Action Points

- 3.1. Create a unified data model for Education Scotland and establish a central database for all Education Scotland corporate systems in order to provide faster and simpler corporate reporting e.g. KPIs, data consistency and data rationalisation.
- 3.2. Establish the concept of 'master data' e.g. understanding the attributes of a school which are used in all corporate activities. Implement master data management activities to ensure that this data is kept up to date and continues to be trusted by staff.
- 3.3. Build Education Scotland corporate systems on a single unified platform to ease maintenance and data sharing between systems. Re-use of other public sector platforms should be explored in order to achieve best value for money, reduce duplication of effort and to foster data sharing across the Scottish public sector.
- 3.4. Build corporate systems in as uncoupled a way as possible to allow them to be replaced without a significant development overhead.
- 3.5. Work towards a DevSecOps model of working to ensure that systems are constantly updated on a regular basis.
- 3.6. Investigate the needs of the organisation's mobile workforce and implement systems to enable them to update the corporate record from the field and to receive as up to date data as possible while out of the office.

Aim 4: Education Scotland will have a leading digital services team.

Education Scotland already employs experienced staff that are passionate about using their skills to provide digital services and improve the outcomes for Scotland's learners. In order to support Education Scotland's enhanced remit and to meet the challenges outlined in this strategy this team must be expanded, developed and supported.

Action Points

4.1. Create a suitable Target Operating Model for Education Scotland Digital services covering the People, Processes and Technology to help ensure the right resources are in place, and aligned with the Digital Data and Technology profession.

- 4.2. Reduce the numbers of staff in temporary posts to create a more stable structure.
- 4.3. Increase the business analysis and user research resources.
- 4.4. Increase the availability of quality assurance (testing) resources through permanent recruitment.
- 4.5. Educate non-digital staff on the importance of robust service and supplier management and promote the services of the service management function when dealing with digital services.
- 4.6. Provide training in agile planning and delivery.
- 4.7. Promote partnership working with other public sector organisations including Scottish Government Digital Directorate and other SG agencies to foster sharing of best practice and resources.
- 4.8. Work collaboratively with the knowledge management team to increase expertise in management information and business intelligence gathering and reporting.

Aim 5: All staff in Education Scotland will have high levels of digital skill to select and use the best technology options to deliver their work.

Education Scotland staff should have the knowledge and confidence to select the correct digital tools for use in their work and be producing examples of best practice both in education and in business in general. Education Scotland staff should have a source of information and support in their use of these digital tools to ensure these continue to deliver value to our users.

Action Points

- 5.1. Increase team resources to upskill staff in the digital technology that is available to them.
- 5.2. Proactively engage with regional and curriculum teams to understand the needs of their projects and programmes and to provide advice on the best digital technology to use.
- 5.3. Provide solutions that are easy for staff of all skill levels to use without the need for intensive guidance or user support.
- 5.4. Provide training and guidance and specialist support to ensure that staff are producing content and resources in as engaging a way as possible and using the best and most innovative digital technology.

A roadmap for transforming our digital services

As outlined by this strategy it is necessary for Education Scotland to undertake a programme of digital transformation. This programme will be delivered in phases. These phases are outlined below.

Delivery phases

The delivery phases for digital transformation at Education Scotland are as follows.

Initial scoping

This phase is now complete and included a broad investigation of all Education Scotland business processes, mapping out their touch points with corporate systems and acquiring a high level understanding of each team's pain points and wish lists. This phase also included a detailed investigation into the corporate systems supported by Corporate Digital Services to understand their status with regards to technical suitability, risks and maintainability. The report from this initial scoping is available on request from the Corporate Digital Services team.

Discovery & Remediation

This phase will be carried out in two streams. One stream will work to present the business case for digital transformation in order to secure funding for the short to medium term actions. The second stream will work to document Education Scotland's user journeys, high level business requirements and to prioritise activities for the subsequent phases.

This phase will also include short to medium term remediation activities for those corporate systems that require immediate attention but which are too business critical to be decommissioned immediately. These remediation activities will be complementary to the over-arching transformation plans and this digital strategy.

Foundations

This phase will commence projects to prepare the organisation for digital transformation and test out new models of working and governance. Activities in this phase may include but not be limited to:

- Establishing the Education Scotland unified data model and processes for master data management.
- Establishing the development and production environments required to deliver new digital services.
- Proof of concept digital services to test out the delivery model and chosen application platform.
- Initial delivery of small scale or more business critical new digital services as defined by the priorities in the Discovery & Remediation phase.

Grow

Once the development platform is established and the modes of governance are tested it is possible to begin the development work proper. This phase will include the delivery of prioritised projects and may include concurrent delivery.

Accelerate

Once the development processes and the platform are fully bedded in and operating as business as usual, efforts to accelerate the adoption of the platform for as wide a range of digital services as possible should be undertaken. In this phase the Digital Design function will work with business areas to actively promote and support their adoption of digital technology wherever possible.

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