

Response to the national discussion on education



Summary

- Subject-specific knowledge is no longer the primary determinant of suitability in the majority of graduate recruitment. What matters more are transferable skills and attributes, breadth of knowledge and experience, cross-disciplinary thinking, and problem-solving capabilities.
- While immediate, incremental change is necessary to avoid overwhelming the system, we should also challenge ourselves to conceptualise the education system of the future (say, from 2030). By opening up a more speculative conversation, we are better placed to embrace its opportunities and get ahead of potential problems.
- Our young people should expect an education that prepares them to engage with the major social, economic, cultural, personal, and political challenges that face society in the 21st century, for which many of the fundamentals of our current education system remain ill-suited.
- As the world steps further into the so-called fourth industrial revolution, marked by increasingly sophisticated and integrated technologies, the way in which education is delivered could drastically change. However, there is an inherent tension between technological progress and equity: unless everyone is afforded access to the same digital infrastructure, some children may fall behind.
- Scotland has never critically reflected or reached agreement on the purpose of either assessment or qualifications. We will engage with the Hayward review and wish to preliminarily signal our support for a more holistic and flexible system of qualifications and assessment that allows learners to demonstrate their understanding in a variety of ways and is more in tune with the needs of employers and the skills required for the future.
- The expansion of funded early learning and childcare in Scotland has been an important and welcome development. However, there remains concern in some quarters that early years policy is increasingly being used to deliver economic outcomes, primarily to facilitate parents returning to the labour market by providing child care. The RSE is committed to facilitating further engagement to inform policy development in the early years space and would be pleased to offer its services to Scottish Government in this respect.
- Scotland is fortunate to have the Scottish Credit and Qualifications Framework (SCQF). It remains a world-leading model for how different learning outcomes can be recognised and awarded, building on direct inputs from thousands of different programme owners. The SCQF is unique in that awards and qualifications from schools, colleges, universities and in-work training can be placed on the framework to facilitate progression and career change. We would like to see greater visibility and promotion of the SCQF going forward which could contribute significantly to achieving parity of esteem between different learning pathways.
- The future system must be founded on a more expansive definition of academic and personal success. Education should encourage and balance the dual aims of self-development and wellbeing, in whatever form they take. All aspirations should be respected as equally valid, rather than forcing learners down certain pathways to suit a particular narrative about what constitutes 'success.'
- Teachers must be afforded the time and space to reflect critically on their practice and to work collaboratively with their peers to share knowledge, experiences, and advice.
- Dominant pedagogical approaches are predicated on a particular understanding of cognition. However, research in psychology, neuroscience, and other disciplines is exploring new theories for how humans learn which, if applied, will have impacts on how teaching is delivered and how learners with different cognitive styles are supported.

Summary (continued)

- Twenty-first century grand challenges are largely inter- and cross-disciplinary. To provide relevance, education must provide much greater breadth of skills, knowledge, and understanding. More generally, much greater attention should be paid to contexts for learning, both to the four Curriculum for Excellence (CfE) contexts for learning – not least of which is interdisciplinary learning - and to the contexts in which knowledge is developed and delivered.
- We need to revisit and agree the purposes of education as a starting point for reform and curriculum-remaking. Scotland as a society must agree what constitutes success – for the individual and for the education system as a whole. Only then should we define what measures should be in place to monitor progress and improvements over time.
- The RSE supports the need for more systematic, integrated, and robust data-gathering which adequately captures the full breadth of learning and attainment, from formal qualifications to more qualitative markers of personal development.

Introduction

1. The Royal Society of Edinburgh (RSE), Scotland's National Academy, welcomes the national discussion on education undertaken by Scottish Government and the Convention of Scottish Local Authorities (CoSLA). It is critical that the future vision of Scottish education is informed by the views of learners and other system stakeholders to ensure it can deliver on their varying needs, expectations and aspirations, as well as those of wider society. The findings of the Organisation for Economic Co-operation and Development (OECD) review of Curriculum for Excellence (CfE) as well as the Muir review clearly suggest the need for a paradigm shift in Scottish education and assessment in order to modernise the system, reduce inequalities, promote social inclusion, and contribute to a just transition. The RSE is hopeful that Scottish Government and CoSLA will be receptive to the potential for transformative change if evidenced by the outcomes of the national discussion and would be happy to offer its objective, multidisciplinary expertise to support the implementation of a reformed education system.

