**SCOTLAND** 



# **DELIVERING EXCELLENCE**

A NEW APPROACH FOR SCHOOLS IN SCOTLAND







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There is no issue more fundamental to the future of Scotland than education. Ensuring that every young person is well prepared for life beyond the school gates, whatever path they choose, is something on which we can all agree.

Business is clear – we need an education system which develops rigorous, rounded and grounded young people. This means a system which focuses as much on the development of key attitudes and attributes – such as confidence, resilience, enterprise, ambition – as on academic progression and attainment. This report, which builds on research undertaken for the CBI's *First steps* report, sets out the reforms we believe are needed to ensure that the Scottish education system is truly world class.

Education in Scotland has undergone significant reform since the National Debate on Education and the introduction of Curriculum for Excellence – and the government's commitment to its implementation is welcomed by business. This commitment now needs to be embedded across all political parties to enable the reforms to succeed.

A number of the elements of a world class education system already sit within Curriculum for Excellence. The challenge we face is aligning all parts of the system to ensure that the aspirations and ambition of Curriculum for Excellence can be delivered. To achieve that we need a system which empowers our teachers and school leaders, an inspection framework which provides appropriate challenge and adequately measures all aspects of the education spectrum along with greater, and deeper, levels of business engagement.

We know that business has a critical role to play: supporting teachers, informing and inspiring young people and helping students manage that difficult school-to-work transition. But all of us – business, schools, parents, government and the wider community – must work together to ensure that the education system delivers excellence for all young people across Scotland.



The quality of education remains the most important determinant of the long-term health of our economy.

Scotland has a proud history of achievement in education. For centuries, this has stood our nation in good stead in facing up to economic and social challenges. And, in the face of increasing globalisation, our schools are no less important today. That's why the CBI believes that the quality of education remains the most important determinant of the long-term health of our economy, as well as a powerful force for social inclusion and cohesion.

Reflecting our stance, the CBI undertook work in 2012 to establish what lessons could be learned from the best school systems in the world. This work was published as the report *First steps*,¹ which set out the principles business believed needed to be established to build high quality schools and colleges in all the nations of the UK. The report drew upon international examples and identified a set of core principles which underpin a successful education system – one that works for individual firms, for the economy but most importantly, for young people themselves.

The CBI is now following up First steps with a series of reports looking at the different education systems in Scotland, England, Wales and Northern Ireland. This report examines the system in place in Scotland, explores progress on implementation of Curriculum for Excellence (CfE) and identifies what more needs to be done to ensure that every young person in Scotland is better prepared for life beyond the school gates.

# Raising and maintaining education standards is an economic imperative

The economic case is clear – education is widely recognised as a driver of growth and a generator of prosperity. This means the Scottish government must be focused on delivering an education system that delivers the best possible outcomes for all young

people, from early years into employment, in order to help drive economic growth. Raising achievement across all UK schools to the level of the best in Europe could add one full percentage point to growth every year – equating to £8trn added to GDP over the lifetime of a child born today.² Changes should reflect the key principles the CBI set out in *First steps* – adopting a consistent vision for what schools must deliver, and then empowering head teachers and aligning inspection to ensure that vision is delivered.

A child's early years are a critical phase towards progress and achievement in later life. So the focus on early years education and childcare is essential to ensure that every child gets the best start in life and that no one is left behind.

### Recommendations

 The Scottish government should retarget the funding planned for extending free childcare to 30 hours and instead help to close the gap between provision of free childcare and statutory maternity pay by extending the age covered to include all one and two year-olds.

### Scotland has a head-start over the rest of the UK in defining a clear set of outcomes for the education system from 3-18

Business is clear that the school and college system must deliver young people who are rigorously educated, but also rounded and grounded and ready for adult life. This means developing the key attitudes and behaviours that will underpin their whole career, alongside relevant knowledge and skills.

On this, Scotland is ahead of other parts of the UK. CfE already defines a clear set of outcomes for the Scottish education system, which seeks to combine the academic excellence and broader development that young people need to be successful in life and work. This is a development that the CBI supports in principle – the challenge now is to ensure that CfE is being delivered well across the country.

### Recommendations

- Commitment to embedding the education reforms across Scotland must come from across the political spectrum. In the run up to the 2016 elections all parties should agree to maintain the Curriculum for Excellence approach to ensure it has time to be effective.
- The business community are a key stakeholder in education and have an important role to play in supporting schools and young people. Greater efforts are needed to ensure businesses can engage with education reform in Scotland.
- Rigorous and independent evaluation of the Scottish reform programme must be a priority to ensure that the principles of Curriculum for Excellence are being applied effectively.
- Implementing the recommendations of the Commission on Developing Scotland's Young Workforce must be given priority in the coming years to ensure the vocational offering in Scotland is world class.

### Aligning the system for success means ensuring we have strong and empowered leadership

Driving up performance in schools has to come from the top – all strong school systems need empowered and inspiring headteachers and high quality teaching staff. Global data is clear that it is this that really delivers for young people. With this in mind, empowering and developing school leaders is vital – as is ensuring that the accountability system, alongside the approach to examinations and the curriculum, are tools for raising standards. Leadership capability across the system is essential to the future success of Scotland's schools – the basic approach of CfE is right, but it needs every aspect of the system to be aligned to support delivery.

### Recommendations

- Greater freedoms and controls should be devolved to schools across Scotland to enable innovation and drive change. As a priority, financial devolution must be reviewed to ensure school leaders have the capacity to manage the resources delegated to them.
- The focus on professional learning and development in Scotland should be sustained and the Scottish College for Educational Leadership should ensure it delivers learning in an accessible way for teachers and practitioners in all parts of Scotland.
- Greater flexibility should be built into the system to enable teachers to gain experience of business.
   The Invest in Youth Groups could help facilitate and support placements for teachers in local businesses.
- The government should re-establish an independent education inspectorate in Scotland. Schools and local authorities need to be held to account for poor performance more rigorously.
- Education performance measures at all levels in Scotland must be broader than simple attainment.
   HM Inspectors' five quality indicators should be reviewed to ensure that the right balance is struck between academic performance and broader development, including the four core capacities set out in Curriculum for Excellence. Inspections drive behaviour so the indicators must provide clarity on what schools and colleges are being asked to deliver.

