



Department of Education and Skills Statement of Strategy 2016-2018

June 2016

Ibec's main business sectors are:

Alcohol Beverage Federation of Ireland

Financial Services Ireland

Food and Drink Industry Ireland

ICT Ireland

Telecommunications and Internet Federation

Irish Medical Devices Association

PharmaChemical Ireland

Retail Ireland

Small Firms Association

Industrial Products.

Key messages

- The reality of developing a coherent Statement of Strategy which is effectively implemented by a broad range of actors poses significant challenges. In the past, there has been no shortage of policy recommendations, but strategy implementation has been less effective.
- Ireland needs clear, connected and robust structures, processes and measures to underpin the quality and quantity of relevant skills that are needed to deliver on our ambitions. It is important that the Strategy is closely aligned with broader policy including Enterprise 2025, Pathways to Work 2016-2020, the Action Plan for Jobs and Innovation 2020.
- The single greatest challenge for the education system at all levels is developing a capacity and appetite for continuous learning in young people.
- Radical reform of junior cycle teaching methods and curriculum content could have a profound impact on education outcomes including the development of critical thinking and moving away from the dominance of rote learning. Therefore, it should continue to be a reform priority.
- National Training Fund resources should be concentrated on schemes where the worlds of learning and work are closely linked. The Skillnets enterprise-led training model based on robust training needs analysis, business requirements, curricula designed in collaboration with employers and work-based training is more likely to succeed.
- The process to introduce new apprenticeships faces significant challenges in terms of institutional capacity. The Department of Education and Skills (DES) should put the Apprenticeship Council on a statutory footing and provide it with the resources to publish a fully-costed three year implementation plan with timelines and targets to underpin a pipeline for introducing new apprenticeships.
- It is critical that the political dynamic of a minority-led government should not lead to avoidance of difficult decision on the critical issue of higher education funding and quality. A commitment needs to be introduced to introduce a sustainable student loan and fee system, and to increase public investment, particular in capital infrastructure.
- The proposed technological university designation should not be a 'relabelling exercise' of existing Institutes of Technology. The proposed change of status should drive improved performance while stimulating the development of a new type of institution with a distinct mission and character that differentiates it from existing universities.
- National and local targets should be set for part-time/flexible learning. The targets should be embedded as key metrics in the higher education performance compacts and the further education service plans. Student fees should not discriminate against part-time students.
- DES should work with the Department of Social Protection on the development of a new accredited internship scheme focused on improving the employability of young people. To incentivise engagement under this new scheme, employers should be given the facility to provide a top-up to social welfare payments.
- The DES Strategy should specifically address how the continuum of tertiary provision, between higher and further education, can be made more systematic. It should include specific measures to ensure that the Higher Education Authority and Solas collaborate more closely, and incentivised through joint funding programmes for upskilling.
- The DES Strategy should emphasise the important connection between skills development and the country's ability to conduct world-class research and become an innovation leader. It should specifically support the requirement for a talent pool to deliver the *Innovation 2020 Strategy*.
- Ireland has multiple structures to collect information about changing skills demand. However there is a major gap in the use of PPS-based administrative systems to measure education outcomes. DES should start to link citizens' education, employment and earnings data in order to develop a longitudinal data set on education and training outcomes.

- Ibec has welcomed the commitment in the National Skills Strategy 2025 to require HEIs to introduce employability statements for their courses. This theme should be developed further in the DES Strategy.
- A well thought-out entrepreneurial education policy will maximise the potential of young people to develop the next generation of innovative products, services and processes. Ibec has developed a series of proposals which could help to embed promote entrepreneurial learning at all education levels, provide professional development and opportunities for educators to encourage entrepreneurial thinking, inspire the student to participate in entrepreneurial activities and encourage business and civic society to engage on this issue.
- A significant opportunity exists for government to work with business to develop a cost effective specialist careers and education options advisory service to supplement current guidance provision.
- The ICT Skills Action Plan 2014-2018 has proven to be an effective mechanism for improving the supply of skills. Due to the pace of technological change and global competition, the plan should be revised to take into account the current and future skills requirements across the digital economy.
- The DES is due to publish a modern languages strategy. However the scope of the strategy is limited to post-primary and higher education, and excludes the role of the Irish language. These limitations will undermine its impact.
- The quality of an education system cannot exceed the quality of its teachers. Moving away from the explicit specification of content towards a more generic, skills-based approach to discipline knowledge is posing a particular challenge for Irish teachers. This should be addressed in the DES Strategy
- Lack of clarity on the teacher careers and leadership roles in the Irish education system should also be addressed.
- As the Department with responsibility for the implementation of Síolta, the National Quality Framework for Early Childhood Education across the sector, DES should ensure that early year's practitioners are equipped with the skills and competences to work in this sector.
- Broader policy challenges such as housing, taxation and childcare have a significant impact on skills supply.
- The Programme for Partnership Government commitment to increase mandatory schooling to age 17 will not, in isolation, address the issue of educational disadvantage. Alternative education pathways are required for young people whose talents and learning styles are not best suited to a full-time classroom environment.
- The DES Strategy should address the issue of gender diversity in terms of education participation, subject choice and staffing.

Introduction

Ibec welcomes the Government's acknowledgement, in framing this consultation, that our education system will make a critical contribution to strengthening our economy, improving our society's and making people's lives better. The commitments in the *Programme for a Partnership Government* (PFIG) also have the potential to deliver an education system that works closely with business to ensure that learners are acquiring skills that are valued in the jobs market.

