

Improving Schools in Wales: An OECD Perspective



IMPROVING SCHOOLS IN WALES : AN OECD PERSPECTIVE



FOREWORD

Addressing the quality and equity of a country's education system can help shape its future. A thriving education system will allow every student the opportunity to develop as an individual and will strengthen society's capacity for economic growth and social well-being. In 2011, Wales embarked on a large-scale school improvement reform and introduced a range of policies to improve the quality and equity of its school system. The disappointing PISA 2009 results sparked a national debate on the quality and future of education in Wales which has resulted in a broad consensus on the need for change.

From an international perspective, the performance of 15-year-olds in Wales on PISA is low overall, and there are too many students performing at low levels. The PISA 2012 reading and science assessments showed that almost one in five Welsh students did not achieve Level 2 which is considered the baseline of proficiency at which students begin to demonstrate competencies to actively participate in life. For mathematics this proportion was even higher, almost 30%. These levels are among the lowest in OECD countries. In addition, Wales has one of the smallest differences in mathematics performance of 15-year-olds between schools among OECD countries and a low proportion of high performers. Most of the differences in achievement in Wales occur within schools. This indicates that Wales' school system is relatively inclusive but at the same time points out the challenge for schools to respond to the individual learning needs of students, which may vary considerably within schools and classes.

The report *Improving Schools in Wales: An OECD Perspective* proposes a comprehensive strategy for Wales to support equity and quality in its school system building on a comparative perspective. It draws upon lessons from PISA, high performers and successful reformers in education, and on the research and analysis of key aspects of education policy in Wales undertaken by the OECD-Wales Review Team (see Annex A). This report identifies the main strengths and challenges of the Welsh school system and provides a number of recommendations and policy options for further improvement with a longer term perspective. The report recommends that four areas are given priority:

- Ensuring that schools meet the learning needs of all their students;
- Building professional capital and collective responsibility throughout the system;
- Developing a coherent assessment and evaluation framework to promote improvement; and
- Defining a long term education strategy that builds on a select number of core priorities, is adequately designed and resourced and has appropriate governance and support structures.

I hope that this report will support Wales and other OECD member and partner countries towards educational excellence.



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EXECUTIVE SUMMARY

The quality and equity of a country's education system can help shape its future. An education system in which all students have opportunities to learn can strengthen individuals' and societies' capacities to contribute to economic growth and social well-being.

Education is a public priority in Wales. In 2011, after it showed significantly lower than average performance in the Programme for International Student Assessment (PISA), Wales embarked on a large-scale school improvement reform. Its ambition is to develop a high-performing education system characterised by both quality and equity. This is reflected in its key objectives: to improve students' performance in literacy and numeracy, and to reduce the impact of deprivation on student performance.

Wales can work towards these objectives by building on its strengths:

- A comprehensive school system emphasising equity and inclusion. Student performance is less dependent on a student's school and socio-economic background than the OECD average.
- Schools offer positive learning environments with good teacher-student relations and classrooms conducive to learning.
- Assessment and evaluation data available at different levels of the system to improve policy and practice.
- Strong support among the profession and general public for the policy directions set out under the current reforms.

To promote improvement, it also needs to face some challenges:

- A high proportion of low performers, and schools unable to respond to all students' learning needs. Strategies for differentiated teaching and formative assessment are underdeveloped.
- Recruitment, professional development and career progression policies for teachers, school leaders and support staff are underdeveloped.
- Assessment and evaluation arrangements lack coherence and Wales has struggled to strike a balance between accountability and improvement.
- The pace of reform has been high and lacks a long-term vision, an adequate school improvement infrastructure and a clear implementation strategy all stakeholders share.

A number of concrete policy options would strengthen Wales' education system over the long term.

Meet the learning requirements of its students and deliver equity and quality:

Set high expectations and promote the use of differentiated teaching. With a high proportion of low performers, about one in five students living in poverty and the same proportion with special education needs, and low proportions of high performers, Welsh schools need to move towards more personalised learning while still setting high expectations for every child.

Simplify and stabilise the use of targeted funding for students. Reduce the complexity of funding arrangements for the support of disadvantaged students and move towards simple, financially stable and efficient mechanisms.

Recognise and invest in support staff involved in teaching and learning. Provide support staff with continuing professional development and a coherent career structure and move gradually towards the introduction of minimum qualifications, prioritising teaching and learning assistants.

Build professional capital and a culture of collective responsibility for improved learning for all students:

Raise the status of the profession and commit to initial teacher training: Attracting and developing high-quality human capital in the profession will be essential to moving the system forward towards educational excellence. In addition to raising the entry requirements into initial teacher training, implement campaigns to strengthen the perception of the profession, continue the ongoing reform and improvement of initial teacher training and engage schools to offer trainees placements. In the longer term, consider raising initial teacher training to the level of a Masters degree.

Ensure quality continuous professional development at all career stages. Work with schools, training institutions, and school improvement services to strengthen the provision of high-quality professional development aligned with national education priorities. Consider phasing in the new literacy and numeracy strategy and the new teaching skills required.

Streamline and resource school-to-school collaboration. Develop and implement a Welsh strategy for school-to-school collaboration, creating an architecture which encourages schools to select appropriate partners, in an atmosphere of transparency, awareness and support.

Treat developing system leadership as a prime driver of education reform. Offer potential school leaders better career development pathways, including a qualifications framework, mentoring and additional professional development, as part of a coherent national leadership development strategy. Invest in developing leadership capital across the education system, so that school improvement can be led from within Wales by schools, local authorities and regional consortia.

Create a coherent assessment and evaluation framework:

Ensure that student assessments support learning for all and align to national objectives. Ensure objectives and targets are inclusive for all students and reflect the country's focus on quality and equity. Investigate the impact of national tests on narrowing the curriculum. In the longer term, consider reducing the number of years covered by the Reading and Numeracy Tests, and consider the use of sample-based assessments to measure wider skills.

Simplify professional standards. Simplify and reduce the number of professional standards and base them on a vision of the Welsh teacher and leader. Revised standards should cover all career stages, beginning, intermediate and advanced, and be extended to teaching and learning support staff.

Build school evaluation processes that support school improvement. Ensure the two external school evaluation systems (Estyn's and the school banding system) have greater coherence. In particular, consider making the school banding calculation method more transparent, reducing the frequency with which schools are banded and judging schools on mutually agreed criteria for quality.

Strengthen evaluation and assessment competencies at all levels. Develop teachers' capacity to support students by assessing them against learning objectives using a range of formative assessment methods. Develop data-handling skills among school leaders to inform their school improvement efforts and to appraise school staff, as part of their school development planning processes.

Define and implement policy with a long-term perspective:

Develop a long-term vision and translate it into measurable objectives. Develop a shared vision of the Welsh learner, reflecting the government's commitment to quality and equity, and translate it into a small number of clear measurable long-term objectives. These could include targets to raise attainment for all, reduce the proportion of low performers and/or ensure completion of upper secondary education.

Develop a focused and sequenced long-term education strategy. Together with teachers and other stakeholders, translate these objectives into an adequately resourced longer-term education strategy. The strategy should sequence the development and implementation of the various initiatives, bearing in mind implementation capacity. Invest in building research and assessment capacity at all levels of the system and use reviews strategically and sparingly.

Ensure governance and support structures are effective in delivering reforms. Invest in the professional capital of the regional consortia staff, in particular their pedagogical skills, and commission high-quality expertise. If, over time, consortia are found to not deliver quality improvement services, consider (re-)integrating them into the proposed new distribution of local authorities. The proposed integration of health and social services at the local level offers DfES an opportunity to integrate and strengthen education service provision, in particular for students with special education needs.

CHAPTER 1.

SCHOOL EDUCATION IN WALES: STRENGTHS AND CHALLENGES

This chapter reviews the strengths and challenges of Wales' school system to provide the foundation for the analysis and recommendations to that follow in Chapters 2 to 5. It starts with a brief introduction and background to the report, with a description of the Welsh context and its school system. It identifies a set of strengths on which Wales can build on to focus its reform efforts. These include the Welsh comprehensive school system, which emphasises equity and inclusion for students until the age of 16; an engaged teaching profession; evaluation and assessment data that is broadly available and used to improve policy and practice; and a strong policy commitment to improving school education in Wales that is shared by the profession, trade unions and other key stakeholders.

Four main challenges need to be met to improve the quality of education in Wales in the long term. These include a large proportion of low performers and diverse students whose needs are not sufficiently met in schools; inadequate conditions to nurture an excellent teaching profession; lack of synergies in the assessment and evaluation arrangements; and lack of long term clarity in policy making with weak implementation approaches. An overarching challenge is that Wales lacks a compelling and inclusive long-term education vision to steer the education system and its reform efforts.

Introduction and background to the report

Addressing both the quality and equity of a country's education system can help shape its future. An education system in which all students have opportunities to learn can strengthen individuals' and societies' capacities to contribute to economic growth and social well-being. Education is a public priority in Wales. In 2011, after Wales showed significantly lower than average performance among 15-year-olds in the Programme for International Student Assessment (PISA), Wales embarked on a large-scale school improvement reform and introduced a range of policies to improve the quality and equity of its school system.

Following initial reform efforts, the Welsh government invited the OECD to conduct a review of quality and equity of its school system (3-16 year-olds). The result is this report, *Improving Schools in Wales: An OECD Perspective*. It aims to help Wales and other countries better understand the issues surrounding the equity and quality of the Welsh school system and identify approaches for raising student performance from a comparative perspective. It draws upon lessons from PISA, from benchmarking education performers, from research and analysis of key aspects of education policy in Wales and a review visit to Wales undertaken by the OECD-Wales review team (see Annex A and B). It makes extensive use of Welsh educational research, statistical information and policy documents. The report identifies the main strengths and challenges of the school system and provides a number of recommendations and policy options for further strengthening it, with a longer-term perspective.

The recommendations focus on: 1) ensuring that schools are meeting the learning needs of all their students; 2) building the professional capital of schools; 3) developing a coherent assessment and evaluation framework to promote improvement; and 4) defining a long term education strategy that builds on a select number of core priorities, is adequately designed and resourced and has appropriate governance and support structures.

Box 1.1. The OECD education policy review process

OECD Education Policy Reviews are tailored to the needs of the country and can cover a wide range of topics and sub-sectors. The reviews are based on in-depth analysis of strengths and weaknesses, using various sources of available data like PISA, national statistics and research documents. They draw on policy lessons from benchmarking countries and economies with expert analysis of the key aspects of education policy and practice being investigated.

Reviews include one or more "review visits" to the country by an OECD review team of experts with specific expertise on the topic(s) being investigated and often include one or more international and/or local experts. A typical Education Policy Review consists of five phases and can be completed between 8 to 12 months depending on the scope of the review: 1) Definition of the scope; 2) Desk review and preliminary visit to the country; 3) Main review visit by a team of experts (in general one to two weeks); 4) Drafting of the report; 5) Launch of the report.

The methodology aims to provide tailored analysis for effective policy design and implementation. It focuses on supporting specific reforms by tailoring comparative analysis and recommendations to the specific country context and by engaging and developing the capacity of key stakeholders throughout the process.

Education Policy Reviews are conducted in OECD member and non-member countries, usually upon request by the countries themselves.

For more information: www.oecd.org/edu/policyadvice

This report is part of OECD's increasing efforts to strengthen the capacity for education reform across OECD member countries, partner countries and selected non-member countries and economies following and OECD review methodology (see Box 1.1). The methodology aims to promote effective policy analysis, design and implementation. It focuses on supporting specific reforms by tailored comparative analysis and recommendations to specific country contexts and by engaging and/or developing the capacity of key stakeholders throughout the process.

The Welsh context

Wales is a small country that is part of the United Kingdom (UK) and the island of Great Britain. Bordered by England to its east and the Atlantic Ocean and Irish Sea to its west, the country has about 3.1 million inhabitants, which is 5% of the total UK population (Office for National Statistics, 2012). Wales has a form of self-government similar to the Scottish Parliament and the Northern Ireland Assembly.

The National Assembly for Wales was created by the Government of Wales Act 1998 following a referendum the year before. Although in the beginning it had no powers to initiate primary legislation, in 2006 the Assembly gained law-making powers over 20 areas such as economic development, local government, health, social welfare, and education and training. These law-making powers were expanded in 2011. Some policy areas are not included in the devolution process, including policing and criminal justice; foreign affairs, defence and security issues; and welfare, benefits and social security. These are matters on which the UK Parliament legislates (National Assembly for Wales, 2014).

Local governments have significant responsibility for public service delivery. Each of the 22 local authorities in Wales has locally elected councils responsible for a range of services such as education, housing, leisure and social services. Although Wales shares a close political and social history with the rest of Great Britain and almost everyone speaks English, the country has retained a distinct cultural identity and is officially bilingual. Welsh is spoken by about 19% of the population, mostly in parts of the north and west of the country (Wales, 2014).

The population characteristics of Wales are gradually changing. The most populated areas are in South Wales in the cities of Cardiff, Swansea and Newport and surrounding areas, with another significant population in the north-east around the city of Wrexham. These areas have seen considerable growth in population during the last decade and will likely continue to do so in the years to come (Welsh Government, 2013a). The Welsh population has also been ageing; between 2001 and 2011 the number of people under 35 years of age decreased by 1% while the number aged 65 years and over increased by 16%. The fertility rate is also below the replacement level (1.90 in 2011).

Wales has experienced an inflow of migrants every year from 1998 to 2011. The average net inflow is over 9 000 people per year, with a considerable proportion coming from other UK countries. In 2004, eight central and eastern European countries joined the European Union and this has been a key factor in the increase in international migrants moving to Wales between 2005 and 2008. During the economic downturn (2008 and onwards), net international migration fell and estimated outflows of international migration were also higher. In 2011 Wales saw an estimated net outflow of international migrants, with the numbers leaving exceeding those moving to Wales by around 1 500 people, the first time this had happened since 1993 (Welsh Government, 2013a). The total population of Wales is expected to steadily grow in most authorities in Wales between 2011 and 2036. Only in Anglesey, Monmouthshire and Blaenau Gwent is the population projected to be lower in 2036 than in 2011. These changes in age structure, ethnic make-up and mobility throughout Wales have considerable implications for the planning and provision of public services.

Figure 1.1. Map of Wales



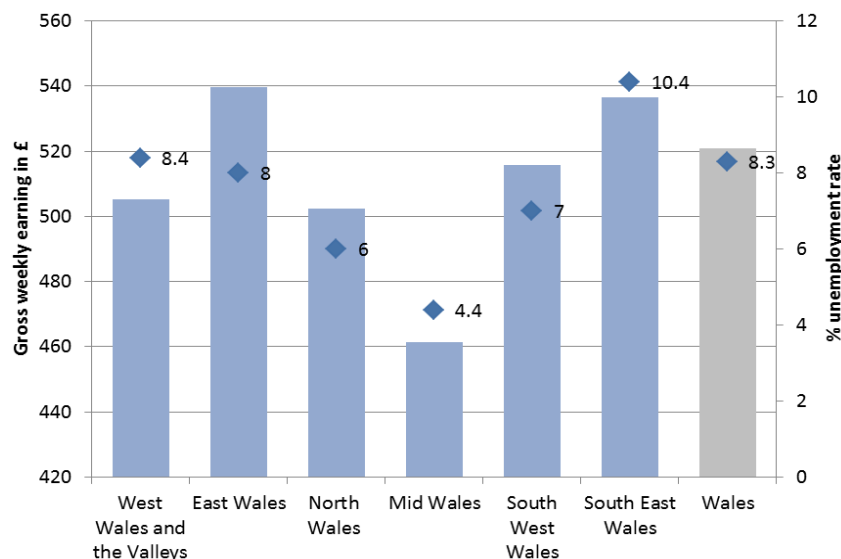
Source: © Crown Copyright and database right 2014, Ordnance Survey 100021874, Cartographics, Welsh Government, January 2014.

Since the 1970s the Welsh economy has undergone major restructuring and has managed to transform itself from a predominantly industrial to a post-industrial economy. The country’s traditional extractive and heavy industries are either gone or are in decline and have been replaced by new ones in light and service industries, the public sector, and tourism. While there was a need for low-skilled workers in Wales in the past, the changes in the Welsh economic profile may be demanding highly skilled and service-oriented workers.

Despite this restructuring the economy is still underperforming and below that of the UK average. In 2012, the gross value added (GVA)¹ of Wales was GBP 47.3 billion, or GBP 15 401 per head of population, which was 72.3% of the UK average (Office for National Statistics, 2013). In 2010, Welsh

gross domestic product (GDP) was 81% of the EU 27 average, close to the GDP of Northern Ireland (86%) but considerably below that of Scotland (107%) and the UK as a whole (111%) (Eurostat, 2013).

Figure 1.2. Gross weekly earnings and unemployment rate in Wales, 2012



Source: Data drawn from the *StatsWales* database, <https://statswales.wales.gov.uk/>.

The financial crisis has had a negative impact on the Welsh economy and on the lives of many of its people, although there are signs of recovery. In 2013, employment rates of those aged 16-64 were 68.3%, up from 67.1% a year earlier. The unemployment rate for 16-64 year-olds in Wales stood at 7.3% for the period from October to December 2013. This was the same as Scotland and just below that of England (7.4%) and Northern Ireland (7.5%). Wales' unemployment rate (16-64 year-olds) has dropped by 1.8% compared with the same period two years before, which is the largest decrease in unemployment rate among UK countries. The long-term unemployed in Wales account for 33% of the unemployed, slightly below the proportion for the UK as a whole (36%) (Welsh Government, 2013b).

The differences in socio-economic opportunities across Wales are extensive (see Figure 1.2). For example, both average earnings and employment vary considerably, with South East Wales contributing to almost half of all jobs (UKCES, 2011). The large urban areas, which offer the majority of job opportunities, still face large socio-economic disparities, particularly those in South Wales: Cardiff, Newport and Merthyr Tydfil (Welsh Government, 2011a).

In addition, the population living in poverty has been on the rise in recent years, fuelled by the economic crisis. At present, over one in five children and young people aged under 20 live in poverty, ranging from around one in eight in Monmouthshire and Powys to one in four in the South Wales valleys. Higher percentages of children living in poverty are seen within the cities (Public Health Wales Observatory, 2013). The Welsh government has committed itself to improving the socio-economic situation of all citizens, but in particular prioritises the needs of the poorest and those most at risk of poverty and exclusion, for example through the *Tackling Poverty Action Plan 2012-2016* (Welsh Government, 2012a). The reduction of child poverty and its effects, which include the reduction of the educational gap between children in low-income families and their better-off peers, are essential objectives of the government as part of this commitment.

School education in Wales – a brief overview

The Welsh school system is relatively small. In 2013, there were 464 868 students in 20 nurseries, 1 374 primary schools, 4 middle schools (which include both primary and secondary education), 216 comprehensive secondary schools and 42 special schools. There were 68 private (independent) schools, 2 more than in January 2012. Overall, there were 42 fewer local authority public schools² than in January 2012. Since 2012, there has been a 0.2% decrease in the student population in part due to the smaller number of 11-15 year-olds (Welsh Government, 2013c).

Education is compulsory for 5-16 year-olds but many children begin their education at the age of 4 and continue beyond the age of 16. They follow a similar curriculum until age 16. The period of compulsory education is divided into four stages: the Foundation Phase (ages 3-7) which combines early years education with the first two years of compulsory education (which were formerly known as Key Stage 1), Key Stage 2 (ages 7-11), Key Stage 3 (ages 11-14) and Key Stage 4 (ages 14-16). At age 16, the majority of pupils continue their studies either at their secondary school, if they have a sixth form (for 16-18/19 year-olds), or at a further education institution (Eurypedia, 2013). Vocational education is available for students in post-compulsory education, and students may take a combination of academic and vocational courses (see Table 1.1).

Table 1.1. Overview of educational phases, ages and International Standard Classification of Education (ISCED) levels

Educational phases		Years	Ages	ISCED
Early years/primary	Foundation phase	Up to year 2	3–7	0/1*
Primary	Key Stage 2	3–6	7–11	1
Secondary	Key Stage 3	7–9	11–14	2
Secondary	Key Stage 4	10–11	14–16	3
Post-compulsory secondary	-	12–13	16–18/19	3

Source: Eurypedia (2013), “United Kingdom (Wales)”, European Encyclopaedia on National Education Systems, Eurypedia, <https://webgate.ec.europa.eu/fpfis/mwikis/eurydice/index.php/United-Kingdom-Wales:Overview>.

The education system is also bilingual. Students up to the age of 16 must follow a programme of study in Welsh either as a first or second language. Teaching takes place in either the Welsh or English language, or through a combination of the two. In 2011, almost one in five students (19.6%) at the end of primary school and 15% at the end of secondary school were assessed in Welsh first language (Welsh Government, 2014a). Welsh-medium pre-school education is also available, and some further and higher education courses are also taught in Welsh (Eurypedia, 2013). In addition, in 2006 the Welsh Baccalaureate was made available to secondary students at all levels: foundation, intermediate or advanced, in academic or vocational qualifications.

Governance and financing of the school system

Since the “Devolution settlement” in 1999, which devolved powers on education and training, Wales, like Scotland and Northern Ireland, has had responsibility for nearly all areas of education policy, except for teachers’ salaries. Wales has pursued distinct education policies that have resulted in a gradual differentiation from those of England, aiming to match its education needs.

The Department for Education and Skills (DfES) of the Welsh government is responsible for funding and administering education across all levels of education, except for higher education. Although the overall responsibility for the Welsh school system lies in the hands of DfES, the responsibility for the provision of education is decentralised, lying with local authorities, voluntary providers including churches, the governing bodies of educational institutions and the teaching profession. At the local level, the responsibility for organising publicly funded school education lies with 22 local authorities. These have a statutory duty to secure the provision of primary and compulsory secondary education. They are also responsible for promoting high standards of education for students of school age in their area (Eurypedia, 2013).

Estyn, the Welsh Education Inspectorate, is responsible for inspecting the education system, including pre-school education, both public and private schools, further education institutions, and local authorities. From 2014 onwards this will also include new regional consortia. To assess the various actors and levels of education, Estyn uses different components of the Common Inspection Framework (Welsh Government, 2014a).

A comprehensive school system with below-OECD average student performance

Within the Welsh comprehensive school system, students follow a similar curriculum until age 16. Comprehensive schooling was introduced in England and Wales in the 1960s to end the selection of students into secondary schools of differing academic quality, which evidence shows can negatively impact student achievement, particularly for those students in lower tracks (OECD, 2012). The Welsh curriculum aims for schools and teachers to provide differentiated learning and additional support for students to attain the curriculum without the use of grade repetition as a means to tackle low academic achievement (Eurypedia, 2013). Welsh schools also have the freedom to adapt the curriculum to the learning needs of their schools (see Box 1.2).

Box 1.2. The National School Curriculum for 3 to 19-Year-Olds

The *National School Curriculum for 3 to 19-Year-Olds* in Wales (2008) aimed to establish a curriculum for the twenty-first century to meet the needs of individual learners whilst taking account of the broader needs of Wales. The school curriculum:

- focuses on the learner
- ensures that appropriate skills development is woven throughout the curriculum
- offers reduced subject content with an increased focus on skills
- focuses on continuity and progression 3-19, by building on the Foundation Phase and linking effectively with the 14-19 Learning Pathways programme
- is flexible
- supports government policy, including: bilingualism, Curriculum Cymreig/Wales, Europe and the world, equal opportunities, food and fitness, sustainable development and global citizenship, and the world of work and entrepreneurship
- deliver a distinctive curriculum that is appropriate for Wales.

At the same time, Wales has also developed a non-statutory Skills Framework for 3 to 19-year-olds to help schools plan the development of transferable generic skills for learners from age 3 to 19. This framework has underpinned the whole curriculum revision. The 'developing thinking', 'communication', 'ICT' and 'number' skills can be a requirement for learning in more than one subject and form the sections of the Skills Framework. Elements of the framework can be found right across the areas of learning (in the Foundation Phase) and the programmes of study, and within the "Outcomes" and "Level descriptions" where appropriate.

3-7 years	7-14 years		14-19 years	
Foundation Phase	Key Stage 2	Key Stage 3	Key Stage 4	Post-16
Statutory areas of learning	Statutory curriculum requirements			
Personal and social development and well-being and cultural diversity Language, literacy and communication skills Mathematics development Welsh language development+ Knowledge and understanding of the world Physical development Creative development	English Welsh+ Modern foreign languages# Mathematics Science Design and technology ICT History Geography Arts and design Music Physical education	English Welsh+ Modern foreign languages# Mathematics Science Design and technology ICT History Geography Arts and design Music Physical education	English Welsh+ Mathematics Science	
Other statutory requirements				
Religious education* Sex education°	Religious education Sex education Personal and social education	Religious education Sex education Career and the world of work Personal and social education	Religious education Sex education Career and the world of work Personal and social education	Religious education Sex education Career and the world of work Personal and social education
Literacy and Numeracy Framework				

+ Refers to the models for Welsh and Welsh second language
 # There is a Key Stage 2 non-statutory framework for modern foreign languages
 ° Primary schools in Wales are required to have a policy on sex education
 * Full-time learners in Key Stage 4 and post-16 have an entitlement to the Learning Core 14-19 of which these are part

In the Foundation Phase children's range and skills are assessed in the areas of reading, writing and oral skills. The five Foundation Phase "Outcomes" are used to describe the type and range of achievements characteristic of children within the Foundation Phase, with "Outcome 1" being the lowest and "Outcome 5" being the highest level of achievement.

In Key Stages 2 to 4 "Level descriptions" for each programme of study are used to describe the types and range of performance that students working at a particular level should characteristically demonstrate. The eight level descriptions are of increasing difficulty, with an additional description above "Level 8" to help teachers in differentiating 'exceptional performance'.

Box 1.2. The National School Curriculum for 3 to 19-Year-Olds (continued)

By the end of Key Stage 2, the performance of the great majority of students should be within the range of Levels 2 to 5, and by the end of Key Stage 3 within the range 3 to 7.

For students in Key Stage 4, learning outcomes and objectives are contained within subject criteria for General Certificate of Secondary Education (GCSE) examinations. GCSEs are examinations in single subjects taken at the end of Key Stage 4. The pass grades, from highest to lowest, are: A* ('A-star'), A, B, C, D, E, F and G. Grade U (ungraded/unclassified) is issued when students have not achieved the minimum standard to achieve a pass grade; the subject is then not included on their final certificate (Eurydice (2012)).

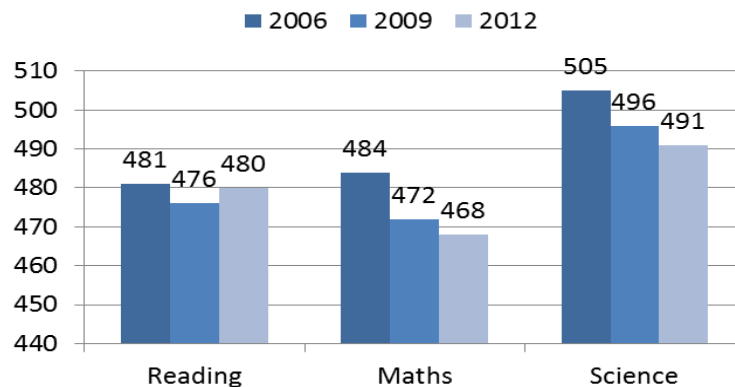
A GCSE at grades D–G is a Level 1 qualification, while a GCSE at grades A*–C is a "Level 2" qualification. GCSEs at A*–C (Level 2) are much more valued by employers and educational institutions. "Level 1" qualifications are required to advance to Level 2 qualifications. Likewise, Level 2 qualifications are required to advance to Level 3 qualifications.

Source: Welsh Government (2008), Making the Most of Learning: Implementing the Revised Curriculum, Curriculum and Assessment 3-14 Division, Department for Children, Education, Lifelong Learning and Skills, Welsh Government, Cardiff [http://wales.gov.uk/dcells/publications/curriculum_and_assessment/arevisedcurriculumforwales/nationalcurriculum/makingthemostoflearningnc/Making_Standard_WEB_\(E\).pdf?lang=en](http://wales.gov.uk/dcells/publications/curriculum_and_assessment/arevisedcurriculumforwales/nationalcurriculum/makingthemostoflearningnc/Making_Standard_WEB_(E).pdf?lang=en); Eurydice (2012), Key Competences in the curriculum – Wales, Eurydice in NFER Unit for England, Wales and Northern Ireland, https://www.nfer.ac.uk/shadomx/apps/fms/fmsdownload.cfm?file_uid=28D72450-C29E-AD4D-09AF-FB9CA37D1C8B&siteName=nfer.

Wales' performance in the 2009 PISA has served as a catalyst for reform. It showed student performance to be significantly below the OECD average, in particular for reading and mathematics (see Figure 1.3). PISA measures to what extent 15-year-old students (in Key Stage 4) can apply their skills and knowledge to real-life situations and be equipped for full participation in society. Although Wales' performance in reading has remained similar to PISA 2006 and PISA 2009, it has decreased significantly in mathematics and science since 2006 (see Figure 1.3). Wales' mean performance on PISA 2012 was:

- 468 score points in mathematics, significantly below the OECD average (494 score points) as well as below England (495), Northern Ireland (487) and Scotland (498), but similar to Israel.
- 480 score points in reading, significantly below the OECD average (496 score points), England (500), Northern Ireland (498) and Scotland (506) and similar to that of Greece, Iceland, Israel, Portugal, Slovenia, Sweden and Turkey.
- 491 score points in science and significantly below the OECD average (501 score points), England (516), Northern Ireland (507) and Scotland (513), but similar to Denmark, Hungary, Italy, Luxembourg, Norway, Portugal, Spain, Sweden and the United States (OECD, 2014).

Figure 1.3. PISA results for Wales, 2006-2012



Source: OECD (2014), PISA 2012 Results: What Students Know and Can Do – Student Performance in Mathematics, Reading and Science (Volume I, Revised edition, February 2014), PISA, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264208780-en>; OECD (2010a), PISA 2009 Results: What Students Know and Can Do (Volume I): Student Performance in Reading, Mathematics and Science, PISA, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264091450-en>; OECD (2007), PISA 2006: Science Competencies for Tomorrow's World: Volume 1: Analysis, PISA, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264040014-en>.

Mathematics was the main test subject for PISA 2012, meaning that it was assessed in greater depth than science and reading. The analysis shows that Welsh students performed relatively well on the questions that focus on probability and statistics (uncertainty and data) or require them to interpret, apply and evaluate mathematical outcomes in order to solve problems. They performed less well on questions that focus on aspects of space and shape or that required them to formulate situations mathematically in order to solve a problem (OECD, 2014; Wheater et al., 2013).

For PISA 2009 the main subject assessed was literacy. It showed that Welsh 15-year-olds had difficulty in summarising information and in general performed lower on assessments of continuous text which demand age-commensurate reading attainment in reading comprehension, reading “stamina” and an ability to infer, interpret and summarise information (OECD, 2010a; Bradshaw et al., 2010).

Data from DfES and Estyn support the low PISA student performance data on mathematics, reading and science. At Key Stage 4, for example, in 2012 only half (49.7%) of 15-year-olds achieved the Level 2 threshold in each of the core subjects English or Welsh first language, mathematics and science (Welsh Government, 2013e). Estyn also found that around a quarter of primary schools needed to raise standards in mathematics. Students lacked confidence in their basic number skills, such as division and working with fractions, and were reluctant to apply them to solve problems either in mathematics or in the context of other subjects like science and technology (Estyn, 2013a).

Another measure of the outcomes and success of the education system is how students transition into further education or the labour market. Overall, qualification levels in Wales have been increasing in recent years. Three-quarters of working age adults held at least Level 2 qualifications and a third held degree-level qualifications (Level 4 or above, see Box 1.2). An estimated 11% of working age adults in Wales reported having no qualifications in 2012. Still, the proportion of young people aged 19 to 24 who are not in education, employment or training increased from 21.8% in 2009 to 23% in 2012 (Estyn, 2014).

An inclusive school system which needs to better address students' learning needs

The Welsh education system is based on equity guidelines. Under the Education Act 2002, the Welsh national curriculum aims to be inclusive and ensure all students have an education regardless of their age, ability, aptitude and any special educational need (UNESCO, 2012). Moreover, the Welsh government's current education programme aims to "help everyone reach their potential, reduce inequality, and improve economic and social well-being" (Welsh Government, 2013e). As such, legislation and government strategy aim to ensure that all students have access to a quality education.

Admissions policies are in general based on residence rather than on preferences or student test scores although local authorities or school governing boards in principle have the potential to refuse students, particularly if they are oversubscribed. In most cases, however, parents can express their school preference. On PISA 2012, 74.7% school principals reported that students' records of academic performance "never" factored into the decision for admission into school, with 7.1% reporting they "sometimes" and 18.2% they "always" use the student's records in the admission process (OECD, 2013a). Between PISA 2009 and PISA 2012, the proportion of principals that reported to always consider students' records as part of the admission process more than doubled although this percentage is still the lowest among UK countries and below the OECD average of 38.7% (see Chapter 4).

An equitable education system should ensure that the personal characteristics of students do not limit their educational opportunities and that all students achieve a minimum of skills (OECD, 2012). In Wales, schools have a diverse student population in terms of their socio-economic status and personal characteristics, and meeting their needs can raise overall student performance.