Consultation questions

Q1: What kind of education system will be needed by children and young people in Scotland in the future?

2. Reform of Scottish education in light of the OECD report should be **systemic**, influencing education from early years through to higher education and beyond, so that learning at each level articulates well with subsequent levels.
3. While education is for life, the economy and employment remain one of its (several) central purposes. Some jobs continue to require specific knowledge and skills (medicine, engineering, science, etc.), but many vacancies no longer require graduates from specific disciplines; over 86% of large employers now say that the degree subjects of candidates do not matter. Subject-specific knowledge is no longer the primary determinant of suitability in the majority of graduate recruitment. **What matters more are transferable skills and attributes, breadth of knowledge and experience, cross-disciplinary thinking, and problem-solving capabilities.** Employers look for greater emphasis on acquisition of thinking, interpersonal, and communication skills (collaboration, communication, curiosity, creativity, compassion, resilience, adaptability). These skills should be prioritised across our education system, including tertiary education. The tertiary sector has a vested interest in supporting school education; this could be better and more widely developed, such as through community service learning. This presents challenges and opportunities for fundamental education reform.
4. While immediate, incremental change is necessary to avoid overwhelming the system, **we should also challenge ourselves to conceptualise the education system of the future (say, from 2030).** By opening up a more speculative conversation, we are better placed to embrace its opportunities and get ahead of potential problems. The Royal Society of Edinburgh's Tertiary Education Futures¹ project took this 'blue-skies' approach to predicting the trajectory of the current post-secondary system.
5. Today's young people are exposed to technology from an early age and quickly become proficient at using it. In our daily lives, tasks such as spelling and calculation are often outsourced to machines. We can access and store unprecedented volumes of information virtually instantaneously, reducing the need for memorisation. As this technological immersion intensifies, our expectations of the curriculum and of learning outcomes must correspondingly evolve. First and foremost, education must be relevant to the lives of young learners from diverse backgrounds.

¹ <https://rse.org.uk/expert-advice/tertiary-education-futures-project/>

Our young people should expect an education that prepares them to engage with the major social, economic, cultural, personal, and political challenges that face society in the 21st century, for which many of the fundamentals of our current education system remain ill-suited. These challenges - including automation, globalisation, energy, (geo) political and cultural polarisation, formidable climate and environmental issues, and many others - provide relevance, motivation, and rich contexts for learning at all levels and across all disciplines and should energise young learners. Arguably, many problems and challenges in our 21st century world reflect (at some level) failures in education systems, both global and local.

6. We need to ensure young people develop the skills needed to not only source information but also differentiate between fact and fiction and appreciate the possible misinformation and misinterpretation that is prolific in the modern age.

7. **As the world steps further into the so-called fourth industrial revolution, marked by increasingly sophisticated and integrated technologies, the way in which education is delivered could drastically change.** We have seen the benefits as well as the challenges of online learning during Covid-19 and must take advantage of new technology. Automation and artificial intelligence could reshape the role of the teacher from imparting knowledge to helping learners develop the metacognitive skills described above. Technology could also afford learners with immersive work experiences they might not otherwise receive, helping to encourage new learning pathways. The use of various personalised technologies will become commonplace. **However, there is an inherent tension between technological progress and equity:** unless everyone is afforded access to the same digital infrastructure, some children may fall behind. Importantly, technology cannot replace the benefits of live social interaction and collaboration; the isolation wrought by successive Covid-19 lockdowns was particularly difficult on some young people and underscores the need to balance technology with more traditional approaches.

Question 2: How do we make that a reality?

8. Scotland lacks the necessary fora to facilitate inclusive, society-wide, visionary thinking about the education system over the long term. We need a place to imagine what might be and how radical approaches to learning and teaching could improve outcomes for all learners.

Question 3: How can every child and young person's individual needs be supported and addressed in the future?