However, it is also worth noting there is no shortage of existing policy recommendations for education and skills. For example, the consultation process on the recent National Skills Strategy 2025 outlined over 40 high level education and labour market reform initiatives, each with its own deep layers of complexity in terms of objectives and possible delivery structures. The rhetoric around a 'systems approach' to create networks, address coordination failures, develop institutions and align strategic priorities may sound convincing. But the reality of developing a coherent education strategy which can be effectively implemented by a wide and diverse range of actors poses significant challenges.

The Department of Education and Skills is at the centre of a system comprising 15 national agencies, 4,009 schools, 19 regional training centres, 39 state-funded higher education institutions, a range of private providers and a budget of €8.6bn. Two other government departments, the Department of Social Protection (DSP) and the Department of Enterprise, Jobs and Innovation (DEI), each with their own networks of agencies and divisions, also have critical roles in the education and skills agenda.

In highlighting these challenges, Ibec also recognises that many worthwhile reforms are in train, including the development of a new architecture to ensure alignment between higher education institutions (HEIs) and further education and training (FET) with local, regional and national skills demand. There have also been a number of innovative activation responses to the recent unemployment crisis. However most of the fundamental reforms are at a very early stage and face significant implementation challenges. The critical and long-overdue reform to the school junior cycle provides just one example and lessons will have to be learned from this if we are to successfully engage in other such reforms.

In participating in this consultation process, Ibec will comment on the approach contained in the Programme for a Partnership Government and its views on the priority actions and outcomes. Not surprisingly, this submission emphasises the link between education and innovation, jobs and economic growth. However providing a business perspective should not be confused with having a utilitarian view of education. In its education commentary, Ibec emphasises a broader view of education which relates to the development of individuals as independent and creative thinkers, but also to the promotion of active citizenship and support for equitable social outcomes.

Programme for Partnership Government

Ibec views education policy as a continuum. The origins of successful higher education or lifelong learning outcomes can be traced as far back as the quality of early childhood education and the inculcation of an appetite for learning throughout the system. Therefore as the representative of a key stakeholder, albeit one with an explicit objective to maximise the potential of Ireland's human capital, Ibec can offer a broad external insight into a vast and highly complex system comprising many moving parts. This document will comment on the business-relevant sections of Chapter 10 of the *Programme for a Partnership Government*

Meeting the skills needs of the future

The *National Skills Strategy 2025* (NSS), published earlier this year, sets an ambitious trajectory for the next nine years for skills. We wish to acknowledge the engagement of DES with business in the development of a strategy which has the potential to have a positive impact on the evolution of Ireland's education system. The PFPG also includes some helpful commitments to support the Strategy. In particular, business welcomes the commitment to

- create financial incentives for the third level system to respond to skills gaps;
- invite industry to partner in the delivery elements of the curricula at third and fourth levels;
- create a strong system for the delivery and renewal of skills in newly emerging technical areas (including apprenticeships, traineeships, and in service progression).

Ibec's submission to the National Skills Strategy 2025 is available at www.ibec.ie/0/NSS_2025 and its detailed recommendations are set out in Appendix One. This document will not repeat the views set out in the Ibec submission. We believe that Strategy charts a way forward and that DES should produce a detailed implementation plan, setting out its priorities and outcomes. In addition, the following should be considered as priority actions.

Link the National Training Fund to enterprise-led training

In 2016, the National Training Fund (NTF) will amount to €362m. Despite the fact that NTF is collected through an employer levy (0.7% of payroll) just one third of the fund will be used for employee training. Given the scale of the unemployment challenge, the diversion of NTF fund allocations to labour market activation during the economic crisis was understandable. However, we have reached a stage where a rebalancing of the NTF allocation to in-employment training is urgently required. The unemployment rate remains unacceptably high but the recovery momentum is having a significant impact on employment creation. We now need to focus on the sustainability of existing employment by improving competitiveness through upskilling and reskilling.

The current system of education/training providers, programmes and service on offer can appear impenetrable to many employers. To be effective, NTF resources should be concentrated on schemes where the world of learning and the world of work are closely linked. The enterprise-led training model based on robust training needs analysis, business requirements, curricula designed in collaboration with employers and work-based training is more likely to be successful. It will also stimulate ongoing demand for upskilling and thereby help to meet the Enterprise 2025 target of doubling investment in training for employees.

The Skillnets programme, based on a business- government co-financing model, has been one of the most cost effective examples of stimulating enterprise- led training, despite the fact that the programme's in-employment funding stands at just 45% of its 2008 level. We have now reached a juncture where the potential of this model should be used to drive work-based learning.

All NTF funded training with a significant work-based element – including Apprenticeships, Traineeships, Skillnets, Momentum and Springboard – should be managed through an expanded Skillnets organisation. A wider range of skills-related training programmes at higher and further education should be funded through the NTF.

Expedite the roll-out of new apprenticeships

The previous government's decision to extend the apprenticeship model and establish an Apprenticeship Council is welcome. The number of proposals for new apprenticeships received by the Council from consortia of business and education/training providers has been encouraging. This offers a unique opportunity to broaden apprenticeships in Ireland, meet the skill needs of industry and deliver real choice for young people and other learners as they move into and within the world of work. However, significant work remains to be done to develop proposals into sustainable apprenticeships before the PFPG commitment to double the number of new apprenticeships by 2020 can be achieved. Despite the amount of political rhetoric around apprenticeships over the last year, the process faces significant challenges in terms of institutional capacity. DES should put the Apprenticeship Council on a statutory footing and provide it with the resources to publish a fully-costed three year implementation plan with timelines and targets to underpin a pipeline for introducing new apprenticeships.