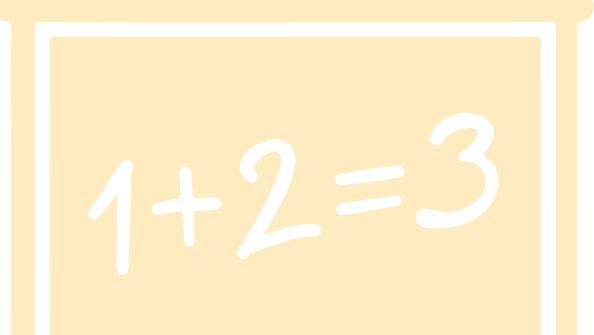
- Greater transparency and accountability
  must follow greater powers at school level.
  HM Inspectors should focus more specifically
  on the quality of leadership in delivering the
  Curriculum for Excellence vision. As part of this,
  the self-assessment element of school inspections
  should be less prescriptive to enable school leaders
  to take the initiative and develop more innovative
  ways of improving performance.
- The Scottish Qualifications Authority must step up their engagement with businesses to ensure that the new qualifications are thoroughly understood.
   The CBI can help support this work.
- The focus on driving up standards in numeracy and literacy is right – and must be rigorously pursued.
   As part of this, it should be mandatory for all those staying in full-time education or training post-16 to continue to study maths and English
- Progress on the Science and Engineering Action
  Plan needs to be evaluated and a new strategy
  should be developed in partnership with business
  to reinvigorate the STEM agenda in schools.

### Business has a critical role to play too

Businesses are clear about what they want from the education system and are prepared to step up. There are many great examples of businesseducation collaboration but it needs to become more widespread. Some central support is necessary to help foster effective partnerships between businesses and schools.

### Recommendations

- Work experience and inspiration must be mandatory for all pupils throughout the 3-18 curriculum. The government should set as an aspiration the requirement that all young people have at least four meaningful contacts with the world of work during their secondary education.
- All political parties should commit to Invest in Youth Groups to ensure that business has the confidence to engage and invest for the long term.
- There must be a strong business voice at the heart of careers policy and provision. This should include the creation of a new independent employer-led board to advise Skills Development Scotland on policy and practice.





# Raising and maintaining education standards is an economic imperative

The economic case is clear - education is widely recognised as a driver of growth and a generator of prosperity. This means the Scottish government must be focused on delivering an education system that delivers the best possible outcomes for all young people, from early years into employment, in order to help drive economic growth. This should reflect the key principles the CBI set out in 'First steps' — adopting a consistent vision for what schools must deliver, and then empowering headteachers and aligning inspection to ensure that vision is delivered.

# Strong educational performance delivers economic growth...

The economic case for a world class education system is undeniable. We know that education is a crucially important driver of growth in an economy, as without the right people, with the right skills, knowledge and attitudes, businesses will be unable to thrive, grow and compete in an international market. In 2012 the OCED highlighted the critical importance of skills development:

"Skills have become the global currency of the 21st century. Without proper investment in skills, people languish on the margins of society, technological progress does not translate into economic growth, and countries can no longer compete in an increasingly knowledge-based global society."

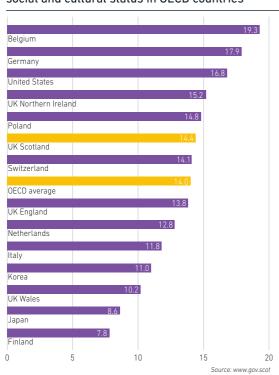
The CBI is clear that the attitudes and aptitudes of the workforce, underpinned by a core set of knowledge and skills, are the most critical factors in determining Scotland's ability to grow the economy – all of which are developed over time in education.

Evidence has shown that boosting education attainment can significantly impact a nation's

economy, allowing it to grow at a faster rate. It has been estimated that raising achievement across all UK schools to the level of the best in Europe could add one full percentage point to growth every year. That would translate into £8trn added to GDP over the lifetime of a child born today.<sup>4</sup>

Education is also key to ensuring that growth is felt by all and no-one is left behind. The CBI report, *First steps*, analysed the attainment gap between children from differing socio-economic backgrounds that is visible by age three. Children from the poorest fifth of families have a 45% chance of being read to daily compared to an 80% chance for children from the wealthiest 20%.<sup>5</sup> In Scotland the relationship between performance in reading and parental economic, social and cultural status is stronger than the OECD average, ranking above both England and Wales (**Exhibit 1**).

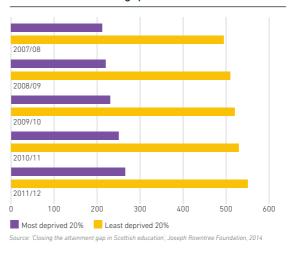
**Exhibit 1** Strength of relationship between performance in reading and parental economic, social and cultural status in OECD countries



The gap that emerges at the beginning of school continues to increase as children move through the education system. The attainment gap at school leaver age has remained relatively unchanged in recent years (**Exhibit 2**). It is essential, therefore, that ministers focus energy and resources on closing the attainment gap in a child's early years to prevent an individual's socio-economic background dictating their future.

There have been improvements in early years and primary education across the UK, most recently in Northern Ireland and England. However the sharp focus on early years in Scotland sets an example to the rest of the UK.

Exhibit 2 Attainment gap in Scottish schools



The aspiration to increase the number of free childcare hours to 30 for all three and four year-olds by the end of the next parliament has set the bar high. However, the CBI would like the government to go further and close the gap between free provision of childcare and statutory maternity pay. In England we have recommended the government offer 15 hours of free childcare to all children aged one and two whilst simultaneously extending statutory maternity pay from 39 to 52 weeks. Scotland should look at how they could apply this model to ensure all children get the very best start.

### Recommendation

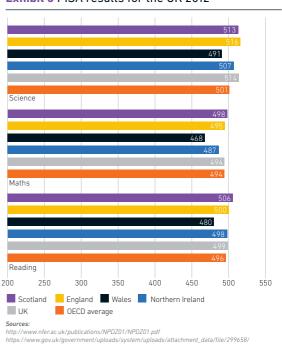
 The Scottish government should retarget the funding planned for extending free childcare to 30 hours and instead help to close the gap between provision of free childcare and statutory maternity pay by extending the age covered to include all one and two year-olds.

### ...and Scotland must establish itself as a world leader

While not an end in themselves, international comparisons can be valuable benchmarking tools for education standards. In the past, our education system has performed well against competitors. In the 2007 review the OECD reported, 'Scotland performs at a consistently very high standard in the Programme for International Student Assessment (PISA). Few countries can be said with confidence to outperform it in mathematics, reading and science."7

Since that review was undertaken however, our position has slipped in the rankings. When we look at more recent results, Scotland - along with the rest of the UK - remain around the OECD average (Exhibit 3). Scotland's drop in the rankings is not due to a decline in performance, but rather a lack of progress in comparison to competitors. Significant improvements have been seen in Europe, such as in Poland, and in the wider world, while Scottish performance has remained relatively static.8 In today's global society keeping pace with international competitors is essential. We need to move beyond parochial domestic comparisons and work to ensure that all our young people are equipped to compete with the best in the world.

