

2 Designing the Curriculum for Wales

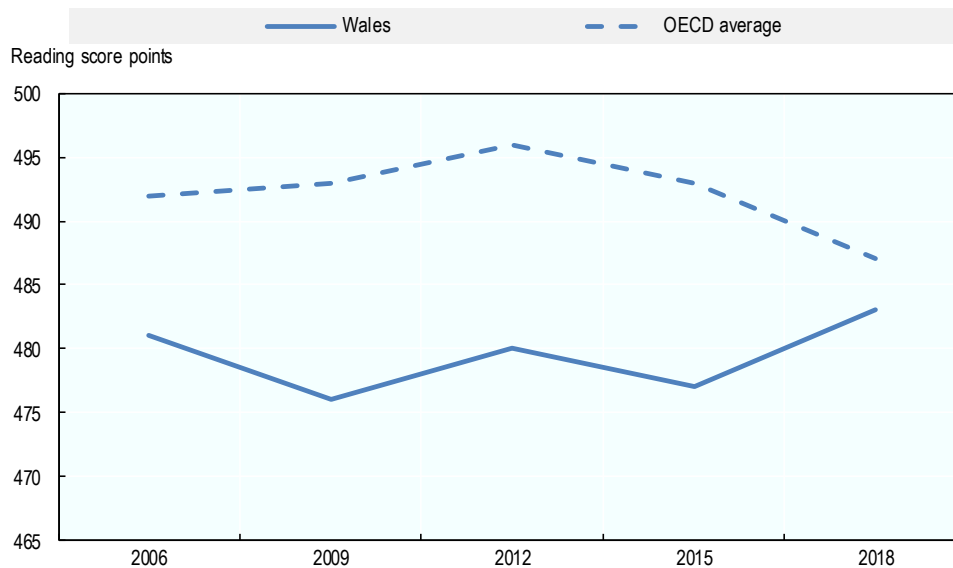
This chapter analyses the design of Wales' new curriculum policy, including its vision, its framework, and its implications in terms of teacher capacity, equity and resources. The Curriculum for Wales follows a vision shaped by four purposes for student learning. The national curriculum framework, still under development at the time of writing this report, aims to guide schools in shaping their own school curriculum. As the new curriculum differs from the current one, there are important implications in terms of resources, schools' and teachers' capacity, and equity that need consideration for success in its realisation.

Why a new curriculum?

Following a nationwide consultation about what Wales wanted for its education system in the future, Welsh education stakeholders agreed upon the need for curriculum change, to a degree that held promise for actual change to take place (Donaldson, 2015^[1]). The Welsh Government acknowledged the result of the consultation and decided to make curriculum reform a central piece to its reform agenda detailed in *Education in Wales: Our national mission*. Wales’ “national mission” consists of the three objectives to raise school standards, reduce the attainment gap between different groups of learners, and to ensure an education system that is a source of national pride and public confidence (Welsh Government, 2017^[2]). The design of a policy plays a central role in its implementation, as the nature of a policy solution and the way it is formulated, influence how the policy plays out across an education system. In particular, the vision and its justification, the type of policy tools and the capacity of those who have to implement it, can enable or interfere with the reform process. The literature on policy implementation further shows that an education policy is more likely to become reality if a strong case underpins the need for change (Viennet and Pont, 2017^[3]; Fullan, 2015^[4]).

Wales has strong reasons to make a curriculum change. First, the current curriculum does not seem aligned to guarantee the quality of learning experiences for all students in the future. Performance on international assessments such as PISA, national assessments and reports by the education and training inspectorate for Wales, found a continuous degradation of student performance until 2015 which confirmed concerns about the quality of student learning (OECD, 2014^[5]). As shown in Figure 2.1, Wales’ 15 year-old students have consistently scored below OECD average on the PISA tests since 2006. The 2018 PISA results showed some improvement with Wales increasing its mean score and reducing the gap to the average, however, the decrease in the OECD average itself contributes to this reduction.

Figure 2.1. Reading performance of 15-year-olds, Wales and OECD, PISA 2006-2018



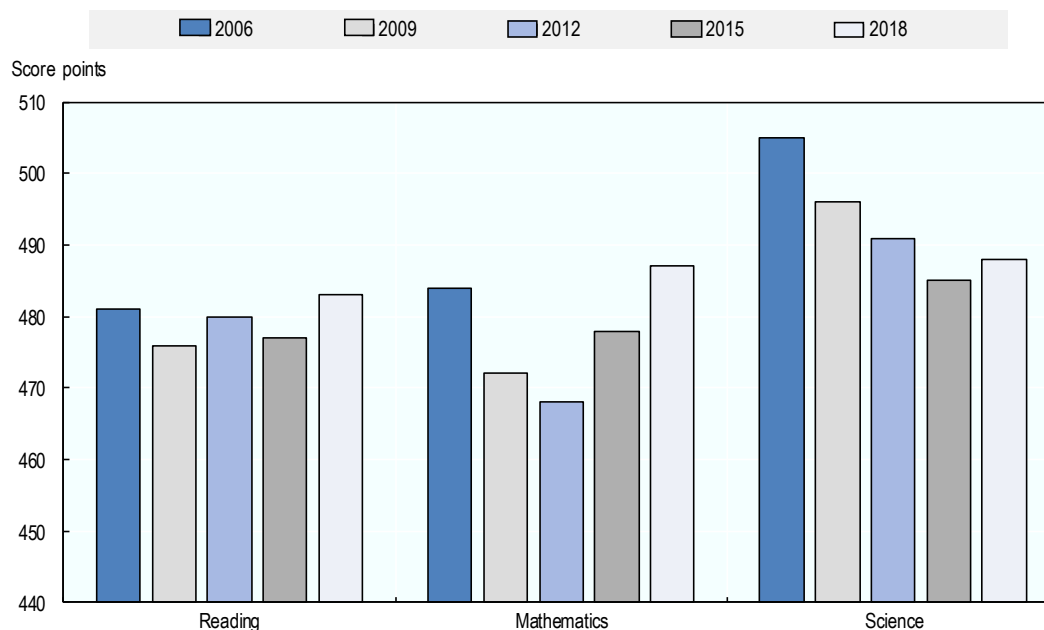
Note: In 2015 changes were made to the test design, administration, and scaling of PISA. These changes add statistical uncertainty to trend comparisons that should be taken into account when comparing 2015 results to those from prior years. Please see the Reader’s Guide and Annex A5 of PISA 2015 Results (Volume I): Excellence and Equity in Education (OECD, 2016^[6]) for a detailed discussion of these changes.

Source: (OECD, 2019^[7]) "Results for regions within countries", PISA 2018 Results (Volume I): What students know and can do, OECD Publishing Paris, <https://doi.org/10.1787/bad603f0-en>; (OECD, 2016^[6]) PISA 2015 Results (Volume I): Excellence and Equity in Education, <http://dx.doi.org/10.1787/9789264266490-en>; (OECD, 2014^[8]) PISA 2012 Results: What Students Know and Can Do (Volume I, Revised edition, February 2014): Student Performance in Mathematics, Reading and Science, <http://dx.doi.org/10.1787/9789264208780-en>; (OECD, 2010^[9]) PISA 2009 Results: What Students Know and Can Do: Student Performance in Reading, Mathematics and Science (Volume I), <http://dx.doi.org/10.1787/9789264091450-en>; (OECD, 2007^[10]) PISA 2006: Science Competencies for Tomorrow's World: Volume 1: Analysis, <http://dx.doi.org/10.1787/9789264040014-en>.

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A slight improvement in all core skills on PISA 2018 (Figure 2.2) holds promise for the future at a time when Wales mobilises nationally to improve the quality of its education. While it still has smaller shares of high performers than the OECD average and the proportions of low performers remain only marginally better than average, Wales has made slight progress in almost all PISA core skills in both measures (OECD, 2019^[7]).

Figure 2.2. Student performance in reading, mathematics and science in Wales, PISA 2006-2018



Note: In 2015 changes were made to the test design, administration, and scaling of PISA. These changes add statistical uncertainty to trend comparisons that should be taken into account when comparing 2015 results to those from prior years. Please see the Reader's Guide and Annex A5 of PISA 2015 Results (Volume I): Excellence and Equity in Education (OECD, 2016^[6]) for a detailed discussion of these changes.