Address higher education quality and funding

All levels of Irish education suffered during the crisis but higher education was particularly badly hit. The overall level of funding of the Higher Education Authority (HEA) for higher education institutions has been declining since 2007/08. Between 2008 and 2014 total funding per student decreased by 22%. The Expert Group on Future Funding for Higher Education has already warned that the quality of the undergraduate experience is under unprecedented pressure.

Given Ireland's high participation rates in higher education and the high public and private returns from completing tertiary education, action is needed in respect of both public and private investment. Ireland is one of only four OECD countries in which expenditure on tertiary education decreased since 2008 and one of only two countries where expenditure per student also fell. A commitment needs to be made to no further reductions in state expenditure, to introduce a sustainable student loan and fee system, and to increase public investment, particular in capital infrastructure.

Ibec notes the findings of the Expert Group on the Future Funding of Higher Education will be considered by a cross party Oireachtas Committee. It is critical that the political dynamic of a minority-led government should not lead to avoidance of difficult decisions on this important issue.

The challenges faced by HEIs require more flexible governance and funding systems which balance greater autonomy for the institution with accountability to all stakeholders. Autonomous institutions can specialise more easily, promoting educational and research performance and fostering diversification within the system. HEIs need the autonomy to set strategic direction, manage income streams, manage and reward performance to attract the best teaching and research staff. Given that 74% of the total education budget is attributed to fixed pay and pension costs, education leaders are extremely constrained without the HR levers that most private sector organisations take for granted.

Ibec welcomes the commitment in the PFPG to support new flexibility for higher education institutions to set their own staffing needs, hire the best lecturers, automate routine processes and adapt work practices to staff and student needs.

Ibec also welcomes the support for creation of technological universities, linked to industry and with the capacity to create and retain jobs in the regions. However, it is critical that the proposed technological university designation is not, what the Higher Education Authority has termed, a 'relabelling exercise' of existing IoTs. The proposed change of status should drive improved performance while stimulating the development of a new type of institution with a distinct mission and character that differentiates it from existing universities.

Increase the availability of flexible and part-time courses

Ibec welcomes the proposal in the PFPG to support the introduction of greater flexibility in terms of course delivery and part-time courses. There is a compelling economic and social case for new initiatives to raise levels of education skills among adults in the wider population. A number of HEIs, in particular, have made themselves more accessible to part-time and off-campus students through increased use of learning technology and online learning. However, as the Expert Group on Future Funding for Higher Education has pointed out ‘developments to date in the Irish system have been driven by bottom-up activities as opposed to sector-wide or institution-wide initiatives and haven’t reached the mainstream yet.’

Financial support continues to be by far the most significant issue that needs to be tackled in terms of successfully developing flexible provision. For example, with the exception of a number of recent labour market activation initiatives (e.g. Springboard, ICT Skills Action Plan), and support for some students from their employers, all part-time higher education systems in Ireland must pay full fees and other costs associated with their participation.

National and local targets should be set for part-time/flexible learning. The targets should be embedded as key metrics in the higher education performance compacts and the further education service plans. Government should also implement the recommendations of the HEA’s report on part-time and flexible education (2012) including the modification of a student funding model that does not distinguish between full and part-time students.

The PFPG support for the extension of ‘sandwich year’ courses is welcome. However, this is likely to be a medium term project. In the short-term, the DES should work with the Department of Social Protection (DSP) on the development of a new internship model.

Since its launch in July 2011, the national internship programme (JobBridge) has provided over 47,000 unemployed people with quality work experience. A quantitative evaluation of the programme in May 2013 indicated that 89% of interns acquired new skills and 61% of interns moved to paid employment within five months of completing their internship - the highest rate in Europe for comparable schemes. Administratively efficient, the programme has successfully engaged over 17,900 companies throughout the country (SMEs in particular). However, the economic conditions have now changed and a new approach is needed to build on the success and strengths of this programme.

In this context, the Government’s decision to evaluate the suitability, effectiveness and relevance of the Programme is a welcome development. While it is important not to second-guess the outcome of the evaluation and accept that any modification to the scheme should be based on solid evidence, the programme clearly still has an important role to play. Government should build on its success through further modification. Recent Ibec research indicates that over three quarters (77%) of its members that have used JobBridge rate it as either ‘effective’ or ‘very effective’.

DES should work with the Department of Social Protection on the development of a new accredited internship scheme focused on improving the employability of young people. To incentivise engagement, under this new scheme, employers should be given the facility to provide a top-up to social welfare payments. Such a facility should be carefully structured to ensure no unintended consequences around taxation and social welfare payments.

Further, adult and community education

Basic skills should be a priority. It is worth bearing in mind that 14% of all jobs are currently held by workers who have completed less than secondary education and a further 24% by those who entered the labour market immediately after completing school. Many work in traditional industries and the large domestic service sectors such as retail, transport and personal care. Their level of earnings and security in employment are adversely affected by low levels of proficiency in basic skills.

Ibec welcomes the commitment in the PFPG to ensure effectiveness of the further, adult and community education sector. However, the new DES Strategy should not frame the direction of further

education purely in terms of its role in serving the disadvantaged and unemployed. It obviously plays a critical role in this regard but we must move beyond an implied academic hierarchy. We have neglected vocational education and undervalued professional education because of insufficient opportunity and prestige factors. Students of all ages may choose to combine theoretical and skills educational programmes in different ways and at different times.

This also raises a broader question about driving too many unprepared students into higher education or specific programmes for which they are either unsuited or for which there is no direct employment. A vocational education route may be more appropriate in some instances.

It is also a mistake to assume that all the science and technology employment opportunities are just open to holders of advanced degrees. A large percentage of the workforce in these industries and occupations are technicians and others who enter and advance in their field through diplomas and certificates, or through workplace training.