### Exhibit 3 PISA results for the UK 2012





Boosting education attainment can significantly impact a nation's economy.





# Scotland has a head-start over the rest of the UK in defining a clear set of outcomes for the education system from 3-18

Business is clear that the school and college system must deliver young people who are rigorously educated, but also rounded and grounded and ready for adult life. This means developing the key attitudes and behaviours that will underpin their whole career, alongside relevant knowledge and skills.

On this, Scotland is ahead of other parts of the UK. CfE already defines a clear set of outcomes for the Scottish education system, which seeks to combine the academic excellence and broader development that young people need to be successful in life and work. This is a development that the CBI supports in principle – the challenge now is to ensure that CfE is being delivered well across the country.

# The best schools systems have a clear statement of outcomes they want to achieve...

Research undertaken for the CBI's First steps report clearly demonstrates that one of the characteristics of a good school system is a clearly expressed statement of outcomes, setting out what schools are expected to deliver.

These outcomes are broader than academic success, encompassing personal development, to ensure young people are best equipped for life outside the school gates.

If we look at high performing education systems – such as those in Finland and Singapore – they all have a clear statement of outcomes that is effectively communicated to all schools. In Finland, for example, the goals of education are explicitly linked to competitiveness, research and innovation. In Singapore the 'desired outcomes of education' (DOE) establish a common purpose for educators, drive policies and programmes and allow the government to determine how well the system is doing.

As we make clear in *First steps*, the outcomes that business want for the education system are young people who are rigorous, rounded and grounded.

Exhibit 4 Elements of a successful outcome for schools



### Exhibit 5 The four capacities

### "...to enable all young people to become..."

### SUCCESSFUL LEARNERS

### With..

- Enthusiasm and motivation for learning
- Determination to reach high standards of achievement
- Openness to new thinking and ideas

### Able to

- Use literary, communication and numeracy skills
- Use technology for learning
- Think creatively and independently
- Learn independently and as part of a group
- Make reasoned evaluations
- Link and apply different kinds of learning in new situations

### CONFIDENT INDIVIDUALS

#### With...

- Self-respect
- A sense of physical, mental and emotional wellbeing
- Secure values and beliefs

### Able to...

- Relate to others and manage themselves
- Pursue a healthy and active lifestyle
- Be self-aware
- Develop and communicate their own beliefs and view of the world
- Live as independently as they can
- · Assess risk and take informed decisions
- Achieve success in different areas of activity

### RESPONSIBLE CITIZENS

### With...

- Respect for others
- Commitment to participate responsibly in political, economic, social and cultural life

### Able to...

- Develop knowledge and understanding of the world and Scotland's place in it.
- Understand different beliefs and cultures
- Make informed choices and decisions
- Evaluate environmental, scientific and technological issues
- Develop informed, ethical views of complex ideas

### **EFFECTIVE CONTRIBUTORS**

### With...

- An enterprising attitude
- Resilience
- Self-reliance

### Able to

- Communicate in different ways and in different settings
- Work in partnership and in teams
- Take the initiative and lead
- Apply critical thinking in new contexts
- Create and develop
- Solve problems

Source: Curriculum for excellence: building the curriculum, Scottish government, June 2008

This requires schools and colleges to develop a culture and ethos which includes rigour in core subjects, including maths, English and the sciences, alongside an understanding and knowledge of enabling subjects – those that expand and enhance the core subjects. These academic outcomes are then critically combined with the development of a set of behaviours and attitudes that are essential to success in life. **Exhibit 4** sets out these outcomes and the importance of fostering all three.

# ...and Scotland has developed a clear set of outcomes that enjoy broad support

The recent reforms across the Scottish education system have applied this principle to good effect.

The National Debate on Education hosted in 2002 clearly set out an ambition to develop a long-term strategy for our schools that would '…sharpen the focus of what Scotland wants from its schools in the 21st century…and how to realise that vision from where we are today."

The National Debate resulted in the development of the CfE – and this framework, devised in conjunction with practitioners, is designed to deliver an education system fit for the modern world and ensure young people are equipped with the skills for life and work. It aims to develop four core capacities within our young people, creating future generations of successful and confident individuals, responsible citizens and effective contributors (**Exhibit 5**).

Exhibit 6 Characteristics, values and habits that last a lifetime

The system should encourage young people to be	This means helping to instil the following attributes	Pupils will, for example:
Determined	Grit, resilience, tenacity	Finish tasks started and understand the value of work     Learn to take positives from failure experienced     Work independently and be solutions focused
	Self-control	<ul> <li>Pay attention and resist distractions</li> <li>Remember and follow directions</li> <li>Get to work right away rather than procrastinating</li> <li>Remain calm even when criticised</li> <li>Allow others to speak without interruption</li> </ul>
	Curiosity	Be eager to explore new things     Ask and answer questions to deepen understanding
Optimistic	Enthusiasm and zest	Actively participate     Show enthusiasm     Invigorate others
	Gratitude	Recognise and show appreciation for others     Recognise and show appreciation for their own opportunities
	Confidence and ambition	Be willing to try new experiences and meet new people     Pursue dreams and goals
	Creativity	Identify and develop new ideas
Emotionally intelligent	Humility	Find solutions during conflicts with others
	Respect and good manners	Demonstrate respect for feelings of others     Know when and how to include others     Be polite to adults and peers
	Sensitivity to global concerns	Be aware of pressing global issues, and contribute to leading society internationally

Source: First steps: A new approach for our schools, CBI, November 2012

Developing these character attributes whilst in education is regarded as critical by business. In *First steps* business identified the key behaviours and attitudes that establish an individual's character and shape their personal effectiveness (**Exhibit 6**). Many of these mirror the qualities that the four capacities are intended to develop – such as resilience, respect, enthusiasm and confidence. The clarity of the four capacities in Scotland should be a real strength of the system as it sets out the task for schools and colleges to develop rigorous, rounded and grounded young people – individuals with the characteristics and skills to be successful in life.

# Sustaining consensus is critical to the achievement of these outcomes...

With a set of clear outcomes already laid out in CfE, the challenge we face now is embedding a long term strategy that is built on consensus and is enabled to adapt through robust, independent scrutiny.

Political consensus and stakeholder support has been critical to the ongoing roll out of the new framework and will continue to be as the excellence agenda embeds across Scotland's schools and colleges. The National Parent Forum and the forthcoming Children's Summit are helpful structures to ensure a dialogue is maintained. The business community, however, are also a major stakeholder that must continue to be actively engaged with education. Maintaining stakeholder engagement and consensus is essential for the long term success of the Scottish education system.