Source: (OECD, 2019^[7]) "Results for regions within countries", PISA 2018 Results (Volume I): What students know and can do, OECD Publishing Paris, <https://doi.org/10.1787/bad603f0-en>; (OECD, 2016^[6]) PISA 2015 Results (Volume I): Excellence and Equity in Education, <http://dx.doi.org/10.1787/9789264266490-en>; (OECD, 2014^[8]) PISA 2012 Results: What Students Know and Can Do (Volume I, Revised edition, February 2014): Student Performance in Mathematics, Reading and Science, <http://dx.doi.org/10.1787/9789264208780-en>; (OECD, 2010^[9]) PISA 2009 Results: What Students Know and Can Do: Student Performance in Reading, Mathematics and Science (Volume I), <http://dx.doi.org/10.1787/9789264091450-en>; (OECD, 2007^[10]) PISA 2006: Science Competencies for Tomorrow's World: Volume 1: Analysis, <http://dx.doi.org/10.1787/9789264040014-en>.

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Second, reports highlight the large variability of students' performance within Welsh schools in spite of a policy commitment to equity (OECD, 2016^[6]). Evidence and country practices point that academic excellence can go hand in hand with equity, and many education systems have embraced equity, quality and well-being as the principles an education system should strive for, integrating them into their education goals (OECD, 2013^[11]; OECD, 2018^[12]).

Third, the general perception is that essential features of the curriculum and assessment arrangements currently in use in Wales no longer reflect the reality learners should prepare for in the 21st century. The national curriculum, based on the Education Reform Act 1988, was previously reviewed in 2008. A series of studies by international and Welsh experts come to similar conclusions, that the national curriculum requires significant changes to help learners in Wales thrive. Suggestions that the curriculum has become overcrowded, atomistic and cumbersome are widespread, in spite of ongoing efforts to enhance it (Donaldson, 2015^[1]). Numerous education systems including British Columbia, New Zealand, Scotland, Japan, or Mexico came to similar conclusions over the past decade, that their school curricula could be updated to develop the type of learning students needed in the 21st century.

Fourth, a national consultation on education in Wales concluded that the curriculum was too prescriptive, limiting pedagogical flexibility and possibilities for educators to adapt teaching to the needs of the learners (Donaldson, 2015^[1]; Welsh Government, 2015^[13]). Wales, like many OECD jurisdictions, questions whether prescribed content and putting the emphasis on accountability is the most beneficial to its education. The balance between national coherence and professional autonomy is notoriously hard to achieve, but beneficial to student learning (Sinnema, 2015^[14]).

Finally, student assessment and evaluations in general are perceived as serving accountability purposes at the expense of learning (Donaldson, 2015^[1]). Student assessment results can serve various purposes. The OECD recommends that assessments should serve improvement as well as accountability, thus encouraging countries to strike a balance between formative and summative assessments to ensure both purposes are achieved. The purpose of each assessment should also be clarified ahead of time, and a variety of assessment approaches should be used in order to avoid distorting student learning (OECD, 2013^[11]).

A key component of the learning environment, curriculum is a policy lever used to support improvement in schools and in student learning (OECD, 2015^[15]; OECD, 2019^[16]). When designed and enacted in all schools, the new curriculum and corresponding assessment arrangements aim to transform the Welsh approach to teaching, learning and assessing, to realise the national vision for education.

An overview of the Curriculum for Wales

The Curriculum for Wales was developed over the course of several years and the final version of its framework (or 'guidance') documents was published in January 2020 (Welsh Government, 2020^[17]), just as this report was under pre-publication review. The analysis in this chapter is based on the version of the framework documents published for consultation in April 2019 (Welsh Government, 2019^[18]).

The new Curriculum for Wales is aimed at all maintained (public) and funded schools for children aged 3 to 16. It intends to provide all children equal access to a broad and balanced education of high quality, including students with additional learning needs. A curriculum and assessment framework is established at the national level, but fully implementing the curriculum requires school-level curriculum design as well.

The new curriculum is built around the “four purposes” of education and around the “statement of what matters”, which describe what is essential for students to learn. The type of learning promoted is holistic, interdisciplinary, and integrates knowledge, skills and experience together (referred to as competency-based within the OECD framework (OECD, 2019_[19])). As such, learning is structured around six Areas of Learning and Experience (Areas) that integrate all current subjects; “statements of what matters” to learn in each Area, further detailed by descriptions of learning; three cross-Areas competencies of literacy, numeracy and digital competency; four “integral” competencies of creativity and innovation, critical thinking and problem-solving, personal effectiveness, and planning and organising. Progression of learning is seen as a continuum rather than a succession of stages, which aligns with the intention to reclaim assessment as a tool to support rather than judge learning.

The six Areas pool individual subject disciplines, which are encouraged to be linked in a stronger and more meaningful way than in the past, but still play an important role as learners advance. The final guidance documents provide, for each Area, an introduction on what it covers, “statements of what matters”, principles of progression, descriptions of learning and specific guidance to develop the school curriculum in this particular Area. Box 2.1 provides some detail on those key elements.

Box 2.1. The six Areas of Learning and Experience of the Curriculum for Wales

An example of “statements of what matters” and descriptions of learning progression steps are provided below for each Area:

Expressive Arts

Statement of what matters, e.g.: “Exploring the expressive arts is essential to developing artistic skills and knowledge and it enables learners to become curious and creative individuals.”

Progression step 5 e.g.: “I can investigate and analyse how creative work is used to represent and celebrate personal, social and cultural identities.”

Health and Well-Being

Statement of what matters, e.g.: “Developing physical health and well-being has lifelong benefits.”

Progression step 5 e.g.: “I can apply a range of techniques to prepare a variety of nutritious meals.”

Humanities

Statement of what matters, e.g.: “Enquiry, exploration and investigation inspire curiosity about the world, its past, present and future.”

Progression step 5 e.g.: “I can make coherent and reasoned responses and judgements that take into consideration different viewpoints.”

Languages, literacy and communication

Statement of what matters, e.g.: “Expressing ourselves through languages is key to communication.”

Progression step 5 e.g.: “I can evaluate and respond critically to what I have heard, read or seen.”

Mathematics and numeracy

Statement of what matters, e.g.: “The number system is used to represent and compare relationships between numbers and quantities.”

Progression step 5 e.g.: “I have explored the relationship between powers, roots and fractional indices and can use it to solve problems.”

Science and Technology

Statement of what matters, e.g.: “Being curious and searching for answers is essential to understanding and predicting phenomena.”

Progression step 5 e.g.: “I can link experimental findings and theoretical knowledge to draw valid conclusions.”

Source: Welsh Government (2020^[17]), *Curriculum for Wales guidance*, <http://hwb.gov.wales/storage/b44ad45b-ff78-430a-9423-36feb86aaf7e/curriculum-for-wales-guidance.pdf>.

The four purposes have been a key driver of the curriculum framework development. They aim to lay the basis for a common language and direction for the designers to move forward. In Wales, the curriculum designers included a large variety of stakeholders, following the government’s commitment to co-construction in education policy. Experts and government officials worked directly with a network of Pioneer schools (see Box 2.2) and educators to design, test and refine the new curriculum before presenting the framework to the public for feedback and further refinement. The Welsh Government co-ordinated this development over the course of several years.

The new Curriculum for Wales intends to provide all children with equal access to a broad and balanced education of high quality, including students with additional learning needs. A curriculum and assessment framework is established at the national level, but fully implementing the curriculum requires school-level curriculum design as well. When designed and enacted in all schools, the new curriculum and corresponding assessment arrangements aim to transform the Welsh approach to teaching, learning and assessing, to realise the national vision for education.