The forthcoming Strategy should specifically address how the continuum of tertiary provision, between higher and further education, can be made more systematic. It should include specific measures to ensure that the Higher Education Authority and Solas collaborate more closely, and incentivised through joint funding programmes for upskilling. In the medium to longer term, this would improve efficiency in the use of resources and greater two-way flows between the sectors.

Link skills to enterprise and research strategies

Talented people are at the heart of all innovation. Therefore, the new Strategy must emphasise the connection between human capital and skills development, and the country's ability to conduct world-class research and become an innovation leader. In this context, the DES Strategy should specifically support the requirement for a talent pool to deliver the *Innovation 2020 Strategy*. It should recognise that at the heart of any innovation ecosystem is a high-quality education and training pipeline that is dynamic and responsive. The availability and quality of research graduates is essential if Ireland is to develop its attractiveness as a location for R&D investment. For example, plans to develop and advance manufacturing facility will have a significant downstream impact in terms of encouraging young people into careers in manufacturing and providing them with the requisite skills.

Develop more robust measurement and targets

The Strategy consultation document poses a number of questions around on measuring the success of its strategies. Given the growth in the importance of data analytics, the forthcoming Strategy should consider this in detail.

Given the limitation of input and output data, the emphasis in data collection should be on outcomes. For example, the last National Skills Strategy (2007) set a series of targets relating to progression up the National Framework of Qualifications. At one level, the results appear encouraging. The progression rate to third level increased from 55% to 69%, while there was also an 11% increase in the number of people in the labour force achieving qualifications at the higher levels of the NFQ. However they also illustrate the limitations of this data. These participation rates were partly driven by many people moving into, or staying in, education because of the lack of employment opportunities during the economic crisis.

The Graduate First Destination Survey, which has been running since 1982, provides useful information on first occupations of graduates, nine months after graduation. However, they have limited coverage of HEIs and, more critically, only capture a short period of time. Similarly employer satisfaction and student engagement surveys can suffer from unsatisfactory response rates (particularly amongst employers who are subjected to large numbers surveys, many of which have to be completed as a statutory obligation). Nevertheless they do offer some value in capturing satisfaction levels and perceptions.

The major gap in skills measurement is in the use of PPS-based administrative systems. More generally, the previous government acknowledged the possibilities of using data and technology to transform the way services are planned, delivered and managed through the Open Data initiative (<http://www.per.gov.ie/en/open-data/>). The concept of Open Data is about making data held by public bodies available and easily accessible online for reuse and redistribution. For example, the Department of Social Protection has used data from the Revenue Commissioners and Solas to develop a Jobseekers Longitudinal Dataset which includes times spent in receipt of benefit, periods in training, commencement/cessation of employment and earnings. DES should start to link citizens' education, employment and earnings data in order to develop a longitudinal data set on education and training outcomes.

Promoting creativity and entrepreneurial capacity in students

Ibec strongly supports the thrust of this section of the Programme and, in particular, the need to focus on the future needs, abilities and capacity of students.

We need to look to the longer term and what the future of work will mean for our economy, society, how we live and how we will work. The archetypal worker in an advanced economy used to be a man on a production line or a 'salary-man' in an office. There are still millions of these but the new world of work is both more exciting and less secure. There is greater variety, in both pay and conditions. A job is more likely to be part-time, temporary, freelance or self-employed. It may not be a job at all, in the way it used to be defined. The jobs that will be available and the skills they demand, we have not yet imagined.

So young people, and indeed adult workers, are facing into a highly uncertain and constantly changing future. That is why a capacity and appetite for continuous learning is the attribute that will enable them to thrive, and fulfil their potential as workers and citizens. Inculcating this is the single greatest challenge the education system at all levels.

However there is an onus on education institutions to provide their students with an understanding of their knowledge, skills and attributes in terms of the value that they can bring to prospective employers. This is particularly important for graduates from less vocational disciplines.

These skills should not be regarded inimical to education values. They include thinking skills such as logical and analytical reasoning, problem solving and intellectual curiosity; effective communication skills, teamwork skills, and capacities to identify, access and manage knowledge and information; personal attributes such as imagination, creativity and intellectual rigour; and values such as ethical practice, persistence, integrity and tolerance.

This can be a challenge. There has been a proliferation of attempts to set out discrete list of generic attributes and employability skills. While much commonality is evident in these various lists, there is also significant diversity. Despite the aura of tangibility provided by codified descriptive lists, much of these supposed generic attributes can appear intangible and elusive. At an earlier stage in the education cycle, the new Irish Junior Cycle, with its emphasis on innovation, resilience and 'learning to how to learn, provides a good example of how these aspirations can be translated into tangible learning outcomes. Ibec has welcomed the commitment in the National Skills Strategy 2025 to require HEIs to introduce employability statements for their courses. This theme should be developed further in the DES Strategy.

Develop entrepreneurial capacity

Ibec welcomes the Programme's explicit acknowledgement of the need to promote creativity and entrepreneurial capacity in students. A well thought-out entrepreneurial education policy will maximise the potential of young people to develop the next generation of innovative products, services and processes. The education system has a critical influence in shaping entrepreneurial attributes from an early age. In order to secure educators' commitment to do this, we need to redefine entrepreneurship

in a way that does not undermine educational values. Entrepreneurship should not be viewed solely from “an economic perspective” as it has applications for society and culture.

Young people who benefit from entrepreneurial learning develop latent business knowledge and essential skills including creativity, initiative, tenacity, teamwork, understanding of risk, a sense of responsibility and social resilience. These are the high level skills necessary for all commercial and social endeavours which make young people more employable and entrepreneurial.