As with any policy intervention, rigorous independent evaluation is a necessary tool to ensure implementation is aligned to the original intention. The Scottish government's response to the recent report by the Commission on Developing Scotland's Young Workforce suggests an openness to evolving the system to ensure that the objectives of CfE can be achieved by all young people. The forthcoming review by the OECD will be a further opportunity for the Scottish government to continue to evidence its openness to external evaluation.

### Recommendations

- Commitment to embedding the education reforms across Scotland must come from across the political spectrum. In the run-up to the 2016 election all parties should agree to maintain the Curriculum for Excellence approach to ensure it has time to be effective.
- The business community are a key stakeholder in education – and have an important role to play in supporting schools and young people. Greater efforts are needed to ensure businesses can engage with education reform in Scotland.
- Rigorous and independent evaluation of the Scottish reform programme must be a priority to ensure that the principles are being applied effectively.

# ...and all pathways – academic and vocational – must support delivery of the outcomes

One area that has emerged as a concern to employers, and a potential threat to the success of CfE, is vocational education and training. CfE aims to provide a more balanced approach to academic and vocational pathways, but more needs to be done to achieve the blended approach that exists in other nations such as Northern Ireland (Exhibit 7). The Curriculum for Excellence Review Group recommended in 2004 the need to "...achieve a suitable blend of what has traditionally been seen as 'academic' and 'vocational'..." while more recently, the Commission for Developing Scotland's Young Workforce highlighted the importance of enhancing the vocational offering in Scotland.

Vocational education should never be viewed as second best, so the recent focus on improving vocational pathways is welcome. The Commission for Developing Scotland's Young Workforce was tasked in 2013 to bring forward proposals to achieve a system of vocational, further education and training suited to the needs of the changing economy, establishing a comprehensive range of vocational pathways for young people and ensuring the system is aligned to employer needs.<sup>14</sup>

### Exhibit 7 The Entitlement Framework

The introduction of the Entitlement Framework in Northern Ireland in September 2013 was designed to deliver a broader, more balanced range of educational options for students aged 14 and above.

The framework demands that, from 2014, schools must offer 21 courses at Key Stage 4 and 24 courses at post-16, rising to 24 and 27 in 2015. Within this offering, at least one third of the courses must be applied, and one third general.

In some cases, the obligation is fulfilled through collaboration with other nearby educational institutions such as FE colleges.

'General' courses are defined as those requiring primarily written assessment of knowledge, understanding and skills in a specific subject context. 'Applied' courses have a greater employability focus, with assessment more practical or within an employability context.

Source: Official report (Hansard), Northern Ireland Assembly Committee vfor Education, April 2012

While this work is still in the early stages, the Commission has set out a helpful programme of work that will help put the principles of CfE into practice and ensure Scotland's vocational education and training systems support young people into employment and promote economic growth. The implementation plan for the Commission's recommendations will be explored in more detail in section 4.

### Recommendation

 Implementing the recommendations of the Commission on Developing Scotland's Young Workforce must be given priority in the coming years to ensure the vocational offering in Scotland is world class.

# Aligning the system for success means ensuring we have strong and empowered leadership

Driving up performance in schools has to come from the top — all strong school systems need empowered and inspiring headteachers and high quality teaching staff. Global data is clear that it is this that really delivers for young people. With this in mind, empowering and developing school leaders is vital — as is ensuring that the accountability system and the approach to examinations and to the curriculum are tools for raising standards.

Leadership capability across the system is essential to the future success of Scotland's schools – the basic approach of Curriculum for Excellence is right, but it needs every aspect of the system to be aligned to support delivery.

# Empowered headteachers deliver better outcomes...

Evidence from international systems suggests that devolving more powers to headteachers and schools results in better outcomes for young people. When decision-making power and control is devolved to schools, leaders can lead and manage as senior professionals and teachers are able to focus on teaching.

In a highly centralised system, Scotland is not unfamiliar with the call for greater control to be devolved to school level. The OECD argued for greater diversity and autonomy within the Scottish system in 2007<sup>16</sup> and a review commissioned by the Scottish government in 2010 recommended 'Schools should have control over those budgets that enable these decisions to be taken and, ultimately, allow them to plan for and deliver Curriculum for Excellence.<sup>17</sup> In a more recent report, the independent Commission on School Reform, reflected on the 'disempowering' culture of the Scottish system and recommended considerably extending the autonomy of our schools: 'As a general principle, decisions that can competently be taken at school level should not be taken elsewhere.<sup>18</sup>

The academies programme has been the response in England, putting more decision making power into the hands of headteachers and teachers. In Scotland the response has been more limited, focusing on financial devolution through the Devolved School Management (DSM) scheme. Since its introduction, the percentage

target for devolved resources has been replaced by guidance that devolution should occur where there are clear benefits for schools and communities, and that headteacher accountability should follow any devolution. The principle – everything that could be meaningfully devolved should be – is strong, however evidence suggests teachers' experiences across local authorities have not been consistent.<sup>19</sup>

However, empowering schools is not just about delegating finances, it requires local authorities to step back and enable teachers to innovate and drive change. Local authorities continue to have a clear role – for example around admissions – but more control must be handed over to headteachers. Given the context of CfE, breaking the culture of external control is critical for Scotland's schools to enable real innovation. OECD research shows that giving schools greater autonomy is a necessary pre-requisite of a successful school system - but is not, in itself, sufficient to deliver high performance. Schools need to believe and act on those freedoms. Teaching professionals and school leaders must, therefore, be empowered to use their skills to deliver the broader outcomes CfE strives to achieve. Ensuring that the structures in place do not hinder the ability – or indeed the perceived ability – of headteachers to deliver change is important to the overall success of the CfE programme. More thought must be given to how greater freedoms could be devolved to individual schools in Scotland.

Devolving powers to schools must go hand in hand with greater accountability and professional development. Building leadership capacity is critical to enable school leaders to effectively manage their resources and meet the required accountability responsibilities. The Scottish College for Educational

Leadership (SCEL), set up in 2013, has real potential to help develop a pipeline of strong leaders in schools across the country, instilling in them the confidence and belief that they can innovate to effect change within their schools

### Recommendations

- Greater freedoms and controls should be devolved to schools across Scotland to enable innovation and drive change. As a priority, financial devolution must be reviewed to ensure school leaders have the capacity to manage the resources delegated to them.
- The focus on professional learning and development in Scotland should be sustained and the Scottish College for Educational Leadership should ensure it delivers learning in an accessible way for teachers and practitioners in all parts of Scotland.