Box 2.2. Schools at the centre of curriculum development

The Pioneer and Innovation schools

The Pioneer Schools Network consists of three subgroups working on designing and developing several key elements of the new curriculum and mechanisms necessary to its realisation. In total, around 200 schools worked on the curriculum and assessment arrangements (94 schools), the Digital Competency Framework (13 schools), and the National Approach to Professional Learning (83 schools) in collaboration with local authorities, regional consortia, the Welsh Government, Estyn and a range of experts on the design and implementation of the new curriculum. Specifically, the schools working on curriculum and assessment designed the high-level framework for the new curriculum and developed the Areas of Learning and Experience and other key elements of the new curriculum. In 2018, 16 schools were drawn from this network to become Innovation schools in order to further refine the curriculum. Their role was to test local development and implementation of the curriculum and to generate knowledge about the practices, activities and initiatives required to embed the new curriculum effectively. To ensure representation of all modes of education provision, four schools from each regional consortium and a range of primary, secondary and special schools were selected. An analysis of their experience was completed in November 2019, in order to share their lessons learnt with the Welsh Government and other schools, and inform the development and implementation of the curriculum framework.

Sources: OECD (2018_[20]), *Developing schools as learning organisations in Wales*, <https://dx.doi.org/10.1787/9789264307193-en>; Wavehill (2019_[21]), *Innovation Schools: End-of-Phase Reporting Synthesis*, <https://gov.wales/sites/default/files/consultations/2019-11/innovation-schools-end-of-phase-reporting-synthesis.pdf>.

Observations and issues about the curriculum

Developing a shared vision

The new curriculum has been developed following the nationwide review of curriculum and assessment arrangements (Donaldson, 2015_[1]), in which the education community in Wales succeeded in co-constructing a compelling vision of what education should enable Welsh learners to become (OECD, 2018_[20]). The vision, formulated in four purposes, aims to guide Wales' education reform agenda and more specifically, its curriculum reform so they enable children and young people in Wales to be:

- ambitious, capable learners, ready to learn through their lives
- enterprising, creative contributors, ready to play a full part in life and work
- ethical, informed citizens of Wales and the world
- healthy, confident individuals, ready to lead fulfilling lives as valued members of society.

This vision resonates with others developed in recent years by several OECD countries and economies such as Australia, Ontario and British Columbia (Canada), Estonia, Finland, Japan and New Zealand who redesigned their curricula to align them with what students need to learn to fulfil their personal, academic and future professional life. The preliminary findings of the OECD's Future of Education and Skills 2030 project further support these future-oriented visions aiming for the holistic development and engagement

of learners. In addition, key elements of Wales' new curriculum framework are in line with the good practices emphasised by the project (OECD, 2019^[19]).

The national vision is widely shared at least in principle across Wales. Sharing a compelling vision at the national level is essential as it can steer a system and draw key people together to work towards it (Hargreaves and Shirley, 2009^[22]). The interviews led by the OECD team and several other independent studies commissioned by the Welsh Government confirm this widespread support for the four purposes of the curriculum. Students, teachers and parents interviewed by the OECD team and other experts referred to the four purposes repeatedly (OECD interviews).

To facilitate comprehension of the vision, the curriculum framework designers made efforts to convey concrete objectives that serve the vision. Research in policy implementation finds that defining concrete objectives helps frame the vision in operational terms, thus facilitating action (Viennet and Pont, 2017^[3]). Especially, the literature on curriculum reform emphasises that minimising the possibility to misinterpret the core goals of a curriculum is crucial for successful implementation (Sinnema, 2017^[23]; Aitken, 2005^[24]). Vital to stakeholders' understanding of and response to the curriculum, are the coherence and quality of the curriculum policy itself (Aitken, 2006^[25]; Aitken, 2005^[24]; Spillane, Reiser and Reimer, 2002^[26]). With high-quality design comes greater clarity about what the various elements mean, and more depth of understanding about how they might be enacted. The curriculum statement itself will support sense-making by meeting high quality design criteria such as (Aitken, 2005, p. 63^[24]):

- clearly communicating the rationale for key elements and key changes, reducing the tendency to attend only to surface features
- engaging the prior knowledge of those working with the curriculum and explicitly alerting them to possible misconceptions that are not in line with the actual aspirations of the curriculum
- connecting more general principles with more specific examples that serve to clarify and reduce misunderstanding
- using graphics in ways that help people understand how elements of the curriculum interact
- ensuring logical text organisation and signalling devices such as headings and connectives to reduce unnecessary cognitive load and to make the logical connections between the elements of the curriculum more explicit
- maximising internal coherence and minimising complexity by checking for contradictions and carefully checking for explicit alignment of any potentially competing elements.

The draft statutory guidance documents of the new Curriculum for Wales have a section dedicated to explaining how each of the new Areas of Learning and Experience supports the four purposes of the curriculum (Welsh Government, 2019^[27]). What is more, the “key characteristics”, “statements of what matters” and “descriptions of learning” detailed for each Area aim to help schools understand what aspects of learning contribute to the four purposes, and how students can demonstrate their achievements. Some schools the OECD team visited or interviewed also conducted collective work with their students, leaders, teachers and assistants to define what learning activities and experiences could help students develop the four purposes (OECD interviews). An analysis of the feedback provided on the draft curriculum framework during the 2019 national consultation showed that more than 60% of the respondents were convinced that the new curriculum would help realise learners achieve the four purposes (Wavehill, 2019^[28]). Other sources, including OECD interviews and an independent review commissioned by the Welsh Government, have also suggested this.

There is much variability in the way stakeholders can understand and respond to key aspects of a curriculum, even when they express their commitment to them (Sinnema, 2011^[29]; Sinnema and Aitken, 2011^[30]; Spillane, 2005^[31]; Spillane, Reiser and Reimer, 2002^[26]). Stakeholders often make sense of the same policy messages in different ways, which can largely affect implementation if key elements of the policy are understood and enacted in significantly different or even contradictory ways (Pietarinen, Pyhältö and Soini, 2017^[32]; Siciliano et al., 2017^[33]; Coburn, 2001^[34]; Weick Sen, 1995^[35]). The OECD team found a wide range of perceptions among Welsh stakeholders of what the four purposes and the curriculum might imply for practice. Although all the stakeholders interviewed by the OECD team agree on the aspiration for “ambitious learners” and “creative contributors”, the observable manifestation of such qualities in students, and specific pedagogical activities and experiences to guide them in their development remain unclear in many interviews. Especially, perceptions vary on the scope of the transformations required in teaching and leadership practices, support initiatives, and interactions with learners, parents and communities (OECD interviews).

Defining a new curriculum for holistic learning

The new curriculum is in keeping with an international trend to develop curriculum frameworks based on broad competencies as opposed to curricula primarily based on content or on skills (Bergsmann et al., 2015^[36]; Wesselink et al., 2010^[37]; OECD, 2019^[38]). Although it does not specifically refer to the concept, the Curriculum for Wales’ framing around purposes is consistent with the conceptualisation of competencies developed by the OECD’s Future of Education and Skills 2030 project, which defines competencies as the integration of knowledge, skills, attitudes and values that enable students to perform in ill-defined environments, thus allowing them to navigate a fast-paced and uncertain world (Wesselink et al., 2010^[37]; Mulder, 2001^[39]; OECD, 2018^[12]). In contrast, a content-centred curriculum, for instance, focuses on transmitting discipline knowledge as a goal in itself, regardless of its relevance to student learning (Schiro, 2008^[40]). The definition of competencies as integrative and with a broad performance orientation allows the debate to shift away from the traditional “knowledge v. skills” focus, by acknowledging the importance of both in learning.

Similar to its counterparts in British Columbia and Finland (Box 2.3), for instance, the Welsh Government had to clarify to its stakeholders that the new curriculum did not abolish disciplinary knowledge and skills (Welsh Government, 2019^[41]). The new structure around six Areas aims to guarantee Wales’ progress towards holistic learning and away from fragmentation, with the Areas encompassing existing subjects and aiming to promote cross-disciplinarity at school level (Welsh Government, 2019^[18]). Under the new curriculum, schools and teachers have been positioned as curriculum designers with the freedom to develop their own approach in support of the four purposes. They can choose to completely integrate subjects into Areas, or to teach on the basis of subjects while emphasising their links with other subjects within the broader framework of each Area, as long as it enables learners to develop within the four purposes (Welsh Government, 2019^[41]).