In a detailed policy document on Entrepreneurial Education¹ Ibec has made 16 recommendations (see Appendix 2) which we believe could help to embed promote entrepreneurial learning at all education levels, provide professional development and opportunities for educators to encourage entrepreneurial thinking, inspire the student to participate in entrepreneurial activities and encourage business and civic society to engage on this issue.

The objective of the DES Strategy should be to equip students to enjoy rewarding employment and fulfilling lives in a future environment whose demands we can neither anticipate nor predict. But we should also remember that the capacities to think critically, judge numbers, communicate (in writing and verbally) and observe carefully — the capacities that education can and should develop — will be as useful in the future environment as they are today. The very intellectual attributes that are associated with a liberal education, for example, are the same as those that are essential for innovation. Business may have a less elegant language around these attributes – ‘employability’ ‘competences’ or ‘thinking outside the box’ – but they reflect fundamental principles and values of learning.

Develop an effective school career guidance service

Ibec welcomes the Programmes commitment to enhance guidance counselling at second level. However, it is now timely to consider the effectiveness of the model itself.

High quality in-school career guidance is crucial in preparing young people for life beyond the classroom. Young people need to be well-informed when making education and career decisions. Career guidance helps students reflect on their ambitions, interests and abilities and make the right decisions about their future. This in turn prevents early leaving, delivers greater social equity, improves labour market outcomes and enhances the overall efficiency of education pathways.

Ireland’s post-primary career guidance system is in need of reform. The Education Act (1998) considers post-primary career guidance to be a “universal entitlement” and requires that all “students have access to appropriate guidance to assist them in their education and career choices” (Section 9 (c)). However, Irish secondary schools do not have the necessary resources in-house to deliver a service of this scale and as a result career guidance provision is uneven.

In Ireland, the guidance counsellor has to deal with personal and social guidance as well as educational and vocational guidance. According to the OECD², in this situation “the educational and vocational guidance needs of all students tend to get squeezed by attention to the personal and social guidance needs of those few students with particular difficulties.”

Recent ESRI research³ has raised issues regarding time constraints for guidance, particularly for personalised one-to-one discussion, the absence of information on options other than higher education, and the absence of information on future employment opportunities following on from third level education.

To address this challenge, the DES should work with business to develop a specialist careers advisory service to supplement current guidance provision. This external service should include a

¹ http://www.ibec.ie/IBEC/DFB.nsf/vPages/Education_and_training-Policy_positions-entrepreneurial-education-20-08-2015?OpenDocument#.VmMYXzZOeM9

² <http://www.oecd.org/edu/innovation-education/careerguidancepolicyreviewhomepage.htm>

³ <https://www.esri.ie/publications/leaving-school-in-ireland-a-longitudinal-study-of-post-school-transitions/>

basic psychometric test and two one-to-one coaching sessions of approximately 30 minutes for all second level students each year. Our initial calculations suggest that this service could be delivered at a reasonable cost. However its success would depend on a systematic approach supported by a robust data system.

STEM skills and preparing for a digital future

Ibec welcomes commitment in the PPFPG to accelerate the Digital and ICT Agenda in schools by including a coding course for Junior Cycle and introducing ICT/Computer Science as a Leaving Certificate subject. However, we need to go further by introducing computer science on the formal curriculum from primary level. Leading digital economies such as Estonia have had programming on the primary school curriculum for a number of years and the UK took similar steps in 2014.

Internet founder, Vincent Cerf, has described STEM education as the ‘fuel for 21st century innovation and development’. Notwithstanding the importance of valuing all academic disciplines for the reasons outlined above, expertise in STEM subjects is necessary to drive our economic competitiveness and to provide the foundations for future prosperity. Knowledge-based economies, such as Ireland’s, are particularly dependent on the quality and number of STEM graduates. It may be difficult to precisely predict the jobs of the future but we can be confident of an ever-increasing demand for science, technology and engineering skills. There is a global shortage of STEM skills and, given its industrial profile, Ireland has a particular imperative to attract and nurture this talent.

But there are other compelling reasons to prioritise science and technology subjects. Stimulating curiosity and fostering a sense of wonder are essential elements of educating our students from the earliest years. Science and Mathematics provide answers to the fundamental questions of nature and enable us to understand the world around us. The STEM disciplines enable us to understand, measure, design and advance our physical world. Modern democracies need scientifically-literate citizens in order to make well-informed decisions regarding major global issues such as climate change, sustainability, energy, and food security.

Ibec welcomes the PPFPG’s commitment to publish the report of STEM Education Review Group, which was established in November 2013 with a view to carrying out a comprehensive review of STEM Education in Ireland

The ICT Skills Action Plan 2014-2018 has proven to be an effective mechanism for improving the supply of skills. Due to the pace of technological change and global competition, the plan should be revised to take into account the current and future skills requirements across the digital economy.

Language skills

The widespread use of English across the globe means that modern languages teaching is not a political priority, or indeed one that receives sufficient attention in the business community itself (beyond the growing number of, mainly multinational, companies with specific language requirements). This prevailing attitude will have grave economic, social and cultural consequences. Ireland needs more of its people to speak foreign languages – for employability, for trade and the economy and for our cultural life. The DES is due to publish a modern languages strategy. However the scope of the strategy is limited to post-primary and higher education, and excludes the role of the Irish language. Ibec has made a detailed submission⁴ arguing that this limitation will undermine its impact.