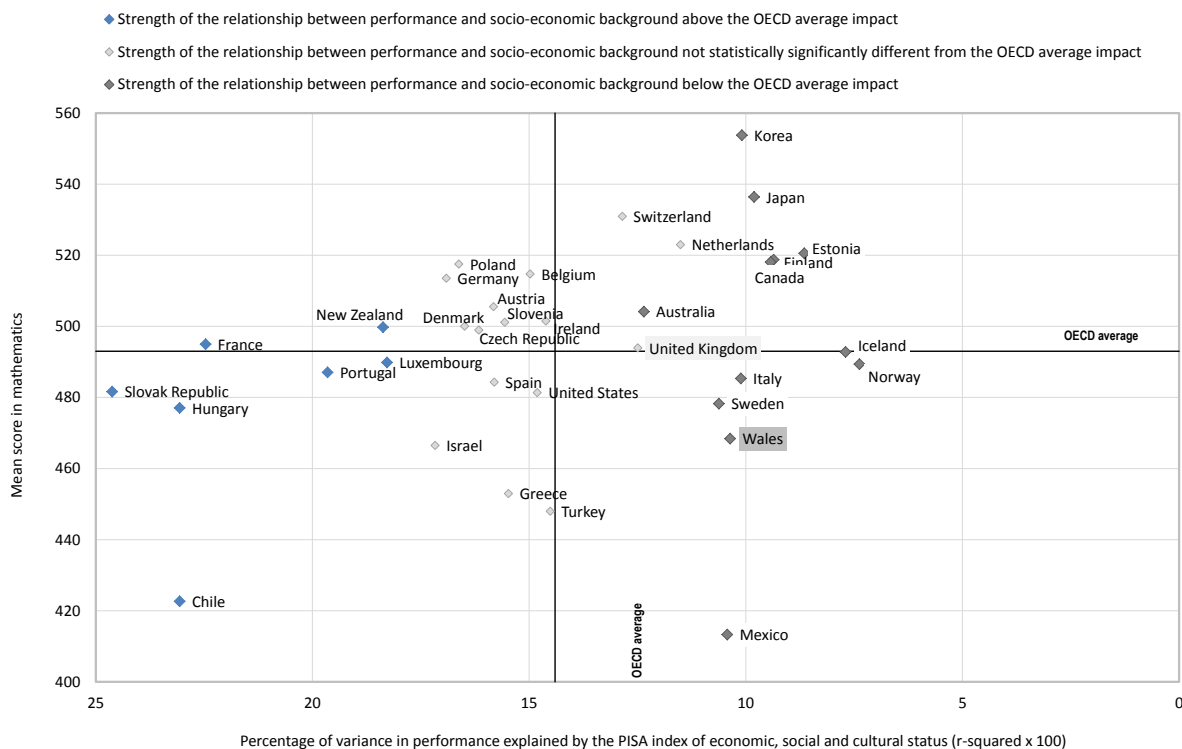
- 8.3% of students are from a number of different ethnic backgrounds and students speak at least 100 different languages and 140 dialects (Welsh Government, 2014a).
- A growing number of students are from low socio-economic backgrounds due to an increase in the proportion of children and young people living in poverty, which has increased to one in five (Public Health Wales Observatory, 2013). Almost 20% of students in compulsory education are eligible for free school meals (FSM), which is a proxy measure of their families' or guardians' economic situation (Welsh Government, 2013c). The number of looked-after children has increased by 24% in five years to 5 726 children in 2012.
- Almost 20% of students have special educational needs, and about 3% of students had a special educational needs statement³ in 2013 (Welsh Government, 2013c).
- About 500 Gypsy and Traveller children attend schools in Wales and must overcome a number of barriers to improve their outcomes, including poverty, poor attendance rates and lack of community engagement (Welsh Government, 2014a).

Wales has a relatively equitable education system according to the PISA 2012 results. The performance of 15-year-old students is not as closely related to their socio-economic background as it is in most other OECD countries. A student's socio-economic background explains 10.4% of the variance in students' performance in mathematics, which is considerably lower than the OECD average of 20.8% (see Figure 1.4). The 2012 teacher assessments of student performance however show that at the end of all Key Stages (2, 3 and 4) non-FSM students outperformed their FSM peers. For example at Key Stage 3 non-FSM students outperformed their FSM peers by 25 percentage points for the subject English. The data also showed the gap in performance on the Core Subject Indicator (this refers to the percentage of pupils who gain at least the expected level in all three core subjects English or Welsh first language, mathematics

and science), has narrowed over the last six years at Key Stages 2 and 3, and at Key Stage 4 the gap in performance began decreasing in 2010 (Welsh Government, 2013e).

Welsh schools also do well when it comes to minimising the gender difference in student performance. PISA shows there are relatively small differences in student performance between boys and girls in Wales. On the 2012 mathematics and science assessments, boys outperformed girls by 9 and 11 score points, respectively. In reading girls outperformed boys by 27 points, compared with the OECD average of 38 score points. These findings are also reflected in the Wales' first National Numeracy and Reading Tests which revealed a similar pattern (Welsh Government, 2013f).

Figure 1.4. Socio-economic background and students' mathematics performance



Source: OECD (2013b), *PISA 2012 Results: Excellence through Equity (Volume II): Giving Every Student the Change to Succeed*, PISA, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264201132-en>.

Equity is also supported through specific funding arrangements. In Wales, education is provided free of charge to 5-19 year-olds in publicly funded schools and further education institutions. Schools receive specific funding grants to better cater for disadvantaged students, including the Free School Meal Entitlement for students living in poverty and the Pupil Deprivation Grant to provide schools with specific resources to improve achievement for disadvantaged students. However, Estyn has found overall that this type of funding has been often spent on programmes to raise the achievement of all students (Estyn, 2013a), diminishing its impact on disadvantaged students (Welsh Government, 2013c).

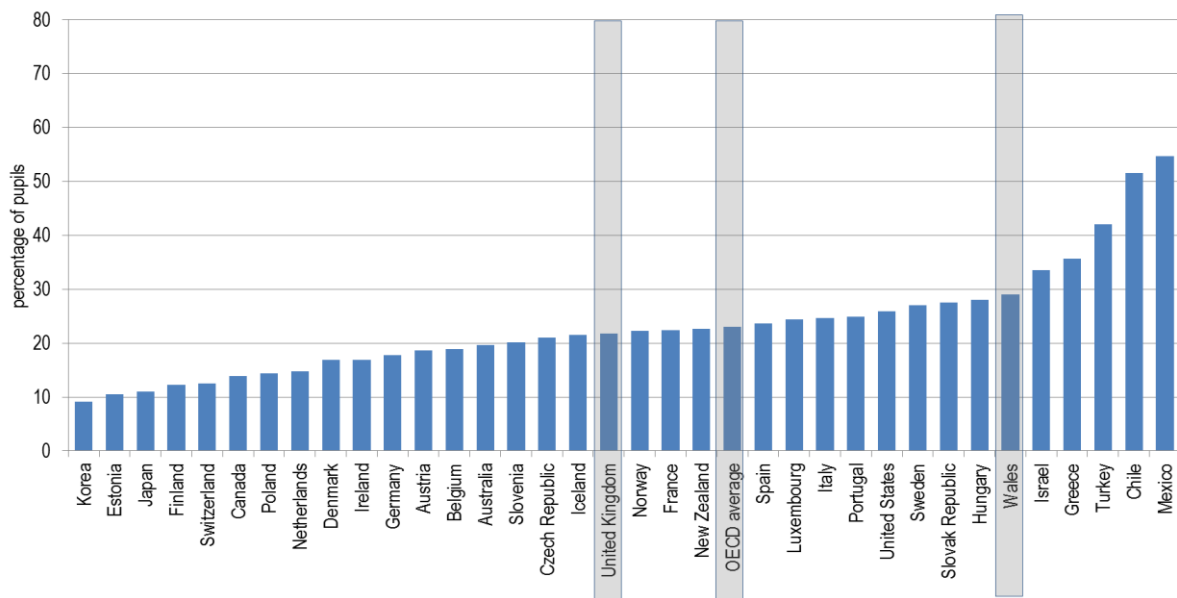
A high proportion of low performers and low proportion of high performers

The PISA 2012 reading and science assessments showed that one in five Welsh students were low performers. This means they did not achieve Level 2, which is considered the PISA baseline of

proficiency at which students begin to participate more effectively and productively in life situations. For mathematics this proportion was even higher (see Figure 1.5). More specifically:

- The proportion of low-performing students in mathematics was 29%, which was considerably above the UK average (21.8%) and the OECD average (23%).
- The proportion of low performers on the reading assessment was 20.6%, which was above the UK average (16.7%) and the OECD average (18.0%).
- For science the proportion of low performers was 19.4% which is slightly above the OECD average (17.8%) and the other UK countries (OECD, 2014a).

Figure 1.5. Student mathematics performance below Level 2, PISA 2012

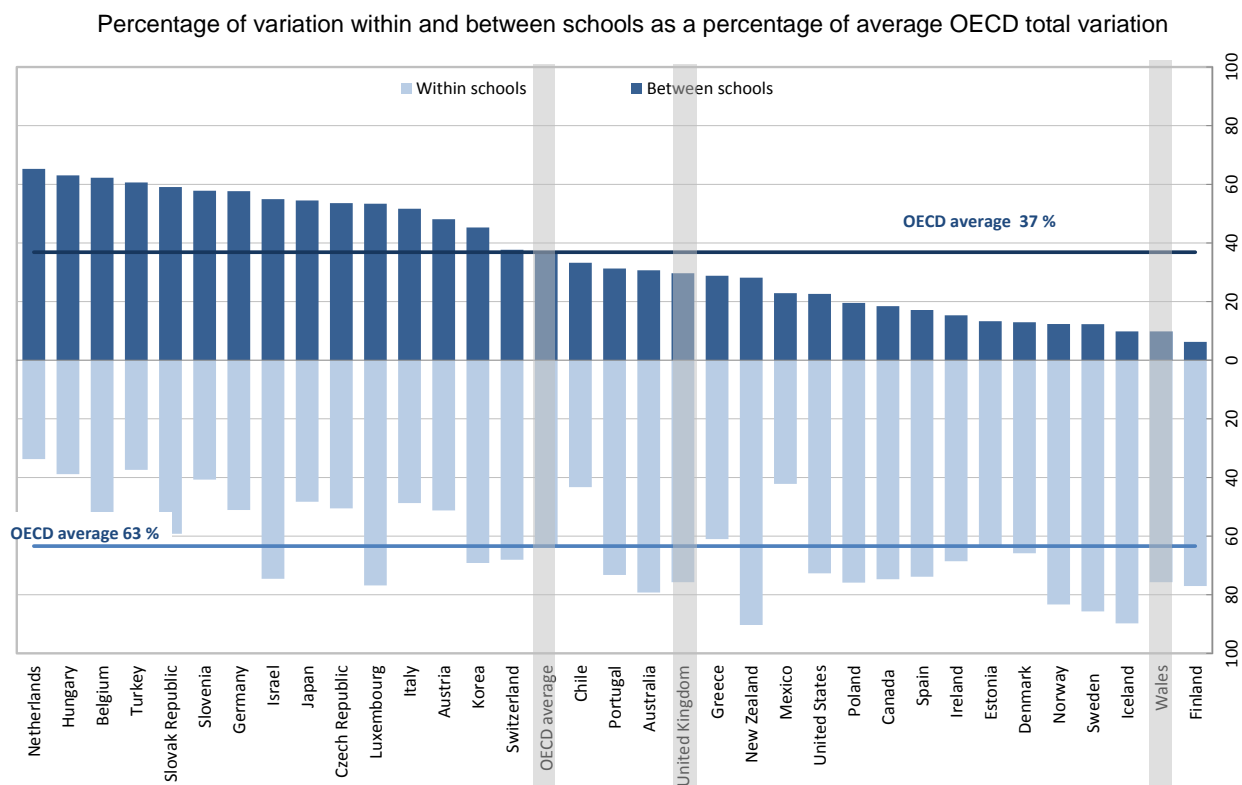


Source: OECD (2014), PISA 2012 Results: What Students Know and Can Do – Student Performance in Mathematics, Reading and Science (Volume I, Revised edition, February 2014), PISA, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264208780-en>.

Despite the high proportion of low performers in reading, this proportion has decreased since 2006 when it stood at 27.5%. In contrast, mathematics is showing the opposite trend; in 2006 the proportion of low performers stood at 22.1%.

PISA also shows that compared with the OECD average Wales has low proportions of high performers (Levels 5 and 6 on the PISA scale) in all three domains. The proportion of 15-year-olds who reached the highest levels on the PISA mathematics scale in 2012 was 5.3%, which is less than half the UK average (11.9%) and OECD average of 12.6

One thing that stands out is the decline in the proportion of high performers in science from this PISA cycle compared to PISA 2009 when the proportion of high performers stood at 7.8% (OECD, 2014).

Figure 1.6. Total variation in mathematics performance between and within schools, PISA 2012

Source: OECD (2013b), *PISA 2012 Results: Excellence through Equity (Volume II): Giving Every Student the Chance to Succeed*, preliminary version, PISA, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264201132-en>.

Figure 1.6 shows that Wales has one of the smallest differences between schools in mathematics performance among 15-year-olds: 9.8% compared with the OECD average of 36.8%. Most of the variation in achievement in Wales occurs within schools (75.7%) which evidences Wales' relatively inclusive school system but at the same time points to the challenge for schools. They need to respond to the individual learning needs of students which may vary considerably within schools and classes.

Selected data show how much differentiated teaching and personalised learning approaches are being used in schools. In PISA 2012, 22% of students reported that for most or all of their lessons teachers give different work to classmates who have difficulties learning and/or those who can advance faster, which is below the OECD average (29%) (OECD, 2013a). Estyn also points to shortcomings in the formative assessment⁴ capacity of many teachers that hinders them from identifying and responding to the strengths and weakness of students (see e.g. Estyn, 2013a, 2014).

These findings suggest that Welsh schools need to better cater for the individual learning needs of its students. Identifying low-performing students and those from low socio-economic backgrounds at risk of low performance early, through adequate use of formative assessment and diagnostic instruments, for example, allows schools to better support those students with additional learning needs. Schools should provide higher performers with a more challenging and supportive learning environment that drives them towards educational excellence. A growing body of research evidence shows this can be done through differentiated teaching (Dumont et al., 2010; McQuarrie et al., 2008; Rock et al., 2008; Lawrence-Brown, 2004).

A positive school climate with varying workforce quality

A positive learning environment can provide the school climate needed to improve students' educational outcomes. PISA 2012 results showed that in general Welsh students were positive about the climate in their schools. Welsh schools were for example much less hindered by problems such as disruption in classes by students (17%) than the OECD average (32%). Fewer students skip classes than in many other OECD countries. Still, 6.7% of the variance in student's mathematics performance is explained by the disciplinary climate, which is more than in many OECD countries (OECD average of 4.2%) but is similar to England (6.6%) and considerably lower than Northern Ireland (10.6%) and Scotland (10.0%).

Table 1.2. Students' views of teacher-student relationships in Wales, PISA 2012

Percentage of students who "agreed" or "strongly agreed" with the following statements

Thinking about the teachers at your school, to what extent do you agree with the following statements?	Agree/strong agree	
	Wales	OECD average
If I need extra help, I will receive it from my teachers	89	80
Most of my teachers treat me fairly	87	79
Most teachers are interested in students' well-being	85	76
Students get along well with teachers	85	81
Most of my teachers really listen to what I have to say	75	73

Source: Wheater et al. (2013), *Achievement of 15-Year-Olds in Wales: PISA 2012 National Report*, National Foundation for Educational Research.

Students were also positive about their school education. For example 92% of Welsh 15-year-old students disagreed or strongly disagreed with the statement that "school has been a complete waste of my time" (OECD average: 88%), and the vast majority of students feel that school has prepared them well for their adult life.

Students were also more positive about their relationship with their teachers than the average across OECD countries. Students were positive about how well they get along with their teachers, their teachers' willingness to give them extra help when needed and the overall concern in their well-being (see Table 1.2).

Variable teacher quality

Despite this positive school climate and good teacher-student relationships the evidence shows not all Welsh teachers possess the skills to adequately respond to students' individual learning needs and equip them with the skills they need to succeed. At the pre-primary education level, i.e. the Foundation Phase, Estyn reports relatively few problems. Teachers are able to apply the teaching and learning framework for this educational level while also aiming to improve standards of literacy and numeracy (Estyn, 2013a, 2014). Inspectors raised some concerns about children's standards in Welsh language development in several English-medium settings and found that particularly in smaller settings, practitioners do not always use the teaching and learning framework information well enough to plan for the next steps in children's learning (Estyn, 2014).

At the primary and secondary level the data indicate more challenges. PISA and other data sources clearly point towards the need for improving the teaching and learning in Welsh schools. There seems to be a particular need to build teachers' professional skills to adequately respond to the individual learning needs of students.

Estyn reports that although the teaching is good or better in most primary schools and less than 1% have unsatisfactory teaching, over the last three years, the proportion of schools where teaching is adequate or unsatisfactory overall has increased from 18% in 2010-2011 to 26% in 2012-2013. At the secondary level fewer than half of secondary schools are good or better and the proportion that is unsatisfactory has increased from one in seven to one in four (Estyn, 2014). Estyn also found shortcomings in the confidence and skills of all teachers to develop numeracy skills through their subjects (Estyn, 2013a).

The evidence also suggests teachers at all education levels lack the capacity to implement quality formative assessments and to use assessment data to support students in their learning. The most common recommendation in inspection reports is about the need to improve assessment, with nearly 40% of schools inspected having this as a significant area for improvement (Estyn, 2014). In primary education, for example, assessments vary and it is unclear whether teachers have the capacity to be consistent and accurate when assessing a student (Hill, 2013; Estyn, 2013a; ACER, 2013). In Key Stage 4, they found numeracy assessments were being used to group students by ability rather than for improvement (Estyn, 2011). Estyn further found that there are few schools where teachers' assessments and marking of students' work are consistently of a high standard (Estyn, 2013a).

These findings might be linked to a lack of consistent knowledge about assessment systems by schools and teachers, possible pressure to inflate judgment because they are partly high stakes, disengagement between primary and secondary schools, and weak levels of consistency within schools on how to standardise assessments, which is also linked to ineffective external support (Hill, 2013). New National Reading and Numeracy Tests (see below) have been introduced to measure learning and also to inform the learning of students. As such, these will also aim to help teachers better respond to the individual learning needs of their students. For this to happen, however, teachers need the capacity to implement and use these assessments in a formative way, which as the evidence suggests is a clear area for improvement.

Attracting, developing and retaining quality teachers

In 2013 there were approximately 27 300 full-time equivalent teachers in service with local authorities (Welsh Government, 2014a). The Welsh government manages the supply of teachers for public schools in Wales by forecasting demand for newly qualified teachers and setting annual intake targets. Despite this, Welsh schools face some challenges in attracting sufficient numbers of qualified staff. PISA 2012 showed that 17% of principals reported the lack of qualified mathematics teachers hindering their school's capacity to provide instruction. For English principals the figure was 10% (Wheater et al., 2013).

High-performing education systems build their human resource systems by focusing on attracting, training and supporting good teachers rather than on reducing attrition and firing weak teachers (Asia Society, 2011). In recent years Wales has made considerable efforts to strengthen the recruitment, development and retention of its teachers through various measures. These include the provision of various grants that offer incentives to graduates with "best degrees" to teach, or to attract students into key subjects where there are teacher shortages. The requirements to enter initial teacher training have also been raised to a minimum of General Certificate of Secondary Education (GCSE) grade B in English and mathematics to ensure that incoming teachers possess the necessary skills in these subjects. In addition, graduates are also assessed on their literacy and numeracy during their studies, with failure resulting in exclusion from teacher training.

To become a qualified teacher in a public school in Wales one must have a bachelor's degree (generalist in primary schools and specialist in secondary schools) and obtain qualified teacher status (QTS). Individuals can become teachers either by completing initial teacher training or through an employment-based route. For the former, there are two routes: a concurrent route combining theory and practice that lasts between three and four years, or a consecutive where individuals pursue an extra year of professional training after gaining their bachelor's degree in a subject to achieve the Post Graduate Certificate in Education with QTS (UNESCO, 2012). The Graduate Teacher Programme and Teach First scheme offer an employment-based way to qualify as a teacher while working.

Research shows that high-quality initial teacher training and clear profiles of what teachers are expected to know and be able to do at each level of education and in each subject should be ensured. Teachers' initial education shapes their teaching and influences their further professional development (Schleicher, 2011). The QTS is based on the Qualified Teacher Standards and Practising Teachers Standards which are statements of practitioners' professional values and attributes, knowledge and understanding, and skills. These were updated in 2011 and clarify the expectations at each stage of a practitioner's career and help them identify how they need to develop professionally to progress in their career (Welsh Government, 2011b). A recent review of initial teacher training institutions found that the key challenge remains ensuring that teacher training quality and practice become more consistent (Tabberer, 2013). Efforts are underway to strengthen initial teacher training which will be an essential pre-condition for moving the system forward.

Transforming teaching does not just involve high quality recruiting and initial teacher training, it also requires that those who are already teaching adapt to constantly changing demands (Schleicher, 2011). Welsh teachers are supported through a range of professional development opportunities. This starts with a statutory one year (three terms) induction period during which newly qualified teachers are supported by both a school-based and an external mentor. At the end of this period the teachers are assessed against the Practising Teaching Standards.

In 2011 the Welsh government introduced the Practice, Review and Development Process for school practitioners, including teachers and school leaders. It integrates professional standards, performance management and continuing professional development to ensure that professional development is focussed on supporting high-quality teaching and learning. Evidence shows that appraisal and feedback have a strong positive influence on teachers and their work. Teachers report that it increases their job satisfaction and, to some degree, their job security, and it significantly increases their development as teachers (OECD, 2009). The Welsh government considers the new appraisal and performance management process as an essential step forward in raising the quality of Welsh teachers, but it will depend on its implementation process, and on the availability and use of high-quality professional development opportunities.

Teachers' professional development remains under-developed in both primary and secondary schools in certain areas, however, despite a range of new professional development options like the Master's in Educational Practice for newly qualified teachers, and access to a digital learning platform and various materials based on the National Literacy and Numeracy Framework. In PISA 2012, principals reported that on average almost one in four (24.7%) mathematics teachers in their school attended a programme of professional development with a focus on mathematics during the previous three months. This is considerably below the OECD average of 39.3% (OECD, 2013b). Estyn reports support these findings. It found that although most schools provide staff with extensive training on teaching literacy to all students, fewer prioritise numeracy and very few plan training on how to alleviate the effects of poverty on individual students for whom disadvantage creates barriers to learning (Estyn, 2014). Estyn also found that

collaboration among teachers and across departments, which facilitates peer learning, remains very limited (Estyn, 2013a).

The OECD review team's discussions with head teachers and teachers support these findings, with them mentioning that the continuous professional development of teachers is in dire need of strengthening. All this suggests further work is needed to integrate the new appraisal process and strengthen the professional development opportunities for teachers and school leaders in Wales.

Strengthening leadership in schools and across the system to foster student performance

The *Improving Schools Plan* (see page 34) aims to reinforce learning and teaching through “effective leadership at all levels” by supporting leadership development, stronger school governance and improved performance management of head teachers (Welsh Government, 2012b). Much has been done recently to build the capacity of school leaders and governors, including the introduction of revised Leadership Standards in 2011 (Welsh Government, 2011b). An Individual Leadership Review tool has been made available to support practitioners in reviewing their practice against the Leadership Standards and in identifying priorities for further leadership development. A new, more rigorous practice-based assessment against the Leadership Standards was launched for those who wish to obtain the new National Professional Qualification for Headship (NPQH). The revised appraisal and performance management process based on the new Leadership Standards is linked directly to school improvement priorities.

Evidence suggests there are reasons for all these measures. According to Estyn (2013) two-fifths of all head teachers inspected in primary schools were assessed as inadequate or unsatisfactory and one-third of school leaders' self-evaluations were no more than adequate in terms of focusing enough on students' standards. School leaders in secondary schools were identified as stronger, but they also were found not to focus enough on students' progress, which affects their ability to design accurate school improvement plans (Hill, 2013). Estyn (2013) reports that only 6% of primary schools have excellent school leadership, whereas the figure rises to one in five among schools where the school leader's time is focused on improving instruction and pedagogy rather than focused on administration. Estyn also reports that about one-third of school leaders did not monitor the impact of staff professional development, and that national education priorities do not appear to be central to their planning. The capacity of school governors to support and challenge the school leadership is weak (Estyn, 2013a).

Whilst the introduction of leadership standards are intended to help build future leadership capacity and to address succession planning, these new leadership development programmes and other actions lack a long-term perspective. There is no established leadership development programme for serving or aspiring school leaders and there is a lack of clear pathways for teachers with potential to become school leaders. This lack of long-term school leadership planning and a school leadership career path is particularly worrying when considering that the number of school leaders that are up for retirement. As Estyn noted “there is still much to be done to improve education and training in Wales” (Estyn, 2013a). However the building of leadership capacity should not be limited to schools, but should also include the DfES, local authorities, regional consortia and others throughout the system. Achieving system wide transformation requires all those within the system to communicate and connect, to drive change forward and to align effort (Harris, 2010). Research shows us that strong leadership capital must be developed and cultivated. Leadership recruitment and development must be a key part of any successful improvement strategy (Pont et al., 2008). The evidence of our review points to the conclusion that there has been too little investment in building leadership capital throughout the system. As noted by Estyn (2013), “it is in the capacity and quality of leadership that the remedy lies”.

However, at the time of writing, we note that a Leadership Development Programme is in process of development and a National Leadership Development Board has been established with a remit to develop leadership provision.

Increased focus on evaluation and assessment but lacking synergy between arrangements

Governments and education policy makers are increasingly focused on the assessment and evaluation of students, teachers, school leaders, schools and education systems. These are used as tools for understanding better how well students are learning; for providing information to parents and society at large about educational performance; and for improving schools, school leadership and teaching practices (OECD, 2013c). This is also the case in Wales, which has undergone considerable changes to its assessment framework and accountability measures in recent years and provided rich data sets that can inform the school improvement efforts of the government, school leaders, teachers, local authorities, regional consortia and other stakeholders.

The drivers for changes to Wales' evaluation and assessment framework and increased accountability are similar to those identified in other OECD countries in a recent OECD review (2013d). In education, there is an increased demand for effectiveness, equity and quality in education, and for ways to measure them to improve and meet economic and social challenges. As in other OECD countries, Wales has introduced greater school autonomy, which is fuelling a need to monitor how schools are doing. Furthermore, improvements in information technology allow for the development of both large-scale and individualised student assessment and facilitate the sharing and management of data. Finally, there is greater reliance on evaluation results for evidence-based decision making and policy development across countries (OECD, 2013c).

Assessing student performance

With the introduction of the revised school curriculum in 2008, Wales moved away from statutory testing. Since then, teachers have had responsibility for the (low stake) student assessments based on the national curriculum. At the end of the Foundation Phase and Key Stages 2 and 3, schools report the results of teacher assessments to the Welsh government as part of the annual national data collection cycle. The data are published at local and national level. The Welsh government uses the data for research and statistical purposes, as well as to inform, influence and improve education policy and to monitor the performance of the education service as a whole. The data are also used to inform the All Wales Core Data Sets (AWCDS). The AWCDS are used by schools, local authorities, regional consortia, DfES and Estyn to monitor and evaluate the performance of the education system. As previously discussed, however, concerns have been raised about the quality of teachers' student assessments (Hill, 2013).

In May 2013, the Welsh government introduced the National Reading and Numeracy Tests for students in Year 2 through to Year 9, with the objective of providing a better understanding of student performance and progress for key stakeholders. Schools can also use the data to inform the learning of students. This has been aligned to the introduction of the Literacy and Numeracy Framework (LNF) which became a statutory curriculum requirement for students from Reception to Year 9 in September 2013 (see below). Teachers are required to undertake annual assessments of students' progress in meeting the expectations set out within the LNF and to report these to parents. Taken together these two reforms represent a significant recent change to the assessment arrangements in schools in Wales.

In addition, the Welsh government has introduced an assessment at the end of the Welsh Baccalaureate for students to gain a Welsh qualification. DfES further uses GCSE results, external inspections by Estyn and PISA data to gather information about the performance of its students. This

information is publicly available and communicated to key stakeholders, including through the My Local School website which gives stakeholders access to school data.

Education staff and school evaluation

Teacher and school leadership appraisals are to be conducted yearly within schools as part of their performance management. Teachers are normally reviewed by their direct line managers, which might include members of the school leadership team, while school leaders are appraised by a panel comprising members of the school governing board and local authority representatives. For both school leaders and teachers, objectives are set and reviewed during performance management discussions, which can help address their professional development needs (OECD, 2013c). For school leaders, Estyn has introduced a peer inspection scheme which invites school leaders to participate in an inspection team. According to a recent report, this has helped school leaders improve their analytical capacity (Hill, 2013). It is currently not mandatory for support staff to take part in performance management, although many schools ensure these staff are included.

Schools are assessed through both self- and external evaluations and are accountable to parents, community, government and agencies. Self-evaluations are conducted by the schools and feed into the school development plans. Estyn conducts external school inspections and uses different components of the Common Inspection Framework to assess the various actors and levels of education. Estyn provides follow up to those schools which are struggling or need it the most (Estyn, 2010). The 2012-13 Estyn annual report found seven in ten primary schools it inspected were “good” and around one in four “adequate”. Although only one was “unsatisfactory”, very few were “excellent”. Around half of the primary schools inspected will be monitored in follow-up visits (Welsh government, 2014a).

The Welsh government has further introduced a new initiative in 2011, “school banding”, which groups schools according to a range of indicators such as attendance rates, GCSE results, relative improvement and the proportion of students on free school meals (Welsh Government, 2013g). The aim of the banding is to establish priorities for differentiated support and to identify those from which the sector can learn. There are five different bands of schools. Those grouped in band 1 perform the best on a range of variables, including GCSE results and attendance. Schools in band 4 or 5, those which need to improve the most, must create an improvement plan and are given GBP 10 000 to improve their education outcomes. The initiative aims to challenge complacency by focusing on the progress that schools are making each year. The school banding scheme has been introduced in secondary schools, and primary schools are set to follow in 2014.

The banding of secondary schools has received some criticism as some see it merely as a tool to rank and benchmark schools against each other (Eurypedia, 2013; Hill, 2013). The two different external evaluations that Welsh secondary schools face, i.e. the school banding and Estyn’s school evaluations, sometimes deliver different evaluations of a particular school. Hill (2013) noted that this mix of systems has resulted in confusion. Some school leaders reported to the review team that the changes in the banding categorisation from one year to another left them feeling victims of processes they did not understand. Others were critical of the calculation method underlying the banding. Both reactions have implications for trust in the system and may be counterproductive to achieving the government’s goal of Wales having a world class education system.

System-level assessment and evaluation

The DfES is supported by an evidence programme consisting of statistical outputs, research and evaluation. Data and findings are used routinely to inform policy developments and provide data to inform

school improvement (e.g. for school banding) and for the public (e.g. via the My Local School site). Research to evaluate certain aspects of different aspects of the current reform agenda are in place, such as an independent evaluation of the Student Deprivation Grant. A special DfES unit, the Standards and Delivery Unit, recently created to oversee the implementation of the *Improving Schools Plan*, makes ample use of all the collected data to advance the implementation process.

Estyn's Common Inspection Framework has aimed to bring greater consistency and transparency to the inspection of all education functions across the system in Wales, including schools, other education providers and local authorities (Estyn, 2010). Likewise, the introduction of inspection follow-up has helped to make inspection more proportionate, as well as focusing attention towards the schools that need it most. Estyn's positive view of the school evaluations was in general also shared by the head teachers and other stakeholders that the review team met.

The challenge of accountability and a coherent evaluation and assessment framework

Developing a coherent assessment and evaluation system as a tool for understanding how well the education system is delivering on its goals and providing information for improvement is a challenge faced by governments and education policy makers throughout the OECD. Educational assessment and evaluation have become a multi-layered endeavour, which not only focuses on summative judgments of student achievement, but also aims to identify how well the education professionals and the schooling system promote quality and equity across a range of outcomes. Many of the countries which have high quality and high equity profiles in the PISA surveys, such as Australia, Canada, Korea and the Netherlands, are among those with the most comprehensive and structured assessment and evaluation frameworks. These include:

- Developing indicators to identify if each student is provided with a quality and relevant education.
- Each professional performs in ways that help to deliver these outcomes.
- Each school contributes to the development of students and professionals.
- The system itself contributes to the social and economic development of the country (OECD, 2013c).

In these formatively driven systems, the information from each level of the system is then used as a system steering tool for improvement purposes. The various assessment and evaluation components need to be made coherent to generate synergies between components, avoid duplication and prevent inconsistency of objectives (OECD, 2013c).

Striking the right balance between accountability and improvement in an assessment and evaluation framework is a challenge both internationally and for Wales. Prior to the reforms, the balance in Wales was described to the review team as one of high trust, with assessment and evaluation systems being primarily for developmental purposes with little accountability. They have now shifted to greater accountability. Increased accountability and a focus on evaluation and assessment can risk distorting how and what students are taught. For example, if teachers are judged largely on results from standardised student tests, they may "teach to the test", focusing only on skills that are tested and giving less attention to students' wider developmental and educational needs (Hargreaves and Shirley, 2009; OECD, 2013c).

Another major challenge in developing comprehensive frameworks is the level of assessment and evaluation competencies evident throughout education systems (OECD, 2013c). Both the technical skills

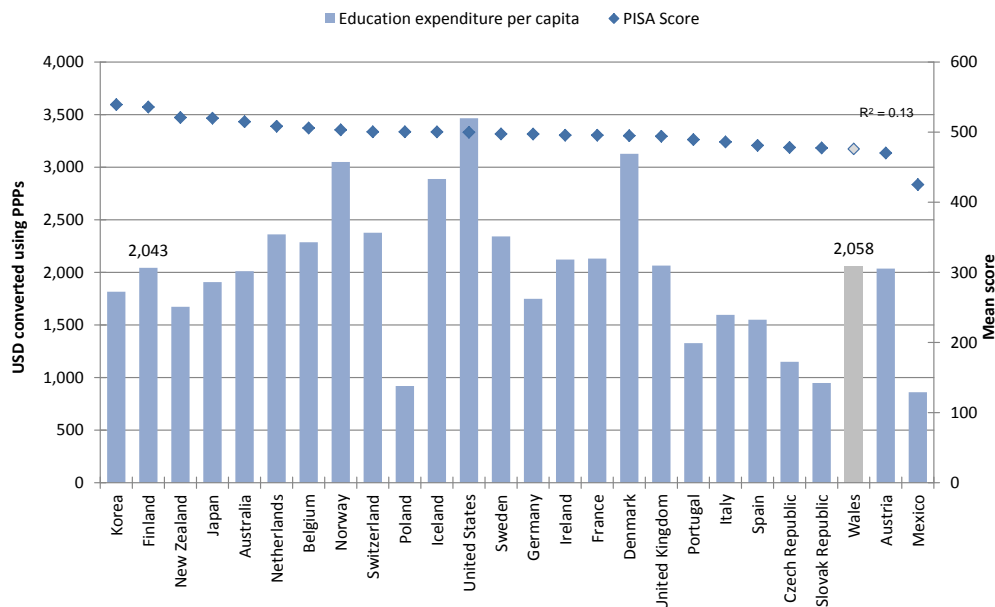
and this way of thinking were seen by some to be a challenge in Wales in our review discussions. Deliberate development at each level of the system is required for it to happen.

Education as a public priority with a need to focus on long-term sustainability

Wales' commitment to the education system is demonstrated by its support for public schools, which make up 96% of the school system, and its expenditure on education. For the year 2013-14 gross schools expenditure per student is budgeted to be GBP 5 592. The Welsh government allocates revenue funding to local authorities in the form of the Revenue Support Grant (RSG). Local authorities and schools can also receive additional funding through a range of specific grants to support specific educational priorities, such as the Pupil Deprivation Grant (GBP 918 per student in 2014-15, GBP 450 again in 2015-16).

Gross school budgeted expenditure over time has seen an increase in both gross funding levels and in the amount delegated to schools. Budgets for schools, both within DfES and through the Revenue Support Grant, have been protected at 1% above the rate of change in the Welsh budget from 2011-12 to 2014-15. Budget data collected from local authorities for 2012-13 confirms this commitment has been met (Welsh Government, 2014a).