Box 2.3. Curricula for the 21st century

British Columbia (Canada)

British Columbia developed a new curriculum to modernise its approach to learning and help its students become thoughtful, creative, skilled, productive, co-operative citizens. The new curriculum is concept-based to promote essential learning, and competency-driven, with literacy and numeracy as foundational competencies, complemented by the core competencies (thinking, communication, personal and social). The new pedagogical model builds on big ideas (“UNDERSTAND”), content (“KNOW”) and curricular competencies (“DO”) altogether.

Finland

Finland’s National Core Curriculum is structured around seven transversal competencies aimed to promote students’ growth as human beings and citizens: Thinking and learning to learn; Cultural competence, interaction and expression; Taking care of oneself, managing daily life; Multi-literacy; Digital (ICT) competence; Working life competence, entrepreneurship; and Participation, involvement, building a sustainable future. Each transversal competency covers knowledge, skills, values, attitudes and volition (willingness to take action), and is further elaborated with objectives and curriculum content. The rationale behind the concept of transversal competency is to promote that students should be able to apply their knowledge and skills in an interdisciplinary manner in a given situation, while acknowledging that student learning is influenced by students’ values, attitudes and volition.

Sources: Government of British Columbia (2019^[42]), *Curriculum and assessment* – Province of British Columbia website, <http://www2.gov.bc.ca/gov/content/education-training/k-12/teach/curriculum>; Magee and Jensen (2018^[43]), *Overcoming challenges facing contemporary curriculum. Lessons from British Columbia*, <http://learningfirst.com/wp-content/uploads/2018/11/Overcoming-challenges-facing-contemporary-curriculum-Lessons-from-British-Columbia.pdf>; Finnish National Agency for Education (OPH) (2016^[44]), *National Core Curriculum for Basic Education*, <https://verkkokauppa.oph.fi/EN/page/product/national-core-curriculum-for-basic-education-2014/2453039>.

Moving away from a curriculum structured around subjects is challenging, especially in secondary schools whose teaching workforce, timetables and leaving exams have traditionally been organised around these subjects. The challenge lies in finding concrete mechanisms to weave knowledge, skills and values from different subjects to allow learners to develop deep understanding of the issues at hand and to transfer the skills and knowledge they gain to other situations whether at school, university, in their personal or professional life. The freedom to test more or less integrated designs can help schools find balance with the new curriculum if it comes with proper support and monitoring within schools and from outside actors (see the section “Moving towards locally designed school curriculum” in this chapter for further analysis).

A key feature of the Curriculum for Wales is the use of big ideas (“statement of what matters”) to structure learning. Big ideas are those that link understandings together into coherent wholes, both within and across traditional subjects (Harlen, 2010^[45]; Charles, 2005^[46]). Big ideas curricula structure learning primarily around the key ideas that are essential in each learning area and most relevant to students’ experience during and beyond school. The aim is to create a framework for learning that teachers and curriculum developers can then build on to define the learning experiences that will bring students to master these big ideas (Harlen, 2015^[47]; Harlen, 2010^[45]).

Wales' draft framework defines between three and six “statements of what matters” for each Area. The statements aim to capture the fundamental learning concepts for the Area and provide context for the learning content and activities that take place in the classroom. Groups of experts, teachers and other stakeholders developed the statements, also using information from Pioneer schools' own experience. Detailed by descriptions of learning (assertion presented in the first person phrased as if the learner said them, which define steps of progression), the “statements of what matters” are a guide to determine which skills, knowledge and value students need to progress in their learning within each Area. These descriptions are Area-specific, but they call for different types of skills, knowledge and values; they are complemented by the three cross-curricular skills of literacy, numeracy and digital competency, and the four integral competencies of creativity and innovation, critical thinking and problem-solving, personal effectiveness, and planning and organising (Welsh Government, 2020_[17]).

This concept of big ideas has gained some importance in discussions about curriculum reforms in recent years (OECD, 2019_[48]). Little evidence exists on the effect of big ideas on learners' outcomes, because of the difficulty to measure and compare direct links between types of curriculum and learning, and because a small number of countries have only started to introduce it systematically. However, an increasing number of research initiatives help identify how the use of big ideas in curricula can impact learning (Chalmers et al., 2017_[49]; Sinnema, 2017_[23]; Harlen, 2015_[47]; Priestley and Sinnema, 2014_[50]; Magee and Jensen, 2018_[43]). A key challenge for the systems developing this type of curriculum, including for Wales, is that big ideas must be clear enough to capture all the key concepts learners are expected to learn about, while not being overly prescriptive. Following the 2019 consultation on the draft framework, it appeared that the 2019 versions of the statements of what matters were still unequal in quality and clarity, along with other key elements structuring the framework. Close to 90% of respondents deemed that the framework was difficult to understand and lacked consistency (Wavehill, 2019_[28]). Stakeholders interviewed by the OECD team during the last quarter of 2019 also acknowledged that the draft framework documents were long (74 pages per Area on average plus 40 pages of introduction and assessment arrangements), sometimes repetitive and unclear.

The ambition of holistic learning also affects the transitions and the alignment between the various levels of education. The new Curriculum for Wales is aimed at learners aged 3 to 16, spanning the last years of early childhood education and care (‘nursery’ as referred to in Wales), all primary and lower secondary education, and the first year of upper secondary education (OECD, 2018_[51]). This creates alignment issues, which the Welsh Government and education stakeholders should continue to discuss. A specific curriculum is expected to be published in 2021 for the settings that will be involved with the new curriculum in early childhood education and care (ECEC)¹. The final version of the framework documents include guidance to co-ordinate learners' progression between schools and across levels of education (Welsh Government, 2020_[17]). At this stage, schools thus have some basis for discussions. These discussions between nursery, primary and secondary education levels will be crucial before September 2022, to ensure coherent implementation across Wales. In the future, higher and post-secondary education institutions may also need to reflect on the effect of the new curriculum on their students and their own teaching practices, before the first cohorts to experience the Curriculum for Wales reach higher levels of education (OECD interviews).

The Welsh Government and stakeholder working groups made clarification of the framework one of their priorities following the 2019 consultation, to enhance the version published at the beginning of 2020. The final version of the framework documents brought the volume down to about 20 pages per Area, with detailed introductory parts and precisions about principles for curriculum design, which the OECD team believes will be beneficial (Welsh Government, 2020_[17]). Developing quality content in clear frameworks

that give sufficient guidance, without being too prescriptive for practitioners, will be at the heart of success with the implementation of the Curriculum for Wales.

A new approach to assessment for learning

The new Curriculum for Wales also revisits the role of assessment in students' learning progression. Following the Donaldson report (2015^[11]) and the national consultation on the draft curriculum framework (2019), the Welsh Government suggests moving away from the formative v. summative dichotomy about student assessment (Welsh Government, 2019^[52]). Assessment is promoted as a tool to support the progress of each individual learner in relation to the 3-16 continuum. This aligns with multilateral OECD work on curriculum and assessment (OECD, 2019^[38]). Stakeholders in Wales identified three main roles of student assessment under the new arrangements:

- To support individual learners on an ongoing, day-to-day basis.
- To identify, capture and reflect on individual learner progress over time.
- To understand group progress in order to reflect on practice.

Schools' priority under the new curriculum is to articulate learning progression throughout the curriculum, and to develop befitting assessment arrangements (Welsh Government, 2019^[53]). The Welsh Government and relevant stakeholders, such as Estyn, are also modifying the accountability frameworks for inspection, evaluation and qualifications to reflect this change in the national approach to assessment (see Chapter 4 for more detail). The final version of the curriculum and assessment guidance documents highlight that provisions for student assessment are different from activities contributing to external accountability and national monitoring (Welsh Government, 2020^[17]).

Student assessment is key to curriculum policy, as it has become a driver in how students learn in many education systems. The literature traditionally distinguishes between formative and summative purposes for student assessment. Formative assessment helps focus the attention on the learning progress of each student, enabling teachers to adapt teaching and learning strategies to respond better to students' learning needs. When used for summative purposes, assessment aims to record, mark or certify achievement. In practice, schools often have to use the same assessment for both purposes, which involves the risk that summative assessments become a hidden curriculum, encouraging a narrower approach to teaching and learning. This is particularly the case in systems where school-leaving examinations and qualification exams carry high stakes for students' future education or teachers' careers, because even in-class assessments with formative purposes can become a rehearsal of the final tests (OECD, 2013^[11]).