⁴ See www.ibec.ie/0/languages

Promoting excellence and innovation in schools

International experience suggests that many reforms fail to deliver because they have little effect on what happens inside the classroom or lecture hall. US commentator Larry Cuban suggests that they have a similar effect to that of a storm on the ocean: 'The surface is agitated and turbulent, while the ocean floor is calm and serene (if a bit murky). Policy churns dramatically, creating the appearance of major changes ... while deep below the surface, life goes on largely uninterrupted.'

Policy overload happens when governments fall into the trap of developing plans that are too complex, too vague, and contain too many priorities. Policy overload also results in a lack of focus, fragmented priorities, and a sense of an endless stream of ad hoc initiatives. Successful reform plans are designed as much for the implementers—that is, the teachers, principals and higher education leaders—as they are for the planners themselves. Therefore the new Strategic Plan must be actionable, clear, and lead to widespread ownership.

The emphasis should be on implementation. Education reform necessarily proceeds at a relatively slower pace. If an education reform fails, young people's lives are profoundly affected. However the need for an innate conservatism should not be used as an excuse for prevarication or the protection of self interest. It should be acknowledged that there is an inevitable tendency for education practices at all levels to develop their own dynamic, independent of the world of work and unresponsive to changes in the needs of the economy.

Investing in additional continuous professional development for teachers.

McKinsey has suggested that "the quality of an education system cannot exceed the quality of its teachers". Recent developments across the education continuum in Ireland see a move away from the explicit specification of content towards a more generic, skill-based approach to discipline knowledge. As well as having more responsibility for what is taught, teachers are increasingly expected to teach knowledge and understanding. This can be a particular challenge, particularly in STEM subjects for Irish teachers who are more accustomed to teaching to terminal examinations. Areas like maths and science will benefit from the most advanced training, particularly in communicating mathematical concepts and using technology.

The lack of incentives in the Irish system for continuous professional development (CPD) is outlined by the OECD's Teaching and Learning International Survey. Of those teachers receiving appraisal/feedback, less than one quarter reported that it resulted in a development plan to improve their teaching. The Department of Education's own Second Level Support Service (SLSS) also found that, "while the rhetoric of policy has adopted CPD as a core concept in the understanding of the teacher as professional, neither the term, or more importantly its meaning, have yet achieved purchase in the working lives of teachers. The SLSS is almost invariably seen as in-service support for the implementation of mandated change."

Develop school leadership

Ibec welcomes the attention paid in the PFPG to the issue of school leadership. In particular, we welcome the suggestion of a pool of experts, including business leaders, to assist school initiatives, promote innovation and enterprise engagement. The concept of 'Local Education Clusters' that encourage schools to improve student outcomes by sharing best practice also deserves further attention. However, the DES Strategy should also consider a more systematic review of teacher careers and school leadership in order to underpin these outcomes.

The OECD (2007) has described the confusion caused by the lack of clarity on the teacher careers and leadership roles in the Irish system:

'Increasingly teachers with specific roles and responsibilities within the school, such as deputy principals, teachers with curriculum development responsibilities, school development planning co-ordination or pastoral responsibilities and year heads at second level are referred to as leaders in the

system. Indeed, all teachers may be seen as leaders within their classroom. What is required, however, is a clearer analysis of the leadership roles and functions which teachers play at different levels within the school organisation.”

Using its system of career paths, Singapore systematically identifies and develops talented educators for leadership positions from within the school system. All educational leadership positions up to the level of Director-General of Education are considered professional positions and are part of the teaching career structure. All promising teachers are put onto this career track, thereby developing a pipeline of school leaders. Teachers with the potential to become principals are identified at an early stage and appointed to middle-leadership positions in schools, as subject or level heads or as heads of department.

School leadership is an integral part of the continuum of teacher education but has largely been ignored in the successive DES Strategies. Investing in the area for school leaders would have significant multiplier effects throughout the school and the education system. The OECD (2008) has developed a series of general pointers for policy development in this area:

- Ensure that school leaders have the capacity, motivation and support to make use of their autonomy to improve teaching and learning
- Accompany school autonomy with new models of more distributed leadership, new types of accountability and training and development for school leaders
- Encourage school leaders to support, evaluate and develop teacher quality by: strengthening school leaders' responsibility for adapting the curriculum to local needs; providing training for school leaders in teacher monitoring and evaluation; enhancing the role of school leaders in teacher professional development so that it is relevant to the local school context; encouraging school leaders to promote teamwork among teachers
- Support goal-setting, assessment and accountability by: providing school leaders with discretion to set the school's strategic direction and develop school plans in line with national curriculum standards but also responsive to local needs; promoting “data-wise” leadership through support and training opportunities for school leaders; encouraging school leaders to distribute assessment and accountability tasks to people within schools capable of using data to design appropriate improvement strategies

Prioritising early years

Ibec welcomes the decision to support early year's investment. However, it is also important to embed quality in the delivery of early years services. Early Childhood Care and Education (ECCE) is at a pivotal point of development in Ireland with the free pre-school scheme due to be expanded in 2016 to provide a free pre-school place for all eligible children from the age of three until they start school. As the Department with responsibility for the implementation of Siolta, the National Quality Framework for Early Childhood Education across the sector, DES should ensure that early year's practitioners are equipped with the skills and competences to work in this sector.

The commitment elsewhere in the PFPG to prioritise quality affordable childcare for children under three years is also critical. At 53.5% of the average wage, childcare costs are the highest in the EU. Government spends €2.2 billion every year on direct family payments. This is a significant obstacle to female participation in the labour force. Better targeting of this expenditure would provide a more effective national childcare scheme and implementing this overall strategy would be cost neutral.