Figure 1.7. Relationship between PISA 2009 reading performance and education expenditure per capita (2007)



Source: Andrews, L. (2011), "Teaching makes a difference", Speech by the Minister for Children, Education and Lifelong Learning, Leighton Andrews, on Wednesday 2 February 2011 at the Reardon Smith Theatre, National Museum of Wales, Cardiff <http://wales.gov.uk/topics/educationandskills/allsectorpolicies/ourevents/teachingmakesadifference/?lang=en>.

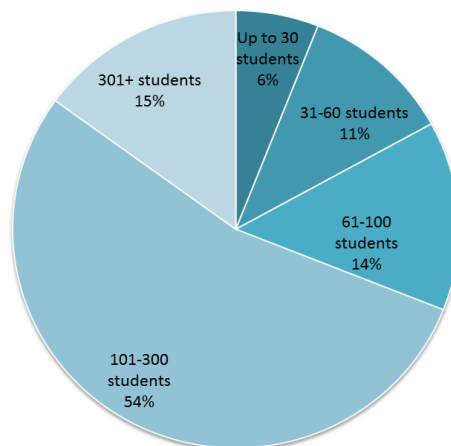
Public expenditure on education as a percentage of total public expenditure indicates the government's priority to education compared to other public services such as health, social protection or defence. In Wales the total expenditure on education as a percentage of total public expenditure has remained relatively stable in recent years, despite of the economic crisis. Between 2007-08 and 2011-12 spending on education ranged between 14 and 16% of total public expenditure (HM Treasury, 2013), which is slightly above the OECD average (13% in 2010).

It is however important to note that high student expenditure doesn't necessarily result in better student performance but rather how funds are invested can make a difference (OECD, 2010b). Figure 1.7 shows that while Wales' per capita expenditure on education was just above that of Finland, the Finnish students still considerably outperformed their Welsh peers in reading in PISA 2009. These data suggest there are efficiency gains to be made for the Welsh education system.

Developing an efficient and inclusive school system can be challenging and expensive for Wales given the geographical dispersion of its population. Small schools cater to populations in small communities and in Wales there are over 400 primary schools in Wales with fewer than 100 students (Estyn, 2013b). A one-form primary school with 30 students per year from the reception year to Year 6 has around 200 students. In 2012 well over half of all the primary schools in Wales were below that size. These schools may be providing quality education services, but they are also relatively expensive to maintain, and often struggle to recruit head teachers.

In recent years local authorities have closed some of the smallest schools⁵ that are no longer viable. The ongoing changes in the age structure, ethnic make-up and mobility of the population throughout Wales will further challenge the provision of education services and likely lead to further closures of small schools by local authorities in the years to come.

Figure 1.8. Primary schools by school size, 2011-12



Source: Estyn (2013b), *School size and educational effectiveness*, Estyn, www.estyn.gov.uk/english/docViewer/295686.3/school-size-and-educational-effectiveness-december-2013/?navmap=30,163.

A series of far-reaching reforms

Education has been a public priority of the Welsh government. Since 1999 the Welsh Government has been responsible for education and training and has aimed to ensure that its education policies are well matched to Wales' needs. Successive Welsh governments have developed distinct education policies. These include a commitment to the comprehensive education system, the introduction of the Foundation Phase, Learning Pathways for 14-19 year-olds⁶, the introduction of the Welsh Baccalaureate and the abolition of school performance tables and compulsory testing at the end of Key Stages 1-3. The disappointing PISA 2009 and GCSE results and reports by Estyn however showed that the growing concerns about the quality of education were justified. These findings sparked a national debate on the quality and future of education in Wales that has resulted in a broad consensus in society on the need for improvement.

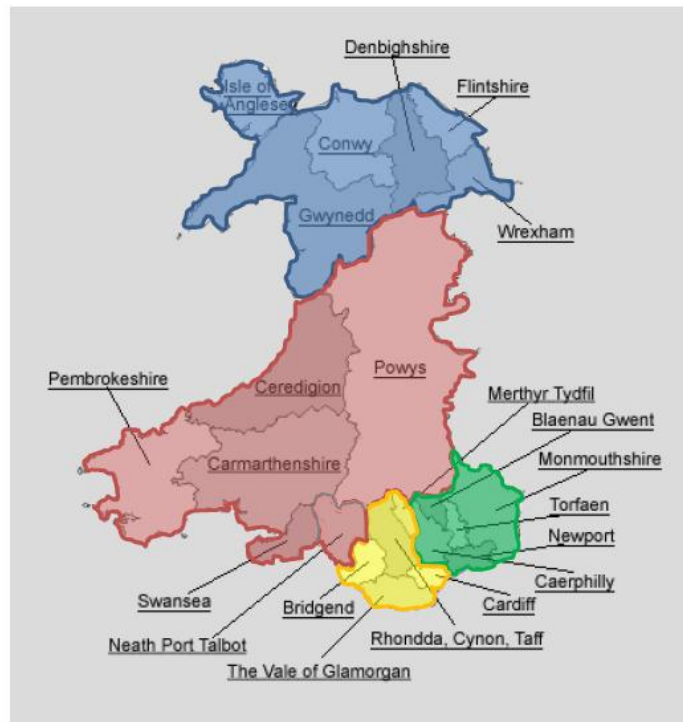
The Welsh government responded quickly with a series of far-reaching reforms that have been consolidated in the overarching *Improving Schools Plan* (Welsh Government, 2012b) launched in October 2012. In February 2011 the government announced its 20-point plan to raise standards and performance (Andrews, 2012). This plan aims to: 1) improve levels of literacy; 2) improve levels of numeracy; and 3) reduce the impact of deprivation on educational attainment (Andrews, 2011). Several reforms followed including the introduction of the National Literacy and Numeracy Framework for students aged 5 to 14 in September 2012 which a year later became a statutory part of the National Curriculum. Statutory Reading and Numeracy Tests for students in Years 2 to 9 were introduced in May 2013. Other measures include the creation of a special DfES unit, the School Standards and Delivery Unit, to oversee the implementation of the *Improving Schools Plan*; changes to the GCSE examinations and the Welsh Baccalaureate; the "school banding" system for secondary schools; leadership programmes; teacher development programmes; a new Masters programme for newly qualified teachers; stricter recruitment criteria for graduates wanting to enter initial teacher training; and a new regional governance structure (Brychan, 2013).

The evidence suggests Welsh schools are currently facing some challenges in implementing the numerous policies and reforms under the *Improving Schools Plan*, particularly because there are so many. The head teachers and other stakeholders that the OECD review team met felt that the sheer number and often short time spans for schools to implement these reforms bring with them a risk of only partial implementation of reforms, or "reform fatigue".

A developing school improvement infrastructure

Implementing these reforms will depend on the structure and capacity of Wales' school support system. The 22 local authorities are expected to support their schools in both daily operations and reform efforts. Recent reviews of their performance found that local authorities vary considerably in terms of the quality of services they provide to schools. Estyn found that many of the small local authorities were underperforming; only five of the local authorities inspected by Estyn have been assessed as "good". Seven were assessed as "unsatisfactory" with the remainder being judged "adequate" (Estyn, 2013a).

Figure 1.9. Map of local authorities and regional education consortia



Source: Hill, R. (2013), *The Future Delivery of Education Services in Wales*, Welsh Government, <http://wales.gov.uk/docs/dcells/consultation/130621-delivery-of-education-report-en.pdf>.

A recent review of the governance and support system of education services in Wales, *The Future of Education Services in Wales* (Hill, 2013), found that in fact in many areas, local authorities are actively discouraging schools from seeking support services from outside the LA. Also few authorities are working to build up business management expertise within schools. A number of strategies have been adopted to improve the performance of these failing authorities, but progress seems slow (Hill, 2013).

To strengthen the infrastructure for improvement and the delivery of school support services, four “regional consortia” were established in 2012 to help local authorities streamline their school improvement services and to reshape local school improvement functions (Figure 1.9). Hill (2013) found that the regional consortia were not yet fully established in certain regions. Within those consortia that were still being set up, school improvement staff from the local authorities had supported schools in their reforms. The review pointed to an overall lack of clarity in roles and responsibilities between the local authorities and regional consortia. Also the role of the DfES in relation to the local authorities, consortia and schools was found to be unclear. This makes it challenging for schools to know who they should go to for support.

In November 2013, the DfES announced a wide range of measures in response to the Hill report to strengthen the governance and support system in the sector (Lewis, 2013). These include the decision to move towards a new National Model for Regional Working which may be a good way to ensure schools get the quality school improvement services they require. However, as local authorities retain their statutory responsibility for education, care needs to be taken to ensure that the confusion does not continue. Yet more recently, a review of the governance and delivery of public services proposed reducing the number of local authorities from 22 to 10, 11 or 12 (Welsh Government, 2014b). Within this constantly changing landscape, it is especially important to ensure that adequate care is taken to build the

capacity of the school improvement services, that there is clarity of roles and responsibilities of the consortia and the local authorities, and that this is transmitted to schools.

Partnerships between schools have also been promoted with schools encouraged to share insights and collaborate with one another in their school improvement efforts. Such partnerships might address the shortcomings in the skills of the school workforce and focus on the provision of pedagogical support to teachers, support staff and head teachers as well as building the leadership capacity in schools. While this practice can indeed support the school reforms, it can also add to the existing lack of transparency in responsibilities between the various actors involved. As will be further elaborated in Chapter 3, school-to-school collaborations may be further complicated by the current high-stake assessments and public accountability measures that may discourage schools from forming partnerships.

Conclusion

After PISA results for Wales showed significantly lower than average performance among 15-year-olds, Wales embarked on a process of education reform to become a high-performing education system characterised by both quality and equity. This ambition is reflected in the government's key education objectives: to improve students' performance in literacy and numeracy, and to reduce the impact of deprivation on student performance. The OECD review has found that Wales clearly has the opportunity and possesses the capacity to work towards these objectives.

The Welsh comprehensive school system already emphasises equity and inclusion for students until the age of 16. Its PISA results show that student performance is less dependent on what school the student attends and on the socio-economic background of students than the OECD average. Welsh schools are also positive learning environments with good teacher-student relations and classrooms conducive to learning. In addition, assessment and evaluation data are available at different levels of the system to improve policy and educational practices. There is also strong policy commitment and support by the profession and the general public for the policy directions set out under the current reforms.

The Welsh school system faces some challenges, however. These include a high and increasing proportion of low performers and diversity within classrooms, and a low proportion of high performers, with schools not fully able to respond to the learning needs of all their students. Differentiated teaching and formative assessment strategies are underdeveloped in policy and practice. The conditions to nurture an excellent profession are not adequate as staff recruitment, professional development and career progression policies are underdeveloped.

The assessment and evaluation arrangements also lack in synergy and coherence and may also risk excessive focus on teaching to the test. Policy making and implementation can be strengthened, as the pace of reform has been high, sometimes too high, and lacks a long-term vision. The school improvement infrastructure is undeveloped and lacks a clear implementation strategy for the long run.

This analysis of the Welsh education system's strengths and challenges, informed by research evidence and relevant practices and lessons from strongly performing education systems internationally other OECD countries allows us to formulate a number of concrete policy recommendations and policy options to strengthen Wales' education reform, with a longer term perspective. These are developed in the following chapters (Chapters 2 to 5).

NOTES

- 1 Gross value added is the value of output less the value of intermediate consumption; it is a measure of the contribution to gross domestic product (GDP) made by an individual producer, industry or sector; gross value added is the source from which the primary incomes of the System of National Accounts are generated and is therefore carried forward into the primary distribution of income account (<https://stats.oecd.org/glossary/detail.asp?ID=1184>).
- 2 A public school refers to what is meant in Wales by the term “maintained school”.
- 3 A statement of special educational needs is a legally binding document that describes all of a child’s special educational needs and the special help it should receive. The local authority will usually make a statement if they decide that all the special help the child needs cannot be provided from within the school’s resources. These resources could include money, staff time and special equipment. Statements are reviewed every year.
- 4 Summative assessment summarises students’ achievement at a given point, while formative assessment evaluates student progress against learning goals to set actionable goals (Harlen, 2006 cited in OECD, 2012a).
- 5 There were 29 fewer schools with 100 pupils or less in 2011-12 compared with 2010-11.
- 6 Learning Pathways for 14-19 year-olds focuses on the needs of individual learners and their learning experience formal, non-formal and in-formal education and the development of skills which will help them to achieve their potential. The learning pathways framework consists of six key elements. Some are unique to Wales and fall into two distinct categories: Learner provision and learner support. The three elements of learner provision are: 1) individual learning pathway; 2) wider choice and flexibility of courses; 3) wider learning from the Learning Core – including skills, knowledge, attitudes values and experiences that all 14-19 year olds will need whatever their pathway. Learner support consists of access to a learning coach, access to personal support; 3) and impartial career advice and guidance.

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CHAPTER 2.

SUPPORTING EQUITY AND QUALITY IN WELSH SCHOOLS

This chapter reviews the challenges and opportunities for supporting equity and quality in schools across Wales. Despite a comprehensive school model and the provision of various grants to help schools better respond to diversity in their classrooms, schools are struggling to respond to high proportions of low performers, disadvantaged students and students with special learning needs. More specifically, three challenges hinder the ability of Welsh schools to offer equity and quality of education: *ii*) many schools and teachers lack the capacity to place the students at the centre of learning and meet the diverse learning needs of all students; *ii*) funding schemes are administratively demanding and fail to provide the stability schools need to build up internal capacity; and *iii*) the role of support staff engaged in students' learning is not sufficiently recognised.

Three concrete policy options would help DfES ensure that schools are meeting the learning needs of all their students: *i*) set high expectations for learning and promote the use of differentiated teaching and more personalised learning by students; through sustained efforts in improving the pedagogical capacity of its teachers, support staff and head teachers; *ii*) simplify and stabilise the use of targeted funding for specific groups and *iii*), recognise and invest in support staff to improving teaching and learning. This includes moving forward with the suggested introduction of minimum qualifications for support staff working in specific roles.

Recommendation: Ensure that schools meet the learning needs of all their students

Recommendation: Ensure that schools meet the learning needs of all their students by setting high expectations, promoting the use of differentiated teaching strategies, recognising and investing in the development of support staff, and simplifying and stabilising targeted funding for specific groups of students.

The Welsh government is already on the path to strengthening and improving the equity and quality of its schools. The Welsh education system and recent legislation are based on the principle of ensuring that all children have access to a quality education. The current government's education plan, *Improving Schools*, aims to improve the quality and equity of education for all students and focuses on improving their literacy and numeracy performance and reducing the impact of deprivation on student performance.

As discussed in Chapter 1, Wales has a relatively inclusive school system. Its comprehensive school system does not separate students into different tracks and provides students with a similar curriculum until age 16. The Welsh curriculum encourages schools and teachers to tackle low performance through differentiated learning and additional student support (Eurypedia, 2013). Access to education is ensured for all 5-19 year-olds, and the average performance of schools does not vary as much as in other OECD countries according to PISA 2012 results. Thus, there is little association between individual student performance and the school's students attend. Moreover, all 3-4 year-olds in Wales are entitled to part-time pre-school which can help enhance children's cognitive, linguistic, emotional and social development and mitigate the effects of poverty and disadvantage (OECD, 2012a). Government sources also indicate few Welsh students leave the education system without a recognised qualification (Welsh Government, 2014a).

In addition, PISA results show that on average the impact of a student's socio-economic background on performance is lower than the OECD average. Specific policies target equity challenges in the school system including the provision of extra resources for support staff, a Pupil Deprivation Grant (PDG) and other funding grants for disadvantaged students and students with special learning needs.

Despite these efforts, students in Wales perform below average compared to their peers internationally and there is large within school variability in performance. Wales has a large proportion of low-performers: PISA 2012 reading and science assessments showed that one in five Welsh students did not achieve Level 2 and in mathematics, almost 30% of 15-year-olds lack the basic mathematics skills to participate more effectively and productively in life situations. These levels are among the lowest across OECD countries. There are also lower than OECD average proportions of high performers. In addition, schools on average have a large within school variability of performance (75.7%), which is higher than the OECD average (63.4%) and a common characteristic of comprehensive school systems. Regionally, lower performance and a higher impact of socio-economic background is higher in South East- and Central South Wales (Welsh Government, 2014a).

These findings, together with those gathered during the OECD review visit, suggest the need to continue the focus on raising student performance. More specifically, three challenges hinder the ability of Welsh schools to offer equity and quality of education:

- Many schools and teachers lack the capacity to place the students at the centre of learning, set high expectations, and meet the diverse learning needs of all students.

- The funding schemes that target disadvantaged students and students with special learning needs are administratively demanding and fail to provide schools with the stable funding they need to build up their internal capacity to best respond to students' needs.
- The important role the large numbers of support staff play in improving the teaching and learning is not fully recognised. Support staff do not have clear longer-term career opportunities and many don't have good working conditions.

Meeting the diverse learning needs of all students

To be able to tackle underperformance and raise the quality of comprehensive schools in Wales requires the capacity to help ensure all students' learning and other needs are met. Students are diverse and bring with them variety of prior knowledge and experiences, including learning styles, interests, motivation, emotions, linguistic, cultural and social backgrounds that shape their learning (OECD, 2012a). Under the Education Act 2002, the Welsh national curriculum aims to be inclusive and aims for schools and teachers to provide differentiated learning and additional support to students (UNESCO, 2012; Eurypedia, 2013) (see Box 1.1.).

Learning research shows that positive learning environments (schools) are those that are sensitive to the individual learning needs of students and take into account their prior knowledge, ability, conceptions of learning, learning styles and strategies, interest, motivation, self-efficacy beliefs, and emotions, as well their linguistic, cultural and social backgrounds (Dumont et al., 2010). Motivation and engagement in learning can be strong drivers of student performance, and students who are substantively engaged and are interested in what is being taught learn more (OECD, 2010, 2011a).

Box 2.1. Seven principles of learning: benchmarks for designing powerful learning environments

In 2010 the OECD released an extensive research review that synthesised the different aspects of learning by prominent experts to create seven transversal "principles" to guide the development of learning environments for the 21st century (Dumont et al., 2010). These serve as reference guidelines for the design of all the diverse activities and relationships in learning environments. To be effective in ways confirmed by international research the 2010 report concluded that learning environments should:

- Recognise learners as their core participants, encourage their active engagement, and develop in them an understanding of their own activity as learners ("self-regulation").
- Be founded on the social nature of learning and actively encourage group work and well-organised co-operative learning.
- Have learning professionals who are highly attuned to learners' motivations and the key role of emotions in achievement.
- Be acutely sensitive to the individual differences among the learners in it, including their prior knowledge.
- Devise programmes that demand hard work and challenge all students without excessive overload.
- Operate with clarity of expectations and deploy assessment strategies consistent with these expectations; there should be strong emphasis on formative feedback to support learning.
- Strongly promote "horizontal connectedness" across areas of knowledge and subjects as well as to the community and the wider world.

The force and relevance of these principles do not reside in each one taken in isolation from the others. Instead, they provide a demanding framework in which all should be present in some way for a learning environment to be judged truly effective.

Source: Dumont et al. (eds.) (2010), *The Nature of Learning: Using Research to Inspire Practice*, Educational Research and Innovation, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264086487-en>.

In 2010, the Welsh government reviewed various aspects of its education system to find that “at all ages, learners agreed that lessons should involve active participation and be ‘fun’, and many students agreed that ‘fun’ was a factor that helped them learn” (Beauchamp et al., 2010). Estyn (2013a) complements these findings by noting that students’ lack of engagement seems to increase with age. Research shows that in general, the cognitive and motivational needs of students change as their expertise in different fields develops (OECD, 2011a), and optimal learning conditions therefore also change (Dumont et al., 2010). Estyn (2013a) also found that although students are offered a range of out-of-hours learning opportunities in many schools, only in the few best examples are these extra activities carefully designed to increase learners’ confidence, motivation and self-esteem.

As seen in Chapters 1 and 3, however, the pedagogical capacity of Welsh teachers and support staff needs to be strengthened, in particular their differentiated teaching skills and their use of formative assessments that allow them to better respond to the individual learning needs of students. These findings suggest Welsh teachers need to do more to adjust their teaching to the cognitive and emotional needs of their students. This includes placing students at the centre of learning, setting ambitious but realistic expectations and being responsive to their individual learning needs through differentiated teaching strategies, which implies adapting the learning to what students know and are able to do in order to build upon their experiences, knowledge and motivation. This also requires the adequate deployment of assessment strategies with a strong emphasis on formative feedback to support student learning. When schools do this they will be able to more effectively respond to the diverse learning needs in the classroom (Dumont et al., 2010).

Placing the student at the centre of learning

Successful education systems place learners at the centre and recognise them as active participants that are engaged in their learning (Dumont et al., 2010). In Wales, the curriculum, the *Skills Framework* (2008) and the *Careers and the World of Work* (Welsh Assembly Government, 2008) framework provide guidance on Welsh learning standards but it has been recognised that it is important to improve the curriculum and teaching through interactive teaching rather than direct, authoritative teaching (Beauchamp et al., 2010). A recent report from the Welsh government shows that the schools that which improved in recent years were learner-centred and used assessment and support strategies to raise performance (Welsh Government, 2013a).

Schools need to make placing the student at the centre of learning an organisational priority. They should encourage the active engagement of learners, and develop in them an understanding of their own activity as learners (“self-regulation”) (OECD, 2010, 2013). Learning is not something that takes place just “inside individuals” but is about their structured interactions with the content, with the teachers and support staff, and with the resources, facilities and technologies available. Barron and Darling-Hammond (2010) note that “it takes significant pedagogical sophistication to manage extended projects in classrooms so as to maintain a focus on ‘doing with understanding’ rather than ‘doing for the sake of doing’”. The key players designing and orchestrating the learning of students are the teachers, other teaching professionals and those in leadership positions. There is scope to improve the pedagogical skills of Welsh teachers and support staff, including in using technology to support student learning.

Within the *Improving Schools Plan* the Welsh government has introduced the HwB project, an online learning portal that aims to allow learners and teachers to access online resources to improve teaching and learning (Welsh Government, 2012). Research on the impact of technology in transforming the classroom is still limited but it shows that what is important is the capacity of teachers to make use of these tools to facilitate the learning of students. The distinction between the disappointing technology-centred approaches and the promising learner-centred technology approaches is in the way that the technology is

adapted to the needs of learners – an altogether more sophisticated and demanding enterprise than simply generating access to computers and other digital resources (Mayer, 2010).

Setting high expectations for all students

Setting high expectations is key for student learning and for making students active participants in their learning. The research on learning shows that schools should set clear expectations, demand hard work and challenge without overloading students, and use assessment strategies consistent with these expectations, including a strong emphasis on formative feedback. It highlights that each learner needs to be sufficiently challenged to reach above their existing level and capacity (Dumont et al., 2010). Therefore schools need to set high expectations for every child, regardless of their levels of disadvantage and the achievement levels with which they enter the school (OECD, 2012a).

International evidence on how to support disadvantaged schools and their students points to the requirement of having a coherent and balanced curriculum that provides the basis for each student to learn to high standards. This needs to be combined with adequate support to help students achieve their potential (Riley and Coleman, 2011). However, in practice it is often the case that there are lower expectations for the performance of disadvantaged students or low-performing schools (Gray, 2000). This is despite research showing that lower expectations have negative consequences on the delivery of the curriculum, the quality of instruction provided by teachers and, especially for the self-esteem of students, their aspirations and their motivation to learn (Leithwood, 2010; Dumont et al., 2010).

The Welsh curriculum and assessment arrangements were being reviewed at the time of writing this report. A public consultation process has been launched to propose changes to the present curriculum and assessment arrangements. These changes aim to strengthen and support the teaching of literacy, numeracy and wider skills in schools in Wales. A recent study by Welsh government (2013c) shows that the recent reforms relating to the curriculum and assessment arrangements have caused head teachers of secondary schools to believe that, as intended, the “bar is being raised” for their students. Although they are supportive of this development it has also created some confusion for teachers who are now less confident about the level of work needed for a grade C at GCSE. These and other findings support the decision of DfES to review the curriculum. It would seem essential that those who are contributing to the review support the setting of clear and high expectations that are realistic and achievable, and are aligned to the country’s vision of a Welsh learner in contemporary society (see also Chapter 5).

Norway introduced broad curriculum changes in both primary and secondary education defining the skills and the objectives all Norwegian students should learn. Its 2006 *Knowledge Promotion Reform* introduced a greater focus on basic skills for the curricula, clear learning standards and more autonomy at the local level to give municipalities more authority over methods of instruction, learning materials, curriculum development and organisation of instruction (Norwegian Directorate for Education and Training, 2007). This reform also changed the learning strategy to focus on outcomes-based learning and an individualised approach (OECD, 2013b). The aim is to ensure that individual students receive learning adapted to their capacity in order to improve their basic skills. Municipalities have to make sure teaching in Norwegian/Sami language and mathematics is individualised, particularly for low-performing students. Evaluations of the reform suggest the curriculum changes have been well received, and teachers have been working with student assessment to gain a better understanding of the curricula. Evaluations also point to varying degrees of implementation across schools and a need for an implementation plan. This can serve as an example for Wales as it reforms its own curriculum.

Using differentiated teaching to support students' learning needs

In addition to having teachers which set high expectations for all students, high-performing OECD countries on PISA embrace diversity among students with differentiated instructional practices. Differentiated teaching refers to the use of various instructional practices to best meet the needs of students and must be sensitive to students' background and what they already know and can do, in order to build on that knowledge to support their learning and improvement (OECD, 2010). A learning environment which is personalised to individual and group differences can improve the learning conditions of all students, reinforce equity and engage students in learning (OECD, 2012).

The use of assessment and feedback can help develop a differentiated teaching environment which caters to the needs of all students. It can inform student learning, to further challenging them or supporting them if they need more scaffolding (Dumont, et al., 2010; OECD, 2013d). Summative assessment summarises students' achievement at a given point, while formative assessment evaluates student progress against learning goals to set actionable goals (Harlen, 2006 cited in OECD, 2012a). Both summative and formative assessment can contribute to producing high-quality information on student learning. Such information is integral to the learning process and provides invaluable information to stakeholders organising the learning process, such as teachers, parents, head teachers or policy makers. Formative assessment is a central feature of learner-centred environments and can contribute to differentiated learning. It can provide information on what students already know to guide their learning.

Box 2.2. Examples of differentiated learning and the role of assessment

In **Finland**, to improve the capacity of differentiated teaching, teacher education was moved into the universities and the rigor and length of the training improved. This was largely done in response to the challenge of meeting the needs of diverse learners in a common school and of equipping teachers with the skills to diagnose learning difficulties and design timely interventions. Helping teachers learn to differentiate instruction sufficiently well to engage all students in heterogeneously grouped classrooms was a challenge. By all reports Finnish teacher preparation programmes focus intensively on helping teachers develop these skills, especially in the extended clinical portion of their training under the supervision of master teachers in the university-run model schools.

Students in the *Priodini School* in Prague, **Czech Republic** work with lists of study requirements per subject, but it is up to them to choose the right time for each of them. Possibilities to prove fulfilment of requirements are for example a properly kept notebook or portfolio, teaching aid created by the students etc. Selected areas of the curriculum are obligatory for all students, but they can decide about when to prove their knowledge and can choose from additional requirements to direct the course of their education.

The *Beatenberg Institute* in **Switzerland**, the *ImpULS School* and the *Logdeburg School* in Germany are among those that have taken similar approaches, by developing 'skills matrices' or 'competence matrices' which are grids with a list of skills in a subject or field on one axis and a scale of proficiency. These matrices are supporting both students and teachers in the setting of goals, and reflection and review of achievements and progress and as such are a valuable tool for increasing the self-efficacy of students.

Source: OECD (2013e), *Innovative Learning Environments*, Educational Research and Innovation, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264203488-en>; OECD (2011b), *Lessons from PISA for the United States*, Strong Performers and Successful Reformers in Education, OECD Publishing, <http://dx.doi.org/10.1787/9789264096660-en>.

Students in Wales have a more positive perception of their learning and the instructional practices used by teachers than average across OECD countries (OECD, 2013a, 2013b). Mathematics teachers are more likely to help students to learn from the mistakes they have made, ask them to explain how they have solved a problem or ask questions that make them reflect on the problem than the average across the OECD. However, in other areas, teachers are not adequately responding to the diverse learning needs in

the classroom. In PISA 2012, only 22% of students reported that for most or all of their lessons teachers give different work to classmates who have difficulties learning and/or those who can advance faster, and teachers hardly ever put students in small groups (16%) or ask them to get engaged in planning classroom activities or topics (9%) (OECD, 2013b).

Differentiated teaching and personalised learning for students also depends on teachers' capacity to carry out assessments, particularly formative assessments. Teachers should be able to implement and use formative assessment to understand students' learning and to plan their learning process (Dumont et al., 2010). However, as discussed in more detail in Chapter 4, assessment data is not consistently used to inform the learning of students across the Welsh school system. According to Estyn (2013a) schools are developing practices that involve the children more directly in "assessment for learning", i.e. formative assessment, but this approach remains underdeveloped in many schools. It found that teachers at all education levels lack capacity to implement quality formative assessments and to use assessment data to support students in their learning. In light of these findings and the ambitious reform agenda Wales has embarked on, DfES should consider increasing its investments in developing teachers' assessment capacity, in particular for conducting and using a range formative assessments methods and instruments to better respond to students' learning needs.

There are however some examples of good practice and pockets of excellence in the Welsh school system. During the OECD review visit, for example, the use of data in the schools visited was apparent. Teachers in a high-performing school were using the data to support students in their learning. Estyn found that effective schools provided students with detailed feedback on ways to improve, such as targeted tasks (Estyn, 2013a). The Welsh government also found that those schools which had improved preliminary GCSE results had teachers that were tracking students with updated data, were intervening to support students and evaluating the curriculum (Welsh Government, 2013a). These findings and good practices are deliberately identified and disseminated throughout the Welsh school system by DfES and Estyn. This policy is a positive component of the larger reform strategy and should be continued.

Supporting students' learning with links between schools, parents and the community

Most parents know instinctively that spending more time with their children and being actively involved in their education will give their children a good head start in life. But as many parents have to juggle competing demands at work and at home, there never seems to be enough time. Often, too, parents are reluctant to offer to help their children with school work because they feel they lack some of the skills that would make a difference to their children's success in school (OECD, 2011b).

A range of studies have highlighted the beneficial effects of parental involvement in children's educational lives. For example, research shows us that reading to children when they are young, engaging in discussions that promote critical thinking and setting a good example have a positive influence on their cognitive and non-cognitive outcomes (Borgonovi and Montt, 2012; OECD, 2012b). The evidence shows all parents can help their children achieve their full potential by spending some time talking and reading with their children – even, perhaps especially, when their children are very young (OECD, 2011b).

In Wales many schools, especially primary schools, have a good awareness of the range of problems facing the families of their students, and a few schools work with parents to strategically improve outcomes for disadvantaged students. However, only a significant minority of schools employ a broad enough range of strategies to engage parents in the learning of their children (Estyn, 2013a). PISA 2012 data showed that, as reported by the school principals, a mere 12.4% of parents had discussed the behaviour of their 15-year-old with a teacher on their own initiative in the previous year, compared with an OECD average of 22.8%. Also fewer than one in five parents (18.1%) discussed their child's progress

with a teacher on their own initiative in the previous year, compared with an OECD average of 27.3%. These findings suggest there is much scope for schools to strengthen the engagement with parents to jointly support students' learning. Teachers, schools and other stakeholders in the system should therefore explore how they can help busy parents play a more active role in their children's education, both in and out of school.

The Welsh government has provided some suggestions for strengthening the link between schools, parents and the larger community. For example, the *Pupil Deprivation Grant, Short Guidance for Practitioners* (Welsh Government, 2013b) proposes:

- Encouraging parents to actively support their children through help with basic skills and homework;
- Involving parents in schools, and classrooms, through conventional visits, so they have knowledge about how the system works;
- Trying to improve parents' own levels of basic skills so they can help their own children better;
- Providing parents with a wide range of advice material to make their children "school ready", clarifying what schools need from them, both in terms of academic needs and more general advice;

Box 2.3 provides some additional examples of how schools, parents and communities are working together to support students' learning in a selection of schools in OECD countries.

Box 2.3. Building learning environments through school, parent and community collaboration

It is essential that parents and the community are actively engaged in the learning of their children. The examples below show how some schools have made a particular effort to strengthen their links with parents and the larger community in order to foster the general learning community around the student.

The *Jenaplan-Schule* (Thuringia, **Germany**) requires and counts on the active co-operation of parents. Monthly round table meetings give parents the opportunity to discuss group-specific problems with the teachers. Regular discussions and consultations between parents and teachers help support the child's individual development. Parents are invited to get involved in classes, and they can also help with the design and management of classrooms, learning materials and the school building. The school also encourages parents to co-operate with other parents and their children outside of the classrooms in teams. This parent involvement led to a newspaper called the "Parents Circle" being published by parents to inform the wider public about the school's directions and activities.

The *Colegio Karol Cardenal de Cracovia* (**Chile**) is located in one of the poorest neighbourhoods in Santiago and offers a wide range of activities to parents. Parental participation is fundamental. The principal declares that parents are not "clients", as can be the case in some schools in Chile, but are active partners. Many parents and guardians say that one of the reasons why they sent their children to this school was the diverse group of activities that the school offers to their parents. As one parent said, "for example we celebrate Mothers' day, the Children day, the day for the Show Searching for a Star, and then these activities become well known and create a special buzz about the school. The parents get to understand that here they are listened to". Another parent said proudly, "I am a Karol mom".

The *Europäische Volksschule Dr. Leopold Zechner* (**Austria**) practices a special performance assessment called "commented performance portfolio" up to the third grade. Twice a year the students present their achievements to parents and teachers as a detailed conversation lasting about half an hour. Students present work they have done and answer teachers' questions or demonstrate learning through solving problems they feel confident about in front of their parents.

Source: OECD (2013e), *Innovative Learning Environments, Educational Research and Innovation*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264203488-en>.

Targeted funding to meet students' learning and additional needs

An education system should not only ensure that all students achieve a minimum of skills, but also that their personal characteristics should not limit their educational opportunity (OECD, 2012a). In many countries the socio-economic background of students is a strong predictor of educational success, and students' personal characteristics, such as gender, immigrant or other minority ethnic group background and low parental education can impact students' educational success. Students with these characteristics can be at a higher risk of performing below average and dropping out of school (OECD, 2012a).