In Wales also, the 'dual purpose' of student assessments seems to have negatively affected their quality (OECD, 2017^[54]): assessments are used for accountability as well as to inform teachers and students on learning progression. In 2008, teacher-led student assessments were introduced after the first two years of primary education (the end of what is known in Wales as the "Foundation Phase"), and at the end of primary ("Key Stage 2") and lower secondary education ("Key Stage 3") (OECD, 2018^[51]). These assessments had become part of the annual national data collection cycle that monitors the education system. The results were used in school evaluations, as part of the national categorisation system and of Estyn inspections, which are made public. Results were also posted on the My Local School website. The decision to make these data public and to hold schools accountable created high stakes and is widely believed to have contributed to reducing their reliability. In recognition of these challenges, annual Statutory National Reading and Numeracy Tests were introduced in 2013 for Year 2 through to Year 9. While these tests were designed as diagnostic tools, they are not always perceived this way at the school level and some teachers still struggle to make adequate use of these formative assessments (OECD, 2018^[20]; Estyn, 2018^[55]).

As Wales and other countries slowly work towards curricula based on broad competencies, the need for a new approach to student assessment is necessary. The literature shows that high-stakes assessments tend to encourage rote learning, and are not suitable to assess progress in the complex type of learning that the new curriculum promotes. Recent research has focused largely on forms of assessment that would be able to capture the type of learning valued in today's societies, using complex achievements that require students to mobilise integrated knowledge, skills and attitudes rather than to give a correct answer (Looney, 2011^[56]). These forms of assessment include essays, oral presentations, experiments, projects and portfolios, collaborative tasks, real-life cases and problem-solving assignments. Technological progress also creates opportunities to use sophisticated assessment tools (OECD, 2013^[11]). OECD countries have developed forms of assessment for learning (see Box 2.4 for an example with a similar curriculum in New Zealand). The OECD's Future of Education and Skills 2030 project is also exploring the notion of "assessment as learning", considering assessment itself as a learning opportunity (OECD, 2019^[38]).

Box 2.4. Assessment for learning in New Zealand

Assessment for learning is a key principle of the curriculum and assessment arrangement in New Zealand. It describes a process by which teachers use assessment information to adjust their teaching, and students to adjust their learning strategies. Assessment is envisioned as a way to motivate and engage students in their learning because it is done in collaboration between the teacher and the learner. The principles underlying assessment are developed on a dedicated website. The principles acknowledge the importance of content knowledge for both students and teachers for meaningful assessment; as well as the crucial role of planning and communication. Similar to Wales, New Zealand sets that assessment should value progress beyond achievement. It also reminds teachers that assessment carries social and cultural aspects, and thus that assessment strategies should take into account learners' culture, background and experience to be appropriate and effective. In order to support teaching and learning, assessment must follow the identification of the learning need; be paired with feedback; and be linked to the description of the next steps for teacher and student along the learning progression path.

Source: New Zealand Government (2010^[57]), *Te Kete Ipurangi website, Assessment for learning*, <http://assessment.tki.org.nz/Assessment-for-learning/Underlying-principles-of-assessment-for-learning>.

An important step forward in this regard is the ongoing development of a system of adaptive online personalised assessments to replace paper-based reading and numeracy tests (Welsh Government, 2017^[2]). Welsh Government officials report that the adaptive online personalised assessments were implemented nationally, setting Wales among a small group of countries innovating in student assessment. Some OECD countries, including Denmark and the Netherlands, are using such computer-based adaptive technology, which presents students with test items sequentially according to their performance on previous test items. This may prove to be an important means to support teachers in translating the curriculum's statements of what matters into teaching and learning, across the full width of the new curriculum. This makes testing more efficient as more fine-grained information can be obtained in less time (OECD, 2013^[11]; Scheerens, 2013^[58]). The Welsh Government reported developing such tests in other areas of learning including mathematical reasoning (OECD interviews). The Innovation schools also aimed to develop some innovative forms of assessment, including project-based evaluation and e-portfolios that could be used with the new curriculum. It will take some time, however, before adaptive and other innovative forms of

assessments for all areas of learning will become available to enrich the portfolio of assessment instruments that teachers should be able to draw from.

As part of the new curriculum in Wales, student assessment has been associated with a new approach to learning progression itself. Wales describes progression as a continuum from ages 3 to 16 rather than a succession of “Key Stages” (Wales’ groupings of Years of primary and secondary education). As a result, the system aims to move away from the standard-based assessment approach that measured how well each student fitted the attainment goals for each Year and Key Stage, and to remove the assessments at the end of the Foundation Phase and Key Stages. The 2020 arrangements propose a new process for developing a shared understanding of progression both within and across schools. This process is expected to replace external moderation – the mechanism used to validate the marking of student assessments at Key Stages – and to affect the way students transition into upper Years (Welsh Government, 2019^[52]). The new process relies on six principles of assessment (Welsh Government, 2020^[17]):

1. The purpose of assessment is to support the progression of each individual learner in relation to the 3 to 16 continuum.
2. Learners are at the heart of assessment and should be supported to become active participants in the learning process.
3. Assessment is an ongoing process which is indistinguishable from learning and teaching.
4. A shared understanding of progression, developed through professional dialogue, is integral to curriculum design and improving learning and teaching.
5. Learning across the breadth of the curriculum should draw on a wide range of assessment approaches, building a holistic picture of the learner’s development.
6. Engagement between the learner, parents/carers and practitioners is essential for learner progression and well-being.

The principles of the new approach to assessment were refined up until January 2020, as reported by the Welsh Government to the OECD team. The new approach to assessment proposes to articulate a holistic progression of learning for the learner, linked to the four purposes in each of the Areas. The new approach relies fundamentally on active engagement between the learner and the practitioner, who establish together where learners are in their learning, where they need to go, and what needs to be done for them to get there, taking into account barriers to their learning. As a result, individual student assessment will increasingly require collaboration within schools, between several teaching staff, school leaders, students and parents, as well as between schools of the same clusters, as students go from primary to secondary education². “Curriculum for Wales guidance”, the final guidance document details the role of each key stakeholder in student assessment (Welsh Government, 2020^[17]).

Nationwide implementation of the new approach to assessment is one of the next challenges for Wales which will require careful support. In keeping with the principles of school design, schools in Wales are expected to develop new student assessment practices that are coherent with the new curriculum and the guidance proposed at national level. Most Innovation schools reported that national guidance on student assessment would be essential for all schools to develop their approach. They also found that the draft guidance proposed in 2019 was limited, as the “achievement outcomes” (former elements in place of the descriptions of learning) still resembled previous assessment criteria, and that the forms of assessment suggested lacked in clarity. This could result in largely variable outcomes based on schools’ contexts (Wavehill, 2019^[21]). The final version of the curriculum framework document referred to “descriptions of learning”, which aim to enhance the clarity and quality from the achievement outcomes.

As in other OECD countries, the practicalities of the assessment approach promoted in Wales' draft framework raises issues. Education stakeholders that the OECD team interviewed commented on a lack of clarity in the definition of competency goals and of achievement outcomes, which made it difficult for teachers to know exactly what they are trying to assess. The transversal nature of competencies also demands collaboration and co-ordination in student assessment between teachers across subjects and Areas. A central principle in Wales' new approach, collaboration requires time to settle down, especially on such a challenging issue as student assessment. There is evidence that this can be tackled through different approaches (OECD, 2013^[11]). Following this analysis, the modifications proposed in the final version of the curriculum framework appear to have started tackling the issue, with more time to be spent at school and cluster levels to refine the understanding of learning progression (Welsh Government, 2020^[17]).