# ...but this must be combined with high-quality teaching staff

Strong leadership and clear accountability is one piece of the puzzle, ensuring high quality teaching provision the other. Inspirational teachers have a real impact on young people's ability to learn and willingness to engage in education. During the period

of just one year, pupils with a very effective maths teacher gain 40% more learning than those with a poorly performing one.<sup>20</sup>

The evidence base for high-quality teaching provision is well-known in Scotland. The Donaldson report, Teaching Scotland's future, reflected that the best schools systems have young people and teaching development at the heart: 'They invest in developing their teachers as reflective, accomplished and enquiring professionals who have the capacity to engage fully with the complexities of education and to be key actors in shaping and leading educational change.'21

As the CBI set out in *Leading the way* (**Exhibit 8**), professional development for current and future headteachers will help to embed the reforms needed across the education system. The Scottish government's response to the Donaldson report '...to put excellence in teaching at the heart of Scottish education' and the actions taken through the National Partnership Group for Teaching Scotland's Future to embed career long professional learning for teachers are positive steps in the right direction.

# Widening the teaching pool would deliver results...

Getting the right number of teachers in the right areas with the necessary specialisms is a difficult task faced by countries all over the world. Scotland faces additional challenges such as ensuring all regions are properly supplied and maintaining a strong supply

### Exhibit 8 Leading the way

Strong leadership and governance are essential to driving school improvement, but as the CBI report *Leading the way* sets out, too many schools are not performing well enough in this area.

Especially during periods of reform like the one we currently see, it is crucially important that training and development is available and taken up throughout the career of headteachers. Current and future leaders should be encouraged to take part in activities that will improve standards and outcomes for young people.

As a part of this development, headteachers should be developing the skills to critically review the operation of their school – and learning from practice outside the education sector can help them to develop this capability. Providing opportunities for headteachers and school leaders to spend time in industry would be an immensely valuable contribution for businesses to make to education – as well as potentially improving their own operations.

Source: Leading the way, CBI, November 201

of science and maths graduates into the profession. However, the task is not as simple as just getting the right numbers into the profession, emphasis needs also to be placed on attracting good teachers.

The task faced in Scotland is not helped by the strictly controlled entry routes into the teaching profession. Entry into teacher education is tightly controlled, each year a teacher workforce plan is undertaken by the

## **Exhibit 9** Oracle Academy: teaching teachers the skills for industry

IT plays a critical part in the world of work and it is essential that those teaching today's young people have the skills and knowledge to teach this fast-paced subject. Learning directly from experts in the field is the most effective way to ensure the skills industry require are being taught in the classroom.

In response to the IT skills gap, multi-national software company Oracle delivers training, support and certification to teachers and practitioners through the Oracle Academy. The Oracle Academy has been established in Scotland since 2002. The curriculum, training and online lessons offered through the programme have an in-kind grant value.

Teachers joining the Java programme take part in a ten-week online course, as well as two in-class training days, where they will learn the basics of Java coding so they can teach it to their students.

Oracle Academy is recognised by the Scottish Qualifications Authority (SQA) as part of Scottish mainstream curriculum for schools and colleges developed under the Digital media and ICT Vendor Alliance (DIVA) project.

Teachers and practitioners can flexibly insert the resources designed by Oracle into computer science and business programs, ensuring that students gain industry-relevant skills before entering the workforce.

The Oracle Academy supports over 2.2 million students in 96 countries.

help prevent oversupply it does not allow flexibility within the workforce and is currently too narrowly based on academic qualifications.

Scottish government. While an element of control can

Bolstering flexible entry routes into teaching such as part-time university courses, or employment based routes to encourage career changes would help diversify the profession while maintaining standards. The success of the Teach First programme in England and Wales, designed to attract highly-qualified graduates into schools in deprived areas, could provide a model for Scotland. The Donaldson report noted that although we do not face the same recruitment pressure as in England and that highly-qualified graduates are already attracted to the profession, *...routes of this nature could complement more established ways into the profession.* <sup>22</sup>

# ...and business experience would drive improvements

The CBI has promoted the idea of leaders from outside the education sector coming in to run schools. High performing school systems across the world tend to have a higher proportion of headteachers with leadership experience outside of education. For example, Alberta, Canada is a high performing district with some 73% of headteachers having other leadership experience.

An alternate approach would be to allow teachers time to leave education and gain experience of the business world. Supporting subject specialists is one way of achieving this (**Exhibit 9**), but the system in Scotland should not shy away from allowing teachers to gain independent experience of business. This would not only enhance their ability to teach young people about relevant employment opportunities but also provide a unique experience to develop their own skills and learn from the business community. The Invest in Youth Groups (section 4) could support the creation of these placements.

### Recommendation

 Greater flexibility should be built into the system to enable teachers to gain experience of business.
 The Invest in Youth Groups could help facilitate and support placements for teachers in local businesses.

# The frameworks must be aligned to drive the right outcomes

In business we know that what gets measured gets done. In the same way, we know that schools respond to the performance measures in place. This means it is essential that the frameworks in place, including the accountability system and the approach to examinations and to the curriculum, are tools for raising standards.

### Accountability and inspection

Greater accountability must follow further devolution of powers and freedoms to schools. At the moment, the frameworks in place do not fully support the outcomes CfE is striving to achieve, nor are schools or headteachers directly accountable for their performance. Striking the right balance between academic attainment and the development of broader behaviours and characteristics is critical in assessing performance of an education system. However the National Indicators on school age learning, set by the Scottish government, are narrowly focused on attainment and participation. While these measures are arguably easier to measure than the development of the core capacities, it is essential the broader development of personal behaviours is not ignored. It is clear that change is needed throughout the system – the National Indicators drive Education Scotland's strategic objectives which in turn drive the inspection regime. Progress and success must be measured on more than attainment.

Despite some reform of the inspection framework during the early stages of CfE roll out, the quality indicators used by HM Inspectors do not place enough emphasis on the development of broader behaviours. It is likely that listing 'improving performance' as the first quality indicator drives behaviour in an unhelpful way. Building on the use of self-assessment, the How good is our school? framework was recently refreshed. This collaborative approach, focused on mutual improvement, may help break down perceptions of inspection as a judgemental process that exists in other schools systems, however genuine reflection and evaluation is limited by the prescribed criteria our schools must assess against. As noted earlier. headteachers and teachers need real freedoms to drive change, not token gestures. Estyn in Wales has clear measures within their framework which take account of the broader development of young people

which could provide a helpful example to Scotland – and the Ofsted inspection framework in England is moving in this direction.