9. We welcome the work of Professor Louise Hayward in examining the current qualifications and assessment system. **Scotland has never critically reflected or reached agreement on the purpose of either assessment or qualifications.** In theory, they hold multiple types of currency: as a measure of personal attainment, as a measure of system performance, and as a means of entry to subsequent destinations. In practice, their purpose has often been reduced to the latter and assessment approaches have tended to be standardised to simplify their administration. We will engage with the Hayward review and wish to **preliminarily signal our support for a more holistic and flexible system of qualifications and assessment that allows learners to demonstrate their understanding in a variety of ways and is more in tune with the needs of employers and the skills required for the future.** This could include more interdisciplinary qualifications, project-based assessment, and smaller, just in time pieces of learning validated by microcredentials. Universities can serve as powerful gatekeepers of traditional methods of qualification and assessment and will need to be brought on board in order to achieve systemic change.

10. The RSE held a far-reaching and impactful early years conference, *Being and Belonging*, which looked at how sustained, individualised, and high-quality provision can positively influence a young person's life course.² **The expansion of funded early learning and childcare (ELC) in Scotland has been an important and welcome development. However, there remains concern in some quarters that early years policy is increasingly being used to deliver economic outcomes, primarily to facilitate parents returning to the labour market by providing child care.** This worry is exacerbated as Scotland contends with high rates of child poverty and a mounting cost-of-living crisis. Having access to childcare is undoubtedly helpful in improving a family's economic situation but if economics become the de facto driver of early years policy, we risk losing the child-centredness that ensures children can derive the maximum benefit from ELC provision. There also remain questions of how best to support children with additional support needs (including where these needs intersect with other factors), ensure the workforce is adequately trained and valued, manage and support children through transitions, and build coherent and supportive learning journeys that link the early years with subsequent stages.

² <https://rse.org.uk/whats-on/being-and-belonging-early-years-conference/>

Drawing on its convening power and independence, the RSE is committed to facilitating further engagement to inform policy development in the early years space and would be pleased to offer its services to Scottish Government in this respect.

Question 4: What is one thing that needs to stay and why?

11. Scotland is fortunate to have the Scottish Credit and Qualifications Framework (SCQF). It remains a world-leading model for how different learning outcomes can be recognised and awarded, building on direct inputs from thousands of different programme owners. The SCQF is unique in that awards and qualifications from schools, colleges, universities and in-work training can be placed on the framework to facilitate progression and career change. **We would like to see greater visibility and promotion of the SCQF going forward which could contribute significantly to achieving parity of esteem between different learning pathways.** In particular, parents and learners should be made aware of the wide assortment of qualifications that exist beyond academic National Qualifications and encouraged to openly discuss different options.

Question 5: What are the most important priorities for a future Scottish education system?

12. **The future system must be founded on a more expansive definition of academic and personal success.** Scotland's education system is hampered by an inordinate focus on a select few outcomes, namely the secondary school-university pipeline. This fixation is perpetuated by media narratives and societal impressions, both of which place a premium on higher education. Although university is the right destination for some learners – and indeed, Scotland should retain its commitment to widening access initiatives to reduce disparities in participation – it should not sit at the top of an imagined hierarchy which regards vocational, technical, or alternative pathways as lesser achievements. Dismantling this thinking is imperative if Scotland is to overcome the societal challenges of the present and future, which will require a variety of skillsets and perspectives working in tandem. **Education should encourage and balance the dual aims of self-development and wellbeing,** in whatever form they take. **All aspirations should be respected as equally valid, rather than forcing learners down certain pathways to suit a particular narrative about what constitutes 'success.'**

13. Undoubtedly, one of the major obstacles to the successful introduction of CfE has been the early development (or re-development) of the senior phase subject qualifications that have long dominated secondary education, exerting an overbearing influence on learning and teaching. The lack of clarity around the curriculum in broad general education in the early stages of implementation led to an over-focus on qualifications as the destination, limiting wider development. This has inhibited the development of cross-curricular learning and teaching in secondary education. That there persists a tradition of high-stakes national standardised testing – and of teaching to the test - so far into the 21st century is surprising. An overwhelming appetite for change in national assessment amongst students, teachers, parents and employers is now reported. Again, the purposes of assessment need to be reviewed and agreed. This should extend beyond a discussion around the balance between examinations and teacher assessment and include not only how we assess but why we assess. We must reflect on the research into new and alternative approaches to ensure more authentic assessment. The tertiary sector, where there is more flexibility and opportunity to innovate in assessment, are stakeholders who should be able to contribute constructively to the development of innovative assessment methods and processes. Reform of the qualifications will be the key test of how serious Scotland is about genuine reform in response to the OECD report.