In addition, the uncertainty around how GCSEs and A-Levels relate to the Curriculum for Wales for the cohorts who have experienced the new curriculum renders teachers cautious around the changes they will need to make to their assessment practices. Qualifications Wales is significantly involved in the discussions around curriculum and student assessment, and was consulting on the future shape of qualifications at the time of writing this report, including GCSEs, which should help practitioners, students and parents have a clearer idea of what to expect in the near future. Stakeholders reported to the OECD team that some schools and teachers had adopted a "wait-and-see" approach before changing their assessment practices. The high visibility of high-stakes assessments often puts pressure on teachers to adapt their own practices to the format used in examination tests. Research has shown that the type of complex learning and higher-order skills that these forms of assessment evaluate are heavily dependent on the situation, which limits the reliability of any task or project. This type of assessment is difficult to use for large-scale examinations, mainly because of concerns regarding their reliability, lack of the necessary resources and time necessary for their implementation. The design of GCSEs and A-Levels are likely to support or constrain the conditions required for the aspirations of the Curriculum for Wales to be achieved. Teachers may be tempted to narrow their assessment and thus their teaching to best prepare their students for these tests, to the detriment of richer and more formative assessment approaches (OECD, 2013^[11]).

Moving towards locally designed school curriculum

Local design of the schools' curriculum is a driving element of the new curriculum, in line with other systems that shifted towards similar curriculum design approaches, including for instance New Zealand (*The New Zealand Curriculum*, 2007) and Finland (*The National Core Curriculum for Basic Education*, 2014). The new curriculum framework aims to guide school communities in the elaboration of their own school curriculum, as compared with a national curriculum that prescribes every aspect of learning. The main goal of this approach is to allow the curriculum to be more relevant to the local context and thus more engaging for students. This requires teachers, school leaders and possibly other local actors to take responsibility in shaping the curriculum (Welsh Government, 2019^[18]). This aligns with international discussions, especially with the OECD Future of Education and Skills 2030's concepts of teacher and student agency and co-agency (OECD, 2019^[38]).

Research shows that curriculum models that are less prescriptive and afford more decision-making freedom to schools tend to lack focus, but tend to be sustainable in the long run (Nieveen and Kuiper, 2012^[59]). By definition, these curriculum models do not give detailed directives. The extent to which such curricula can find some coherent focus thus depends on how well schools and teachers across the system understand the principles underlying the curriculum, and on their capacity to teach accordingly. A less prescriptive curriculum can last longer than a prescriptive one because it is rooted in trust in schools' and teachers'

professional ability to lead curriculum evolution, which is a key factor of sustainable change (Nieveen and Kuiper, 2012^[59]; Hargreaves and Fink, 2006^[60]). In comparison, more prescriptive models tend to yield immediate results more easily but tend to be shorter-lived because they can discourage teachers from taking professional initiatives at the school level and may be more demotivating of teacher professionalism (Fullan, Hopkins and Spillane, 2008^[61]; Kelly, 2004^[62]).

International experience, however, shows that implementing school-level and local curriculum design in a system is challenging. Across countries, the positive association between school autonomy and students' performance is conditional on the level of accountability, the quality of the teaching force and of the support to schools and their staff to be able to respond to autonomy (OECD, 2016^[63]). In some education systems, granting some forms of curricular autonomy without appropriate support became a risk for the new curriculum and its quality, as educators who did not feel prepared to develop school-level curricula resorted to former curriculum practices (OECD, 2018^[64]; OECD, 2019^[38]). The example of Finland shows some of the strengths and conditions required for this type of approach to be sustainable (Box 2.5).

Box 2.5. Guaranteeing quality and coherence among local curricula in Finland

The new curriculum taught in Finnish schools is guided by a national framework and designed locally, thus implying the necessity to find balance between local autonomy, national coherence and overall quality of the curriculum. Recent research suggests that Finland has struck this equilibrium thanks to several factors: the high quality of its teachers, a combination of top-down and bottom-up implementation strategies, and a culture of transparency, participation and collaboration.

High-quality teachers

In a system where teachers take responsibilities in school curriculum design, their design capabilities determine the quality of schools' curricula to a large extent. Teachers in Finland are well trained in education science and subject matters, and they display notably well-honed skills in both. Teachers are also engaged in leading their schools' pedagogical practices through constant collaboration.

Autonomy with support

The Finnish central government also supports local autonomy effectively to guarantee sustainability of the curriculum. A balanced strategy was adopted to implement the new curriculum, using both top-down and bottom-up mechanisms. At state-level, the National Agency of Education provides the framework, direction and resources to ensure local schools have capacity to implement the curriculum locally. At the local level, education stakeholders provide feedback and build solutions best suited to local needs.

Transparency and participation

Finally, the transparent and participatory nature of the Finnish reform process has helped with individual and collective sense-making, which is crucial for forming shared interpretation of the curriculum on different levels. Collaboration and knowledge-sharing among teachers also contribute to improving the quality and coherence of the local curriculum.

Sources: Halinen, I. (2018^[65]), *The new educational curriculum in Finland*, http://www.allianceforchildhood.eu/files/Improving_the_quality_of_Childhood_Vol_7/QOC%20V7%20CH06%20DEF%20WEB.pdf, (Accessed 10 December 2019); Pietarinen, J., Pyhältö, K. & Soini, T. (2017^[32]), *Large-scale curriculum reform in Finland – exploring the interrelation between implementation strategy, the function of the reform, and curriculum coherence*, <https://doi.org/10.1080/09585176.2016.1179205>.

As suggested by the Finnish example, the documentation, knowledge and resources provided to schools to support them with the curriculum will be a key factor for the success of local design. It is especially important that the Welsh Government and regional consortia help schools in this process, as Welsh educators take on responsibilities in curriculum design at the school level after decades of working with a prescribed curriculum. The quality, wide availability and consistency of support materials provided and of professional learning for all involved, are the highest priorities to guarantee that the curriculum fulfils its ambitions. Having a clear and balanced national framework is essential to effectively guide schools in their own curriculum, which was clarified during the 2019 feedback and reportedly taken into account in the framework documents published in January 2020.

The Welsh Government and regional consortia have a role to play in providing high quality professional learning, as well as more specific curriculum guidance and support materials, even while keeping true to the principle of local design. Evidence shows that providing schools with practical examples and inspirational case studies can inspire them as they design their own. Especially, schools can find great value in a selection of educative materials that illustrate the essential ideas of the curriculum and are adaptable to local aims, with some specifications regarding the content and the procedure of activities (Nieveen and Kuiper, 2012^[59]; Davis and Krajcik, 2005^[66]). Innovation schools fed back their experience trialling the curriculum, including on local design, which was compiled and published (Wavehill, 2019^[21]). The Welsh Government reported reflecting on how best to share this information with other schools so they learn from Innovation schools but design their own locally relevant curriculum (OECD interviews).

A number of stakeholders interviewed suggested to the OECD team that, although schools are looking forward to designing their own curriculum, many of them were expecting more specific guidance and more consistent support than currently available, failing which they could consider turning to external, private providers (OECD interviews). The final version of Wales' curriculum framework documents offer a number of guidance points to help schools design their curriculum. These include using evidence and expertise; co-constructing with other education institutions, learners, parents and other stakeholders; reviewing the curriculum periodically; clarifying the pedagogical approaches according to some set principles; and keeping as a first milestone September 2022, when all learners up to Year 7 are supposed to experience the new curriculum (Welsh Government, 2020^[17]). The Welsh Government and regional consortia also held information sessions around the new curriculum across the country, aiming to help all schools and their staff understand the stakes of local design and to give them time to plan their own curriculum (OECD interviews). The effectiveness of these initiatives remain uncertain at this stage. It is crucial that, if those initiatives are further developed, they take into account that the new curriculum demands new knowledge, skills and capabilities to be understood, designed and put into practice. Professional learning of high quality and precision is required.

Expanding teachers' and school leaders' capacity

A key success factor for the adoption of Wales' curriculum and assessment arrangements at the school level is the capacity of teachers, schools and their leaders. Capacity refers to the human resources that could either make or break the policy objective. More specifically, capacity means the skills, knowledge and competencies implementers need to carry out the new policy. Teachers and school leaders are at the centre of any attempt to improve the quality of education. Decades of research have found that teachers and school leaders shape the quality of instruction, which strongly affects students' learning and outcomes (OECD, 2019^[67]; Barber and Mourshed, 2010^[68]; Darling-Hammond, 2017^[69]). Like anywhere else, Wales' new curriculum and assessment arrangements can only be successfully implemented if the teachers, teaching staff and other actors of learning have the adequate capacity to turn the policy into reality.