Getting the inspection measures right is of critical importance – but so is tackling poor performance. Currently, the sanctions for schools found to be performing poorly are not clear; other than reinspection there appears to be no direct impact on the local authority or school. Without the strength to effectively challenge poor performance in schools, the accountability framework is severely weakened. The Commission on School Reform noted that the lack of independence of the inspectorate since it was subsumed by Education Scotland may have had a negative impact on accountability. They highlighted the importance of a strong inspection framework to drive up performance: 'The Commission considers it essential that there should be some means of challenging schools, giving them incentives to improve and holding them to account for their performance. 23 We need to consider re-establishing an independent inspectorate with real powers to hold headteachers and local authorities to account.

### Recommendations

- The government should re-establish an independent education inspectorate in Scotland. Schools and local authorities need to be held to account for poor performance more rigorously.
- Education performance measures at all levels in Scotland must be broader than simple attainment. HM Inspectors' five quality indicators should be reviewed to ensure that the right balance is struck between academic performance and broader development, including the four core capacities set out in Curriculum for Excellence. Inspections drive behaviour, so the indicators must provide clarity on what schools and colleges are being asked to deliver.
- Greater transparency and accountability must follow greater powers at school levels. HM Inspectors should focus more specifically on the quality of leadership in delivering the Curriculum for Excellence vision. As part of this, the self-assessment element of school inspections should be less prescriptive to enable school leaders to take the initiative and develop more innovative ways of improving performance.

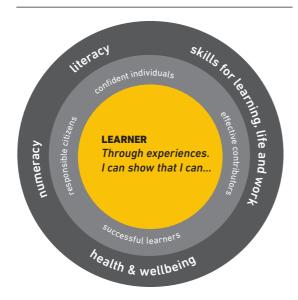
### Qualifications and assessment

Too often public exam results are seen to be the test of a good or bad school. This is wrong. A strong set of exam results based on a relatively narrow testing criteria is a crude measure of how well prepared a young person is for life beyond school. As outlined in *First steps*, the best schools systems achieve a balance between rigorous academic progress, examination systems and the development of the right attitude and attributes.

Striving for this balance has seen the introduction of new qualifications in Scotland for the first time in over 20 years. The Standard grade has been replaced by the new National 4 and National 5 qualifications, and the existing Highers are being replaced with new Highers and Advanced Highers. The Scottish qualifications system is well established and our existing qualifications are well understood by employers – maintaining employer confidence in these new qualifications will be key to their success.

Qualifications in Scotland are both accredited and regulated by the Scottish Qualifications Authority (SQA). While both functions sit within the same body there is a clear division of responsibilities.

**Exhibit 10** Education Scotland's assessment framework



A single accrediting body has benefits to businesses – delivering a simpler qualifications landscape and reducing the number of interactions that employers face when engaging with the assessment process. But the lack of competition in the sector, the 'dual' role of SQA and the fact that SQA is an agency of the Scottish government, all pose risks. Innovation in education should not be limited to the classroom – and independent scrutiny, assurance and challenge are key components of a successful school system.

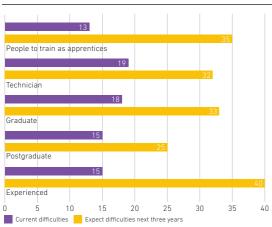
In addition to the new qualifications, the assessment framework in Scotland has undergone a transformation to support the broader learning achievements within CfE (**Exhibit 10**). Progression is measured on the basis of 'how well' and 'how much' individuals learn, while assessment encompasses a wider remit than testing and external examination. CfE encourages teachers to use a range of assessment methods to assess the different types of achievement across the curriculum rather than relying on formal exams. For example the new National 4 has no external examination and is based on continuous assessment of units.

This broader approach to assessment has clear benefits in that it enables teachers to focus on the wider learning outcomes rather than a prescriptive syllabus that is externally examined. The OECD highlighted the benefits of a combined approach to assessment as '...highly effective in raising the level of student attainment, increasing equity of student outcomes, and improving students' ability to learn.<sup>24</sup> However the shift under CfE – particularly with the removal of external assessment at National 4 level – has put significant pressures on teachers with regard to quality assuring the assessment process. Verification – one of the quality assurance measures used by the SQA to ensure consistently high standards in assessment across the country has come under fire in the last year for the burden it places on teachers.25

### Recommendation

 The Scottish Qualifications Authority must step up their engagement with businesses to ensure that the new qualifications are thoroughly understood. The CBI can help support this work.

Exhibit 11 Percentage of employers\* reporting difficulty in recruiting individuals with STEM skills and knowledge



\* For respondents employing people in Scotland Source: CBI/Pearson education & skills survey data

### Curriculum

The focus on literacy, numeracy and STEM skills (science, technology, engineering and maths) is a key requirement for business. Employers from all sectors have reported serious issues with basic skills within their workforce and concerns about their future workforce. The 2014 CBI/Pearson education and skills survey indicates around a third of businesses in Scotland are not satisfied with the basic literacy and numeracy skills of school and college leavers (Exhibit 13, page 26) and a considerable proportion are currently experiencing difficulty sourcing STEM skills (Exhibit 11).

As critical skills for life and work the CBI wants to see all young people in Scotland continuing to study maths and English in some form to the age of 18.<sup>26</sup> Although compulsory education ends in Scotland at 16, all young people have an entitlement to a senior phase of education. The National Indicator – to increase the proportion of young people in learning, training or work – sets out the aspiration to improve the rate of participation across all 16-19 year-olds and the 16+ Learning Choices strategy aims to achieve this. In neither of these does English or maths play a core role.

To ensure that all young people are equipped with the core skills for employment, the study of English and maths in some form should be mandatory for those remaining in education up to age 18, whichever route they choose to follow.

### Recommendation

 The focus on driving up standards in numeracy and literacy is right – and must be rigorously pursued.
 As part of this, it should be mandatory for all those staying in full-time education or training post-16 to continue to study maths and English.

Similarly, the economic significance of the engineering sector in Scotland means the development of STEM skills are vital to Scotland's ability to drive future economic growth. A recent report from the Institute of Engineering and Technology (IET) estimated that Scottish engineering enterprises are responsible for 30.4% of total turnover for all Scottish enterprises.<sup>27</sup>

The Science and Engineering Action Plan published in 2010 has seen a range of initiatives introduced to address concerns about STEM skills shortages, however it is clear that more needs to be done. The most recent PISA results revealed a fall in science performance in Scotland since 2009, falling behind the UK average (Exhibit 3, page 12). Business has serious concerns about the availability of STEM skills and knowledge in the workforce, particularly given the gender imbalance in the sector. The IET report revealed that Scotland's engineering companies alone will need 147,000 new engineers between 2012 and 2022.28 There is some good work underway (Exhibit 12, page 24), but more needs to be done – progress on the action plan needs to be evaluated and a new strategy should be developed in partnership with business to reinvigorate the STEM agenda in schools.