In light of its diverse student population the Welsh government has implemented a range of funding grants that target specific students or schools. Special grants are allocated to schools to implement interventions that aim to improve the performance of these different groups of students. These are particularly aimed at low achievers (Estyn, 2013a). Among the different grants that local authorities and schools can access are:

- The School Effectiveness Grant (SEG), which is linked to the Pupil Deprivation Grant, supports the three main education objectives of the Welsh government i.e. improving student performance in literacy and numeracy, and reducing the impact of deprivation on student performance.
- The Pupil Deprivation Grant (PDG) provides schools with targeted resources to improve achievement of disadvantaged students, i.e. those students that are eligible to a FSM entitlement and looked-after children¹.
- The Communities First Student Deprivation Grant Match Fund aims to encourage schools in areas of high poverty to form closer links with their communities through grants ranging between GBP 10 000 and GBP 75 000 a year for each Communities First Cluster (Welsh Government, 2013b).
- The school banding system is used to place secondary schools in five different bands according to their scores on a number of indicators (see Chapter 4). Those schools in the two lowest bands (band 4 and 5) are offered an extra GBP 10 000 each to help improve standards.
- The Learning Pathways for 14 to 19-year-olds provides funding to encourage schools to give students a wider choice and access to learning support services.
- The Foundation Phase Grant aims to allocate funds to increase staff and resources in the classroom.
- Schools can receive the Welsh Education Grant to improve Welsh language education.
- Schools also can access the Minority Ethnic Achievement Grant to support students from a minority ethnic group at risk of underperforming.

In addition, local authorities distribute a certain percentage of the revenue support grant from the national government and locally raised funding to schools based on a formula: 70% of the funding is based on the number of students and the rest takes into account special circumstances of the school. The amount of funding that local authorities give to schools differs by local authority. By September 2014 the intention is that schools will receive 85% of local authorities' education funding (Welsh Government, 2014a).

Despite these various grants, students' socio-economic background and student characteristics continue to negatively affect their academic performance. The difference in performance between

advantaged and disadvantaged Welsh students is small in the Foundation Phase but increases to a 34% performance gap between FSM students and non-FSM students at age 14 and 15/16 (Egan, 2012; Public Health Wales Observatory, 2013). PISA 2012 data shows that the difference between the most disadvantaged and the most advantaged students in Wales equals to almost two years of schooling or 76 score points on the mathematics assessment (OECD, 2013a). Students from low socio-economic backgrounds also tend to have higher rates of absenteeism, low expectations and difficulty with personal and social skills (Egan, 2012; Welsh Government, 2011).

Funding strategies to meet students' needs

The way resources are spent is more important than the total amount spent (OECD, 2012a). Well-designed funding formulas, which take into account the various school variables, can be the most efficient, stable and transparent method of funding schools compared to administrative discretion funding, which is based on an individual assessment of schools (Levacic, 2008, cited in OECD, 2012a). Both types of funding require reliable data on each school and the transparency to understand how funding is being distributed and prevent misuse of resources (OECD, 2012a).

The Welsh government has aimed to target diverse groups of students through its various grants. Local authorities use the information available on the student make-up of schools, some performance data and particular funding needs to allocate funds, but it is important to ensure the data are accurate, schools have the capacity to use the funding, and that they are held accountable. There are a number of issues with the current grants and other funding mechanisms:

- According to Estyn evaluations, the funding grants may not be being adequately used to target disadvantaged students and instead are being spent on programmes to raise achievement of all students. Schemes such as the current PDG, and the Raising Attainment and Individual Standards in Education (RAISE) programme which preceded it, have not been used effectively, which can diminish their potential to increase student attainment and tackle the learning barriers disadvantaged students face (Estyn, 2009, Estyn 2013 cited in Welsh Government, 2014a).
- Some schools have targeted the funds at disadvantaged students who achieve moderately successful academic performance (Estyn, 2010, 2013a; Egan, 2012). Our interviews with stakeholders also corroborated this, and suggested that given the current accountability targets in the education system, schools used the funding to focus on “borderline grade C” students only and not on all low performers.
- Funding strategies depend on the availability of data. In Wales, some students who are living in poverty might not be accounted for because the information on disadvantaged students is based on the FSM indicator as a proxy for the share of students living in poverty. Students who may have one or more parents working but do not meet the expected threshold to be considered for FSM may still be living in poverty, however. Moreover, eligibility for FSM is self-reported, and not all eligible parents apply for it. It is therefore important for Wales to have a strong system in place that can help pinpoint students who might not be eligible for FSM but still need some support.
- The availability of a wide range of grant programmes can create confusion, be unsustainable in the long term and burden schools and their leaders with administrative work. This administrative work diminishes the time school leaders can devote to strengthening the teaching and learning in their schools – their core function – and is particularly burdensome due to the yearly nature of grants like the PDG.

- The yearly grants importantly also don't provide the schools with the financial stability that would allow them to build up their internal capacity by recruiting quality support staff on a long-term basis that would allow them to better respond to the additional learning and other needs of their students.
- Budget pressures and sustainability of the grants is an issue. The *Tackling Poverty Action Plan 2012-2016* which brings together policies to help communities and individuals out of poverty, especially by tackling child poverty (Welsh Government, 2012a), for example is faced with increasing budget pressures that might limit its ability to respond to its objectives (Estyn, 2013). Schemes change; for example disadvantaged students, schools received funds from the RAISE programme from 2006 to 2009, and then the PDG was implemented in addition to the SEF and others. This can create instability and confusion.

Research shows that “an excessive reliance on supplementary programmes may generate overlap, difficulties in co-ordinating allocations, excessive bureaucracy, inefficiencies and lack of long term sustainability for schools” (OECD, 2012a). As the evidence suggests, excessive bureaucracy, inefficiency and sustainability constraints are real issues that Welsh schools currently face as a result of having to apply for the various grants and other funding mechanisms on a yearly basis. DfES may therefore want to consider reviewing its funding arrangements to learn how they could better support schools in working towards the three key education objectives, particularly reducing the impact of deprivation on student performance. This recommendation resonates with that of the Commission on Public Governance and Delivery which calls for the simplification of funding arrangements and a focus on achieving outcomes (Welsh Government, 2014a). One area for review is whether funds should be allocated to individual schools, groups of schools, local authorities or possibly the regional consortia to benefit from the economies of scale.

The effective use of funds to target disadvantaged students and students with special learning needs requires the right skills, guidance and strategic planning. Estyn's evaluations of better-achieving local authorities found that high-quality leadership at the local and school level to use the funding can make a difference in student outcomes (Estyn, 2010). A holistic and whole-school approach which engages multiple school and local community stakeholders can help better target a specific group of students (Egan, 2012; Estyn, 2013a, 2013b), but this requires skills and planning to develop. Welsh schools receive guidance on addressing the impact of poverty on student outcomes through the Sutton Trust and Save the Children while the DfES has organised conferences and workshops for the regional consortia on how to use the PDG (Education Endowment Foundation, 2013; Welsh Government, 2014a). Despite these efforts there are still only a few schools with school development plans that aim to reduce the impact of poverty on attainment (Estyn, 2013a). This suggests further efforts are needed to develop the leadership capacity at various levels of the system to better target and adequately support the learning needs of disadvantaged students and students with special education needs (see also Chapter 3).

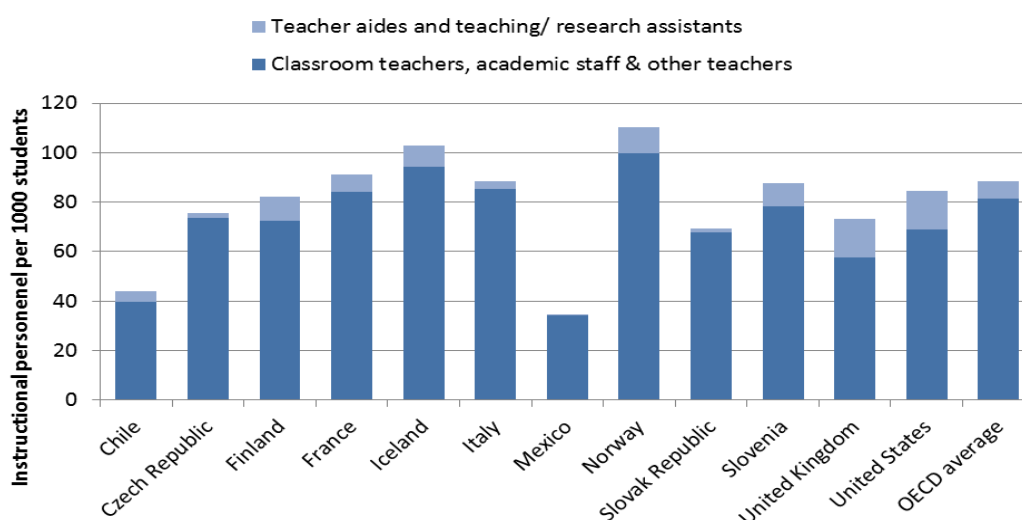
Recognising the role of support staff for improving the teaching and learning in Welsh classrooms

Teaching and learning support staff, such as teaching assistants, can be key to improving the equity and quality of schools given their direct interaction with students in teaching. The evidence shows that disadvantaged students can benefit from additional staff to reduce the performance gap that may be attributed to less educationally supportive home learning environments (OECD, 2012a). In many countries support staff have evolved from classroom helpers focused on organisation, to having more demanding responsibilities to support teachers and the learning of entire classrooms or of particular students (Groom, 2006). Evidence from Australia, Finland, New Zealand, the United Kingdom and the United States found that the growth in the use of teaching aides was in large part due to policies of inclusive education (Takala, 2007; Bourke, 2009; Burton and Goodman, 2011; Ward, 2011).

In many countries they have become an increasing proportion of the education workforce, and evidence points to confusion over their role. In 2010, in the 12 OECD countries with data available, there were on average 7.3 teacher aides and teaching/research assistants (i.e. support staff) per 1 000 students in primary, secondary and non-tertiary education (see Figure 2.1). This is less than one-tenth the ratio of teachers and academic staff to students in these countries (81.3 per 1 000 students) or the average ratio for the OECD as a whole (74.5 teachers and academic staff per 1 000 students) (OECD, 2012c). The United Kingdom and the United States had almost double the average ratio of teacher aides.

Figure 2.1. Teaching Staff in Welsh Schools, 2010

Teaching staff in primary, secondary and post-secondary non-tertiary education, per 1 000 students, 2010



Source: OECD (2012b), *Education at a Glance 2012*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/eag-2012-en>.

The proportion of support staff in Wales has also increased in recent years and is very high compared with other OECD countries. Support staff make up 44% of school staff (23 548 individuals), and their roles within schools vary depending on the school leader and teachers. They include serving as a classroom assistant, teaching assistant, language assistant and administrative staff (Welsh Government, 2008, 2014a). This increase in the participation of support staff in schools has been linked to three key policies: 1) the National Agreement on Support Staff of 2003; 2) the reform in the Foundation Phase; and 3) the availability of grants such as the SEG and the PDG. Each of these policies has expanded the role of support staff in schools and in classrooms, particularly to allow teachers to focus on their core teaching responsibilities. Most recently, Estyn found support staff who did not have a Qualified Teacher Status were also covering teacher absences (Estyn, 2013c).

Given their growing relevance in the classroom, teaching and learning support staff in Wales should be recognised as a key component to improving equity and quality of schools. The National Agreement of 2003 was primarily introduced to address teachers' workload issues and helped reform the training, qualifications and career opportunities for support staff in England and Wales. In 2007, the Higher Level Teaching Assistants (HLTA) policy was introduced in partnership with local consortia to determine and recognise teaching assistants who meet the teaching assistant standards (Welsh Government, 2013c). Research by the Welsh government in 2008 however found that support staff had varied qualifications, which depended on their role and the education level they worked in. Primary school teaching and

learning assistants were better qualified with 50% with a qualification at a Level 3 or higher compared to 20% in secondary schools (Welsh Government, 2008).

The evidence also suggests some teaching and learning support staff in Wales have poor working conditions (Welsh Government, 2008). UNISON, a union which represents 17 000 support staff in Wales found many school support staff are paid at different pay rates and the majority are women who “receive low pay, term-timed only and do not have access to development” (UNISON, 2013). One major reason for this is the way many support staff are funded. In many cases, the funding available for support staff per school comes from the SEG and PDG, which as discussed may vary in allocations and fails to provide the financial stability that would allow for longer-term contracts. During the OECD review visit, interviews with stakeholders indicated that these unstable, yearly grants make it difficult to sustain support staff in the budget for long periods of time. The Association of Teachers and Lecturers across the United Kingdom (England, Wales and Northern Ireland) also indicated that support staff employment in schools was not sustainable financially.

According to Groom (2006) one of the keys to improving the quality of teaching assistants is through effective professional development, such as induction programmes for new teaching assistants, modelling and incorporating practical learning, and building teams. These findings resonate with those of Estyn (2013a) who noted the importance of investing in developing the skills of support staff along with those of leaders, teachers and governors.

Support staff play an important role not just in Welsh schools, but also in strengthening schools’ engagement with parents and the community. Most teacher aides are from the local community (Welsh Government, 2008) and therefore, have the local knowledge and links to the community which can facilitate the link between the home and school (Logan and Feiler, 2006; Burton and Goodman, 2011).

Support staff have been increasingly recognised in recent years for their important role in the Welsh school system, including the *Improving Schools Plan* and the *Action Plan to Promote the Role and Development of School Support Staff in Wales* (Welsh Government, 2012b, 2013d). The latter is an important step forward in recognising and strengthening the position and professional development of support staff in the Welsh school system and improving their knowledge, qualifications, induction, performance management and development. The Action Plan intends to respond to many of the challenges listed above, including:

- The possible introduction of minimum qualifications for support staff.
- Providing support staff with access to various continuous professional development opportunities. These would promote opportunities to individual practitioners to address their development needs, including their own literacy and numeracy, so that their proficiency is directly related to supporting learners’ progress. However, as in various other policy documents of DfES relating to training and professional development the focus is mostly on “content” but less explicitly on “pedagogy”.
- The formal inclusion of support staff in the performance management of schools (Welsh Government, 2013d).

Both England and Wales have introduced the role of the Higher Level Teaching Assistant, to provide smoother career progression for support staff wishing to become fully qualified teachers.

Despite these positive developments, some support staff in Wales are still not formally included in the school’s performance management, are of variable quality, lack a clear career structure and have

limited career progression possibilities, and often continue to have poor working conditions, like short term contracts.

Policy options

The following policy options can help the Welsh government meet the recommendation to ensure that the system is effective in meeting the learning requirements of its students by promoting the use of differentiated teaching strategies; optimising the use of support staff; and simplifying and stabilising targeted funding.

Policy option 1: Set high expectations and promote the use of differentiated teaching

In Wales, comprehensive schools show larger variability within schools than across schools. The various PISA cycles in which Wales has participated also show increasing proportions of low achievers in mathematics and of low proportions of high achievers. In addition Welsh schools face a diverse student population in terms of students' socio-economic background and personal characteristics, with about one in five students living in poverty and a similar proportion of students with special education needs. The education system needs to be able to respond to diverse student learning needs in schools with differentiated learning approaches that use assessment as part of their strategies. To respond better, there are different and complementary classroom teaching and learning practices.

First, is the **setting of high expectations** which is key for student learning and for making students active participants in their learning. The research on learning shows that schools should set clear expectations, demand hard work and challenge students without overloading them, and use assessment strategies consistent with these expectations, including strong emphasis on formative feedback. It highlights that each learner needs to be sufficiently challenged to reach above their existing level and capacity (Dumont et al., 2010). Therefore schools need to set high expectations for every child, regardless of their levels of disadvantage and the achievement levels with which they enter the school (OECD, 2012a). DfES could play an important role in this. It could consider using the ongoing review of the curriculum to set high, though realistic expectations for all Welsh students and that evokes their intrinsic motivation for learning.

Second, the **effective implementation of differentiated teaching** and a move towards more personalised student learning goes hand in hand with the capacity of teachers, support staff and school leaders (see Chapter 3). Effective learning environments (schools) require their staff to be highly attuned to learners' motivations and the key role of emotions in achievement. They need to be sensitive to the individual differences between students, including their prior knowledge. This also requires teachers to be able to employ a range of assessment strategies to obtain information on the students learning, with a clear emphasis on formative assessment, in order to best respond to students learning needs (OECD, 2012a).

Wales should put sustained efforts in **improving the pedagogical capacity of its teachers, support staff and school leaders** as a matter of policy priority (see also Chapter 3), in particular by developing the capacity of teachers and support staff to deploy differentiated teaching strategies that support personalised learning of students and to assess students against learning objectives. School leadership should also ensure that school organisation accommodates the move towards more differentiated teaching strategies and personalised learning.

Teachers, schools and other stakeholders should be encouraged to explore how they can **help parents play a more active role in their children's education**, both in and out of school. A range of studies have highlighted the beneficial effects of parental involvement in children's educational lives. Efforts to involve

parents will depend on the priority that schools place on sharing the concept of high expectations and ensuring that parents are aware of how they can best support their children in their learning. The question some schools seem to struggle with is “how to do this” and “where to start”.

In Wales many schools, especially primary schools, have a good awareness of the range of problems facing the families of their students, however, only a significant minority of schools employ a broad enough range of strategies to engage parents in the learning of their children (Estyn, 2013a). There is much scope for schools to strengthen the engagement with parents and the community to jointly better support their students’ learning.

DfES and Estyn should continue their efforts to collect and disseminate good practices on this issue, and if necessary increase them, through means such as printed materials, the HwB project or the Learning Wales website. They could consider running an awareness campaign highlighting how parents can contribute to the learning of their children by supporting them with their homework and awareness of progress.

Policy option 2: Simplify and stabilise the use of targeted funding for students

Targeted funding for specific schools and groups of students can help ensure equity and quality across the education system. Research shows the funding strategies most conducive to equity are those which are those which are based on need rather than on school or student numbers (OECD, 2012a). In Wales, the government’s grant programmes take into account the higher cost of students from specific groups, particularly disadvantaged students and those with learning difficulties who require additional support and resources. The evidence suggests however that the variety of grants and other funding arrangements in Wales, and the fact that they mostly only cover one year at a time, means schools face excessive bureaucracy, inefficiency and sustainability constraints.

DfES should review its various grants and other funding arrangements to schools, and aim to reduce their number and **strive for simple, financially stable and efficient funding arrangements for Welsh schools**. This recommendation resonates with that of the Commission on Public Governance and Delivery which calls for the simplification of funding arrangements and a focus on achieving outcomes (Welsh Government, 2014b). The government should define a clear funding formula or programme. One possible example is the Chilean model, a weighted voucher scheme that has a quality assurance system built in, including the precondition that schools wanting to accept this voucher need to have a school development plan in place. Any funding formula should take into account the higher costs of catering for disadvantaged students and students with special learning needs, ensuring that all students receive the support they need.

DfES may consider making the school development plan the main vehicle for allocating grants that support specific groups of students. This would reduce the administrative workload for school leaders as they can avoid the duplication of having to draw up separate plans for each grant.

DfES should also consider increasing the duration of the grant cycles from one year to two or more. This has the potential to considerably reduce bureaucracy and increase efficiency. More stable funding may also allow schools to build up their internal capacity by longer term contracting and investing in the professional development of quality support staff, which in turn will allow for better responding to students’ learning and other needs.

Policy option 3: Invest in support staff involved in improving teaching and learning

Support staff in Wales form 44% of the school workforce and can include classroom assistants, teaching assistants, language assistants, administrative staff or others (Welsh Government, 2008; Welsh Government, 2014a). Depending on their experience, and training and the guidance they are given, they can be effective in improving the quality of schools. The importance of support staff to the success of schools is widely recognised by teaching staff (Welsh Government, 2008). The greater use of support staff in the classroom can enable teachers to concentrate on their specialist expertise (OECD, 2005).

From 2003, numerous policies have aimed to improve the conditions for support staff in Wales but despite these efforts, they are not yet formally included in the school's performance management, are of variable quality, lack a clear career structure and have limited career progression possibilities, and often have poor working conditions. The new *Action Plan to Promote the Role and Development of School Support Staff in Wales* intends to respond to several of these challenges, including professional development, performance management and career structure.

DfES should move forward with the proposed **introduction of minimum qualifications for support staff working in specific roles**, although gradually. Support staff that do not currently meet the qualification requirements should be given sufficient time and opportunities for training and professional development to allow them to work towards achieving these.

In particular **the establishment of minimum qualifications for teaching and learning assistants should be given priority** because of its potential to directly impact on the teaching and learning in Welsh classrooms.

Qualifications for teaching and learning assistants should form part of a coherent career structure for the education workforce, making it possible for teaching and learning assistants to work towards becoming a teacher if certain requirements are met, most importantly further academic training and obtaining QTS. Special training programmes should be put in place and teaching and learning assistants should be encouraged to participate and financially supported by DfES.

DfES plans to give support staff access to continuous professional development opportunities are important. We recommend ensuring that support staff in teaching and learning assistant roles are given these opportunities.

The Action Plan does not cover the issues surrounding the funding and working conditions of support staff. Indeed this is a complicated issue that will have to carefully worked out with the engagement of key stakeholders. In the meantime it is essential that more stable funding mechanisms are put in place for schools to contract and sustain support staff.

NOTES

- 1 “Looked after children” is the term used in the Children Act 1989 to describe all children who are the subject of a care order, or who are provided with accommodation on a voluntary basis for more than 24 hours. A care order may only be made by a court.

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CHAPTER 3.

BUILDING THE PROFESSIONAL CAPITAL FOR SCHOOLS TO DELIVER SUCCESSFUL CHANGE

This chapter reviews the challenges and opportunities for building professional capital to bring about successful change in the Welsh school system. DfES has initiated various initiatives for this purpose in recent years, with a new Masters in Educational Practice, promoting school-to-school collaboration and establishing a performance management system. However the conditions needed to nurture a high-quality profession remain underdeveloped. Specific challenges include a lack of recognition of the importance of the teaching profession; limited continuous professional development opportunities; under-resourced school-to-school collaboration efforts which are still in their early stages of development; and weak and under-resourced leadership capacity development at all levels of the system.

Wales should support the building of professional capital throughout the system and a culture of collective responsibility for improved learning and achievement for all students. We recommend four concrete policy options: 1) raise the status of teaching and the commitment to initial teacher training to draw the most capable people into the profession; 2) ensure quality continuous professional development at all career stages. For this, DfES should support the development and implementation of high-quality professional development opportunities that are aligned to the national education priorities; 3) streamline and resource school-to-school collaboration, developing a Welsh strategy for school-to-school collaboration; and 4) treat leadership development as a prime driver for reform, through adequate resourcing and investment in the system's own leadership capital.

Recommendation: Build professional capital and collective responsibility

Recommendation: Build professional capital throughout the system and cultivate a culture of collective responsibility for improved learning and achievement for all students.

The Welsh government has placed teachers at the centre of its reform for good reason. Research shows that the single best predictor of student learning and achievement within the school is the quality of the teacher (Hattie, 2008; Hanushek and Rivkin, 2012). The data show that not all teachers have the skills to adequately support students in their individual learning needs and equip them with core literacy and numeracy skills (see Chapters 1 and 2). Part of the reason for the variable quality of Welsh teachers lies in the way they are prepared for the profession and their opportunities for continuous professional development. A recent review of initial teacher training centres found that the key challenge is still to ensure that their quality and practice become more consistent (Tabberer, 2013). Efforts are underway to strengthen initial teacher training as one key condition for moving the system forward.

Various sources of information, including PISA, Estyn and the OECD review team meetings with head teachers, teachers, union representatives and others, also point towards the need for greater investments in the continuous professional development of teachers and support staff in certain areas. The new Masters in Educational Practice appears to be a step forward in expanding the continuous development opportunities for teachers. The programme however is currently only open to newly qualified teachers. Although it is an investment in the future of school education in Wales, the impact on the overall quality of teaching and learning in the Welsh school system in the short term will necessarily be limited.

One way to strengthen the reform focus on improving teaching and learning in Welsh schools, particularly in literacy and numeracy, is to develop effective leadership to ensure a high standard of teaching and learning in schools. However, leadership capacity in Welsh schools and at other levels of the system remains underdeveloped. The Welsh government recognises this and has aimed to strengthen the recruitment, development and retention of its teachers and school leaders through various policies and reforms under the *Improving Schools Plan*.

One of the greatest challenges in any educational reform is converting plans into action. Standards and appraisal frameworks, for example, can draw on the best expertise in the world, have extensive professional input, and have design features with all the elegance of superbly designed buildings or perfect mathematical equations. But unless professionals want to implement them, or have the time, ability and resources to do so, great designs will never get far beyond the drawing board. The challenge for Wales does not seem to lie in a lack of willingness and commitment of the profession to implement the desired changes. One issue has been the timing, with the profession feeling increasingly overwhelmed by the high pace of change. Other factors have included underperforming school improvement services; a lack of continuous professional development opportunities available of suitable quality; underdeveloped staff recruitment, training and retention policies; and the lack of a coherent career framework. In particular, too little attention has been paid to the continuous professional development of staff and to developing excellent leaders who can lead the schools through the desired changes.

These findings lead to the conclusion that the conditions to nurture a high-quality teaching profession in Wales are not fully developed. More specifically, Wales faces four challenges which are hindering the profession from reaching its full potential and making lasting improvements in the teaching and learning in Welsh schools:

- A lack of national recognition of the importance of the teaching profession.

- Limited opportunities for continuous professional development in certain areas.
- School-to-school collaboration in Wales is in its early stages of development, led from the top and under-resourced. There are not enough excellent schools to drive efforts for collaboration and improvement and there seems to be limited awareness of the different models of school-to-school collaboration and their relative success.
- The development of leadership capacity at all levels of the system has been weak, under-resourced and seemingly an afterthought to the larger reform effort.

The need to build professional capital

As noted in Chapter 1, there are issues concerning quality and equity in the Welsh comprehensive school system. On the one hand, PISA 2012 showed that Wales has one of the smallest differences in mathematics performance of 15-year-olds between schools among OECD countries. At the same time, the data show that most of the differences in student performance in Wales occur within schools. These related findings point to the relatively inclusive nature of the Welsh school system but also to the challenge for schools posed by variations in students' individual learning needs within schools and classes.

Although many factors outside the schools impact on student achievement, such as rates of poverty and disadvantage, the single best predictor of student learning and achievement within the school is the quality of the teacher (Hattie, 2008; Hanuschek and Rivkin, 2012). Teachers have more direct impact on student learning than structures, budgets, curricula, inspection or accountability systems, or governance, for example. Raising teachers' and leaders' professional capital will therefore be important to improving the performance of the Welsh school system overall.

Professional capital among teachers can be divided into three categories: human capital, social capital and decisional capital. "Human capital" refers to the quality of teachers' initial training and ongoing professional development; their skills, qualifications and professional knowledge. "Social capital" refers to the impact that teachers and other learning professionals have on each other through collaboration and professional learning communities. "Decisional capital" refers to the development of teachers' professional judgement and careers, especially as they reach the middle level. These three factors work in combination with the leadership capital of head teachers and other leaders to define the quality of the educational system as a whole.

The existing research on teachers' human capital indicates that teachers in high-performing school systems such as in Canada, Finland and many of the more economically prosperous countries of East and South East Asia, enjoy high status in society, have sufficient levels of pay that do not deter academically able people from entering the profession, and qualify for an all-graduate profession through a university-based programme that rigorously connects research with practical training (OECD, 2011; Tucker, 2011; Mourshed, Chijioke and Barber, 2010).

- *Professional status* is enhanced where there is a historical tradition of respect for teachers, as in cultures influenced by Confucian values in Asia. Teachers' status is also enhanced where they are seen as the stewards of the future of their country and its rising generations, following a major economic and social crisis – as in Finland, Singapore and South Korea in the 1990s (e.g. Sahlberg, 2011).

- *Establishment of sufficient pay* is important as it means members of the profession can concentrate on the issues core to their work. In Singapore, prospective teachers receive a monthly stipend that is competitive with the monthly salary for fresh graduates in other fields, for instance and must commit to teaching for at least three years (OECD, 2011).
- *Initial teacher training* is more likely to make a contribution to human capital when there are a relatively small number of teacher education institutions that can collaborate together and form close partnerships with governments and school systems. For instance there are just eight teacher education institutions in Finland, and the single National Institute of Education in Singapore. Teacher training is also enhanced in quality and status when it confers high quality Masters degrees (as in Finland).
- *Professional development* and training of teachers is most effective at developing their human capital when it is embedded in relation to practice, connected to core practices in teaching and learning, and happens continuously rather than episodically.

Box 3.1. Being a teacher in Finland: a sought-after profession

One of the factors used to explain Finnish success in education is the quality of its teachers. A reform at the end of the 1970s strengthened teacher education and made it highly selective. Teacher education moved from teachers' colleges into universities, and primary school teachers were required to have a Masters degree. At present, teacher education is provided by nine universities, of which eight have teacher training schools. According to selected evidence, only about 10% of candidates who apply to primary teaching courses are accepted. Applicants for teacher education must have passed the Finnish matriculation examination (or a foreign equivalent) or completed a three-year vocational education programme. The student selection process for primary teacher education involves two stages: 1) an examination to assess applicants' academic learning skills; and 2) a combination of written questions and aptitude tests to assess applicants' skills, motivation and commitment.

Primary school teachers major in education and they may specialise in teaching one or several subjects in their minor subject studies. Upper grade teachers major in specific subjects and do their pedagogical studies over a five-year programme or as a separate module after graduation.

With strong theoretical and practical content, teacher education is research-based, with the emphasis on developing pedagogical knowledge. Teachers are trained to adapt their teaching to the different learning needs and styles of students. There is also emphasis on the practical component, and teachers are required to have teaching practice at teacher training schools run by the university or at affiliated schools.

Other groups of teachers, such as pre-primary teachers and vocational teachers, are also required to have a tertiary education degree.

While teachers in Finland have always enjoyed respect in society, a combination of raising the bar for entry and granting teachers greater autonomy over their classrooms and working conditions than their peers enjoy elsewhere has helped to raise the status of the profession. Finnish teachers have earned the trust of parents and the wider society by demonstrating their capacity to use professional discretion and judgment in the way they manage their classrooms and respond to the challenge of helping virtually all students become successful learners.

Source: OECD (2013a), *Education Policy Outlook: Finland*, OECD Publishing, Paris; OECD (2011), *Lessons from PISA for the United States, Strong Performers and Successful Reformers in Education*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264096660-en>.

Increasing the quality of human capital among new entrants to the profession adds significant value to the quality and impact of teachers over time, but its effects will not be immediately apparent. It takes time for successive cohorts of entrants to accumulate a critical mass in the profession. This means that improving continuous professional development is particularly important in order to have an immediate

impact on the quality of teachers' human capital. It also shifts attention to other forms of capital that have a more immediate effect – especially social capital.

Social capital relates to the quality and impact that teachers and other educators have in combination with each other. In a large-scale study of the relative effects of human and social capital effects among a group of 5th grade teachers in New York City, Leana (2011) found that social capital has a larger effect than human capital on student achievement in mathematics, and that social capital added value to existing human capital, no matter what the initial level of human capital was. Elsewhere, researchers have found that high levels of trust and low levels of threat among teachers and between teachers and administrators have positive effects on student achievement by fostering collaboration among teachers, collective responsibility for results, and discussions of data to improve student learning (Bryk and Schneider, 2002; Daly, 2009; Datnow and Park, 2014). Social capital therefore adds value to human capital and is the most likely form of professional capital to have a positive impact on student learning in a relatively short time period (two to three years) on a significant scale.

Social capital can take a number of forms. For example, in Finland teachers collaborate with each other within and across their schools to design the curriculum within each municipality (Sahlberg, 2011). Another example is from Japan where there are highly structured processes for observing and commenting on colleagues' classes, known as "lesson study". As a result many Japanese teachers have focused on exploring problems of practice together, and schools in many other countries have been inspired to adopt similar practices (OECD, 2011).

Not all forms of social capital in education have proved productive for improving student learning or the quality of teaching. Professional learning communities, where teachers collaborate with each other, can be highly effective where they promote shared inquiry into problems of practice and collective responsibility for improvements and interventions that directly affect students' learning. But they can be ineffective if they are too vague and involve unfocused conversations where teachers simply discuss and share ideas and practices without evaluating and inquiring into them, and without any clear connection to improving practice. They are also ineffective if they are imposed under pressure, for example when teachers are under excessive pressure to produce short-term results in areas where they have no professional discretion to exercise their own judgments (Hargreaves and Fullan, 2012).

The third area of professional capital, decisional capital, is especially important during the middle stages of teachers' careers, ensuring teachers continue to feel they are being stretched and challenged throughout their professional lives. Again, there are a number of ways to improve decisional capital in the teaching force. For example:

- In Singapore, teachers do not progress simply by virtue of seniority or by taking on administrative responsibilities. Rather, they can choose different career paths that move them towards becoming master teachers, curriculum leaders or school principals. Every year they discuss with mentors their progression along these pathways, or consider whether they need to change track (OECD, 2011; Tucker, 2011).
- In the United States, highly accomplished teachers can apply for certification by the National Board for Professional Teaching Standards. Applicants undertake a rigorous process of peer review involving extensive and diverse forms of evidence in order to receive certification among the elite of America's teachers (National Board for Professional Teaching Standards, 2014).

Efforts to develop decisional capital over time among teachers appear to be less effective when they rely on the isolated use of top-down performance management systems that do not involve a range of criteria, and do not include a range of multiple observers and participants, especially respected and credible professional peers. Even when they are intended to provide support and development, hierarchical systems of performance management can easily become disconnected from knowledge of actual practice, find themselves caught between the competing purposes of administrative accountability and teacher development, and lose the trust of professionals either in the metrics being used or the in the people administering them.

Last, the quality of an educational system depends not only on the levels of professional capital among its teachers, but also on the levels of leadership capital that exist among head teachers, and other leaders throughout the system. Of all the in-school factors that impact on student achievement, leadership is the most important source of influence after teaching (Robinson, Hohepa and Lloyd, 2009). There is a trend among some policy initiatives to develop the ability of school leaders to exercise greater pedagogical or instructional leadership by being more directly involved in observing or undertaking the practice of instruction itself (which happens in smaller schools where heads also teach). However, school leaders have their greatest impact on student learning and achievement through how they interact with, focus, develop, motivate and mobilise the other adults in the school who work directly with students (Fullan, 2014). In other words, leadership capital has its greatest effect on students to the degree it can build professional capital among teachers and other staff. Several factors make this more likely.

In high-performing countries, high-level system leadership comprises leaders of proven expertise who are drawn from and sometimes return to the system that they lead (OECD, 2011). The system thus develops and circulates its own leaders and leadership primarily from within. High-level leaders also retain very close contact with schools. School leaders in Singapore, for example, have targets for the number of school visits they must make each year, requiring them to stay connected to and knowledgeable about the area that they lead.