Tackling disadvantage

The Programme's commitment to increase mandatory schooling to age 17 will not, in isolation, address the issue of educational disadvantage. Alternative education pathways are required for young people whose talents and learning styles are not best suited to a full-time classroom environment.

Pre-apprenticeship programmes for potential early-school leavers, suggested by the Apprenticeship Review Group⁵, should be considered.

Diversity and choice for parents

The main focus of the PFPG is on diversity of choice within the school system. Ibec welcomes the Programme's commitment to diversity and choice for parents regarding religious and non-religious options, enrolment and standardised testing.

However the Programme largely ignores the issue of gender diversity in education. This diversity pertains to subject choice and participation.

Subject choice remains a constant focus in education when it comes to gender diversity starting at second level where failure to choose certain subjects can have ramifications later for college course choices. From the beginning of second level education students appear to conform to the traditional gender stereotypes regarding their subject choice. Males outnumber females in subjects like engineering, technical drawing and construction studies while females are the majority in home economics, music, art and languages. This pattern continues into further and higher education where for example, the majority (85% in 2012) of graduates in engineering, manufacturing and construction were male while over three-quarters of graduates in the education, health and welfare sectors were female.

While culture and socialisation may play a part in such decisions, what is also clear from discussions with parents of girls is that when an interest in a subject such as physics or engineering at second level is demonstrated, often the lack of choice is due to the subject not being taught in the school, often same-sex schools. This is not an insignificant issue given that roughly 36% of second level students attend single-sex schools. We have seen pockets of collaboration between single-sex schools in neighbouring areas where boys attend home economics for example in the girls school and the girls attend applied maths or physics in the boys school but this needs greater coherence to ensure availability does not rely solely on goodwill.

With industry experiencing a skills gap and the growth of industry in ICT, Medtech, Pharma and related areas, our ability as a country to compete internationally requires greater numbers of students engaging with maths, science, engineering and technology. The importance of this focus is also borne out in ICT alone who have created more than 25,000 new jobs in Ireland over the last few years requiring almost two thousand additional graduates every year from 2018. With major indigenous and international organisations based in Ireland it is important for students to have all the options available.

⁵ <https://www.education.ie/en/Publications/Policy-Reports/Review-of-Apprenticeship-Training-in-Ireland.pdf>

Appendix 1

Ibec Submission to the National Skills Strategy 2025

Recommendation 1: All higher education institution (HEI) departments and further education colleges should help their students to express their suitability for employment through the provision of an “employability statement”.

Recommendation 2: DES should publish the findings of the STEM Education Review Group with a view to developing a response and an implementation plan to improve STEM education

Recommendation 3: The Department of Education and Skills (DES) should publish an integrated and coherent modern languages strategy which extends to all levels of the education system from primary school to adult education/lifelong learning.

Recommendation 4: DES should fully implement reform of junior certificate curriculum and carry this reform through to a new leaving certificate curriculum.

Recommendation 5: The DES should work with business to develop a contracted-in service to provide one-to-one advice on education options and careers to post-primary school students.

Recommendation 6: Employer engagement should be a key metric in the HEA performance compacts and FET service plans.

Recommendation 7: DES should extend the Regional Skills Forum model to all regions and put in place a three year funding envelope to put the new structures on a sustainable basis.

Recommendation 8: The Apprenticeship Council should publish a fully-costed three year implementation plan with timelines and targets to underpin a pipeline for introducing new apprenticeships.

Recommendation 9: The Teaching Council should complete its work on the National Framework for Teachers' Learning (Cosán) and work towards a model of teacher career development that encourages and rewards ambition and achievement.

Recommendation 10: DES should ensure that Irish mathematics and science teachers have access to the most advanced training, particularly in communicating mathematical concepts and using technology.

Recommendation 11: Government should introduce an effective student fee and loan system to underpin the sustainability of a high-quality higher education system. The case for an income contingent student loan system remains compelling on both economic and social grounds. This should be available to part-time and postgraduate students who are unfairly discriminated against under the current student contribution regime.

Recommendation 12: DES should allow higher education systems to have greater flexibility and autonomy on resource allocations so that they can attract and retain world-class talent.

Recommendation 13: National and local targets should be set for part-time/flexible learning. The targets should be embedded as key metrics in the higher education performance compacts and the further education service plans.

Recommendation 14: Government should implement the recommendations of the HEA's report on part-time and flexible education (2012) including the modification of a student funding model that does not distinguish between full and part-time students.

Recommendation 15: The National Skills Strategy (NSS) should develop a series of specific proposals to make the continuum of tertiary provision, between higher and further education, more systematic. These should include specific measures to ensure that the Higher Education Authority and

Solas collaborate more closely, and incentivised through joint funding programmes for upskilling. In the medium to longer term, this would improve efficiency in the use of resources and greater two-way flows between the sectors.

Recommendation 16: Education and skills should be targeted as a domain for the first phase of the Open Data Strategy. As part of this the relevant government departments and agencies (DES, DSP, the Department of Expenditure and Public Reform and the Revenue Commissioners) should start to link citizens' education, employment and earnings data in order to develop a longitudinal data set on education and training outcomes.

Recommendation 17: DES and the DSP should develop protocols to ensure that clients are receiving the most appropriate career advice and their regional offices are engaging with employers in a cohesive manner. DSP divisional managers and/or employer case managers should engage fully with the Regional Skills Fora

Recommendation 18: DSP should rationalise the current social welfare benefits (e.g. carer's allowance, one parent family payment) into a Single Working Age Payment, based on a means test and an assessment of work capacity and support to participate in the labour market.