### Recommendation

Progress on the Science and Engineering Action
 Plan needs to be evaluated and a new strategy
 should be developed in partnership with business
 to reinvigorate the STEM agenda in schools.

### Exhibit 12 Shell: Girls in Energy

The Girls in Energy programme is a one year course, delivered by the North East Scotland College (NESC), designed to open young women's eyes to the energy industry's wealth of career opportunities. It is targeted at girls aged 14–16 in secondary education.

Before starting the programme many had thought that a job in the industry meant working on a platform in the middle of the North Sea. The course helps students to rethink these preconceptions and show them that there are a huge number of different careers available both offshore and onshore all over the world.

Girls in Energy pupils get to understand the future energy challenge including some of the pressing challenges we face in the world today and the role engineering plays in meeting the growing energy demand in a sustainable and innovative way. Tutors from NESC deliver weekly lessons, workshops and field visits; providing 160 hours of engaging STEM education over the year-long course.

Shell is committed to increasing the pipeline of STEM professionals, especially among those groups, like women, that are under-represented in the energy industry. The Girls in Energy programme will be extended over the coming years so that more women get the opportunity to learn about the value and opportunities available in the energy industry.

Since 2010 when the programme began the number of pupils involved in the Shell sponsored programme has expanded to over 75 young females taking part in 2014.

CASE STUDY



When decision-making power is devolved to schools, leaders can lead as senior professionals and teachers can focus

on teaching.

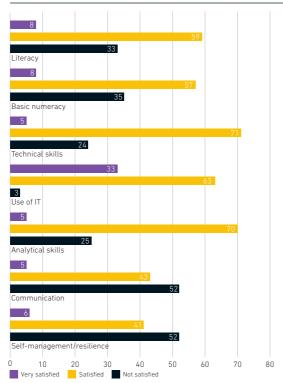
## Business has a critical role to play too

Businesses are clear about what they want from the education system and are prepared to step up. There are many great examples of business-education collaboration but it needs to become more widespread. Some central support is necessary to help foster effective partnerships between businesses and schools.

## Businesses know what they want to see from education....

Employers are clear about what they expect the education system to deliver. They do not expect schools to focus exclusively on preparing students for the world of work – the purpose of education is much broader. But they do expect young people to have the skills, capabilities and attitudes necessary to succeed in the modern workplace. As discussed in section 2 developing young people's behaivours while in education is a key priority for business.

Exhibit 13 Satisfaction with the skills of school/college leavers applying for jobs over the past year\*



\*For respondents employing people in Scotland

In our annual education and skills survey, we asked businesses how satisfied they were with the skills of entry level applicants over the past year. The response was mixed. 52% were not satisfied with applicants' communication skills and their resilience (Exhibit 13). And around a third were not satisfied with the level of literacy (33%) and numeracy (35%) that applicants had. While it is encouraging that the majority of respondents were satisfied with IT and analytical skills, it is clear that there is still a lot to be done in ensuring our young people are fully prepared for work.

### ...and firms are working with the education sector

A greater awareness of the world of work amongst young people at school depends on the businesses community having a high level of engagement in the education system. It is the responsibility of schools, colleges and businesses to work in partnership with the shared aim of raising ambition and levels of attainment for all.

There are many ways that businesses already support schools and colleges in Scotland (Exhibit 14) – and it encouraging that over the last year more employers have established links with education. At present the most common form of engagement between business and schools is in the provision of work experience with 82% of Scotlish businesses providing placements for pupils (Exhibit 15, page 28).

First-hand experience of business is one of the best ways to inform and inspire young people about the world of work and help develop the competencies and behaviours needed in the modern workplace. It also enhances individuals' employment prospects, as research shows that the more contacts young people have with the world of work, the better their employment prospects.<sup>30</sup>

### Exhibit 14 Scottish Food & Drink Federation: a future in food - microbiology at work

Leading food ingredient manufacturer Devro worked with over 120 S1 pupils from Chryston High School, Glasgow to provide them with an insight into the importance of science, engineering and technology to the largest manufacturing industry in Scotland. The school identified relevant CfE Experiences and Outcomes and the company helped design a project to meet these.

Devro launched the project by giving pupils an understanding of their international business and their product range. The students were set the challenge of producing a magazine for Devro visitors and new staff. The purpose of the magazine was to tell the reader about microorganisms and also to contain any three of the following topics:

- Food industry in Scotland sausages around the world
- Careers in the food industry Scottish scientists and micro-organisms
- Food industry and micro-organisms
   kitchen Hygiene
- Good verses bad micro-organisms
   Micro-organisms in medicine
- Design a new sausage for Devro

   the Scottish diet

As part of the launch, the pupils attended a series of workshops run in the school to learn about microbiology, the science of food and industry careers. The workshops were developed and run by Devro employees that had been selected to be ambassadors for the company.

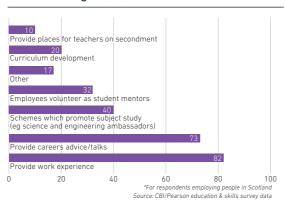
By using the enthusiasm and knowledge of the ambassadors, they were able to engage the pupils in a fun and interactive way. From career 'blind date' that encouraged discussion of careers, to testing for cleanliness with a UV lamp to taste testing sausages from around the world.

The project delivered a number of outcomes for pupils, staff and the business. The school, Devro and the pupils all agreed that the project improved their awareness of food production. Almost 70 per cent of the pupils that took part said they now know either a little bit or a lot more about the food industry. Devro selected eight ambassadors to be part of the project – this contributed to continuing professional development by building confidence, presentation skills and the understanding of a modern learning environment.

### CASE STUDY



### Exhibit 15 Nature of employers' work with schools/colleges\* (%)



Scotland's commitment to providing universal access to work experience for young people is strong in principle, but it is clear that without the right structures in place the commitment will not translate into effective experiences of the workplace delivered to all young people. There are no official statistics for work experience participation but research commissioned by the Scottish government in 2008 found that it was most prevalent among pupils in S4 (86%) and dropped off significantly in S5 (9%) and S6 (11%). Furthermore, the research highlighted that the most prevalent model for work experience was a one week placement in S4 which places significant pressure on local businesses.<sup>31</sup>

Work experience needs to be seen as something bigger than a traditional week's placement in a business. While high-quality placements can offer real value to young people, work experience – or work inspiration – can encompass much more: site visits, inspiring business speakers, industry projects and competitions, shadowing and mentoring.