Leaders and schools need to draw on and develop the power of social capital to circulate professional learning among themselves and to take collective responsibility for the success of many schools, including but not only their own. In this process of “leading from the middle”, school leaders are not separated from each other by indifference or competition, nor are they merely managers whose prime responsibility is to deliver government policy (Hargreaves and Braun, 2012). Rather, they share collective responsibility with other local and national leaders for the development of their teachers’ professional capital, and for improving student learning and achievement. Between 2002 and 2012, for instance, the London Borough of Hackney moved from being the lowest-performing local authority in England, to performing above the national average, in part by establishing federations of schools helping other schools that had been struggling within the borough (Fullan and Boyle, 2014; Hargreaves, Boyle and Harris, 2014). These federations were not imposed from the top, but developed through the participation of schools throughout the system – underlining the research insight that, like professional learning communities, federations that are either *laissez faire* or top-down in nature, tend to be ineffective (Hadfield and Chapman, 2009).

In high-performing systems, school leaders are not only the providers but also the recipients of high-quality professional development and certification, at the beginning and throughout their leadership careers. In Ontario, principals have to undertake a two-part principal certification programme that involves academic coursework and mentoring and coaching of a leadership project in practice, in order to get and keep a principal position.

High-performing organisations cannot and do not just depend on the leadership of one or two individuals. They develop and draw on the power of many leaders in processes of “distributed leadership”

that share leadership and responsibility for improvement throughout the organisation (OECD, 2013b; Pont et al., 2008). In schools, this means that heads of subject departments for example are not confined to ordering materials and organising course schedules, but become leaders of curriculum and pedagogical change who work in collaboration with other departments to share responsibility for all student success.

High-performing organisations are not only successful during the tenure of particular leaders, and they do not disrupt their improvement efforts by frequent changes of leadership, especially where they operate in very challenging circumstances. Over a decade ago, James et al. (2006) found that ten highly effective Welsh primary schools in very challenging circumstances achieved much of their success by having high stability of leadership and of other staff in communities that experienced many other kinds of instability. Alongside stability of leadership at every level, there also needs to be leadership sustainability. Efforts need to progress from one leader to the next and one stage to the next, rather than through wild swings of the pendulum where every leader undoes all the work of their immediate predecessors (Hargreaves and Fink, 2006). At the highest level of political leadership, many successful educational systems have very high political stability – Alberta has had the same government for 40 years and Singapore has had the same one since its foundation. In Finland, there is a commitment to an educational strategy that transcends political differences (OECD, 2011).

Building professional and leadership capital is no easy matter. It requires determination, persistence and consistency of will and administrative and political skill. Many things can derail the professional capital agenda. They include:

- cultures of excessively high threat and win-lose competition that undermine social capital;
- unclear or shifting visions that are not compelling and do not inspire high-quality people to join and progress within the profession;
- a lack of focus on building enough leadership capital from within;
- a focus that is either too narrow or too broad;
- insufficient time or support allowed for effective delivery and implementation;
- outdated career structures and rigid performance management procedures that fail to develop people's decisional capital;
- overloading of teachers with multiple reform demands that distract them from the core of teaching and learning, and produce frustration, burnout and an early exit from the profession.

Attracting and developing a teaching workforce with high-quality professional capital

The Welsh school system will only improve if it can attract high-quality human capital into the profession. Improving the quality of the teaching force is foremost among the recommendations of the recent review on *The Future Delivery of Educational Services in Wales* (Hill, 2013), which expressed the concern that too much teaching in Wales is adequate rather than good. Other sources, like the PISA data and Estyn inspection reports, lead to a similar conclusion. They also show that not all Welsh teachers possess the skills to adequately support students in their individual learning needs and equip them with core literacy and numeracy skills and beyond.

The evidence suggests Welsh schools are also facing some challenges in attracting sufficient numbers of qualified teachers to begin with, particularly in some subjects. PISA 2012 showed that 17% of principals in secondary schools reported that a lack of qualified mathematics teachers was hindering their school's capacity to provide instruction. For English teachers the figure was 10% (Wheater et al., 2013).

So what measures draw the best graduates into the profession and improve teacher quality? The DfES has already undertaken several initiatives to bring highly qualified graduates into the profession, such as the Graduate Teaching Programme, and Teach First, although questions remain about the proportions of these graduates who will stay with the teaching profession in the longer term. It has also developed a new Masters degree for newly qualified teachers.

Several high-performing countries, like Finland and Singapore, took a first step to raise the quality of the teaching profession by inspiring capable people to give their talents to the teaching profession. The *Review of Initial Teacher Training in Wales* (Tabberer, 2013) calls for the Welsh government “to do all in its power to affirm the status of the teaching profession”. Many very capable graduates will feel called to teaching when it is positioned as indispensable to the future of the society and the economy; to the generations of the future. Offering an uplifting vision of the Welsh learner and clarifying what this vision entails for the teaching profession and the education system at large will be a vital part of this effort to raise the quality of teachers and teaching.

Raising standards in literacy and numeracy is certainly a credible part of any vision, and professionals generally support the government’s introduction of the Literacy and Numeracy Framework. More broadly, though, there is little acknowledgement or articulation of the great questions that inspire success in high performing countries. Who will Welsh learners become? What knowledge and skills will they have that will contribute to a dynamic economy? How will they behave as national and global citizens? During the OECD review, the team found either an absence of such a vision, or recognition of its absence. Better teachers can be driven by a bigger vision in which they play a very significant part – and that must begin at the top.

Research evidence points towards the importance of having quality initial teacher training and clear profiles of what teachers are expected to know and be able to do at each level of education and in each subject as initial education shapes their teaching as well as influences their professional development (OECD, 2013b). Wales has begun to reform and improve initial teacher training over the past eight years and the evidence suggests it must continue to do so. In 2006, a report on teacher education in Wales recommended that the number of initial teacher training programmes and institutions should be reduced (Furlong et al., 2006). By the time of the Tabberer review on initial teacher training (2013), those programmes had been consolidated into three regional centres and the Open University in Wales which operates independently. This reflects international best practice of retaining initial teacher training in university-based programmes, and of consolidating the number of those programmes, so that changes in policy as well as the needs of local schools are addressed more effectively. However, while these conditions of having consolidated university-based programmes may be necessary for the improvement of human capital in teaching, they may not be sufficient.

The Tabberer report (2013) called for further improvements to be made to initial teacher training and indicated that if these were not made, there were other more than capable providers who would be ready to step in. The report’s recommendations included 1) faster implementation of a stronger management approach; 2) the creation of a senior position at the DfES with responsibility for initial teacher training development and reform; 3) stronger partnerships with local schools – especially those that demonstrated excellence; 4) tighter connections with regulatory bodies such as the DfES, Estyn and the General Teaching Council for Wales; 5) more alignment to approved standards and models of teaching; and

6) more incorporation of research. At the same time, the report conceded that schools were frequently reluctant to partner with initial teacher training institutions, and that any implementation plan for initial teacher training should be managed effectively in order to avoid overload.

The OECD review team visited two regional initial teacher training centres. They were clearly making a determined effort to change how initial teacher training operated and to raise standards of practice but on the ground, there were difficulties and dilemmas. For example, while the requirements to enter initial teacher training have been raised to a minimum of GCSE grade B in English and mathematics and student teachers are also assessed on their literacy and numeracy competencies during their studies, this has not attracted significantly more candidates who have demonstrable strengths in these areas.

Also, while many faculties would like to become more engaged in research and action-research with their student teachers as Tabberer recommended, most initial teacher training contracts meant faculty members were consumed with teaching responsibilities, leaving them with no flexibility to accommodate research.

Box 3.2. Initial teacher training reforms: examples from Norway and Singapore

In 2010 **Norway** introduced a new initial teacher training programme that differentiated the courses required to teach in years 1 to 7 (with specialisation in at least four school subjects) from those to teach in years 5 to 10 (with specialisation in three school subjects).

The new teacher training programmes have been introduced through the *National Guidelines for Differentiated Primary and Lower Secondary Teacher Education Programmes for Years 1-7 and Years 5-10* (Norwegian Ministry of Education and Research, 2010), designed to raise quality and help ensure a unified national structure in teacher education programmes for primary and lower secondary education. They include more practical training, more in-depth academic work in fewer subject areas, and new and expanded studies in education science, covering pedagogy and pupil-related skills.

The teacher training programmes are also research-based. They must be both implicitly and explicitly anchored in research. This entails the education programmes teaching about and engaging the students in scientific working methods, critical thinking and recognised, research-based knowledge. Research-based learning processes are to advance the students' independence, analytical skills and critical reflection so that they as teachers are able to make use of new knowledge and further develop both themselves, their profession and their place of work after completing their education. It also means that students are to be given an introduction to scientific theory and method and themselves carry out an independent and research-based assignment through their bachelor's thesis.

In 2009 **Singapore** embarked on a review of initial teacher training resulting in the National Institute of Education's new Teacher Education Model for the 21st Century (TE21). This new model seeks to enhance key elements of teacher education, including the underpinning philosophy, curriculum, desired outcomes for teachers and academic pathways. These are considered essential prerequisites to meet the challenges of the 21st century classroom.

The model is built around three sets of values: 1) learner-centred; 2) teacher identity; and 3) service to the profession and community. Learner-centred values puts the learner at the centre of the teachers' work, with teachers being aware of learner development and diversity, believing that all youths can learn, caring for the learner, striving for scholarship in content teaching, knowing how people learn best, and learning to design the best learning environment possible. Teacher identity values refer to having high standards and a strong drive to learn in view of the rapid changes in the education milieu, to be responsive to student needs. The values of service to the profession and community focuses on teachers' commitment to their profession through active collaborations and striving to become better practitioners to benefit the teaching community.

Box 3.2. Initial teacher training reforms: examples from Norway and Singapore (continued)

Many of the changes made under TE21 echo the initial teacher training reforms implemented other countries:

- clear standards for what teaching graduates should know and be able to do in each subject;
- accountability built into teacher-preparation programmes for ensuring that teachers have these competencies;
- more emphasis right from the start on guided practice for trainee teachers in classroom settings;
- more involvement by teacher-education institutions in mentoring new teachers in schools;
- giving trainee teachers a wider pedagogical repertoire, including co-operative and inquiry-based learning; greater capacity by teachers to incorporate ICT in all coursework;
- greater facility by teachers in using assessment of school children and data to guide instruction; a service learning requirement to promote understanding of local communities;
- teaching research skills to diagnose and solve classroom problems based on evidence.

Source: OECD (2013c), Education Policy Outlook: Norway, OECD Publishing, Paris; Norwegian Ministry of Education and Research (2010) National Guidelines for Differentiated Primary and Lower Secondary Teacher Education Programmes for Years 1–7 and Years 5–10: General Provisions, Norwegian Ministry of Education and Research, www.regjeringen.no/upload/KD/Vedlegg/UH/forskrifter/Guidelines_Differentiated_Teacher_Education.pdf; OECD (2012), Lessons from PISA for Japan, Strong Performers and Successful Reformers in Education, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264118539-en>.

In general, initial teacher training providers felt that the Welsh government showed insufficient involvement in and leadership of initial teacher training, in line with the findings of the Tabberer Report. The lack of status and recognition for teachers nationally meant that the providers had to cope with candidates entering training with low-level skills and find mechanisms to upgrade them. They were constantly having to find suitable places in schools for their student teachers. Moreover, as education faculty members whose contracts gave few or no opportunities for research, they felt they had little leverage to accelerate the pace of change in higher education institutions where the rate of change was slow.

The answer to these difficulties is not to open the market to other providers, however. This would likely create more fragmentation. The answers are more likely to be found in strategies such as encouraging trainee placements in the best-performing schools and building better links between senior DfES staff and initial teacher training institutions.

Several high-performing countries have raised initial teacher training to the level of a Masters degree as an essential precondition to raising the status of the profession and ensuring that the teaching workforce possessed the knowledge and skills to drive forward school improvement efforts. Finland, for example, is distinguished as a high educational performer, in part, because all its teachers possess Masters degrees based on research and practice (see Box 3.1; Barber et al., 2007). However, because of capacity constraints of initial teacher training institutions and also the cost implications, any decision to follow suit in Wales should not be rushed.

Wales has recently implemented a Masters in Educational Practice that shows potential for raising the status and qualifications of teachers. At present, the Masters programme is voluntary and only open to newly qualified teachers, but there are financial incentives for the first three cohorts participating. The teachers who were participating in the Masters programme reported to the review team the learning as professionally stimulating, although they sometimes had difficulty in connecting the written assignments and seminars with their existing practice. The course was also demanding to undertake while being fully engaged with starting a teaching career.

This programme is currently under evaluation. Some of those the OECD review team met pointed to the risk that the programme might become “a bucket” for professional development initiatives and modules, but it offers benefits. It communicates and enacts an underlying theory of professionalism that involves access to a knowledge base, independent and reflective thinking about practice, active engagement in inquiry, and involvement in networks of learning and support with other practitioners. At a time when other provision for continuous professional development is uneven, these emphases are important as they give clear signals to the sector of what should be aspired to. Furthermore, the programme could contribute to the development of the future leaders of the Welsh school system who can learn to join up the dots of the system and connect them to their own practice.

In general, while the costs of a fully comprehensive and inclusive Masters degree requirement may prove too high for the system, there seems good reason to continue with, review and extend the programme as a way to provide early career professional development (human capital), establish social capital through professional networks, and raise the status of teaching overall and thereby build future leadership capital.

Continuous professional development at all career stages

Transforming teaching does not just involve high-quality recruitment and initial teacher training; it also requires that those who are now teaching adapt to constantly changing demands (OECD, 2011). It is therefore essential to have high-quality provision of continuous professional development to keep adding to teachers’ knowledge and skills, and to develop their decisional capital to be able to use these higher levels of knowledge and skills with different students and in different contexts.

Until recently most of the continuous professional development in the Welsh school system has consisted of optional courses and episodic training. This pattern of provision is still common in many countries but has not proved effective at improving practice (Hill, 2013).

The policy makers, school leaders, teachers and union representatives with whom the OECD review team spoke pointed to the importance of connecting continuous professional development to the implementation of the national priorities in literacy and numeracy. The evidence suggests there is scope to strengthen this connection. In PISA 2012, for example, head teachers reported that on average one in four (24.7%) mathematics teachers in their school had attended a programme of professional development with a focus on mathematics during the previous three months. This is considerably below the OECD average of 39.6% (OECD, 2013b). Estyn found that training for school staff on how to teach numeracy to all students remains underdeveloped and also that very few schools plan any training on alleviating the effects of poverty on individual learners for whom disadvantage creates barriers to learning (Estyn, 2014). Estyn also found that collaboration among colleagues and across departments, which facilitates the building of social capital, remains very limited (Estyn, 2013). Our review team’s discussions with head teachers and teachers support these findings. They mentioned the dire need for strengthening the provision of high-quality professional development opportunities for teachers, but also for support staff

(see Chapter 2), and ensuring these are connected to examples of existing good practice, and that teachers and support staff have the opportunity to practise with colleagues in their everyday work.

Effective continuous professional development and implementation of the Literacy and Numeracy Framework may also require judgments about sequencing. To implement the framework requires teachers to learn three new things: new content in literacy, new content in numeracy, and new pedagogical strategies for effective differentiated teaching in particular. For a primary teacher, these three areas of learning affect all their teaching, almost all of the time, all at once. There is increasing evidence that this is simply too much. For example, in Ontario, the effort to implement the Literacy and Numeracy Strategy in practice meant that while great gains were made in literacy, the other half of the strategy (numeracy) did not get implemented to any great extent and in recent years results in numeracy have actually fallen (OECD, 2010, 2014). Wales should learn from this experience.

Emerging efforts to reform and revitalise continuous professional development are being enhanced by the establishment of the HwB project, a technology platform where teachers can access continuous development online, including from each other. This platform can form part of a strong portfolio of continuous development offered to Welsh teachers, but it should not be regarded as a low-cost alternative to investing in effective face-to-face continuous professional development among teachers that is closely connected to their own classroom practice. Instead it should be a key component in the larger continuous professional development strategy.

One of the more promising reform strategies to support school improvement and effective continuous professional development in Wales has been the commitment to creating professional learning communities in and across schools. This strategy, which commenced in 2009, foresaw the initial training for school teams in developing professional learning communities (Harris and Jones, 2010; Stoll and Louis, 2009). The professional learning community model is founded on having teachers of different levels and areas of focus working together to inquire into and improve practice with a view to having a positive effect on student outcomes (Harris and Jones, 2013; Jones and Harris, 2013). DfES is aware of the fact that collaboration and trust among professionals cannot be established instantaneously and the OECD review team heard comments that the professional learning communities required time to embed into practice. This will be more likely if resourcing is not confined only to initial training in and start-up of professional learning communities but also to the time and support required for their continued operation (see Box 3.3 for an example).

Box 3.3. Investing in continuous professional development in Alberta, Canada

For more than 12 years, the Canadian province of Alberta – a high performer on PISA – earmarked 2% of its education budget to the Alberta Initiative for School Improvement (AISI). Through this initiative, teachers in 95% of the province's schools were engaged in designing and then evaluating their own innovations in teaching and learning. The project was supported and initiated by the provincial government and the teachers union – the Alberta Teachers' Association – together. Teachers had to share the results of what they had learned with other schools locally and nationally as a condition of involvement.

Many schools used the AISI budget to purchase teachers' time to spend with other teachers inquiring into practice together. In the later years of AISI, many of the projects focused specifically on building professional learning communities. In AISI, the time and expectation for teachers to collaborate together on improving professional practice was resourced on a continuous basis so that it became an integral part of the work of teaching and of the definition of what it meant to be a professional.

Source: Hargreaves et al. (2009), *The Learning Mosaic: A Multiple Perspectives Review of the Alberta Initiative for School Improvement (AISI)*, Alberta Education, Edmonton.

Professional learning communities are potentially one of the most powerful strategies for developing social capital among teachers in schools (see for example Little, 2002; Vieluf et al., 2012). The successful embedding of continuing professional learning communities is partly a matter of resourcing. In many cases, it may also be a matter of focus, ensuring that professional learning communities are related to improvement priorities such as literacy and numeracy or formative assessments. The challenge for Wales would be to align the professional learning communities more closely with system priorities – not through bureaucratically imposing a purpose and focus on all professional learning communities, but through developing constant interaction among all leaders in the system, focused on improving student learning. Support for professional learning communities in Wales needs to be embedded into how the system operates with a focus on reform priorities and developing excellence in teaching.

Streamlining and resourcing school-to-school collaboration

One of the most effective options for developing professional capital and especially social capital among teachers and leaders is through school-to-school collaboration and assistance. School-to-school collaboration provides the means of circulating knowledge and strategies around the system; it provides an alternative way of supporting struggling schools to that of exercising top-down intervention; and it develops collective responsibility among all schools for all students' success. DfES is supportive of developing an effective school-to-school strategy and has commenced several different ways of addressing how to do this. These include:

- “Families” of schools were created in 2010 for a period of three years by grouping schools according to whether the language used in the school is mainly English or Welsh and their score on an “index of challenge”. The families have recently been revisited (September 2013). Schools are expected to set ambitious targets for school improvement based on their performance against other schools in the family who they should contact to share good practice and seek advice.
- The Lead and Emerging Practitioner Schools project matches a strongly performing primary or secondary school (the Lead Practitioner School) with a weaker performing school that has already started its improvement journey (the Emerging Practitioner School). This new pilot project aims to benefit both parties through the development and sharing of best practice and information.
- School federation is a more formal way of extending collaboration and promoting closer working relationships and collaboration between schools. Currently, school governing bodies can federate using the process set out by the government.

In addition, school leaders and teachers collaborate on their own initiative with peers in similar kinds of schools locally e.g. Welsh language schools or schools in the same town.

DfES and others face two sets of challenges in developing more effective school-to-school collaboration, challenges of implementation and of design. In terms of implementation issues, several difficulties were raised.

The establishment of school-to-school collaboration has partially been crisis-driven, to avoid closure or intervention in a high-challenge environment that affects a few schools, rather than being driven by learning and improvement in a way that applies to and benefits many schools. This is important because not all the students who encounter disadvantage or underperform are in schools where the majority of their peers are performing poorly. Most schools can give or would benefit from assistance for some students in some areas, but a model that concentrates on overall levels of poor performance cannot support these wider groups of schools.

Hill (2013) noted that school-to-school collaboration was in its very preliminary stages, and senior staff at the DfES argued that these networks, partnerships and federations needed to be evaluated more stringently so their use could be more precise. In line with this, DfES has indicated that the 18 month Lead and Emerging Practitioner pilot project, which started in May 2013, will be fully evaluated both during and at the end of the period, following which a decision will be made about the nature and extent of future provision.

The DfES and others have considered the London Challenge model¹ of school-to-school federations as one that might work in the larger communities in Wales. However, some of those interviewed were concerned that it was harder to implement a similar model in Wales, because it is beginning “from a different starting place than England” and doesn’t “have sufficient schools to do that who are outstanding in sufficient number”. According to Estyn in the school year 2012-13 only one in about seven primary and secondary schools was of “excellent standard”, the same as the year before (Estyn, 2014), and they are not evenly spread out over the country.

Several school leaders and teachers we met also shared their frustrations with the recently announced new family groupings. Some schools that had created well-developed relationships and joint work with other members of the family over the last three years, suddenly found themselves in different families so were then expected to look towards other schools for collaboration and advice. With new groupings emerging every three years there is the risk of a loss in momentum in school-to-school collaborations. DfES may want to look into this issue.

The second challenge of developing school-to-school collaboration seems to be limited awareness of the different models available as well as their relative success. Most references are to the London Challenge which falls within the experience of several senior members of the DfES. However, the London Challenge, for its successes, is an urban model based in an international city that is able to draw on the high capacity of local resources including businesses, universities, arts organisations and so forth. Perhaps for these reasons, the other Challenges in England (Black Country and Greater Manchester) have not had the same measure of success as the London Challenge (Hutchings et al., 2012). There are other models of federating in England and internationally that may be more suited to town-based or even rural environments.

There are also many examples of school-to-school working outside England – in Austria, Canada, Finland and Singapore, for example – that could also be benchmarked and considered by the DfES, so that it can create a “made-in Wales” strategy for school-to-school working that is not transplanted directly from any other context (and therefore vulnerable to rejection by the host). The Austrian New Secondary School reform for example is a good example of a strategy that is operating at the micro (school), meso and macro (system) levels. It is working on innovating learning through change agents, teacher learning leaders (*Lerndesigners*), creating conditions for them to network together, and is aimed at helping to drive the system-wide reform. The strategy lies in qualifying teachers to become teacher-leaders, thereby enabling them and their schools to realise effective shared leadership. The rationale for creating and qualifying and networking change agents was clear and focused: transformation at all levels occurs when change agents are networked and establish communities of practice (OECD, 2013b) (see Box 3.4).

Box 3.4. Examples of networked school-to-school collaboration

In 2005, the *Raising Achievement/Transforming Learning* project was established in **England** to promote school-to-school assistance among secondary schools that had experienced a drop in measured performance in student achievement over one to two years. Three hundred schools joined the network and two-thirds of them improved performance at double the rate of the national average within two years. The strategies contributing to this success included convening all the schools at a common conference where they realised they were all in it together and facing a significant common challenge; offering storefront presentations from many higher-performing schools with similar kinds of students; providing each school with an annual budget of GBP 9 000 to spend on improvement, including selecting and working with partner schools; publishing a set of experienced-based strategies for improvement that could yield short-term, mid-term and long-term success; and creating an online portal for schools to share their ideas and interventions with each other.

The **Austrian New Secondary School** reform started as a relatively small scale project in 2008 with 67 pilot schools and has since been a mandated school reform, which will be completed in phases by 2018. Central to the reform is the creation of a new leadership position at the school level, the "Lerndesigner", a teacher-leader who, together with the school's principal and other teacher-leaders (subject co-ordinators, school development teams, etc.) serve as change agents in their schools, driven by the principle of school-specific reform and focused on the national reform goals of equity and excellence.

Much effort is placed on the building of social and leadership capital through networking events which play a central role in the reform as they provide the venue for learning, peer learning and dissemination of good practice. A specially designed two-year national accredited qualification programme for *Lerndesigners* and an online platform for the sharing of ideas and practices form an integrated part of the reform's continuous professional development and leadership development efforts.

Source: Hargreaves and Shirley (2012), *The Global Fourth Way: The Quest for Educational Excellence*, Corwin Press, Thousand Oaks, CA; OECD (2013b), *Leadership for 21st Century Learning*, Educational Research and Innovation, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264205406-en>.

Treating the development of leadership capital as a prime driver of reform

Too often, in too many systems, leadership is the afterthought of educational reform (Hargreaves and Shirley, 2009). Real reform requires sustained attention from many people at all levels of the education system. It is not enough for a state or national government to be fully committed, difficult as this is in itself (Levin, 2012). Achieving system-wide transformation requires all those within the system to communicate and connect, to drive change forward and to align their efforts (Harris, 2011). It depends on the capacity and active co-operation from leaders across the system – from local to national level, whether appointed or elected – and on having the kinds of systems that engage and link people to create synergy and a sense of common purpose. Both have a huge multiplier effect on capacity to implement change. Strong leadership capital however does not just emerge; it must be developed and cultivated. Leadership recruitment and development must be a key part of any successful improvement strategy (Pont et al., 2009).

Commenting on the recruitment and development of leaders in the Welsh school system, one DfES staff member noted that “too many times, we wait until it’s too late”. The staff member added that the government instead needs to be “proactive rather than reactive” to identify and develop its leaders, but was “not there yet” in its reform. Our analysis points to the same conclusions.

One of the most telling indicators of a nation’s belief in its own educational leaders is whether and how far those leaders are represented at the highest levels of system leadership in the executive branch of government. High-performing systems draw extensively on their internal leadership capital because they

have confidence in the success of their efforts to invest in and develop leadership capital at every level of the system, and therefore have a great deal to draw on in making high-level leadership appointments (Box 3.5; OECD, 2011). DfES should continue treating leadership as a prime driver of the education reform, and to sustain it, strive to identify the (potential) leadership capital within the system and make sustained investments to grow it at all levels of that system. But this is easier said than done. It was for example acknowledged that, apart from Estyn, there was currently insufficient information, either in hard data or just in the relationships and interactions that the DfES had with leaders in the system, to know with confidence where the current leadership strengths of the Welsh system resided.

Box 3.5. Building leadership capital from within the system

When the London Borough of Hackney attempted to lift itself from being the lowest-performing school district in England, it began by trying to appoint outstanding heads who had successfully turned around schools in challenging circumstances in other parts of the country. Despite the prior success of these heads, many of the appointments proved to be unsuccessful as the heads knew little about Hackney, or about the particular nature of the challenges the authority faced. They also had no platform of trust and relationships with Hackney families and the Hackney community on which they could build their efforts. So instead, Hackney turned to its own future leaders. It identified coached and mentored emerging leaders from early on in their teaching careers and moved them up, with strong support, to assume increasing levels of responsibility.

As the Learning Trust in charge of these changes developed Hackney's own leadership capital, it was then able to draw on this capital to create strong helping relationships and federations among Hackney schools which further boosted achievement across the whole system. In other words, Hackney achieved extraordinary success by investing in, growing and circulating much of its own leadership capital.

Source: Hargreaves, Boyle and Harris (2014), *Uplifting Leadership: How Organizations, Teams and Communities Raise Performance*, Jossey-Bass, San Francisco; Fullan and Boyle (2014), *Big-City School Reforms: Lessons from London, Toronto and New York*, Teachers College Press, New York.

In general, our analysis concurs with the findings of Hill (2013) – especially in terms of its diagnoses of current difficulties, and largely, though not completely, in terms of its recommendations. The difficulties and challenges are:

- Insufficient priority has been assigned to a robust national leadership development strategy, with an associated lack of resources and support.
- Current initiatives in leadership development are fragmented and episodic.
- Teachers have no clear pathways for leadership development throughout their career.
- There are few programmes for existing head teachers.
- Leaders have limited opportunities to work with and learn from their peers.
- There is too much reliance on performance management as the driver to improve leadership.
- There is a misplaced reliance on a high challenge strategy that is not matched by commensurate support.

DfES staff were keen to emphasise that most of these issues were now under review or that changes were already underway. These included the establishment in 2011 of the National Professional Qualification for Headship (NPQH), a mandatory Welsh qualification for new head teachers; the creation

of the National Leadership Development Board in 2013 – an advisory body on leadership development directions; initiating pilot projects for head teacher collaboration; convening regional focus groups to discuss leadership needs; bringing together newly appointed heads to share ideas and strategies; and establishing a coherent Leadership Development Pathway that will support and develop leaders at every stage of their career. Indeed, there is a commitment to implement most of the recommendations from the Hill report that covered school leadership. And other than individual qualifications, leadership development opportunities do exist and are valued where effective school-to-school professional learning communities are in operation, and where school leaders participate in the work of Estyn inspection teams. But it is important that initiatives, whether existing or new, form part of a coherent strategy to develop and support school leadership, rather than remaining standalone initiatives.

We echo the findings of the Hill report that call for better career and leadership development pathways for teachers and school leaders. This means more than having a qualifications framework but includes essential elements like mentoring and other professional development, for example as in Singapore (OECD, 2011; Tucker, 2011).

Effective leadership development is a right and also a responsibility in a system where all schools, especially those serving the most disadvantaged students and families, need to be well led. Leadership development already figures prominently in the *Improving Schools Plan*. Along with the newly created National Leadership Development Board, this can inspire, inform and support leaders within a national leadership development strategy, but any strategy needs to be properly resourced rather than simply appealing to head teachers to prioritise their own development. The National Leadership Development Board might be one forum that could advise on the allocation and targeting of additional resources. The existence of leadership standards and accreditation criteria can also serve to prioritise the allocation of time and resources for leaders' own development.

Box 3.6. An example on “leading from the middle” from Ontario

Ontario's leadership strategy focuses on attracting good candidates to posts and preparing and supporting them to improve the quality of instruction.

- Within the strategy, a leadership framework has been defined to provide five key domains that can be adapted to context: 1) setting direction; 2) building relationships and developing people; 3) developing the organisation; 4) leading the instructional programme; and 5) securing accountability. These are well understood by all actors, adapted to local contexts as needed, used in a new principal appraisal system, and used for training and development. There are many examples of school boards and schools that have adapted the framework to their needs.
- The requirements to become a principal are high, demonstrating the high calibre they are looking for. Potential candidates need to have an undergraduate degree, five years of teaching experience, certification by school level (primary, junior, intermediate, senior), two specialist or Honour specialist additional qualifications (areas of teaching expertise) or a Masters degree, and have completed of the Principal's Qualification Program (PQP). This is offered by Ontario universities, teachers' federations (unions) and principals' associations, and consists of a 125-hour programme with a practicum.
- There is an overt effort towards leadership succession planning in school boards, in order to get the right people prepared and into the system. Therefore, the process starts before there is a vacancy to be filled.

Box 3.6. An example on “leading from the middle” from Ontario (continued)

- Mentoring is available during the first two years of practice (for principals, vice-principals, supervisory officers and directors).
- A new performance appraisal model for leaders focused on results has been introduced. In the Principal/Vice-Principal Performance Appraisal (PPA) model, principals set goals focused on student achievement and well-being in a five-year cycle. They are also required to maintain an annual growth plan which is reviewed in collaboration with the supervisor annually.

Source: OECD (2010), “OECD-Harvard Seminar for Leaders in Education Reform in Mexico: School Management and Education Reform in Ontario” (*Seminario OCDE-Harvard para líderes en reformas educativas en México: gestión escolar y reforma escolar en Ontario*), OECD Publishing, Paris, www.oecd.org/edu/calidadeducativa.

Many of the Welsh educators and DfES staff with whom we spoke mentioned the emergence of a high-challenge strategy throughout the system as a way to increase standards and effectiveness. Challenge or pressure is part of many change strategies. But the exertion of challenge without adequate support implies that poor performance results from lack of commitment, focus or effort. The consequences are widely documented, resulting in high-stakes systems where performance objectives lack credibility and where leaders exert a lot of energy on gaming the system in order to produce the required results (Daly, 2009).

By contrast, the province of Ontario in Canada (see Box 3.6) successfully combined the challenge to improve with the support leaders need to become collectively involved in promoting student success, and to improve their leadership skills together by participating in common professional development retreats and by accessing leadership expertise from other schools (Sharratt and Fullan, 2009). Through this reform, educational attainment has improved and long-term professional capacity has been built across all levels of the education system (OECD, 2011).

The perception among Welsh school leaders at the moment is that they are under increasing pressure to improve but have insufficient specific developmental support, in the form of training, mentoring and/or networking to enable them to meet the challenge. Instead of using the challenge of performance management as a prime driver of change, DfES should look towards investing in and growing its own leadership capital so that increasingly, across schools and local authorities, it is more and more able to “lead from the middle”.

Policy options

The following policy options can help the Welsh government to meet the recommendation to build professional capital throughout the system and cultivate a strong culture of collective responsibility for improved learning and achievement for all students.

Policy option 1: Raise the status of the profession and commit to initial teacher training

The Welsh government has placed the improvement of the teacher quality at the centre of its reform agenda. Attracting and developing high-quality human capital in the profession will be essential to realising its reform objectives and moving the system forwards towards educational excellence. For this, DfES should take the following measures:

First, the Welsh government should focus its attention on **raising the status of the teaching profession**. A vital part of this effort should be the development of a compelling vision of the Welsh learner that draws the most capable people into the profession and motivates them towards achieving it. In addition to current efforts to raise the requirements of entry into initial teacher training, actions to raise the status of the teaching profession can include campaigns to strengthen the perception of the profession, in addition to further actions below to strengthen their professional capital.

Second, **continue with the Masters in Educational Practice and gradually extend the programme** to a larger cohort of new teachers. The programme should be reviewed on a regular basis, among other things, to ensure its quality. In the longer term, DfES should consider moving towards raising all initial teacher training to the level of a Masters degree.

Third, **continue with the ongoing reform and improvement of initial teacher training**, including the implementation of a stronger management approach. DfES should create a senior position with responsibility for initial teacher training development, reform and quality control. There should be stronger partnerships with local schools, especially those have demonstrated excellence, and tighter connections with regulatory bodies such as DfES, Estyn and the General Teaching Council for Wales. Initial teacher training should be more aligned with approved standards and models of teaching, and should incorporate more research. Initial teacher training faculty contracts will need to be amended to ensure they have the necessary flexibility and opportunity to conduct research.

More concretely, DfES could:

- Identify schools with excellent performance and reward them for taking groups of initial teacher training students, as a development opportunity for both parties.
- Strengthen the communication and relationships between the leadership of initial teacher training institution and DfES senior staff to ensure alignment with policy priorities and their implementation. In time, exchanges of staff between initial teacher training institutions and DfES could be considered to further strengthen relationships and collaboration.

Policy option 2: Ensure quality continuous professional development at all career stages

For schools to improve, it is essential that teachers continuously develop and add value to their teaching knowledge and skills to best respond to the learning needs of different students in different contexts. A clear challenge to improving the professional capital of Welsh teachers is the limited availability of high-quality continuous professional development opportunities.