Wales has approximately 25 802 qualified teachers in service, 1 538 head teachers (school leaders who are teachers themselves and can also perform class duties) (Welsh Government, 2019^[70]) and other leadership team members, as well as support staff. All these staff will be required to have a high degree of knowledge to develop and shape the new curriculum at their school. Currently, teachers and school leaders graduate with a Bachelors' Degree, a Qualified Teacher Status (QTS) and school leaders must go through a National Professional Qualification for Headship (NPQH). In addition, in Wales support staff make up half (50%) of total full time equivalent staff in schools. Most of the support staff help students learn: higher level teaching assistants, teaching assistants, foreign language assistants, special needs support staff. They are not currently required to have specific qualifications, although as part of the 2017 action plan, the Welsh Government updated teaching assistant standards to better recognise high-level teaching assistants.

Evidence on what competencies teachers need to develop to teach a future-oriented curriculum, such as Wales' new curriculum, is an emerging field. Existing research, countries' experience and the interviews the OECD team conducted with stakeholders suggest those competencies should include curriculum design, professional collaboration, formative assessment practices and meaningful feedback, and teaching students with special needs and multiple backgrounds [(OECD, 2019^[67]) and OECD interviews]. A first observation from international literature is that "professional competence", like the global competence aimed for students to develop, is based on the integration of knowledge (both content and pedagogical), skills, attitudes and motivation, and the ability to apply all of the above to highly complex and demanding situations. It follows from this conceptualisation of professional competence that the ability to solve work-related problems requires having, not only the cognitive abilities for developing effective solutions (i.e. pedagogical knowledge), but also the right motivation and attitudes (OECD, 2019^[67]).

As schools start developing and implementing their curriculum, it is important that Wales keep abreast of ongoing research and innovation in pedagogical practices. The frequent and widespread use of high-leverage pedagogies is also an important element of teaching quality. Practices involving cognitive activation (instructional activities that require students to evaluate, integrate and apply knowledge within the context of problem-solving) are positively related to student learning and achievement (Echazarra et al., 2016^[71]; Le Donné, Fraser and Bousquet, 2016^[72]). Indeed, these practices can challenge and motivate students, and stimulate higher-order skills, such as critical thinking, problem-solving and decision-making. Teachers implementing these practices not only encourage students to find creative and alternative ways to solve problems, but also enable them to communicate their thinking processes and results to their peers and teachers. Yet such teaching practices tend to be less widespread across the OECD (OECD, 2019^[67]).

Professional collaboration among teachers in a school is also promoted as a necessary process at school level and across schools. According to PISA results (OECD, 2016^[63]), on average across OECD countries, teachers' collaboration has proven to be positively associated with student performance in science, after accounting for the socio-economic profile of both the students and the schools. According to the OECD's Teaching and Learning International Survey (TALIS) results (OECD, 2014^[73]), having a collaborative culture within the school is one of the factors that shows the strongest association with teachers' self-efficacy and job satisfaction. Other quality processes include teachers' active engagement with students, teachers giving meaningful feedback to students about their school work, and the cultivation of a safe, respectful and supportive environment (OECD, 2018^[74]).

There has been no systematic appraisal of the overall quality and specific competencies of Wales' teachers. Several reports had concluded that by 2017, the education workforce in Wales was not prepared to undertake the implementation of the new curriculum. The conclusions were based on teachers' perception of their own preparedness, on self-assessment of their skills and how it matched the upcoming reforms, and on an evaluation of the provision of teacher education and continuous professional development

(National Assembly for Wales Children, 2017^[75]; Furlong, 2015^[76]). These reports offered insightful recommendations to enhance both initial teacher education, professional learning, and the direct initiatives intended to support implementation of the curriculum. The Welsh Government acknowledged most of these recommendations, publishing new professional standards, reforming initial teacher education, and developing a National Approach to Professional Learning (professional development) in 2018.

More recent surveys focused on the new curriculum suggest that government and consortia efforts have borne fruit, with a significant increase in the number of practitioners who felt ready and able to implement the new curriculum. For instance, a readiness for change survey led by the Welsh Government in 100 schools across the country yielded 800 responses from practitioners, of which more than 75% declared they “have the capabilities that are needed to put curriculum change into practice”. These remain declaration data, however, and should be taken as such, as the survey sample was not statistically representative of the characteristics of practitioners across Wales. The OECD team interviewed several school practitioners, all of whom expressed their willingness to implement the curriculum. Some were also displaying some of the promising teaching processes and qualities suggested in the literature for this new type of curriculum.

A large number of stakeholders interviewed, including experts in curriculum and teaching practices, suggested there was need for more time and more targeted professional learning in order for teachers in Wales to be ready for implementation. For instance, curriculum design is a new requirement created with the curriculum reform, and has therefore not been a skill taught in teacher education programmes. Those schools of the Pioneer network which have designed the new curriculum framework, have highlighted that they have appreciated the opportunity to develop curricula at their level. However, during the assessment visits, teachers told the OECD team that they needed more guidance and found it difficult to find balance between the high degree of freedom and the expectations set out by the Areas of learning. At the heart is the need to build capacity and skills to engage in local curricula development and teaching.

Regarding teacher capacity for student assessment, formative assessments are reported not to be well embedded into teaching practices (Estyn, 2014^[77]; OECD, 2014^[5]), while the new curriculum places great emphasis on such assessments. The work of the Pioneer schools and other measures proposed in the action plan are important considering long-standing concerns in Wales about the capacity of teachers to conduct quality assessments. The Curriculum and Assessment Pioneer schools, for instance, play a pivotal role in Wales and especially in this case by offering professional learning opportunities that aim to support teachers in the assessment of students’ learning against the new curriculum (OECD interviews).

Well-designed guidance and educative curriculum materials can promote teacher learning about the new curriculum and develop their capability while reducing their workload (Cheung and Wong, 2012^[78]; Davis and Krajcik, 2005^[66]). Educative curriculum materials “speak to” teachers about the ideas underlying the tasks rather than merely guiding their actions (Remillard, 2000, p. 347^[79]). They also “educate teachers” while promoting their autonomy (Shkedi, 1998^[80]) and support teacher decision making about the adaptation of materials for their own context. They can make the transition to the new curriculum easier by helping teachers integrate their own knowledge with the new curriculum and make connections between theory and their practice, thus reducing the uncertainty and possible anxiety. It should be noted, however, that only providing curriculum material is not enough. Well-designed curriculum guidance should therefore come with professional development to accompany the evolution of ideas and beliefs about the curriculum and ensure better implementation (Roehrig and Kruse, 2005^[81]).

School leaders play a crucial role both in policy reform and in daily pedagogical and administrative management of the schools (Pont, 2017^[82]). Especially, with the degree of agency, or autonomy, required with the new curriculum, capable and well-trained school leaders are key actors of the success of the Curriculum for Wales. School leaders are a cornerstone of schools' pedagogical success and of teachers' capacity (OECD, 2019^[67]; Hopkins, Nusche and Pont, 2008^[83]), which they support in various ways. For instance, school leaders can develop or adapt “smart tools” based on sound research to improve teaching and learning (Robinson, Hohepa and Lloyd, 2015^[84]). They become even more important as the curriculum requires more collaboration to ensure the spread of curriculum expertise, stronger pedagogical leadership, and broader strategic involvement of the school through local design. School leaders promote participation in professional learning; they offer opportunities for others to participate in decision-making; and they help create and maintain collaborations within and between schools and other stakeholders. The Schools as Learning Organisations survey conducted in Wales for a previous OECD assessment suggested that in almost two thirds of the schools surveyed (67%), school leaders were building learning leadership among the teaching staff (OECD, 2018^[20]).