We need to broaden the offering of work inspiration opportunities to young people and provide them with more chances to learn about different careers and understand about the different routes and pathways available, including vocational routes and apprenticeships.

### Recommendation

 Work experience and inspiration must be mandatory for all pupils throughout the 3-18 curriculum. The government should set as an aspiration that all young people have at least four meaningful contacts with the world of work during their secondary education.

### But central support and structure is important...

There are many examples of effective collaboration between business and the education sector, although it is often ad hoc and dependent on local players. More needs to be done to establish central support to help foster and devleop therse relatiosnships.

The CBI welcomed the recommendation from the Commission on Developing Scotland's Young Workforce to develop Invest in Young People Groups (**Exhibit 16**). The development of employer-led hubs will go a long way to advance better working relationships between business and the education sector. Creating a single point of contact and facilitated engagement is something the business community has been calling for.<sup>32</sup>

But it is essential that this is a long-term commitment in order to get the required buy-in from the business community, investment for a three year period does not go far enough. The CBI would like to see cross party commitment to Invest in Youth Groups to ensure that business has the confidence to engage and invest for the long term. Businesses will also want reassurance that these hubs will not undermine – but will complement – existing programmes and brokers, such as Scottish Business in the Community.

### Recommendation

 All political parties should commit to Invest in Youth Groups to ensure that business has the confidence to engage and invest for the long term.

### **Exhibit 16 Invest in Young People Groups**

The Commission for Developing Scotland's Young Workforce recommended the establishment of industry-led Invest in Young People Groups to encourage and support more employers to engage with education and to recruit young people. The aim of the groups is to build bridges between industry and education, play a pivotal role in transforming the approach to education and industry collaboration, and encourage companies to get back into the habit of employing young people.

The regional Invest in Youth Groups would be expected to focus on the following as a minimum:

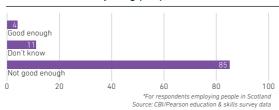
- Promote and facilitate the formation of longterm partnerships between individual schools, colleges and employers, providing supporting proforma documentation for the creation of the partnerships
- Facilitate employers' input to activity such as career advice, enterprise education and job search skills in schools
- Enhance and improve the provision of careers information through knowledge sharing and coordination of industry placements for teachers and career professionals

- Co-ordinate employer participation in the design and delivery of accredited good quality work experience and work placement for young people
- Support SMEs to build capacity to recruit and train young people
- Promote local campaigns to encourage companies to have an Invest in Youth Policy and to employ more young people
- Present the business case benefits of employing young people to employers in the region and support plans to increase the recruitment of Modern Apprentices
- Encourage large businesses to work with their supply chain to promote employment of more young people.

Running alongside the development of the Invest in Young People Groups an Invest in Youth accolade is being established. This will be awarded to companies which have a clear Invest in Youth policy and are actively engaged in education-business partnerships, and recruit and train young people.



Exhibit 17 Business views on the quality of advice about careers for young people\*



### ...and the careers system in Scotland must step up

A strong careers system and access to high quality careers advice is critical to ensuring our young people are properly informed about the opportunities open to them and properly inspired about the world of work. Careers advice should be informed by labour market data so that young people are fully aware of the economic and employment outcomes of taking different decisions. For example, it should make clear the benefits that accrue from pursuing vocational routes such as apprenticeships, or the thirst among employers for people with STEM skills.

Unfortunately the current provision in Scotland is simply not up to the mark and businesses are seeing no sign of improvement (**Exhibit 17**). Four out of five businesses (85%) across Scotland feel the quality of careers advice young people receive is not good enough to help them make informed decisions about future career options. Only 4% consider the quality of current careers advice to be adequate.

Careers advice must move away from simply providing information and start to help people navigate information in a way that leaves them inspired and sets them on a practical path to achieve their goals. There are some good examples of businesses stepping up to play their part to ensure young people are aware of the opportunities available to them and are well equipped with the skills to enter into the career of their choice but more needs to be done (Fxhibit 18)

Skills Development Scotland (SDS) has been through a process of upgrade and modernisation in recent years and now provides on online platform for careers, the My World of Work website, alongside sector specific video content and an active social media presence. However the business voice within SDS is not strong enough. Business is best placed to provide relevant labour marker information, to enthuse and inspire about different careers and to help young people get work ready. Similarly, online resources cannot replace the need for face-to-face advice – and high quality careers advice must remain a fundamentally important resource that all young people in Scotland have equal access to.

Businesses, schools and colleges need to work together to give teachers and careers advisors a better understanding of work through exchange schemes. As recommended by the Commission on Developing Scotland's Young Workforce spending time in a business as part of continuing professional development programmes will help build teachers' knowledge and understanding of the world of work. With the support of business ambassadors, teachers could 'buddy' a local company so they are in touch with developments in a sector and can share their learning, as well as advice on skills and competencies, back in their schools.

It is also important that work inspiration is firmly embedded in schools from the earliest stages. While we welcome the recommendation from the Commission on Developing Scotland's Young Workforce to provide careers advice and knowledge of the world of work significantly earlier,<sup>33</sup> we do not feel it goes far enough and would call on the Scottish government to ensure that business engagement and work inspiration starts at primary school.

### Recommendation

 There must be a strong business voice at the heart of careers policy and provision. This should include the creation of a new independent employer-led board to advise Skills Development Scotland on policy and practice.

### Exhibit 18 Diageo and Career Academies UK

Diageo has partnered with the business-led charity, Career Academies UK (soon to be Career Ready), to help bridge the gap between education and employment for young people in Scotland. Working in partnership with local authorities and their schools, the initiative links students and schools to employers through masterclasses, a mentor, paid internship for each student and workplace visits. It is supported by Diageo in a number of locations throughout Scotland—including Moray, Fife, Edinburgh, Midlothian, Glasgow, Aberdeen and Aberdeenshire.

Young people from secondary schools participate in the structured programme over a two-year period while in S5 and S6. Overall, the programme aims to get students excited, confident and engaged in the world of work so that on leaving school they can progress to aspirational and informed career pathways. This will lead to enhanced career and employment prospects given that the students targeted are those that benefit from a wider network to assist them be successful in the world of work

The programme is designed to complement delivery of Curriculum for Excellence and ensure that young people are given opportunities to gain high-quality work experience, develop the skills necessary for work and learn about the variety of career options available to them in their local area as well as nationally.

With the range of benefits experienced by Diageo, the Career Academies UK programme is a way to engage in their local communities, upskill their workforce and unlock the potential of employees alongside bringing young people with talent into their organisation.

### CASE STUDY



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