DfES should work with schools, initial teacher training institutions, and school improvement services **to strengthen the provision of high-quality professional development opportunities**, ensuring they are aligned with the national education priorities. Efforts should be made to ensure that continuous professional development is close to practice and that there are professional development opportunities at different stages of the teaching career in Wales. This may require a concerted effort to design learning opportunities and to ensure their quality.

To ensure effective continuous professional development and implementation of the Literacy and Numeracy Framework, the Welsh government should consider **sequencing in the learning of new content in literacy, in numeracy and the new pedagogy that it requires**. For example, teachers and support staff might first learn new content in numeracy (or literacy) plus improved teaching strategies in general, followed by literacy (or numeracy) in a shorter period of time once general capabilities in

teaching have been increased. Sequencing continuous professional development efforts in this way may allow for greater coherence in the overall reform strategy, while taking into account the capacity of teachers and support staff to learn and implement new things (see also Chapter 5). This should be at the heart of the school improvement services that are currently being built at the regional consortium level.

DfES, schools, local authorities, regional consortia and other stakeholders should **support professional learning communities and networked school-to-school collaboration**, making sure they are well resourced and form a key component in the larger continuous professional development strategy of the education reform (see also Policy option 3). It is essential that professional development opportunities are connected to examples of existing good practice, and that teachers have the opportunity to practise with and learn from colleagues in their everyday work. Professional learning communities and networked school-to-school collaboration are excellent vehicles for making this happen.

Policy option 3: Streamline and resource school-to-school collaboration

School-to-school working is in its early stages of development, has been under resourced, and has been largely top-down and lacked focus. Research shows these are not the ideal conditions for establishing thriving school-to-school collaboration. There also seems to be limited awareness of the different approaches to school-to-school working that are available.

As part of the Welsh education reform, Wales should **develop and implement a Welsh strategy for school-to-school collaboration** by considering and evaluating a range of successful international examples. It should ensure the resources and create the conditions to make this possible (this could be achieved in part by reallocating central resources and personnel for this purpose). Instead of assigning schools to helping partners under conditions that are challenging or in the middle of a crisis, it should create an architecture where schools are able to select appropriate partners and given the incentives to do so in an atmosphere of transparency, awareness and support. In other words, the conditions should be developed so that school-to-school collaboration can be led from the middle rather than having to be imposed from the top.

In addition, the school-to-school collaboration strategy should be integrated with other continuous professional development strategies to ensure they form a coherent whole aimed at building professional capital across the Welsh school system.

Policy option 4: Continue to focus on developing the system's leadership capital

DfES, schools, local authorities, consortia and other stakeholders should **treat leadership capital development, at all levels of the system, as a prime driver of education reform**. For this to happen we echo the findings of the Hill report (2013) and call for better career and leadership development pathways for teachers and school leaders. This involves more than having a qualifications framework but includes essential elements like mentoring and other professional development. The NPQH should be a clear stepping stone to headship and every individual working towards NPQH qualification should be provided with a leadership coach as this is one of the proven strategies of effective leadership development. The recent creation of the National Leadership Development Board can inspire, inform and support leaders, and drive **a coherent national leadership development strategy** that includes the promotion of new school leadership development programmes.

To treat leadership development as a prime driver of reform will require either additional resources, or reallocation of existing resources and a clear and targeted strategy rather than a general appeal to head teachers to change their own priorities. Resources for leaders to help themselves to be more effective in leading those around them could include: purchasing time to work in partnership with other leaders in

other schools around common problems of practice; or to have access to a mentor or coach; or to take time to engage with new leadership and change strategies that will serve the school's students more effectively. These resource strategies can be achieved in a number of ways – by pooling a portion of the grants to groups of schools working to uplift each other, or by earmarking a portion of grants for leadership development purposes throughout the school.

To support long-term leadership sustainability, instead of using the challenge of performance management to drive change, the system should also invest in developing its own leadership capital from within and across its own schools, local authorities and regional bodies so that it should increasingly be able to “lead school improvement from the middle”.

NOTES

- 1 The London Challenge school improvement programme was established in 2003 to improve outcomes in low-performing secondary schools in the capital. Primary schools were included in the scheme from 2008. The programme uses independent, experienced education experts, known as London Challenge advisers, to identify need and broker support for underperforming schools. The advisers are supported by a small administrative team based in the Department for Education (DfE) (www.ofsted.gov.uk/resources/london-challenge).

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CHAPTER 4.

STRENGTHENING ASSESSMENT AND EVALUATION

This chapter reviews the strengths and challenges of the Welsh school systems' assessment and evaluation arrangements. DfES has both strengthened its existing assessment and evaluation processes in the education system, and introduced new components that have made it data rich. There are now processes at each level of the system including students, teachers, leaders, schools, local authorities, regional consortia and the national system itself. Both existing and new components are designed to meet both accountability and improvement purposes. Yet, the assessment and evaluation arrangements lack coherence and synergy. The Welsh government needs to ensure that the move towards a more high-stakes environment does not limit learning opportunities; tackle the lack of alignment between professional teacher and leadership standards and national education objectives; create a clearer synergy between its different school evaluation systems; and develop its assessment and evaluation capacity.

Wales should develop a coherent assessment and evaluation framework to promote improvement across all levels of the system that effectively weaves together student assessment, professional appraisal, and school and system-level evaluation. We propose four concrete policy options: 1) ensure that student assessments support the learning of all students and are aligned to national education objectives; 2) simplify professional standards aligned to a vision of a Welsh teacher and leader; 3) build consistent school evaluation processes that support school improvement planning; and 4) strengthen evaluation and assessment competencies at all levels of the system, including the national research capacity.

Recommendation: Develop a coherent assessment and evaluation framework

Recommendation: Develop a coherent assessment and evaluation framework to promote improvement across all levels of the system that effectively weaves student assessment, professional appraisal, school, and system-level evaluation.

As part of its reform efforts, Wales has both strengthened existing assessment and evaluation processes in the education system, and introduced new components. There are assessment processes at each level of the system: students, teachers, leaders, schools, local authorities, regional consortia and the national system itself. Both existing and new components are designed to meet accountability and improvement purposes. The challenge now is to take a wider system view and develop an overarching assessment and evaluation framework that develops and relates the separate components in ways that meet three main purposes:

- Bring coherence and synergies between assessment and evaluation processes at each level (students, teachers, leaders, schools, local authorities and nationally) and across the system.
- Check that the assessment and evaluation processes identify and address developmental needs at all levels in ways that contribute to the wider goal of achieving a world class education system that promotes the success of Welsh students.
- Provide all stakeholders with information about progress towards these goals.

In relation to the first two purposes, the evidence, including that from our review visit, suggests that some of the assessment and evaluation components in Wales have synergies with one another and also meet the second purpose of addressing developmental needs in ways that contribute to wider education goals. For example, evidence of student learning forms the basis of all other system-level evaluations, helping to keep the focus on what matters. However, other assessment components may not be aligned with one another and have had some unintended consequences in relation to the improvement of the Welsh education system. For example, at the level of school evaluations, there are two different external school evaluations for secondary schools, i.e. school banding and Estyn's school evaluations. These sometimes deliver very different evaluations of the performance of a particular school. School banding has received some criticism with some seeing it merely as a tool for ranking schools against one another (Hill, 2013).

A wide range of policy measures have reconfirmed Wales' policy focus on literacy and numeracy, but this may have had the unintended consequence that Welsh schools and teachers have narrowed their focus to the tested subjects. It will be a challenge for the Welsh government and other stakeholders to minimise such unwanted side effects.

A coherent assessment and evaluation framework can generate synergies between the different components, prevent duplication and inconsistency of objectives and contribute to school improvement. There seems scope for better aligning Wales' education priorities to the evaluation and assessment framework. In particular, although an important objective is to reduce the impact of deprivation on student performance, there are no national targets or benchmarks for this and thus schools may not monitor it.

It is not easy to develop a coherent assessment and evaluation system to understand how the education system is delivering on its objectives while providing information for improvement. Research evidence shows that a major limiting factor in developing comprehensive assessment and evaluation frameworks is the level of competencies throughout education systems to carry out these evaluations (OECD, 2013a). There is increasing awareness that technical competencies need to be accompanied by the

development of evaluative thinking at each level that infuses inquiry into the meaning of different sources of evidence for making decisions at all levels of the system (Earl and Timperley, 2008). The evidence suggests that both technical skills and evaluative thinking for assessment need further development in Wales.

Further, most assessment and evaluation frameworks have both accountability and improvement as their primary purposes but creating the right balance between these elements is challenging. Prior to the reforms, the balance in Wales, as described to the review team, was one of high trust. Assessment and evaluation systems were used primarily for developmental purposes with little accountability. The pendulum has now swung to greater accountability with formative assessments and evaluations becoming overshadowed at times by higher stakes assessments and greater public scrutiny. As accountability functions increase, there is also an increased risk of distortions (Linn, 2000; OECD, 2013a) which could render the information less useful for making decisions about student or system performance.

This chapter reviews the Welsh school system's assessment and evaluation arrangements to provide policy options to ensure more coherence and improvement across students, schools and strategic system monitoring and evaluation. It draws on examples from relevant and top-performing education systems, in particular those that are known for their high quality and equity as this is an aspiration for Wales. It needs to be emphasised that within the OECD there is no single model or best practice encompassing a coherent assessment and evaluation framework because they always needs to take into account country-specific context and features of the education system (OECD, 2013a). Nevertheless, some lessons can be drawn from research and international best practices to fit the Welsh context.

Student assessment for Welsh learners' success

Assessment is a process that helps focus the attention of students, parents, teachers, school leaders and policy makers on what matters most in an education system: the learning. Assessment of students is essential to measure their individual progress and performance and plan further steps for improvement of teaching and learning (OECD, 2013a). As discussed in Chapter 2, the two most widely recognised assessment purposes are summative and formative, sometimes referred to as “assessment *of* learning” and “assessment *for* learning”.

With the recently initiated reforms, Wales has moved towards more summative, higher-stakes assessments as its earlier formative approach did not appear to support the improvement of the school system sufficiently. Such higher-stakes summative assessments do not have to be at odds with formative assessment, but international research shows that “there is a risk that pressures for summative scores may undermine effective formative assessment practices in the classroom ... Such tensions between formative and summative assessment need to be recognised and addressed” (OECD, 2013a, p. 215). A large and expanding body of research shows the benefits of formative assessment on student learning (see e.g. Black and William, 1998; Popham, 2011), and there is a risk that this shift in balance in Wales could prevent the country from moving towards having a high-quality, high-equity education system. It is therefore essential for Wales to ensure that there is complementarity and a balanced use of formative and summative assessments that supports and scaffolds student learning.

The need to build formative assessment capacity in Wales

The 2008 National Curriculum emphasises the use of assessment for learning, i.e. formative assessment and the research clearly points towards its benefits for students' learning. The question therefore arises why the emphasis on formative assessment did not result in improvements in student performance. Research evidence suggests the success of formative assessment very much depends on its effective implementation which is usually highly variable even when there is broad policy support and

teachers are willing, engaged and trained (James et al., 2007). The international literature allows us to identify a number of key implementation issues which may reduce its effectiveness:

- A weak understanding of formative assessment by teachers particularly in relation to the involvement of students in the process and provision of limited feedback and information to students about next learning steps (Swaffield, 2008; Wiliam, 2010).
- Strategies which are inadequate to elicit evidence of student learning related to goals, at the appropriate level of detail to shape subsequent instruction (Heritage, 2010; Herman et al., 2010).
- Logistical barriers to making formative assessment a regular part of teaching practice, such as large classes, extensive curriculum requirements, and the difficulty of meeting diverse and challenging student needs (Looney, 2011).
- Approaches to professional development that are inconsistent with formative assessment principles, such as “telling teachers” how to do formative assessment instead of engaging them through formative assessment of their own practice (Timperley, 2013).

Box 4.1. Formative assessment and concrete support for teachers

In **Canada**, many school districts offer professional development opportunities for teachers to improve their skills and knowledge of assessment/evaluation mechanisms. For example, over the past two years in particular, there has been a strong emphasis on Assessment for Learning practices in Nova Scotia schools. To that end, there was a provincial assessment summit in 2009 and several boards then hosted their own Assessment Summits in 2010. The South Shore Regional School Board in Nova Scotia hosted a two day event in September 2010. Assessment for Learning has been a board priority in its Educational Business Plan and it remains so today. A website on assessment has been designed for teachers providing a multi-media workshop on the full scope of assessment knowledge, skills and applications ([South Shore Regional School Board, undated](#)).

In **Ireland**, the National Council for Curriculum and Assessment (NCCA) has contributed to the development of expertise in formative assessment through its curriculum development projects with schools. As part of its work with groups of teachers in its Primary School Network, the NCCA explores how formative assessment approaches can be implemented in Irish classrooms. The NCCA has also designed materials to support teachers and schools in expanding their assessment toolkit. Its Assessment for Learning website includes multi-media support and materials such as classroom video footage and samples of children’s work with teacher commentary. There are also reflection tools and checklists to support individual teachers and whole school staffs in reviewing current assessment practice.

In **Norway**, schools have a statutory requirement to implement assessment for learning. To support teachers in fulfilling the requirements for formative assessment, the Directorate for Education and Training created a website on assessment for learning providing a range of materials and tools including questions for reflection, films, assessment tools and literature, and also examples of different ways to document formative assessment practice. At the same time, there has been a developing awareness that teachers have not traditionally received training in formative assessment and that there was very little expertise available nationally for school leaders to draw on to provide support. To address this, the Ministry of Education and Research and the Directorate for Education and Training identified formative assessment as a priority area for education policy and professional development and launched a range of support programmes and learning networks at the regional, local and school level. For example, the Assessment for Learning programme (2010-14) is organised in learning networks at the local and regional level, where practitioners can exchange experience and create spaces for common reflection on effective practice. Participating municipalities and counties employ a formative assessment contact person to assist in running the project locally. These contact persons attend Assessment for Learning workshops run by the Directorate. The programme also provides online resources including tools and videos on how to enact effective formative assessment in the classroom.

Source: Fournier and Mildon (forthcoming), *OECD Review on Evaluation and Assessment Frameworks for Improving School Outcomes: Country Background Report for Canada*, prepared for The Council of Ministers of Education, Canada (CMEC), OECD Publishing, Paris; Irish Department of Education and Skills (2012), *OECD Review on Evaluation and Assessment Frameworks for Improving School Outcomes: Country Background Report for Ireland*, OECD, www.oecd.org/edu/evaluationpolicy; Nusche et al. (2011a), *OECD Reviews of Evaluation and Assessment in Education: Norway*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264117006-en>.

The evidence suggests there are capacity issues in Welsh schools. According to Estyn (2014) the most common recommendation in inspection reports is about the need to improve assessment, with nearly 40% of schools inspected having this as a significant area for improvement. Even in schools with good inspection outcomes overall, assessment is frequently identified as a shortcoming. This is often to do with the quality of teachers' marking and the degree to which students understand and respond to it. Schools are developing assessment practices that involve children more directly in "assessment for learning", but this approach remains underdeveloped in many schools (Estyn, 2013). Further, at the pre-primary level assessments vary despite a national baseline profile for teachers to assess children on entry to the Foundation Phase. While some teachers describe the child's actions, others assess the skills the child has achieved (Estyn, 2013b; Hill, 2013). In primary education, assessments also vary and it is unclear whether teachers have the capacity to be consistent and accurate when assessing a student (Hill, 2013; Estyn, 2013b; ACER, 2013). In Key Stage 4, numeracy assessments were found to be used to group students by ability rather than for improvement (Estyn, 2011).

The new National Reading and Numeracy Tests have been introduced to measure learning but also to inform the learning of students. They will provide schools with Individual Student Reports that are aimed to help teachers better respond to the individual learning needs of their students. For this to happen, however, teachers need the capacity to implement and use these assessments formatively, which is an area for improvement for Welsh teachers.

Aligning student assessments with education objectives

Effective assessment and evaluation arrangements should align with, serve and advance educational and student learning objectives (OECD, 2013a). To help schools focus their improvement efforts, DfES introduced the National Reading and Numeracy Tests that are used to assess all students' reading and numeracy skills in Years 2 to Years 9 annually. These tests provide data on student performance and enrich the information on students' performance in the Welsh school system, gathered through the statutory teacher assessments at the end of the Foundation Phase and Key Stages 2 and 3.

DfES also monitors the percentage of students leaving Key Stage 4 with Level 2, including in English/Welsh and mathematics (see Box 1.2). In line with its education objectives to improve students' performance in literacy and numeracy, it has set the target of 65% of students reaching Key Stage 4 with Level 2 by 2015. Monitoring this student-level data can help DfES and others track progress and provide additional support to low-performing schools.

The evidence shows, however, that if teachers and schools are judged largely on results of standardised tests, it may result in narrowing the curriculum as they focus on the skills that are tested and give less attention to students' wider developmental and educational needs (OECD, 2013a; Lucas and Claxton, 2009; European Commission, 2011; Pepper, 2011). Although the literacy and numeracy strategy in Wales has tried to counter this by providing materials to show how literacy and numeracy can be taught across the curriculum, there is a danger that reading and numeracy, as assessed, will become the default curriculum, rather than the broader learning goals of the National Curriculum and Skills Framework.

This tension is apparent for students in Year 2, at the end of the Foundation Phase. The Foundation Phase curriculum emphasises opportunities to explore the world, learning by doing, understanding how things work and finding different ways to solve problems. The accompanying Skills Framework outlines the importance of developing thinking with an emphasis on metacognition, developing a range of communication skills and ICT across the curriculum, all in developmentally appropriate ways (Welsh Government, 2008). The question needs to be asked if the introduction of pencil and paper tests in

reading and numeracy at the end of this phase runs counter to the curriculum's emphasis and whether it is inclusive of all students. Are students with special education needs able to demonstrate their knowledge on these tests and if not, do they become invisible? It is too early to say if these have become issues in Wales, but there is some indication they are, and international evidence suggests that it is likely. The question to be answered is whether the possible unintended consequences of shifts in the balance to higher stakes testing are being explicitly monitored.

There are also possible unintended consequences deriving from Wales' current education objectives and targets. Wales has stated two key education targets in 2013: being a top-20 performer on PISA on reading in 2015 and 65% of students reaching Key Stage 4 with Level 2 by 2015. While such targets can provide tangible aspirations within an education system, they can also unintentionally limit aspirations in parts of the system that are not the focus of the objectives. For example, schools may tend to focus on children just below the system's threshold for proficiency ("bubble kids") so they can meet school-level targets, leaving other groups out (Hargreaves and Shirley, 2009). Wales risks having schools focus on improving the performance of those students who, with some additional support, will be able to raise their performance, instead of on improving the performance of all students. Very low performers, which often include a considerable proportion of disadvantaged students, may be among those left out. This stands at odds with the government's other reform objective, to reduce the impact of deprivation on student performance. Furthermore, this objective does not have a concrete target.

In addition to having one or more targets that aim to establish a basic level of performance for all students, Wales could consider setting specific targets for low-achieving students. Several EU countries have done this, including Ireland, which has set two targets on the basis of PISA: 1) increase the percentage of 15-year-old students performing at or above Level 4 in PISA literacy and numeracy tests by at least five percentage points by 2020; and 2) halve the percentage of 15-year-old students performing at or below Level 1 in PISA reading literacy and numeracy tests by 2020 (Breakspear, 2012).

It is also important to ensure that education objectives are not too narrowly defined and interpreted. Successful systems recognise that objectives should be broad and inclusive (OECD, 2010). There is increasing recognition that the monitoring of student outcomes must extend beyond knowledge and skills in key subject areas and include broader learning outcomes, such as students' critical thinking skills, social competencies, engagement with learning and overall well-being. These may sometimes be difficult to assess but several countries have shown it to be possible for measuring system progress. In Finland, for example, "learning to learn" skills are considered to be central to each student's development. To evaluate and promote the importance of such skills, national sample-based assessments were developed by the Centre of Educational Assessment at the University of Helsinki to evaluate the "learning to learn" skills of students in Years 3, 6 and 9 of compulsory education (OECD, 2013a). Box 4.2 provides another such example from Singapore.

Box 4.2. Assessment of “broader” student learning outcomes in Singapore

The “Thinking Schools” curriculum in **Singapore** explicitly focuses on creativity and independent problem-solving. Approximately 12 000 students are assessed annually with the task requirements centrally set by the Singapore Examinations and Assessment Board. The tasks are defined in such a way as to allow students to carry out a project of their own interest while meeting the following task requirements: 1) the project must foster collaborative learning through group work; 2) every student must make an oral presentation; and 3) both product and process are assessed. There are three assessment components: a written report, an oral presentation and a group project file to which each group member submits three documents related to snapshots of the processes involved in the project. Teachers assess the work but their marking is externally moderated. Issues of reliability are also addressed through extensive training on the assessment guidelines that contain assessment rubrics to clarify learning expectations together with assessment criteria and exemplar material that illustrate the expected marking standards. The Board provides training for assessors and internal moderators.

Source: Darling-Hammond (2010), *Draft White Paper 5: Policy Frameworks for New Assessments*, ATCS (Assessment and Teaching of 21st Century Skills), <http://atc21s.org/wp-content/uploads/2011/11/5-Policy-Framework.pdf>, cited in OECD (2013a), *Synergies for Better Learning: An International Perspective on Evaluation and Assessment*, OECD Reviews of Evaluation and Assessment in Education, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264190658-en>.

The ongoing review of the curriculum may indicate the need to include the development of broader skills beyond literacy and numeracy, including those already introduced with the Skills Framework. DfES may want to consider adding one or more objectives and targets over the longer term that capture students’ performance on these broader skills.

Professional appraisal for development of social capital

Evidence on the direct impact of leader and teacher appraisal on improved outcomes for students is mixed. One of the most comprehensive reviews of the international research by Isoré (2009) found that effective appraisal systems can impact positively on outcomes for students through influencing teacher attitudes and practice. Positive outcomes are more likely when appraisal is linked to development. Negative outcomes are more likely when strong accountability functions have taken over and a climate of tension and fear become evident (O’Day, 2002; Klinger, Shulha and DeLuca, 2008).

The current appraisal approach in Wales follows a performance management system of review, planning and monitoring (Welsh Government, 2012b, 2012c). It has a strong developmental focus, rules out being part of any disciplinary or dismissal procedures, and specifies the use of teacher interviews and at least one classroom observation during the appraisal cycle.

The OECD report *Synergies for Better Learning* (2013a) identified additional attributes of effective professional appraisal, two of which are particularly relevant to Wales. One important attribute is that appraisal has a clear purpose within national education priorities and links the appraisal to improvement in line with these priorities. Clarity is usually achieved through a teacher professional profile or professional standards aligned across different career stages as a continuum for professional learning and career advancement. A second attribute is the importance of regular appraisal for the purpose of building professional capital at the school level.

National educational priorities and professional standards

One difficulty with the current leader and teacher standards on which appraisal is based in Wales is the number of standards and their discrete descriptors. Their large number makes it difficult to define what

should be prioritised in terms of Wales' national education priorities or link them to an improvement agenda. Leaders with significant teaching responsibility are expected to meet both sets of standards, professional and leadership (Welsh Government, 2011):

- For teachers, there are 55 professional standards covering the three domains of professional values and attributes, professional knowledge and understanding, and professional skills.
- For leaders there are 66 leadership standards including the broad domains of creating strategic direction, leading teaching and learning, developing and working with others, managing the school, securing accountability, and strengthening community focus.

The remainder of this section will be framed in terms of the teaching standards, but the points apply equally to the leadership standards.

Standards often proliferate when educational jurisdictions attempt to cover everything, rather than having a coherent image of what it means to be a teaching professional underpinning the standards. Just as a vision of the Welsh learner should underpin student assessments, a vision of the Welsh teacher needs to underpin the teaching standards and their related assessments. Such a vision would provide a coherent framework in which to situate the standards. One example of such a vision is that recently proposed by Timperley (2012) for the New Zealand Ministry of Education of teachers as adaptive experts (Hatano and Inagaki, 1986; Hatano and Oura, 2003; Soslau, 2012). In essence, adaptive experts are focused on the moral imperative of promoting the engagement, learning and well-being of each learner. They actively seek deep knowledge about both the content of what is taught and how to teach it effectively for their learners, know how to apply this knowledge in their practice, and constantly seek evidence about the impact of their teaching on learners and adjust it accordingly.

This image of teachers has a strong inquiry base for improvement purposes, which is an explicit aim of Wales' performance management system (Welsh Government, 2012c). Multiple fragmented and relatively static standards have been criticised internationally as being reductionist and not fostering inquiry (Delandshere and Arens, 2001). One way to promote the image of teachers as adaptive experts through more holistic inquiry-based standards is provided by Aitken, Sinnema and Meyer (2012). Their model structures the teaching and learning process around six "inquiry elements" that include deciding on learning priorities, deciding on teaching strategies, enacting teaching strategies, examining impact, deciding on and actioning professional learning priorities, and critiquing the education system. These inquiries are informed by sets of "resources", aimed at strengthening the quality of inquiry and practice. These resources include education research, a range of competencies and dispositions, ethical principles, and commitment to social justice.

Effective appraisal systems also align professional standards with different career stages, according to the OECD (2013a). This was raised in the interviews with initial teacher training providers and resonates with the findings of Tabberer (2013) in his review of initial teacher training provision in Wales. Tabberer recommended the development of coherent standards for induction and for progress in the first three to five years of teaching. The logical extension of these standards would be to include some for more experienced teachers because they also have need for clarity around career advancement and professional learning opportunities.

The Australian Institute for Teaching and School Leadership has recently developed sets of standards defining developmental progressions for teachers across the career stages of graduate, proficient, highly accomplished and lead teacher. Professional teaching bodies were actively engaged in developing the standards and their continued engagement is encouraged by inviting teachers to post illustrations of

particular standards at a particular career stage on the website. A performance and development framework promotes links between the standards, appraisal processes and professional development (AITSL, 2012a). An example of one of the standards across career progressions is illustrated in Box 4.3.

Wales has a strong developmental focus for its appraisal and performance management system. The *Practice, Review and Development Process* explicitly integrates performance management and continuing professional development (Welsh Government, 2012c). The appraisal and development process can form a key element for creating a learning climate throughout schools where professional learning becomes part of a school's culture that is focused on designing and implementing the most effective learning environment for students. While a strong developmental focus is encouraged through this process, the limited professional learning opportunities in certain areas noted in Chapters 2 and 3 may limit the developmental potential of the appraisals.

Box 4.3. Teacher standards for professional development in Australia

The teacher standards for professional development in Australia use four career stages (Graduate, Proficient, Highly Accomplished and Lead) to provide benchmarks to recognise the professional growth of teachers throughout their careers. The descriptors across the four career stages represent increasing levels of knowledge, practice and professional engagement for teachers. Progression through the stages describes a growing understanding, applied with increasing sophistication across a broader and more complex range of situations. For example in the first standard, "Know students and how they learn", in the focus area of physical, social and intellectual development and characteristics of students, the following standards are identified:

- *Graduate* - demonstrate knowledge and understanding of the physical, social and intellectual development and characteristics of students and how these may affect learning.
- *Proficient* - use teaching strategies based on knowledge of students' physical, social and intellectual development and characteristics to improve student learning.
- *Highly Accomplished* - select from a flexible and effective repertoire of teaching strategies to suit the physical, social and intellectual development and characteristics of students.
- *Lead* - lead colleagues to select and develop teaching strategies to improve student learning using knowledge of the physical, social and intellectual development and characteristics of students.

Source: AITSL (2012b), "Standard 1: Know students and how they learn", AITSL website, www.teacherstandards.aitsl.edu.au/DomainOfTeaching/ProfessionalKnowledge/Standards/1.

An additional issue currently being addressed by the DfES is the inclusion of support staff in the performance management system. Support staff account for a large share of the school workforce and are an essential part of the professional capital of the system. Given the high proportion of support staff, clearer articulation of expectations around their roles, in the form of standards, and inclusion in the performance management system, has the potential to positively impact on their performance and their systematic professional development.

School evaluation for improvement purposes

The international trend towards the devolution of responsibility for education to schools has resulted in a corresponding emphasis on school evaluation to serve the purposes of both accountability and improvement. Evidence for the direct impact of school evaluation on improved outcomes for students is limited. There is stronger evidence for an indirect positive impact when external evaluation promotes and complements internal self-evaluation systems, when it is focused on the quality of teaching and learning

rather than compliance with regulations, and when it is accompanied with appropriate developmental opportunities. These approaches to evaluation consider both school performance and the capacity of the school to improve (OECD, 2013a).

Wales has two parallel systems for external school evaluation. Estyn is responsible for school inspection. Its common inspection framework and the associated processes are well informed by other systems internationally and the framework broadly meets the criteria for effective external review. The external inspection deliberately supports and builds on internal self-evaluation systems with many of the review criteria focused on the quality of teaching and learning. Individual school reports by Estyn begin with an evaluation of both current performance and prospects for improvement. Where schools are evaluated as needing to improve, follow-up monitoring inspections take place to check on progress, but it is beyond the brief of Estyn to have a specific capacity-building function at the school level.

DfES has a parallel external school evaluation system for secondary schools, the “school banding” system, which is designed to provide data on system improvement on an annual basis. Its primary purpose is to monitor if the reform agenda is on track, to challenge low expectations and to identify the schools where immediate support and improvement is needed in the rapidly changing landscape of the Welsh education system. Devising this kind of monitoring system is more challenging and involves developing processes that provide data to both schools and the system on a more regular basis, and is not too time consuming for individual schools, while capitalising on the benefits of complementing internal self-evaluation with external evaluation.

The DfES evaluation process combines a number of available indicators, such as attendance rates, GCSE results, relative improvement and the proportion of students on Free School Meal entitlements, into a school banding system at secondary level. Each year, the analysis of these indicators is used to designate schools into five different bands, with “band 1” being the highest and “band 5” the lowest. The intention underpinning this banding system is to move away from simplistic achievement measures and prevent the associated negative labelling of schools facing challenging socio-economic circumstances, although in reality, schools in low socio-economic areas are over-represented in the lowest bands. The banding information is used by the DfES to target resources to lower performing schools (bands 4 and 5) and to put statistically similar schools into families of schools so they can work together on their improvement strategies. The use of a ranking system means that for every school that moves to a different band another school must also move, even if their performance is unchanged. A similar banding system is proposed for primary schools in 2014 (Welsh Government, 2014).

While the intention of the banding system is both to introduce greater accountability and to target resources (Welsh Government, 2014), it has also had some negative unintended consequences. These include issues concerning the perceived fairness of the analysis process and the speed of the expected improvements; and the development of inter-school competitiveness when using ranked rather than criterion-based evaluations.

The Hill Report (2013) noted that some schools found the approach to school banding confusing. Some of the school leaders the OECD review team spoke to reported being confused about the basis of the analysis underpinning the banding system with associated feelings of being victims of a process they did not fully understand. Others were more critical of the calculation method and the frequency with which it occurred.

The international research is helpful in identifying how national monitoring systems can be useful to schools and the DfES to understand system and school performance, and may help to challenge low expectations in those schools falling below the accepted benchmarks, and ultimately motivate schools to

improve. Research in The Netherlands (Ehren and Visscher, 2008) and in England (Matthews and Sammons, 2004) both identified similar sets of conditions which lead to improvement. These included:

- Evaluation criteria set clear expectations for school quality.
- Information and judgements are perceived to be fair with weak points and improvement strategies agreed by evaluators and schools.
- Expectations are established that schools will follow-up on identified weak points and evaluator feedback.
- Results are shared with stakeholders.
- Schools have the leadership capacity to act on the changes.
- Practical external assistance is available to help schools develop the capacity to use the information internally for improvement purposes.

More of these conditions were met by the Estyn inspection framework than by the school banding system, although the school banding system did meet some of them. There is an expectation that schools will follow through with their schools development plans. The information is shared with stakeholders through the “My Local School” website. This website received an award from the Royal Statistical Society in 2013 for public-sector presentation and communication. It provides a variety of both contextual and performance information over a range of indicators and allows visitors to compare schools nationally and with statistically similar schools. This type of comparison is common internationally, for example in Australia which has a “My School” website (www.myschool.edu.au).

The school banding system however does not set clear expectations for school quality, nor are the information and judgements always perceived to be fair. It places schools into five categories, while Estyn places them into four categories (excellent, good, adequate and inadequate), using different measures. These differences sometimes result in very different evaluative judgements about a school’s performance and fails to provide schools with clear expectations of quality. This may not be helpful for guiding schools’ improvement efforts and, as our discussions with school leaders suggest, have a demotivating effect on the profession.

Some of the main difficulties may lie in the limited understanding by schools about the criteria used for evaluation. The perceptions of unfairness may be because they may not fully understand the mix of factors that go into a particular banding designation (Hill, 2013). The volatility of a school’s placement in a given band from one year to another may contribute to a perception of arbitrariness. Thus, while the banding process may have introduced greater accountability (Welsh Government, 2014), the condition of having clear criteria and the perception of fairness may not be met. To meet these conditions, the categorisation of schools would need to be transparently assessed in terms of the agreed criteria for school quality, with schools having a clear understanding of the criteria and indicators used to assess whether they meet them.

School banding may also have the unintended consequence of discouraging school-to-school collaboration, a practice that DfES has keenly promoted through a range of measures for several years. Wales has two major strategies to develop the social capital underperforming schools need. The first is to draw on the support of other more effective schools, and the second is to draw on the support of the regional consortia. Both rely on high levels of trust and expertise, while the banding process and published

results have created issues of trust. The system of placing schools in categories relative to each other, rather than in terms of overall standards using transparent criteria, has introduced a strong element of competitiveness between schools. Considerable movement between bands occurred at every measurement point and for every school that moves up a band, another must move down.

DfES may consider revising the school banding system, including its calculation method, and ensure that the revised process for identifying school quality is consistent with the idea that every school should be able to develop into an excellent school. This means creating transparency in terms of mutually agreed criteria for school quality and stepping away from the approach of banding schools in relation to each other. Stakeholders would need to know why they were in a given band in terms of the criteria used and in which areas they need to improve. The timeframes may also need to be more realistic, i.e. longer, given that volatility within annual cycles is to be expected (Hargreaves and Shirley, 2011). Also, some schools are likely to need more than one year to make sustainable improvements in the performance of their students.

Creating greater synergy between the criteria and processes used by Estyn and the DfES may help to develop greater transparency and trust in the process of school evaluation. This could mean using similar frameworks, with similar language, criteria and evidence.