Recommendation 19: Government should implement the recommendations of the Comprehensive Employment Strategy for People with Disabilities including (i) ensuring that young people with disabilities receive effective career planning at an early stage in their education (ii) a cohesive approach to ensure the effective transition from school to further and higher education and (iii) deeper engagement with employers to encourage the provision of work experience.

Recommendation 20: The NSS should reflect international best practice in developing a set of proposals to address the issues of longer working lives.

Recommendation 21: The Department of Jobs Enterprise and Employment should extend the instant family unification facility to a broader range of employment permits. The Department of Justice and Equality should also deliver the promised online booking system for making appointments with the Irish Naturalisation and Immigration Service.

Recommendation 22: DES should explore the possibility of establishing an international secondary school to meet the requirements of the expatriate business community. This could be achieved through a public private partnership.

Recommendation 23: The Government should ensure that we are building at least 30,000 new homes each year to meet increased accommodation demands driven by population growth in urban areas and increased household formation.

Recommendation 24: Government should reduce the top rate of tax by a minimum of 1% per annum for all workers over the next five years and ensure that no worker, irrespective of income level, has to pay more than half of marginal income to the State.

Recommendation 25: The Government should develop and fully implement a new affordable childcare strategy by 2020, achieving an equal split between child benefit payments and childcare services. Child benefit should no longer be a universal payment and should be replaced by a two-tier child income support system. The resulting savings should be use to evaluate and improve the Early Childhood Care and Education scheme.

Recommendation 26: All National Training Fund supported training with a significant work-based element – including Apprenticeships, Traineeships, Skillnets, Momentum and Springboard – should be managed through an expanded Skillnets organisation. The range of programmes with a significant work-based element that are funded at higher and further education should be expanded.

Recommendation 27: The NSS should reinforce the requirement for a talent pipeline to support the objectives of the recently published Innovation 2020 research strategy. This should include structured career progression routes outside academia for researchers.

Recommendation 28: The NSS should recommend a new accredited internship scheme focused on improving the employability of young people and the long-term unemployed. To incentivise engagement, under this new scheme, employers should be given the facility to provide a top-up to social welfare payments. Such a facility should be carefully structured to ensure no unintended consequences around taxation and social welfare payments.

Recommendation 29: DES should respond to, and implement, the recommendations in the Ibec document 'Entrepreneurial Education'

Recommendation 30: Government should implement the recommendations of its 'Management Development in Ireland' report

Appendix 2

Recommendations from Ibec document: ***Entrepreneurial education: Policy recommendations to deliver the skills needed for the workplace of the future***

Recommendation 1: Department of Education and Skills to lead the embedding of entrepreneurial skills in education policy, with support from relevant government departments and in consultation with key stakeholders and partners. This should be central to the new National Skills Strategy which is currently under development.

Recommendation 2: The development of entrepreneurial learning outcomes should be a key metric in the system performance frameworks of the further and higher education sectors.

Recommendation 3: The Department of Education and Skills should continue to implement Junior Cycle reform and ensure that it is properly resourced to meet its objectives.

Recommendation 4: The National Council for Curriculum and Assessment (NCCA) and Quality and Qualifications Ireland (QQI) should ensure that future curricula modification includes a strong practical component and the development of key skills at the appropriate education level.

Recommendation 5: Transferable and entrepreneurial skills should be embedded in the learning environment, curriculum and assessment of all Government supported apprenticeship programmes.

Recommendation 6: The Department of Education and Skills Teacher Education Section, Professional Development Service for Teachers and the Teaching Council should ensure that entrepreneurial education is embedded in all teacher training programmes - from entry to initial teacher education programmes, induction of newly qualified teaching and the continuing professional development of teachers throughout their careers Recommendation

Recommendation 7: The Department of Education and Skills should work with state agencies, including Science Foundation Ireland (SFI) and Local Enterprise Offices to develop an entrepreneurial education network with a single web portal. Recommendation

Recommendation 8: The National Forum for the Enhancement of Teaching and Learning should ensure that entrepreneurial education pedagogy is at the centre of its new professional development framework.

Recommendation 9: The Department of Education and Skills Inspectorate should ensure entrepreneurial learning outcomes are embedded and measured through school self-evaluation **inspection reports.**

Recommendation 10: Higher level institutions should reward and accredit students who participate in extra curricular entrepreneurial projects.

Recommendation 11: The Department of Education and Skills should introduce a new unified National Entrepreneurial Award - at primary and post-primary levels. In addition companies who have worked effectively with schools to develop entrepreneurial education should be acknowledged in these awards. All related awards should feed into this programme.

Recommendation 12: The Department of Education and Skills should develop a national framework to facilitate the expansion of business “adopt a school” type programmes, which are currently promoted in the ICT Skills Action Plan and proposed in some Regional Action Plans for Jobs, to incorporate other career options and entrepreneurial education initiatives. Recommendation

Recommendation 13: The Department of Education and Skills in collaboration with stakeholders should develop guidelines for industry on how to support entrepreneurial education activities and how their resources can be valued within the education sector to ensure a consistent approach to industry engagement.

Recommendation 14: Dedicated Department of Education and Skills funding should be ring-fenced to support effective entrepreneurial education projects at all levels of the education system.

Recommendation 15: Department of Enterprise, Jobs and Innovation should expedite the roll-out of the measures contained in the National Policy Statement on Entrepreneurship and 2015 Action Plan for Jobs and its regional plans to support a strong entrepreneurial culture and ecosystem.

Recommendation 16: The new Strategy for Science, Technology and Innovation should incorporate an entrepreneurial education element in all programmes to ensure that the innovative capacity of all research programmes is harnessed to develop commercially successful outcomes.

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