Question 6: How can we ensure that everyone involved in education in Scotland has a say in future decisions and actions?

14. Teachers are often full of innovative ideas about education but the workforce is too time-poor and overloaded to develop and implement them. Although Scottish Government committed to reducing teacher contact time by 90 minutes per week, this does little to address the true scale of the problem. **Teachers must be afforded the time and space to reflect critically on their practice and to work collaboratively with their peers to share knowledge, experiences, and advice.** Any reform that is imposed on the workforce from the top down will likely be met with apprehension or even resistance. The teaching workforce has laudable aspirations for the sector but is weary from multiple cycles of change which have arguably yielded little tangible improvement. Teachers need to be given a legitimate sense of ownership over the system's direction of travel in order to secure their support and enthusiasm for delivering the changes that are being proposed. Their lived experience and professional judgment will also provide invaluable insights into the realities of the classroom and how any changes might materialise on the ground. The voice of young people will be equally critical.

Question 7: How can children and young people be cared for and supported in the future? (i.e. physical and mental wellbeing)

15. The RSE does not have a specific position on this question, other than to agree with the general premise.

Question 8: How can the right of every child and young person to have opportunities to develop their full potential be achieved in future?

16. Dominant pedagogical approaches are predicated on a particular understanding of cognition. **However, research in psychology, neuroscience, and other disciplines is exploring new theories for how humans learn which, if applied, will have impacts on how teaching is delivered and how learners with different cognitive styles are supported.** For example, embodied cognition posits that our physical body and its interactions with the surrounding environment have a significant bearing on our cognitive processes. Society's awareness of neurodivergence and neurodiversity appears to be increasing and schools and workplaces are already taking encouraging steps to accommodate these individuals. This future system should take account of this growing evidence base and ensure it can adapt curriculum and assessment to suit different needs and contexts.

17. Once again, technology presents a dichotomy: some children would undoubtedly benefit from tailored technological interventions, but unless every learner is guaranteed the same access to these resources, it could introduce or perpetuate inequalities.

Question 9: How can children and young people be helped to learn about our changing world, so they feel able to positively contribute?

18. Twenty-first century grand challenges are largely inter- and cross-disciplinary. To provide relevance, education must provide much greater **breadth** of skills, knowledge, and understanding. A much better balance between breadth and depth of learning is needed throughout CfE, and especially in the senior phase. This balance should

be achieved first and foremost through much wider development and implementation of interdisciplinary and cross-curricular learning; collaborative learning; and problem-, project-, and inquiry-based learning, rather than simply offering a broader range of subjects. Breadth and depth are not mutually exclusive; disciplinary (subject) and interdisciplinary learning are both important and complementary (the so-called 'pillars and lintels' analogy). More generally, much greater attention should be paid to **contexts for learning**, both to the four CfE contexts for learning – not least of which is interdisciplinary learning – and to the contexts in which knowledge is developed and delivered.

19. We have a responsibility to ensure that the curriculum supports young people in navigating the more hazardous aspects of the digital age, such as the explosion of misinformation and fake news. Thinking critically about the content they encounter on the Internet and social media will become increasingly important as society's reliance on technology continues to expand.

Question 10: Do you have any other comments that you would like to provide about a vision for the future of Scottish Education?

20. We need to revisit and agree the **purposes of education** as a starting point for reform and curriculum-remaking. Scotland as a society must agree what constitutes success – for the individual and for the education system as a whole. Only then should we define what measures should be in place to monitor progress and improvements over time.

21. As the RSE has previously commented, there is an insufficient amount of meaningful educational data-gathering in Scotland. **The RSE supports the need for more systematic, integrated, and robust data gathering which adequately captures the full breadth of learning and attainment, from formal qualifications to more qualitative markers of personal development.** The type of data that is collected is ultimately a reflection of what Scotland has decided constitutes 'success' for its education system.

Additional information

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