Capacity and support to respond to external school evaluations

The issues of trust and co-operation relate to two other conditions under which school evaluations lead to improvement (Ehren and Visscher, 2008; Matthews and Sammons, 2004): leadership capacity to improve and the availability of external practical assistance. High-performing leaders and schools usually have the capacity to respond to data and feedback they understand and perceive as fair, while other leaders and schools may be less prepared to respond constructively to negative data without highly skilled assistance (Matthews and Sammons, 2004). If these schools had the capacity to improve, they would have done so. In reality, they are more likely to try to “game” the system and create perceptions of improvement through such strategies as teaching to tests and improving on discrete indicators rather than those reflecting deeper quality, while not actually having an impact on teaching and learning (Koretz, 2010). Perie and Park (2007) emphasise the importance of evaluating whether system-wide accountability supports high-quality instruction and improvement, or simply results in the appearance that improvement is happening.

The availability of practical high-quality school improvement services is currently underdeveloped in Wales. Measures are however being taken to address the difficulties by strengthening the regional consortia which have taken over the school improvement function from local authorities in 2012. Providing the appropriate blend of support and challenge to underperforming schools, however, is a highly skilled task that many in the international arena have failed to achieve. Without a strong research base and intensive training, those involved are likely to fall back on personal preferences and perceptions (Timperley et al., 2008).

Relying on the skills of effective leaders of other schools can also have variable outcomes unless there is genuine sharing of effective practice and high levels of trust have been established. Mujis, West and Ainscow (2010) found in their analysis of such situations in England that without these conditions such pairings may in fact result in resentment and lack of co-operation. Strong external support may be needed to make the partnerships work. If the crucial link between school evaluation and school improvement is to be forged, then the appointment and training of highly skilled staff who are able to provide effective support, and who actively seek and use the rapidly developing research base on schooling improvement will be needed (see also Chapter 3).

Strategic system-level monitoring and evaluation

Like school-level evaluation, there is an international trend towards evidence-informed system monitoring for improvement purposes. Monitoring of education indicators is part of a movement towards wider public sector accountability as governments shift their focus from financial inputs and processes to outputs and outcomes, with the public demanding that decisions, investments and actions are based on evidence (Campbell and Levin, 2009). Evaluation at the system level provides the opportunity for education systems to monitor the extent to which progress is being made on the goals for the system. It is central to informing policy planning for improvement. The evidence used for system monitoring typically brings together data from international surveys, such as PISA, with qualitative and quantitative data from different levels within the system, particularly those related to student outcomes and school evaluations (Campbell and Levin, 2009; Hopkins et al., 2008).

System-level monitoring in Wales is similar to that of other OECD countries. Assessment and evaluation focuses on students and also includes external school evaluation, appraisal of teachers and school leaders, and performance data. In the majority of OECD countries national assessment tests are an important component in the assessment and evaluation framework and are mostly used to monitor the quality of education at the system and/or school level. These can be administered to full cohorts, where each student in the given school year is tested (with exceptions only for certain students as defined nationally, typically those with severe cognitive disabilities, but also students in isolated communities). Alternatively samples of students/schools are assessed, i.e. the assessment is administered in a selection of schools with students in the given school year (OECD, 2013a).

Some systems have chosen to administer only sample-based assessments, including some of the highest-performing education systems like Finland, the Flemish Community of Belgium and the Netherlands (OECD, 2013a). These sample-based tests provide similar high-quality information as full cohort tests and have some advantages in terms of their lower costs. Over time, they can offer other advantages such as avoiding distortions of results derived from “teaching to the test”, and may allow for a broader coverage of the curriculum (Green and Oates, 2009). While sample-based assessments may be better if the primary goal is to provide information for system evaluation and related policy making, they cannot be used to identify all schools’ performance (Greaney and Kelleghan, 2008).

Some systems combine full cohort assessments with sample-based assessments (e.g. Australia, England, Israel and Mexico). Several of the best-performing or improving education systems only have national assessments in a small number of years. Poland for example conducts a full cohort national assessment only for Year 6 students. Scotland, the highest performer on PISA 2012 among UK countries, has none.

Wales at present only uses full cohort assessments, the National Reading and Numeracy Tests, to assess students’ performance and through this inform DfES, schools and other stakeholders on the performance of the system and Welsh schools. The tests provide schools with data to inform and support teaching and learning, and also are meant to help identify and provide schools with additional support. DfES implements these tests in Year 2 to Year 9, a total of eight years. None of the 28 OECD countries that have participated in a recent review of evaluation and assessment systems conducts full cohort assessments in so many years (OECD, 2013a). Questions may therefore be asked as to whether so many assessments are needed. While Wales aims to use the assessment data for informing schools about students by providing schools with Individual Student Reports, time will have to show whether these assessments are useful for improving student performance.

Wales also participates in international surveys like PISA to provide a comparative perspective on the quality and equity of its school system and Wales is not alone in identifying PISA as an important system indicator. In 2007, the PISA governing board commissioned a study to evaluate the impact of PISA results in participating countries. This study found policy makers used PISA extensively to monitor and evaluate both performance and equity of the education system. The impact of PISA on policy was particularly marked in countries with relatively low performance on the test with many introducing policy initiatives as a direct consequence of their PISA profiles (Hopkins et al., 2008). A recent analysis on the issue by Breakspear (2012) supports these findings.

In Wales, DfES collects and uses a range of other quantitative and qualitative data for system monitoring supported by its research programme. In addition to the National Reading and Numeracy Tests, quantitative data is typically provided by schools, local authorities and the DfES own statistics. Both quantitative and qualitative evidence is provided by other statutory bodies, such as Estyn. In recent years DfES has also commissioned a large number of reviews of different aspects of the system (see Chapter 5). These review reports are carefully analysed, formal responses generated, and actions are taken when appropriate.

As with any system monitoring, challenges arise. Examples of challenges recognised by the DfES include the quality of the teacher assessments data included in the All Wales Data Sets and different approaches by consortia to school monitoring. Additional challenges identified by the review team outlined in earlier sections include the need for:

- Aligning and bringing coherence in all assessment and evaluation arrangements to make sure they promote the country's education objectives.
- Ensuring student assessment practices support the vision of the Welsh learner and do not unintentionally limit learning opportunities.
- Ensuring professional appraisal systems are aligned with national education priorities, and are based on standards underpinned by a professional vision and support professional development across career stages.
- Developing greater synergy between school evaluation systems and constructing them in ways that contribute to school self-evaluation and development for better student outcomes with appropriate support.

Two further challenges have been identified specific to system monitoring and evaluation. The first is to ensure that the data used at the system level provides evidence of real progress towards the achievement of national objectives. Concerns have been raised throughout this chapter about the distorting effects of high-stakes assessment and evaluation whether at the student, professional or school level. There is considerable international evidence that what is tested, particularly in a high-stakes environment, is likely to become what is attended to (Linn, 2000; OECD, 2013a). Apart from the potential issues of undermining the intent of the curriculum and constraining teaching and learning practices, this also potentially limits the usefulness of these data for system monitoring. For example, school leaders described to the OECD review team how some schools provided opportunities for students to practice the National Reading and Numeracy Tests before sitting them formally. Do improvements in test scores and school evaluations under these circumstances accurately reflect improvements in student performance, or do they more accurately reflect improved test-taking skills?

Data at any level of the system needs to be fit for purpose and while it may appear to be efficient to use one data set for multiple purposes at different system levels, there are inevitable compromises. The important issue is that these compromises are understood and the limitations of particular data for particular purposes are known by those analysing, interpreting and using them for decision making (Linn, 2000). As far as possible policy makers, professionals and the public should be included.

The second challenge is the development of independent measurement, evaluation and research capacity to promote robust system monitoring and development, as is done in other OECD countries with high-quality, high-equity education systems. DfES has commissioned a large number of independent reviews on different attributes of the education system to guide it in its reform efforts. The issue identified by the OECD review team is that the theoretical and evidential basis for some of these reviews and their recommendations is not always transparent. In many cases, the evidence comes from a mix of stakeholder views in Wales with recommendations shaped by the experience of the reviewers in the countries in which they practice. These opinions appear to be variably influenced by wider international research.

These challenges are not unique to Wales. A recent study by the OECD (2013a) found that these challenges are found in a number of jurisdictions and it therefore emphasises the need for objectivity and credibility of an independent body. An autonomous national agency or some mix of agencies with responsibility for education system monitoring and evaluation that has the necessary distance from political decision making can serve an important role in providing rigorous and independent analyses. These kinds of agencies can confront the education authorities where necessary and be impartial in their conclusions about the education system. They can provide a fresh and constructive external point of view informing the national debate (OECD, 2013a).

Many countries with high-quality, high-equity education systems have strong research and evaluation capacity located in a mix of government-based research institutes and university-based centres. The Netherlands, for example, benefits from its research infrastructure to support educational policy and practice. Its longstanding, independent Education Council advises the government on matters of education policy and law. In 2008 it established the Top Institute for Evidence Based Education Research (TIER) which is an inter-university Top Institute that conducts research in the field of evidence-based education (see Box 4.4). These are two examples of the sort of high-quality research institutions the Dutch government can call upon for high-quality, independent research and assessment expertise.

Box 4.4. Research infrastructure to support policy and practice in the Netherlands

The Top Institute for Evidence Based Education Research (TIER) is an inter-university Top Institute that conducts research in the field of evidence based education. The Top Institute has three partners: the University of Amsterdam, Maastricht University and the University of Groningen.

The aim of TIER is to conduct excellent scientific research and to put the results of this research at the services of (and make usable for) educational practice and educational policy. It wants to develop knowledge of "evidence-based education" that can be used by: 1) the Ministry of Education, Culture and Science in policy preparation and evaluation; 2) the educational practice - such as educational institutions - in the allocation of means and in decision making when choosing between educational theories; and 3) parents and students when choosing a school or training.

The institute has four areas of focus: 1) development and assessment of effective educational interventions; 2) exploration of the societal context of education, with a central emphasis on societal facets of education and on the relationship between education and the labour market; 3) creation of a portal connecting the academic research world and the policy world of the Ministry of Education, Culture and Science and 4) development – in consultation with field professionals – of a Teacher Academy to facilitate the transfer of research findings to teachers in primary, secondary and higher education.

These four focus areas cover the entire spectrum of life-long learning, from preschool education through primary, secondary, vocational and higher education to continuing education and professional training.

Source: TIER (undated), (Top Institute for Evidence Based Education Research), www.tierweb.nl.

Research also shows that countries use a variety of mechanisms to ensure the work is informed by and informs priority policy goals, such as high-level committees involving a range of stakeholders making decisions about evaluation in priority areas and contracting research evaluations (OECD, 2013a).

In light of the above, DfES may consider further developing the research and evaluation capacity in Wales, possibly by investing in a national body with specialist expertise in the area or through the universities of Wales. This would also allow for the further development of statistical, analytical and research competencies and skills within Wales with the potential for such a body to develop capacity at school-, local- and regional levels to assist them in interpreting and using data to promote system objectives and ultimately improve the learning of students.

Policy options

The following policy options can help the Welsh government to develop a coherent assessment and evaluation framework to promote improvement across all levels of the system that effectively weaves together student assessment, professional appraisal, school, and system level evaluation.

To achieve its full potential the various components of an assessment and evaluation framework should form a coherent whole. Such a framework would clarify the synergies between particular levels within the system (student, teacher, leader, local authorities, regional consortia and DfES), making it clear how evidence at one level (e.g. student assessment) feeds into other levels (e.g. school evaluation). A coherent framework would help to ensure that system elements are mutually reinforcing and allow each element to be assessed in terms of its contribution to achieving the national objectives.

To promote learning towards a common vision, the framework must be underpinned by a strong system goal or vision with which everyone can identify. The review team proposes that this system goal is

based on a shared vision of the Welsh learner. Such a framework would also identify a range of indicators to give all players in the system (students, parents, teachers, leaders, local authorities and national bodies) information about progress towards the national goal. To achieve the goal, several issues in relation to assessment and evaluation would need to be addressed at all system levels.

Policy option 1: Ensure student assessments support learning for all and align to national objectives

As part of its reform effort, Wales has both strengthened existing assessment and evaluation processes in the education system, and introduced new components. One of the most prominent changes is the introduction of the National Reading and Numeracy Tests to assess the full cohort of students in Years 2 to Year 9 annually. The test outcomes provide formative data to teachers about their students' progress and achievement against the Literacy and Numeracy Frameworks. They are also used alongside other national data to make judgements about schools' performance for accountability purposes, thus creating a high-stakes environment for teachers and schools. In many countries using test results for school accountability purposes have led to unintended consequences including "teaching to the test" and students' wider developmental needs getting less attention, thus narrowing the curriculum. Wales should consider using the current review of the assessment and evaluation arrangements to **investigate the extent to which unintended effects are occurring** and take measures to minimise such distortions if needed.

Second, Wales should use the review to **ensure that education objectives and targets are inclusive of all students and reflect the government's focus on quality and equity**. Currently national objectives and targets do not focus on those students at the lower and higher ends of the distribution. Issues concerning the learning experiences of disadvantaged students and/or special education needs are discussed throughout this report. These groups of students are not fully reflected in the present education targets despite Wales' commitment to ensure all students reach at least a minimum level of skills and a specific objective that aims to reduce the impact of deprivation on student performance.

In the longer term, DfES may consider reducing the number of years the National Reading and Numeracy Tests cover, which among other benefits may result in considerable cost savings. Several of the best-performing education systems only have a few full-cohort national assessments whereas Wales covers eight years. Reducing the number of years assessed in the immediate future would undermine DfES' policy to use the assessment data formatively, but once the assessment and leadership capacity at the school level is sufficiently developed, Wales could consider a reduction.

DfES should monitor and evaluate its implementation. Questions it should consider include: whether these tests indeed positively impact on teaching and learning; whether assessment data is needed for so many years; whether changing the timing of the tests could be more effective, e.g. at the start of the school year; and whether there are (cost-) effective alternatives. Apart from informing Wales' reform, the findings will also be of relevance to policy makers, education professionals and other stakeholders in other countries that may be considering a similar policy measure.

In the longer term Wales may decide to review its national assessment tests to respond to the country's long-term vision of Welsh learners, with complementary sample-based assessments in addition to the full cohort National Reading and Numeracy Tests. The Welsh government has already taken an important step in initiating the review of the national curriculum. Through a consultation process it has asked for the public's view on what skills students will "need for employment and the wider world". It is asking the public's whether a wider statutory skills framework than the current focus on literacy and numeracy skills should be introduced. This would encompass the skills necessary for learning, work and life, like critical thinking and problem solving, planning and organising, creativity and innovation, personal effectiveness and digital literacy (Lewis, 2013). The sample-based assessment of "learning to

learn” skills in Finland or the assessment of the “Thinking Schools” curriculum in Singapore provide different examples of how such skills can be assessed.

Policy option 2: Simplify professional standards aligned to a vision of a Welsh teacher and leader

To enhance their use and applicability, Wales should consider **simplifying and reducing the number of professional teacher and leadership standards and base them on a vision of the Welsh professional teacher and leader**. Currently appraisals are based on a large number of relatively discrete and static teacher and leadership standards. Standards that are underpinned by a clear vision of what it means to be a professional teacher and leader in the Welsh school system would allow for the standards to be more coherent and meaningful to those using them. The revised standards should provide clarity and guidance on the professional expectations at all career stages i.e. at the beginning, intermediate and advanced levels. It is essential that the standards cover all professional staff, including the support staff who form a considerable proportion of and are an essential part of the education workforce in Wales. The standards need to provide clarity on career advancement and professional learning opportunities.

Policy option 3: Build school evaluation processes that support school improvement

Wales has two parallel systems for external school evaluation: Estyn’s school evaluations and the school banding system for secondary schools. There is a lack of coherence and synergy between these two components and they sometimes deliver very different evaluations of the performance of a particular school which may not be useful for guiding schools in their reform efforts.

The school banding system has received some criticism in relation to three areas: its calculation method, the way schools are ranked in relation to each other and the frequency with which schools are banded. Annual banding cycles do not take into account the natural volatility in the performance of students and schools, nor the time needed to achieve sustained improvements, while ranking schools leads to inter-school competition and does not promote school-to-school collaboration.

In light of this, **the Welsh government should bring greater coherence and synergy between Estyn’s school evaluations and the school banding system**, in particular by revising these three aspects of the school banding system. Greater transparency must be brought to the calculation method, the frequency with which schools are banded must be reduced, and schools should be judged on mutually agreed criteria for school quality that are aimed at every school becoming excellent, rather than judging schools relative to each other. **To be implemented successfully, a substantial effort should be made to build consensus among all stakeholders**, who are more likely to accept change if they understand the rational and potential usefulness.

For the longer term, after capacity has been built at the school level, school improvement services are operational and school-to-school collaboration is functioning and Estyn’s evaluations are more frequent, the school banding system may lose its relevance in guiding school improvement. DfES may then consider discontinuing it.

Policy option 4: Strengthen evaluation and assessment competencies at all levels of the system

Research evidence shows that the development of an effective evaluation and assessment framework involves considerable investment in developing the assessment and evaluation capacity at all levels of the system. This is an important condition for ensuring the quality of the data collected, and the system's ability to analyse the data and monitor progress and, when needed, respond in a way informed by the evidence. Hence, an area of policy priority for Wales is to put sustained efforts in improving the assessment and evaluation capacity at all levels of the system. Areas of particular priority are:

- **Developing teachers' capacity to assess students against learning objectives** and in particular develop their skills to conduct and use a range formative assessments methods and instruments to best inform and support students in their learning. This will be a precondition to the success of the National Reading and Numeracy Tests and have a positive impact on teaching and learning in Welsh classrooms.
- **Improving the data-handling skills of school leaders to inform their school improvement efforts.**
- **Developing school leaders' capacity to appraise school staff**, including providing effective feedback and coaching to support their professional and personal development, and feed this in the school development planning process.
- **Investing in the national evaluation and research capacity to provide independent monitoring support and strengthen the evidence base for decision making in policy and educational practice.** In addition to investing in DfES' own research evidence programme, Wales may consider establishing an autonomous national agency or some mix of agencies with responsibility for education system evaluation that has the necessary distance from political decision making. This agency or mix of agencies may serve an important role in providing rigorous and independent analyses to support the decision making process and in informing the national debate on education.

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CHAPTER 5.

DEFINING AND IMPLEMENTING POLICY WITH A LONG-TERM PERSPECTIVE

This chapter reviews the strengths and challenges of the education policy planning and implementation process in Wales, based on the current reform agenda. Wales is in the midst of a reform process which started after the 2009 PISA results showed Wales performing below the OECD average. There is a sense of urgency, and wide support for the reform directions set out. A considerable number of new policy initiatives have been implemented. However the implementation has in general been weak, partly as a result of the high pace in the introduction of reforms, and the profession does not seem to be sufficiently engaged in the policy-making and/or in the implementation processes. This has added to a growing sense that stakeholders are overwhelmed by the many changes and have no clear understanding of the long-term goals beyond the current aspiration to be among the 20 best-performing education systems on PISA in reading by 2015.

Wales' current education reform agenda needs a longer-term perspective to drive the system towards improvement. We recommend three concrete actions: 1) the Welsh government should define and implements a national education vision with clear mid- and long-term objectives; 2) this vision should be translated into an adequately designed and resourced longer-term strategy with a realistic sequence of initiatives, engaging stakeholders in the process; and 3) governance and support structures need to be effective in delivering the strategy.

Recommendation: Define and implement policy in a long term perspective

Recommendation: Define a vision with clear mid- and long-term objectives and, with key stakeholders, translate them into an adequately designed, sequenced and resourced longer-term strategy underpinned by appropriate governance and support structures.

Education is a public priority in Wales, as shown by the numerous strategies and policies to improve education results. This was confirmed during the OECD review visit. The visit also demonstrated wide support for the reform journey that the Welsh government embarked on following the disappointing PISA 2009 results that, together with the falling GCSE results compared with England and reports by Estyn, showed that there are issues with the quality and equity of the Welsh school system. The school leaders, teachers, students, trade union representatives and others the OECD review team met recognised the need for change and supported the government's three education objectives – improve students' literacy and numeracy performance, and reduce the impact of deprivation on performance – as being appropriate for improving learning in Wales. This is a strong starting point to build on.

The actions the Welsh government has set in motion reflect its sense of urgency. It has launched a considerable number of new initiatives for improving schooling in Wales, while continuing some earlier initiatives with the same purpose. These are captured in the *Improving Schools Plan* for 2012-2014 (OECD, 2012a). The pace of change has been high with the introduction of a Literacy and Numeracy Framework and annual testing, school banding, school evaluations, enhanced teacher training including through professional learning communities, an IT HwB project, changing governance and support arrangements through the creation of regional consortia, and a national support programme. Many of those the OECD review team met indicated the changes were too many, in too short a timeframe. Several people also mentioned not feeling sufficiently involved in the policy-making process, or in the implementation of these policies. In addition, there have been many reviews commissioned to analyse and provide recommendations on different components of the system, without a clear research agenda. This has added to a growing feeling among stakeholders of being overwhelmed by the number of changes without there being a sense of a clear concrete goal beyond the current intent to be among the 20 best-performing education systems in reading in PISA by 2015. A shared longer-term vision of the Welsh learner and the education system at large that could evoke the intrinsic motivation of those involved and further focus the reform journey is lacking.

In addition, it appears that schools have not been adequately supported in their school improvement efforts. Support services to schools were originally provided by the 22 local authorities, but regional consortia were set up in late 2012 to strengthen them. To date there has been no consistency in the services delivered (see e.g. Hill, 2013). Measures are being taken to strengthen the service delivery by the regional consortia but it will take time for them to have the desired effect. To complement these efforts, a National Support Programme has been set up to support schools in implementing the Literacy and Numeracy Framework since June 2013 and, like other measures that have been recently adopted, its support has been limited so far. Overall, there is no consolidated approach to support schools in implementing the new policies and responding to low performance.

In summary, there is a reform agenda with many and sometimes parallel efforts and strategies towards improvement that need greater consistency and a long-term vision to engage those involved. Welsh schools have been increasingly challenged since the start of the reform process and moved towards a more high-stakes environment through a range of measures that have aimed to bring greater accountability in the system. This increased accountability has not been adequately matched with the provision of additional support to meet the raised expectations, which brings with it a risk of only partial

implementation of school improvement policies, as well as a risk of “reform fatigue” that may eventually diminish the widespread support for reform.

Defining a shared vision to steer the system towards educational excellence

According to Hargreaves and Shirley (2011), having a compelling and inclusive vision steers a system, binds it together, and draws the best people to work in it. When clearly communicated and shared by those involved, it can help secure a reform over the long term. This is important, as educational improvement takes time. Not only does there need to be a good reform design, an engaged teaching profession, appropriate funding in place, and an effective implementation plan, it also takes resilience, flexibility and time before reforms are able to achieve sustained improvements. A meta-analysis of effect studies of comprehensive school reforms, for example, showed that there is often some progress the first year, followed by a set-back over the next two to four years – the “implementation dip” – before changes are consolidated and results keep improving for five to eight years after the initial implementation (Borman et al., 2002). Even in cases where reforms eventually succeed, things often go wrong initially before they go right (Fullan and Miles, 1992).

There are also cases when the political process results in shifts in education reform paths (Hargreaves, 2012; OECD, 2010b). This makes it more important for countries to have a shared education vision that can help secure the system moving forward and avoid unnecessary changes of direction when a new government takes office.

So what might a compelling and inclusive education vision look like? Literacy and numeracy capture a country’s purpose and should always be an educational priority (Hargreaves and Shirley, 2011), as these are the basic skills on which the development of other skills are built. But they may not always fully capture a country’s evolving needs and aspirations. Internationally the demand for skills has been changing over the past decades, with the widespread adoption of information and communication technologies and structural changes in the economies of many countries. For example, as a result of manufacturing and other low-skill tasks in the services sector becoming increasingly automated, the need for routine cognitive and craft skills is declining, while the demand for information-processing skills and other high-level cognitive and interpersonal skills is growing. Thus, in addition to mastering occupation-specific skills, workers in the 21st century must also have information-processing skills, including literacy, numeracy and problem solving, and “generic” skills, such as interpersonal communication, self-management, and the ability to learn, to help them weather the uncertainties of rapidly changing labour markets (OECD, 2013a).

Many of the best-performing education systems are guided by visions that respond to these economic and social changes and focus on higher-order skills, such as creative thinking, problem solving or being able to apply new knowledge, with some also recognising the importance of moral values such as citizenship and social cohesion (Hargreaves and Shirley, 2011; Tucker, 2011).

Singapore provides an example of such a vision. In 1979 Singapore developed its education vision, “Thinking Schools, Learning Nation”, which was a major milestone in its education reform journey. It represented a vision of a school system that can develop creative thinking skills, lifelong learning passion and national commitment to the young. Learning nation is “a vision of learning as a national culture, where creativity and innovation flourish at every level of society” (Lee et al., 2008). A suite of reform strategies followed the launch of the vision. These were implemented over a number of years and were designed to tailor education to the abilities and interests of students, to provide more flexibility and choice for students and to transform the structures of education. Several decades later Singapore underlined its success by taking its place as one of the best performing education systems on PISA 2009.

Having a shared education vision is more an outcome of a process than it is a starting point. This is important to realise because it entails a different process to create ownership (Fullan, 2006). Simply presenting a vision to the profession may not engage people over the long run, and one borrowed from another country may not be appropriately adapted to the context. Creating a shared vision requires an internal process, which can involve engagement with teachers, school leaders, parents, trade unions, other government ministries (e.g. health and social services), the private sector and the broader public in establishing a common language and defining an interlocking set of guiding expectations for the future.

The province of Alberta, Canada provides an example of a vision that was the product of a process of engagement with the profession and the general public. In 2009, Albertans gathered in person and online for “Inspiring Education: A Dialogue with Albertans” to share their aspirations for kindergarten, primary and secondary education in the 21st century and beyond. This consultation generated conversations and insights; highlighting values, skills, practices and knowledge that they found vital to their children in a rapidly changing world. Its education vision captures the province’s aspirations and expectations of its education system (see Box 5.1). It makes an explicit link between the function of the education system, i.e. to develop critical thinkers that are motivated, resourceful and resilient citizens, and how this will help shape society and the economy. They are now working together to implement a strategy that builds on this vision.

Box 5.1. “The Educated Albertan of 2030” - the education vision of Alberta, Canada

Albertans have articulated their vision for education through specific outcomes which have been summarized as “the three E’s” of education for the 21st century.

Engaged thinker – Alberta must cultivate students with an inquisitive, engaged mind. Students that are prepared to ask “why?” and think critically about the answers they receive.

Ethical citizen – Knowing the answer is not enough. Our children and grandchildren must be ethical, compassionate and respectful to truly grow and thrive.

Entrepreneurial spirit – To shape innovative ideas into real-world solutions, our education system should develop motivated, resourceful and resilient citizens. Alberta would do well to encourage our students to be bold, embrace leadership and actively seek new opportunities.

Source: Government of Alberta (2010), “Inspiring education: A Dialogue with Albertans”, Alberta Education website, <https://education.alberta.ca/media/7145083/inspiring%20education%20steering%20committee%20report.pdf>.

Wales has started a reform journey and the profession and the public share the sense of urgency to take action and the reform directions set out by the government. However, it appears that the many reform initiatives pursued in the last few years have left the profession with a growing sense of feeling overwhelmed by a continuous flow of changes, and a lack of clear direction beyond 2015.

In fact, some of the elements that can help inform the vision are already in place: the *Improving Schools* plan, the assessment and evaluation frameworks, and a review of teacher education. In addition, Wales is in the middle of a review process of the national curriculum through public consultation on what skills students will “need for employment and the wider world”. The Welsh government has asked for the public’s view on whether a statutory wider skills framework (wider than the focus on literacy and numeracy skills) should be introduced, which would encompass the skills necessary for learning, work and life, like critical thinking and problem solving, planning and organising, creativity and innovation, personal effectiveness and digital literacy (Lewis, 2013). In effect the Welsh government has asked for the

public's view of the Welsh learner, formulating this vision building the curriculum review can help steer the system forward and draw the profession and other stakeholders towards achieving it.

Aligning the vision with a small number of inspiring and measurable objectives

To engage public interest and create a focus that brings coherence in reform strategies, some countries have sought to identify a small number of clear, high priority and measurable objectives for education improvement and pursue them over time. Aligned with the education vision, the objectives should be related to the core of education - the learning - measured in terms of student outcomes and should be expressed in terms that are both easy for the public to understand and which resonate with education professionals. They also need to be able to show progress. The objectives should be ambitious but also within the realm of possibility (OECD, 2010a).

The province of Ontario, Canada provides an example of this approach. The focus of its education strategy that was launched in 2003 was to: 1) improve students' acquisition of literacy and numeracy skills (defined to include higher-order thinking and comprehension) with a target of 75% of students achieving the provincial standard in Grade 6; 2) improve the high school graduation rate, with a 85% graduate rate target; and 3) build public confidence (Ontario Ministry of Education, 2010). The two numerical targets were set in 2004 but have continued for a second mandate in 2008 to ensure sustainability and focus.

As also reflected in the strategic framework of the European Union *Education and Training 2020* (Council of the European Union, 2009; see Box 5.2.), PISA has in recent years been increasingly used to set policy objectives and quantitative targets to help establish the desired trajectories for educational reform (see e.g. Breakspear, 2012). For example in 2006 the Mexican Presidency established a "PISA performance target of 435", to be achieved by 2012, which highlights the gap between national performance and international standards and allows authorities to monitor how educational strategies succeed in closing this gap.

Box 5.2. Defining objectives for educational improvement

The European Union agreed on a strategic framework for European co-operation in education and training: *Education and Training 2020*. The benchmarks or goals set in 2009 include the following:

- At least 95% of children between the age of four and the age for starting compulsory primary education should participate in early education.
- The proportion of 15-year-olds with insufficient abilities in reading, mathematics and science (measured as below Level 2 on PISA) should be less than 15%.
- The proportion of early leavers from upper secondary education and training should be less than 10%.
- The proportion of 30-34 year-olds with tertiary educational attainment should increase to at least 40%.
- The proportion of adults who participate in life-long learning should increase to at least 15% of 25-64 year-olds.

Source: Council of the European Union (2009), "Council conclusions on a strategic framework for European cooperation in education and training ('ET 2020')", 2941th Education, Youth and Culture and Council meeting, Brussels, 12 May 2009, www.learningteacher.eu/sites/learningteacher.eu/files/Council_Conclusions_Strategic_Framework_12May2009.pdf.

Several countries have also expressed their ambitions in terms of their desired ranking on PISA. The Prime Minister of the UK in 2010 set the ten-year objective of raising the country's average student performance to rank third on the PISA mathematics assessment and to rank sixth on the PISA science assessment. This announcement was accompanied by a range of policies to achieve these targets. Australia in 2012 set itself the objective to be ranked among the top five countries in reading, mathematics and science by 2025. Wales expressed a similar objective, stating it wants to be among the top 20 countries on reading on PISA 2015 (Commonwealth of Australia, 2012).

The challenge with this type of objective is that the absolute level of student proficiency the country is aspiring to is unclear. Success with this type of objective also depends on the performance, and even participation of other countries. On PISA 2012 for example 38 out of the participating 65 countries and economies had a higher mathematics mean performance than Wales, compared with 35 in 2009 and 22 in 2006. This however is not only the result of Wales' declining results, but of two other factors: 1) the higher performance of new countries participating in PISA e.g. Shanghai-China, Singapore and Vietnam; and 2) several countries managing to improve their performance over the three last PISA cycles and thus overtake Wales e.g. the Russian Federation. So although these objectives can be inspirational and help build a shared sense of urgency to improve student performance in a country, their lack of clarity may diminish their usefulness for informing and guiding school improvement efforts in the system.

Objectives must focus on both equity and quality, as they go hand in hand. The best-performing education systems across OECD countries are those that combine quality with equity. For this to happen countries must strongly believe in inclusion: that all can learn and reach at least a basic minimum level of skills (OECD, 2012). This must be reflected in policy and practice and includes taking the lowest performers into account in the setting and pursuit of educational objectives. Poland, for example, seeks to reduce the number of low performers in reading, mathematics and science as defined in the ET 2020 benchmark. This is measured by the PISA indicator on low performers i.e. the percentage of students below Level 2 on the PISA scale. France also set an objective to reduce the percentage of low achievers, in reading to 17% on PISA 2012 (Breakspear, 2012). In Wales, between 27% and 29% of 15-year-olds were low performers in literacy and numeracy respectively at age 15, among the higher proportions across OECD countries and well above the OECD average of 19% in 2012 (OECD, 2014) (see Figure 1.5). In addition to setting general objectives, Wales may consider setting more focused objectives and targets that focus on low performers and on the impact of socio-economic background on the performance of disadvantaged students and/or those with special education needs.

The ET 2020 strategic framework also calls for member states to take action to reduce the percentage of early school leavers from upper secondary education. This is an important indicator as graduating from upper secondary education has effectively become the minimum requirement for entry into the labour market, as the skills needed in the labour market are becoming more knowledge-based and as workers are progressively required to adapt to the uncertainties of a rapidly changing global economy (OECD, 2013b). Young people who leave education and training prematurely are bound to lack skills and qualifications, and to face persistent problems of unemployment in the labour market. In 2012, nearly 5.5 million young people between 18 and 24 years old across the European Union had not finished upper secondary education and were not in education and training (European Commission, 2013).

The population of young people that are not in education, employment or training (NEET), is another important indicator that links the school sector with society. Since the start of the economic crisis it has gained in prominence for policy makers. The Welsh Annual Population Survey showed that for 2013, 11.9% of 16-18 year-olds were estimated to be NEET, compared with 12.7% the year before. For 19-24 year-olds this was 21.4% for 2013, compared with 22.9% the year before (Welsh Government, 2014b). In the Tackling Poverty Action Plan 2012-2016 the Welsh government committed itself to reduce the

numbers of NEETs aged 16-18 to 9% by 2017; and the proportion of young people aged 19-24 who are NEET in Wales relative to the UK as a whole by 2017 (Welsh Government, 2012b).

Apart from these indicators, data on young people's education options and trajectories appear scarce after Key Stage 4. Estyn noted, that while there is much national data at 16, "... there is no comprehensive national system to capture data at 18 on completion, attainment and progression rates across sixth form, further education and work-based learning sectors" (Estyn, 2013, p. 8). To measure the success of an education system beyond age 15, further analysis and focus on young people's education pathways is required and targets and ways of monitoring them should be considered.

Finally, it is important to ensure that education objectives align to the vision and are not too narrowly defined and interpreted. Successful systems recognise that objectives should be broad and inclusive. There is increasing recognition that the monitoring of student outcomes must extend beyond knowledge and skills in key subject areas and include broader learning outcomes, including students' critical thinking skills, social competencies, engagement with learning and overall well-being (OECD, 2013d). Literacy skills are of little use if students have no appreciation of the pleasure of learning and no sense of the breadth of human knowledge and interest.

Developing a coherent education strategy that is owned by the profession

To achieve objectives and targets, systems must develop an overall strategy that deals with all the relevant components over time and is focused on improving teaching and learning (OECD, 2010a). An analysis of high-performing school systems found that, though strikingly different in construct and context, they maintained a strong focus on improving instruction because of its direct impact upon student achievement (Barber and Mourshed, 2007). School improvement efforts directed towards teaching and learning are more effective than policy reforms which focus on structures or resources (Skalde and Pont, 2013; Honig and Rainey, 2012). The starting point should always be the teaching and learning which will yield better student outcomes, with other components like financing or governance following and supporting as required.

Many reform processes engage school leaders, teachers and other stakeholders in the formulation of the strategy and setting of objectives in order to ensure that the initiatives respond to the actual teaching and learning needs in their schools. In addition to the example from Alberta, another example is the *Western Metropolitan Region strategy* of the state of Victoria, Australia which was generated through a process of "co-design" and mutual commitment between the region and all schools. A Victorian principal noted the following:

The process of creating the strategy was huge. It involved network meetings, several principal forums and other occasions. We gathered in focus groups - a vertical slice of people from teaching aides, classroom teachers, principals... Then we had a conference in August 2008, with international speakers like Roger Goddard whose focus is collective efficacy. Out of that we built the strategy. When we signed up it was absolutely unarguable that it was built by everyone (Suggett, 2012).

Returning to the example of the Ontario education strategy, having experienced years of conflict prior to 2004, the Ontario government set out to build trust and partnership in various ways, including the creation of a formal "Partnership Table" chaired by the Minister of Education, where all partners could contribute views on the overall strategy and its components. Considerable time and energy were invested in working with all partners to build their support for the overall agenda, with considerable success. Partners were also funded to lead some parts of the larger agenda. Attention was given to communicating with the public, and with students and parents, not only informing them of changes but seeking their input

into proposals and programmes (Levin, 2012; OECD, 2011). This practice has continued with a recently concluded public consultation process that will inform the next phase of Ontario's education strategy (Ontario Ministry of Education, 2013).

In addition, to promote the engagement of social partners and prevent distractions, the Ontario government worked to end union and labour strife surrounding the annual collective bargaining which diverted energy away from improving the system. The government made it a priority to stabilise the situation when it took office in 2003. The government managed to sign a four-year collective agreement with the unions for a period of peace and stability in which improved pay and working conditions were traded for union commitment to the reform agenda (Ontario Ministry of Education, 2010).

These examples highlight another important reason for involving school leaders, teachers and other local stakeholders in the planning process: to ensure their ownership of the strategy and their willingness to drive towards achieving the agreed objectives. This allows the objectives of the reform and the intrinsic motivation of educators and other stakeholders to be aligned, which, according to Fullan (2011), is one of the key drivers of successful reform. As shown in OECD work on the implementation of reform generally (OECD, 2010b), in democratic societies the consent of those involved is essential and cannot be obtained by fiat or assumed based on an election result. Policy makers need to build consensus on the aims of education reform and actively engage stakeholders, especially teachers, in formulating and implementing policy responses.

Countries have developed various vehicles for this kind of political engagement, usually involving some structure that includes all the social partners in open discussion of education policies, practices and proposed reforms (OECD, 2010a). Strongly performing systems like Alberta, Finland or Ontario have recognised this importance and managed to create the opportunities for dialogue and co-ordination across and beyond the system. In Finland, for example, hundreds of teachers are often engaged in the process of the development of the comprehensive school curriculum over a period of years, and whenever the curriculum is revised, as it is currently in process, it is done engaging the profession (OECD, 2011).

The Welsh government can build on the current situation to further strengthen dialogue and co-ordination. It has a positive relationship with the profession, including the trade unions, and has long had a culture of consultation with a wide range of stakeholders on specific issues, for example through reviews and public consultations. Strengthening its mechanisms and opportunities for dialogue and co-ordination could offer further gains.

Ensuring coherence in the various reform initiatives

One issue with a multi-component strategy is the perception that there are too many unconnected initiatives and actors without enough specification of priorities (OECD, 2010a). Another issue is that too many initiatives are embarked on at the same time and thereby risk overstressing the capacity of the system to implement them adequately. Many reforms have also been hampered by the human tendency to focus on a single rather than systematic solution. Research evidence shows it is the interconnectedness of reforms and policies within and beyond education and the distinctive character they assume together that is most significant in terms of impacts on educational improvement and achievement not one or two strategies taken in isolation (Hargreaves and Shirley, 2011). Therefore, to be successful the various elements of the reform initiative need to be coherently aligned.

One way of dealing with this challenge is by focusing on a small number of core priorities and sequencing policies with intermediate objectives to help bring coherence in implementation but also respond to the issue of timing. This is important because making lasting improvements in teaching and learning often takes time. Education systems like Korea, Ontario and Singapore have taken the time to

implement their reforms. They have taken the long view on educational change and have invested years rather than months in getting the right reforms firmly embedded. They have focused on a few priorities, a few core reforms, rather than multiple innovations or a kaleidoscope of reforms (Harris, 2013).

In Wales, DfES has focused its various policy measures on its three key education objectives. However, the sheer number of new policy initiatives and the often short time spans for schools to implement them brings with it a risk of only partial implementation, some more than others, and even “reform fatigue”. The introduction of the Literacy and Numeracy Framework and annual testing, the school banding, school evaluations, teacher training including through professional learning communities, the HwB project, changing governance and support arrangements, with new consortia and a national support programme are all recently developed initiatives that require better sequencing and alignment. Our analysis leads us to conclude that better sequencing of policies and the use of intermediate objectives or ‘milestones’ would help bring greater coherence to Wales’ reforms.

Another way to bring coherence to a strategy is to ensure its core priorities are adequately resourced. The allocation of resources is a particularly important, but also a frequently neglected element in the alignment of policy initiatives (Grubb, 2009). As argued by Hargreaves and Shirley (2009), “we can’t expect to raise standards on the cheap. In schools as in business, there is no achievement without investment”. In many cases making long-lasting improvements will require considerable investments to be made over time. It doesn’t necessarily always means spending more, however, though some additional funding is often required to support improvement. Once a reasonable level of investment is reached, additional money is not the critical driver (Levin, 2012). New resources have to be used appropriately, and it is just as important to pursue more effective use of existing resources (Grubb, 2009).

Having the right infrastructure for effective implementation

A good education strategy cannot lead to success without effective implementation. There has to be a real plan for implementation, with the potential to create and support change across an entire system. The implementation plan should ensure that the appropriate infrastructure is in place at all levels of the system. System-level infrastructure for supporting teaching and learning is often fragmented and impoverished (Spillane, in OECD, 2013d). Instead reliance is placed on policies, accountability measures, and small amounts of professional development, all of which are insufficient – or, as Earl, Watson and Katz (2003) put it, “one-shot training and access to materials will not result in sustained changes in practice”.

Any improvement strategy requires thought about the kinds of structures that may be needed to support it. Often the existing bureaucratic structures are insufficient to implement and support real improvement because they are focused on ongoing maintenance or policy, or they lack the required skills, so new capacity has to be created.

The National Literacy and Numeracy Strategy in England (1997-2011) was one of the first major strategies to recognise the need for a real effort in implementation. To support the desired changes, regional teams and hundreds of teacher consultant positions were created. Large amounts of data, resources, professional development, and extra money were made available. While these efforts were unprecedented in scale and made a big difference to the impact of the strategies, they were still fairly small relative to the system they were trying to change (Barber, 2007; Earl et al., 2003)

Ontario’s education strategy provides another example of a well thought-out implementation plan. This included the creation of a new 100-person secretariat responsible for building the capacity and expertise to do the work. This secretariat was separate from the ministry, and thus was able to start fresh without the usual bureaucratic obstacles. They also required that teams be created in each district and each school in order to lead the work on literacy and numeracy. By so doing, they paired external expertise with

sustained internal leadership to push the initiative. Those responsible for leading the Literacy and Numeracy Secretariat said that the effort succeed in part because of its field base:

We recruited a new team of people who had deep experience in the field – teachers, principals, subject matter specialists – people who were deeply respected by teachers and schools, and were not seen primarily as representatives of the department. This mini-organisation was largely based in the field – we had 6 regional teams plus one French language team, each of 6-8 people. This means that the majority of the people in the Secretariat were actively working in the field, building relationships with schools, principals and teachers, rather than in the home office back at the Ministry (OECD, 2011).

In Wales there is consensus that many schools lack the capacity to independently move towards educational excellence. Chapter 3 has discussed the need to build the professional capital in the system. This calls for considerable additional external support to schools to build the required skills and help generate the motivation among Welsh educators needed to drive the reforms forward. Wales' school improvement services have been found to require fundamental reform (see e.g. Hill, 2013). The decision to divide school improvement functions among 22 local authorities appears to have diluted expertise and spread educational expertise too thinly to have impact. In response to this, four regional consortia were set up in late 2012 to strengthen the support to schools. However, during the OECD review visit, there was evidence and recognition that these have not yet achieved this objective and do not provide consistent quality of school improvement services. Measures are being taken to strengthen these school improvement services but these will take some time to have the desired impact.

In parallel, a National Support Programme was set up to support schools in implementing the Literacy and Numeracy Framework. Schools in each regional consortium area were invited to participate on a cohort basis. Schools participating in the programme will receive support for a minimum of four years. The programme has only been in operation since June 2013 and its support has been limited so far. Our discussions with several stakeholders revealed there are concerns about the programme, in particular the quality of the training delivered and of the “partners” recruited to support the schools in implementing the Literacy and Numeracy Framework. DfES may want to consider further investigating these concerns.

Considerable efforts have been made by DfES, local authorities, regional consortia and others to provide support to schools. But there has not yet been a clear direction of support, as parallel programmes appear and schools are not clear whether support will be provided and who will provide it. At the same time, schools have been increasingly challenged to implement the various reform initiatives. This imbalance between the challenge and support function brings with it a risk of only partial implementation of the desired improvements, as well as a growing risk of “reform fatigue” that may eventually diminish the support for the reform.

Taking a longer term perspective, Welsh schools must be able to keep pace with the changing times while delivering on their core function, which is to equip students with the knowledge and skills for life in the 21st century, including flexibility, creativity, problem solving and deep thinking that provide the basis for lifelong learning (OECD, 2008). Achieving this aim will, among other things, require considerable and sustained investments in building the professional capital in schools and throughout the system.

As argued in Chapter 3 the building of professional capital should not be limited to schools, but should also include the DfES, local authorities, regional consortia and others throughout the system. Interaction is the essence of leadership practice (OECD, 2013e) and often leadership needs to be distributed (Pont et al., 2008). Creating the conditions for learning and school improvement to flourish

requires effective and distributed leadership throughout the system. Achieving system-wide transformation requires all those within the system to communicate and connect, to drive change forward and to align effort (Harris, 2010). It depends on the capacity and active co-operation of leaders across the system – from local to national level and whether appointed or elected – and on the kinds of systems that engage and link people to create synergy and a sense of common purpose. Both have a multiplier effect on capacity to implement change (Levin, 2012).

Having governance and support structures that are fit for purpose

The establishment of the regional consortia in 2012 has, for several reasons, diverted attention away from the core of the matter – improving the teaching and learning in Welsh schools. For an education system, especially one that is in the process of a large-scale school improvement reform, it is essential that its governance and support structures are fit for purpose.

The regional consortia to date have apparently not been able yet to fulfil their task of providing schools with improvement services. A proposed move towards a new national model of regional working may however be a good way forward for strengthening these services. It will however require making considerable and sustainable investments in building the professional capital of the consortia themselves in order to ensure they can make a real contribution to improving schools' performance.

Recently, the Commission on Public Service Governance and Delivery concluded that there is an immediate need for a comprehensive reform of Welsh public services. This includes a reduction in the number of local authorities from 22 to 10, 11 or 12 and some changes to the boundaries of the consortia. In addition, the Commission calls for urgent action to ensure that seamless, integrated and high-quality health and social services are provided across Wales (Welsh Government, 2014c). If these changes take place, they will have an impact on the provision of school improvement services.

The Commission also calls for all local authorities and local health boards to prepare clear and robust plans for integrating services. The Welsh government is to monitor the implementation and, if necessary, use its executive powers to direct this process (Welsh Government, 2014). This provides Wales with the historical opportunity to work towards an integrated approach to responding to the learning and other needs of disadvantaged students and those with special education needs. DfES should contribute to this process and ensure that education services are woven in and that there is no gap in the education support provided by the consortia. It can also take a more active role, for example in the development of common standards and procedures that go across different sectors.

The Commission further calls for the simplification of funding arrangements and a focus on achieving outcomes. This aligns with our earlier recommendation to simplify the funding arrangements to schools, and specifically the various grants targeting specific groups of students (see Chapter 2). Together with the restructuring of the public services these proposed changes provide an opportunity for DfES to strengthen education provision and work towards the better integration with other public services, most prominently health and social services, which will benefit the most disadvantaged students in particular.

Evidence-based policy making and implementation

In recent years there has been increasing pressure across OECD countries for greater accountability and effectiveness in education policies and systems. Research has played an increasingly important role to support evidence-informed policy making (OECD, 2007). Evidence-informed policy making requires action and reflection through research, to follow and enrich policies in a cyclical process of trial-and-error learning while implementing the changes. People learn best through doing, reflection, inquiry, evidence and action (Van de Ven and Sun, 2011). The realities of political and organisational life however can

make governments give less attention to the implementation and monitoring and evaluation of policies compared to the development and announcement of a new policy or programme.

The Welsh government has focused on monitoring and evaluation in recent years. DfES regularly allows itself to benefit from trial-and-error learning through a piloting phase or other forms of research of its policy initiatives. One example is the Lead and Emerging Practitioner School pilot. In recent years, however, it has rolled out several policies across the country without taking the time to evaluate and respond to results, before deciding to implement it nationwide. DfES would benefit from standardising the use of research in new policy initiatives. Research should be considered during – or even before – the design of the new policy rather than being an afterthought.

DfES has also conducted a considerable number of reviews recently as research to inform policy making, but their sheer number and the seeming sense of urgency to publicly respond to each of the individual recommendations of a review may on several occasions have hindered reflection and learning and stretched capacity to manage them strategically. Table 5.1 provides an overview of the reviews that DfES has conducted from October 2012 to March 2014. Though the scope and depth of these reviews naturally varies, taken together they represent a considerable investment in terms of time and resources by DfES and those contributing to the reviews. With every review much energy is spent on responding to individual review recommendations in the review report rather than taking a coherent and strategic perspective.

Table 5.1. List of reviews by DfES between October 2012 - March 2014

Name of review	Dates
The Inspection Regime Consultation	Feb. 2013 – May 2013
The School Standards & Organisation Bill	Mar. 2013 – Apr. 2013
The Future Delivery of Education Services in Wales	Jan. 2013 – Nov. 2013
Review of Initial Teacher Training	Oct. 2012 – July 2013
National Curriculum and Assessment Arrangements Review	Oct. 2012 – Sept. 2014
OECD-Wales Improving Schools Review	Mar. 2013 – Mar. 2014

Source: Welsh Government (2014a), *OECD Review of the Quality and Equity of Education Outcomes in Wales: Country Background Report*, Welsh Government.

The situation becomes even more complex when reviews overlap in scope. For example, in 2013 DfES conducted a review on the delivery of education services in Wales. It publicly responded to the review recommendations in November of the same year and had already started implementing some of them while the overlapping review by the Commission on Public Service Governance and Delivery was still ongoing. There are more examples of this nature but the point is that with this way of policy making, DfES risks a lack of coherence in policies not just within but also across sectors.

Many economies have faced similar challenges of using evidence to support policy making. In Ontario, Canada, from the start of its education reform in 2003, the government has taken various measures to base its policies and actions on research evidence. For example, it built a student information system, although the potential of that system to inform practice is only now being fully developed. Ontario also developed an education research and evaluation strategy that drew researchers and schools into extensive dialogue on how to get the most benefit and value from education research (Campbell and Fulford, 2009). Innovations in policy and practice were rooted in research and then evaluated and modified as more was learned about them.

DfES may look towards the example of Ontario and see how it can rationalise the management and use of reviews for policy making in a strategic manner. An obvious recommendation would be to reduce the number of reviews and focus on a very select number of strategically important review studies at any point in time. This would give the stakeholders involved time for reflection and evidence-informed decision making. Another would be to invest in its own research capacity as part of a larger effort of developing national evaluation and research capacity. One option could be to invest in an autonomous national agency or some mix of agencies with responsibility for education system evaluation (see Chapter 4).

International benchmarking to learn from others' experiences

Reflective implementation also requires learning from the best, i.e. from the best within the system and those outside of it. International benchmarking is increasingly common and is informing national education debates (OECD, 2013d). High performers are conscious of what the other performers are doing. The modern Japanese school system owes much to the trips taken by the new government when the Meiji restoration took place (1868 to 1912), when the Japanese government resolved that the only way it could catch up with the West was to research its educational institutions and adopt and adapt the best of what they found. Japan since then has continued to research the education programmes of the leading countries as a major input into its policy making in education (Tucker, 2011).

Singapore has also made extensive use of international benchmarking as a tool for improvement and to move up the educational value chain. Staff from the ministry, the National Institute of Education, and schools visit other systems and explore international best practice. Typically, the visits and research focus on very specific issues and on what does and doesn't work in implementing particular policies. For example:

- Singapore's mathematics curriculum was developed after reviewing mathematics research and practice internationally.
- Recently, Ministry of Education personnel visited the United States and other countries to examine language teaching to non-heritage speakers ("heritage speakers" of a language are those who learn it at home).
- Ministry staff have also visited a number of countries, including Australia, Hong Kong, Scotland and Sweden, to examine new kinds of assessments.

As a result, Singapore classrooms incorporate a wide range of pedagogical styles. Principals and master teachers are also encouraged to examine innovations in other countries and explore how they could be adapted for use in Singapore schools (OECD, 2011).

Due to its close cultural, historical and political ties, Wales has a natural tendency to compare itself with and look towards England for inspiration when it comes to educational best practices. This comparison is becoming less relevant as the two education systems have taken different paths since devolution in 1999. This is one of the factors that has made the Welsh government consider expanding its educational horizons by increasingly looking to compare itself with other countries.

The reform that Wales has embarked on leaves ample opportunities for reflection and learning from other countries and economies, as well as from good practices within the Welsh school system. In addition to participating in comparative surveys like PISA, DfES should also actively and strategically pursue other opportunities for learning from the best practices of strongly performing education systems. This could be

through participation in international conferences, selected projects that allow for learning from and with peers in other countries, or study visits to learn more about how those countries have dealt with specific issues.

As an example, DfES could look towards Finland for the development of future policies on integrating services for students with special educational needs, as it that has shown itself to be very successful in this area. Or it may look towards Austria, Canada, Finland and Singapore to learn more about different models to inform the design of a “made-in-Wales” strategy for school-to-school collaboration (see Chapter 3). But there are many more learning opportunities, several of which have been deliberately highlighted in this report that can inform Wales in further shaping its reform journey.

Policy options

The following policy options can help the Welsh government to define and implement policy with a longer term perspective.

Policy option 1: Develop a long-term vision and translate it into measurable objectives

There is strong support in Wales for the reform the government has embarked on. The focus on improving the literacy and numeracy performance of students and on reducing the impact of deprivation on student performance are considered by many to be the right ones for improving the teaching and learning in Welsh schools. However, the reforms to date have lacked in coherence. The sheer number of policy initiatives that have been initiated in recent years has also left the profession increasingly feeling overwhelmed. At the same time, the reform journey lacks a longer-term goal beyond 2015, leaving people without a clear vision of where the reform is leading.

Wales should consider **developing a compelling and inclusive vision of the Welsh learner** which steers the system and draws the profession and other stakeholders towards achieving it. Having a shared vision of the Welsh learner is important as it can help ensure a reform moving forward in the longer term.

Wales finds itself in the middle of a review of the national curriculum. A consultation process is asking for the public’s view on what skills students will “need for employment and the wider world” (Lewis, 2013). In effect the Welsh government is already asking for the public’s view of the Welsh learner, and with a little effort could translate this into formulating a compelling and inclusive vision. This vision can inform DfES in the next phase of the education reform, the development of the longer-term education strategy. This will include the setting of education priorities, objectives and targets. The vision of the Welsh learner will be useful for bringing further coherence to the reform and for informing and aligning the development of the curriculum, assessment and evaluation arrangements, teacher and leadership standards, teacher training programmes, etc.

Inspired by Wales’ education vision, **DfES should identify a small number of clear, high priority and measurable objectives for improvement** and pursue them over time. These should be related to the core of education – learning – and be ambitious and realistic.

The objectives and targets should reflect the government’s commitment to both the quality and equity of the school system. The current objectives and targets may not be sufficiently aligned to these commitments. DfES should consider reviewing its education objectives to include its focus on equity as well as looking towards the proposed vision of the Welsh learner for guidance. Alongside targets to raise attainment for all, there could be objectives and targets to reduce the proportion of low performers and reduce the impact of socio-economic background on attainment; and/or increase the proportion of high

performers; and/or ensure completion of upper secondary education. These can serve as tangible intermediate and long-term objectives.

Policy option 2: Develop a focused and sequenced long-term education strategy

Wales should translate its education vision into an adequately resourced longer-term education strategy (for example up to 2020 or beyond) that can build on the directions set out in the *Improving Schools Plan*. Engaging the profession and other stakeholders in the development process will ensure their ownership of and support to the strategy, which both are essential to its success. Specific measures could include:

- **Making sure the education strategy includes an adequately resourced implementation plan** that ensures the different stages of the strategy and system infrastructure are in place to deliver the objectives.
- **Sequencing the development and implementation of various policy initiatives.** Phasing in policies allows efforts to be focused on key initiatives or programmes at any point in time, bearing in mind the system's implementation capacity. Each innovation is allowed to mature before another is initiated to build on the achieved improvements. For example, the Literacy and Numeracy Framework could be sequentially implemented, so that teachers learn numeracy (or literacy) plus improved strategies of teaching in general, followed by literacy (or numeracy) in a shorter period of time after general capabilities in teaching have then been increased.
- **Strengthening the mechanisms and opportunities for dialogue and co-ordination.** DfES may consider taking Ontario's "Partnership Table" as an example and establish a similar type of structure to support the development and implementation of its longer-term education strategy.
- **Strengthening the link between evidence, research and policy.** Wales should invest in building research and assessment capacity at all levels of the system. At the same time, it should consider the strategic use of its numerous reviews for long-term coherence. In addition to continuing the identification and dissemination of good practices within the system, DfES may consider engaging in international benchmarking more proactively and strategically, through participation in international conferences, projects or study visits that allow for peer learning, for example.

One other essential element to consider in the development and implementation of a strategy is that change takes time. Social capital and intrinsic motivation both take time to develop. A well-resourced strategy with a focus on the core priorities and better sequencing of policies will not just bring coherence in implementation but also respond to this issue of timing.

Policy option 3: Ensure governance and support structures are effective in delivering the strategy

A review of the Welsh governance and support services has led to the development of the regional consortia, which took over the school improvement services from local authorities in 2012. Recently various sources have concluded that the consortia have not yet been able to deliver a consistent quality of service across Wales (see e.g. Hill, 2013).

The move towards a new national model for regional working may be a good way forward for strengthening these services. However, to make a real contribution to improving the school's performance **the Welsh government and the consortia themselves will need to make considerable and sustainable investments in building professional capital and leadership.** Careful recruitment of staff,

commissioning of high-quality expertise, and continuous investments in building the professional capital of its staff, in particular their pedagogical skills, will be a precondition for the success of the consortia.

If however, in time, the consortia are found to not deliver the quality improvement services that schools require, **Wales should consider (re-)integrating them in the new distribution of local authorities** that the Commission on Public Service Governance and Delivery proposed as part of a larger call for a comprehensive reform of the public services in Wales.

Plans to integrate local authority and health board services combined with proposed simplification of funding arrangements offers DfES an opportunity to streamline education service provision and work towards an integrated approach with health and social services. **DfES should play its part in integrating social services at the local level and carefully monitoring this process and where desired take a more active role**, for example in the development of common standards, procedures, etc. that go across different sectors. This will particularly benefit the most disadvantaged students and those with special education needs.

A final point about the process of policy development and implementation: the reform to date has been largely driven from the top. Though much has been achieved through this approach in a short period of time, it may be more sustainable over the longer term if there is professional capacity across the system to take the reform forward. Reform entails contributions by teachers and support staff working together in classrooms; school leaders and teachers that are engaged with the community; school improvement services working with teachers and school leaders in organising network events; DfES policy makers setting directions at the top with engagement of key stakeholders. The building of professional capital, creating the opportunities for dialogue and co-ordination at various levels of the system, having trust in the school leaders, local authorities and others are essential preconditions for moving towards a mature learning system.

Over the longer term, DfES may consider taking the role of “facilitator” or “enabler” of the reform; creating the conditions and providing the infrastructure for improvements to flourish and letting the reform be “led from the middle”. This may be a gradual process, allowing for professional capital, relationships and trust to blossom, but could be central to the longer term education reform strategy that will lead Wales towards educational excellence.

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ANNEX A. THE AUTHORS

External Experts

Andy Hargreaves is the Thomas More Brennan Chair in Education at the Lynch School of Education at Boston College. Prior to this, he was co-founder and director of the International Centre for Educational Change at the Ontario Institute for Studies in Education in Toronto. He has been awarded several visiting professorships (in the US, the UK, Hong Kong, Japan and Singapore and Sweden), is founding editor of the *Journal of Educational Change* and has authored or edited more than 30 books. His current research is on successful educational change strategies in high performing schools, districts and countries; organisations that perform beyond expectations in business, sport and education; and special education reform strategies achieved through whole-school changes that also benefit all students. Andy is a researcher, writer, consultant and adviser and has delivered invited addresses and worked in 37 US states, 42 countries and all Australian states and Canadian provinces.

Helen Timperley, Professor at the University of Auckland, is a researcher, writer, consultant and adviser in the areas of professional, organisational and policy learning in ways that benefit those students achieving least well. Helen is a Companion to the New Zealand Order of Merit for Services to Education and has worked in a wide range of countries including Australia, Belgium, Canada, England, France, Germany, Sweden, The Netherlands, Norway and her home country New Zealand. She has published widely in peer reviewed journals, including the *Review of Research in Education*, *Journal of Curriculum Studies*, *Journal of Educational Change*, and *Teaching and Teacher Education*. Helen has also written several books in her specialist areas for practitioner audiences.

OECD staff

Beatriz Pont is a Senior Analyst with the Directorate for Education and Skills. She currently leads the *Education Policy Outlook* and the OECD-Wales Policy Review, *Improving Schools in Wales*. At the OECD since 1999, her work has focused mainly on education policy. She has managed and contributed to a range of education policy comparative reviews and publications in different areas such as school improvement, school leadership, equity, adult learning and adult skills. Previously Beatriz was a researcher on education and training policies at the Economic and Social Council of the Government of Spain and also worked for Andersen Consulting. She has a B.A. in political science from Pitzer College, Claremont, California, holds a M.Sc. in International Affairs from Columbia University, and was a research fellow at the Institute of Social Science in Tokyo University.

Marco Kools is an Analyst with the Directorate for Education and Skills where he currently works on the *Innovative Learning Environments project* and the OECD-Wales Policy Review, *Improving Schools in Wales*. He previously led the development of the *Education Today 2013* publication. Prior to joining the OECD, Marco served as an Education Specialist with UNICEF in the Solomon Islands, in Laos and at the UNICEF Innocenti Research Centre in Italy. Before that Marco for several years worked in the field of education and training in the Netherlands, where he in 1999 had also started his career as a teacher at a junior secondary school. Marco holds several degrees including an MBA, a Post-graduate Diploma in Policy Analysis and Evaluation and a B.Sc. in Educational Sciences.

Juliana Zapata is Research Assistant with the Directorate for Education and Skills, where she has contributed to the *Improving Schools projects* and currently supports the development of the *Education Policy Outlook*, as well as the OECD-Wales Policy Review, *Improving Schools in Wales*. She previously contributed to the *Families and Children project* of the OECDs Directorate for Employment, Labour and Social Affairs. Juliana has completed her Master of Public Affairs at Sciences Po in Paris, and she also holds a M.S. in Urban Education from Mercy College as well as a Bachelor of Arts in International Affairs from Tufts University. Her experience includes field research in Mexico and India as well as teaching experience in both New York City and Paris.

ANNEX B. REVIEW VISIT AGENDA

Timings	Activity	Attendees
Monday 14 October 2014		
12:00 - 12:45	Meeting to discuss Data	Andy Milne (Head of School Information & Improvement Branch), Richard Thurston (Head of Education and Skills Research), Joanne Starkey (Schools and Young People), Martin Parry (Senior School Improvement Briefing Manager) and Steve Hughes (Education & Skills Analytical Team)
12:45 - 14:00	Lunch and travel	
14:00 - 14:30	Ministerial Meeting to discuss OECD Review	Minister for Education & Skills
15:00 - 16:00	Meeting with Education Policy Researchers	Prof. Gareth Rees , Prof. Chris Taylor , Cardiff University
16:00 - 17:00	Steering Group Meeting	DfES Officials. Steve Vincent chairing.

Tuesday 15 October 2014		
09:00-9:45	Meeting to discuss Leadership	Phil Jones (Deputy Director Standards & Delivery Division)
09:45-10:30	Meeting to discuss School Management & Effectiveness	Steve Vincent (Deputy Director Schools Management & Effectiveness)
10:30-10:45	Break	
10:45-11:30	Meeting to discuss IT / Infrastructure	Chris Owen (Head of HWB Branch, Digital Learning Division)
11:30 - 12:00	OECD Team Meeting	OECD
12:00 - 13:00	Lunch	
13:00-13:45	Meeting with Senior Management Team	Owen Evans (Director General, DfES), Dr. Brett Pugh (Director-School Standards & Workforce Group) and Jo-Anne Daniels (Interim Director, Infrastructure, Curriculum, Qualifications and Learner Support)
13:45-14:30	Meeting to discuss Curriculum	Claire Rowlands (Deputy Director - Curriculum)
14:30-15:15	Meeting to discuss Special Educational Needs	Ruth Conway (Head of Additional Learning Needs Branch), Colin Hedges (Senior SEN & Statutory Reform Policy Manager) and Dr. Elaine Hepple (Tackling Deprivation & Pupil Deprivation Grant Policy Manager)
15:15-15:30	Break	
15:30-16:15	Meeting to discuss Standards	Gwen Kohler (Head of Delivery Unit, School Standards & Workforce Division)
16:15-17:00	Meeting to discuss Welsh in Schools	Awen Penri (Head of Teaching & Learning Branch, Welsh in Education Unit) and Gari Lewis (Head of Planning Branch, Welsh in Education Unit)

Wednesday 16 October 2014 (for North Wales Group)		
7:40 - 8:40	Cardiff to Anglesey flight	
08:45 - 09:30	Travel to Ysgol Dyffryn Ogwen (secondary school)	
09:30 - 10:00	Meeting to discuss interaction with Local Authority	Dr. Alwyn Jones (LA System Leader)
10:00 - 10:45	Meeting to discuss Leadership	Alun Llwyd (Headteacher) and Godfrey Northam (Chair of Governors)
10:45 - 11:15	Meeting with Year 11 Students	Small group of Year 11 students (15/16 years)
11:15 - 12:00	Meeting with Teachers	Small group of teaching staff
12:00 - 13:00	Roundtable Meeting with 4-6 local schools	Local schools from the area, to include a SEN school
13:00 - 13:30	Travel to Bangor University –	
13:30 - 14:00	Lunch	
14:00 - 15:00	Meeting with Leadership Team to discuss Initial Teacher Education	Magi Gould (Head of the School of Education)
15:00 - 16:00	Meeting with Course Directors to discuss Initial Teacher Education	ITT Course Directors
16:00 - 16:30	Travel –	
17:40 - 18:45	Anglesey to Cardiff flight	

Wednesday 16 October 2014 (for South Wales group)		
08:00 - 08:45	Travel to Ysgol Gynradd Gymraeg Cwm Garw (primary school) -	
08:45 - 09:30	Meeting with Parents	Small group of parents
09:30 - 10:15	Meeting to discuss Leadership	Peter Williams (Headteacher)
10:15 - 11:00	Meeting with Teachers	Small group of teaching staff
11:00 - 11:30	Meeting with Year 6 Students	Small group of Year 6 students (10/11 years)
11:30 - 12:30	Travel to Bishop Gore School (secondary school)	
12:30 - 13:00	Lunch	
13:00 - 13:30	Meeting to discuss interaction with Local Authority	LA System Leader
13:30 - 14:15	Meeting to discuss Leadership	Ryan Jones (Headteacher)
14:15 - 15:00	Meeting with Teachers	Small group of teaching staff
15:00 - 16:00	Roundtable Meeting with 4-6 local schools	Local schools from the area
16:00 - 16:15	Travel to Swansea University	
16:15 - 16:45	Meeting with Leadership Team to discuss Initial Teacher Education	Dr. Jane Waters (Head of Initial Teacher Education and Training)
16:45 - 17:15	Meeting with Course Directors to discuss Initial Teacher Education	ITT Course Directors
17:15 - 18:15	Travel from Swansea University to Park Plaza Hotel	

Thursday 17 October 2014		
8:30 - 9:15	Meeting to discuss Local Authority support	John Davies (Head of LifeLong Learning)
09:15 - 9:30	Travel to Estyn	
09:30 - 10:30	Meeting with Estyn	Ann Keane (Her Majesty's Chief Inspector of Education and Training in Wales), Meilyr Rowlands (Strategic Director) and Simon Brown (Strategic Director)
10:30 - 11:00	Travel from Estyn to Cathays Park	
11:00 - 12:00	Meeting with Regional Consortia and System Leaders	
12:00 - 13:00	Lunch	
13:00 - 14:00	Meeting with Trade Unions	
14:00 - 14:30	Break	
14:30 - 15:30	Meeting with CFBT	Paul Booth (Principal Advisor, National Support Programme - Literacy and Numeracy)
15:30 - 16:30	Meeting to discuss Masters in Educational Practice course	Prof. Mark Hadfield, MEP Director, Cardiff University

Friday 18 October 2014		
9:30 - 10:30	Preliminary Feedback Session from OECD team	OECD/Welsh Government Steering Group
11:00 - 17:00	OECD Team Meeting	OECD

Improving Schools in Wales: An OECD Perspective

How can Wales improve the quality and equity of its education system? From an international perspective, this report analyses the strengths and challenges facing the Welsh school system, and provides a number of recommendations and policy options for further strengthening it. It highlights the need for ensuring that schools are meeting the learning needs of all their students, building professional capital, developing a coherent assessment and evaluation framework, and defining and implementing policy with a long-term perspective. This report can be valuable for Wales and other education systems looking to raise their performance.

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Chapter 1. School education in Wales: Strengths and challenges

Chapter 2. Supporting equity and quality in Welsh schools

Chapter 3. Building the professional capital for schools to deliver successful change

Chapter 4. Strengthening assessment and evaluation

Chapter 5. Defining and implementing policy with a long term perspective

Write to us

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