Wales acknowledges the importance of leadership for the success of its new curriculum, which school leaders and other stakeholders in leadership positions appreciate even if there is a need for more support. The OECD has encouraged Wales' continued effort in improving the quality of its school leaders over the years (OECD, 2018^[20]; OECD, 2017^[54]). The creation of a dedicated National Academy for Educational Leadership, charged with promoting leadership throughout the system, is just one example of this commitment. A readiness for change survey conducted by the Welsh Government showed that only five of the 120 (4%) head teachers and other senior leaders who responded were unsure about their capabilities to put the curriculum change in practice (Welsh Government, 2019^[85]). Based on further observations by the OECD team and independent studies, it would seem that head teachers are generally very supportive of their teams regarding preparation for the upcoming curriculum, but the capabilities of leaders, teachers, and teaching assistants seem to vary significantly, and could require more support (Estyn, 2018^[55]; Wavehill, 2019^[86]).

Wales has already set in motion a professional learning programme with a focus on supporting teachers and school leaders to be able to deliver the new curriculum. At the time of writing this report, the Welsh Government reported having granted to the professional learning agenda funding of GBP 24 million for 18 months. The professional learning activities consist of events organised by the Welsh Government and at consortium level. It is reported that most of the regular professional learning offer is catalogued and facilitated by regional consortia, although some courses are national. The OECD team was informed that the Welsh Government is supportive of education professionals taking time to develop professionally, but the logistics of freeing up time, finding replacements if needed, and getting to the physical locations of courses when needed can make it difficult for teaching and leadership staff to access professional learning. The way this professional learning approach is implemented will be key to the success of the Curriculum across all schools in Wales.

Ensuring equity

Can the Curriculum for Wales help improve learning outcomes of students with different learning needs and, more generally, of students in all schools across Wales? Reducing inequity in education remains a concern of the Welsh Government, as in other education systems. The Government expressed a strong commitment to equity in education and student well-being, including it as one of the four enabling objectives of the “national mission” (Welsh Government, 2017^[21]) and implementing various policies such as those supporting the Pupil Development Grant and free school meals. Wales still faces a number of equity

challenges in education, both between and within schools (OECD, 2018^[20]). Two main possible issues arise regarding equity in light of the new Curriculum for Wales. First, there is a question of how and under what conditions the new curriculum can reduce inequity. The second question looks at the possible variations in implementation from one school to the next, and how to avoid widening the gap in student outcomes between schools.

Systematic learning disadvantages are often studied in terms of the impact of students' socio-economic background, immigrant origins or special learning needs. Child poverty and learning, and additional learning needs (as referred to in Wales) are the two main concerns dealt with in this report. Disadvantaged students face a variety of barriers to learning among which: fewer educational resources at home, higher risk for parents not to have the time to engage with their children, and dependence on free public education. These results emphasise the importance of identifying the specific inequities faced by disadvantaged children, both during early stages of development and outside the classroom during compulsory schooling. Some policies and practices can reduce this gap, yet sometimes practices at school level can create more discrepancies between schools (OECD, 2019^[87]).

Wales is the only nation in the United Kingdom where child poverty was on the rise from previous years, reaching 29% in 2019 and resulting in an increase in the percentage of students eligible for free school meals (18.3%) (Welsh Government, 2019^[88]; Welsh Government, 2019^[70]). Inequity in the Welsh system is around the average according to PISA data (OECD, 2016^[6]). Similarly to other OECD countries, privileged students tend to outperform underprivileged pupils at all levels of education in Wales, although the gap is relatively small by international standards (Sizmur et al., 2019^[89]; OECD, 2018^[20]). In PISA 2018, students with a higher index of economic, social and cultural status (ESCS) scored on average 49 points higher in reading than more disadvantaged students, a significantly smaller gap than the OECD average (89 points). The OECD estimates that an education system could be considered equitable if 25% of students with a lower ESCS index scored among the top quarter of all students in a given country. Wales is currently at 13% of such academically resilient students, higher but not significantly different than the OECD average (OECD, 2018^[90]). On the basis of the proportion of students receiving free school meals (FSM), a Welsh measure of inequalities, the gap in reading scores between FSM and non-FSM students was 34 points (Sizmur et al., 2019^[89]).

As with every education policy, it is essential to consider what the Curriculum for Wales entails in terms of equity. Very little research shows the impact of adopting a new curriculum on learning outcomes of lower-performing students and on the reduction of the attainment gap (OECD, 2018^[90]; OECD, 2013^[91]). Some of the characteristics of the Curriculum for Wales are coherent with the literature. The new curriculum aspires to offer equal opportunities for learning to every child. It is designed to help all students, including those with additional learning needs, on the path to achieve the four purposes. When specifically asked how the new curriculum could help students at a learning disadvantage, stakeholders mention the possibility for teachers to offer a more flexible and relevant curriculum centred on the learner, its focus on well-being for all, and the emphasis on individualised rather than standard-led progression [(Newton, Power and Taylor, 2019^[92]) and OECD interviews]. One of the main principles of the new curriculum is to offer a more diverse and experiential learning experience to all learners. This is compelling considering that, with regular curricula, some students especially from poorer socio-economic backgrounds, are less likely to participate in out-of-school experiences, thus missing out on learning opportunities and potentially widening the socio-economic attainment gap.

As the new curriculum aims to address every learner's needs, it also falls in with Wales' policy to support any child's additional learning needs. Wales has been working on implementing the Additional Learning Needs (ALN) Act since January 2018. The Act transforms the perception of what learning needs entail and who can benefit from the support, since any child can require to benefit from the support of an ALN staff in order to address a misunderstanding, a more profound learning deficiency, or another issue, whether temporary or lasting, which would hinder their learning.

The OECD team and other studies have noted, however, that Wales' strong commitment to equity signalled in the policy rhetoric is not yet evident in curriculum discussions and initiatives more widely. A recent study co-ordinated by Cardiff University found some causes for concern with which the OECD team concurs (Newton, Power and Taylor, 2019^[92]). First, most discussions on the curriculum's implications for equity systematically refer to the assumption that the curriculum will benefit every child because it has been designed as such. Stakeholders from all parts of the system are nevertheless unclear about the measures that will need to be taken to ensure increased equity results from the curriculum and, in particular, their role in that effort. This requires addressing, considering that for any education policy to successfully enhance equity, it is essential that all key stakeholders have a clear and purposeful focus on equity (OECD, 2012^[93]).

When probed on the topic, various stakeholders, including practitioners and education scholars, acknowledged that a non-prescribed, flexible curriculum framework could present a risk for disadvantaged students and slower learners to fall behind. Without conscious monitoring and purposeful focus on equity, it is possible for flexible, child-centred curriculum models to generate slightly different curricula for more and less advantaged students (Power et al., 2018^[94]; Harlen, 2015^[47]). An observational study on Wales' Foundation Phase, which shares some similarities with the new curriculum for students 5-15 years old, showed that pre-schools with higher levels of socio-economic disadvantage tended to offer a curriculum emphasising basic skills and covering fewer areas of learning (Taylor et al., 2015^[95]). The risk also exists at the level of the school, if students get sorted based on abilities without seeking to raise their ambitions, which is especially detrimental to disadvantaged students (OECD, 2019^[87]).

An additional concern exists around possible inequalities arising between schools as they start implementing the new curriculum. Schools in different contexts may face different challenges in realising the new curriculum. These differences can result from factors relating to schools' resources, the socio-economic profile of the student population they serve, their general school performance as emphasised in self- and Estyn evaluations, and their degree of engagement in the process of curriculum co-construction. The OECD team was informed that several mechanisms are being piloted throughout Wales in order to assess schools' degree of readiness for the new curriculum, including the readiness for change survey piloted by the Welsh Government in the last quarter of 2019, and surveys at regional level. These tools could allow for a better picture of which schools are most in need of support for implementation and in what areas. The Welsh Government is also investing unprecedented amounts of resource in getting the system ready to implement the new curriculum. This investment aims to benefit all schools either immediately, such as with the additional In-service Training (Inset) day, or in the future, with, for instance, a large investment planned for professional learning and teacher education. Pioneer and Innovation schools have also received specific funding to support their engagement in co-constructing and testing the curriculum.

Social networks are set to play a significant role to help schools commit and build their expertise of the new curriculum. Pioneer schools' experience is aimed to create economies of scale in the implementation process, investing in a few schools' trial-and-error to share knowledge and enhance the quality of the curriculum for all schools. The OECD team observed, however, that many stakeholders argue this experience and these resources give Pioneer schools an advantage, which some of the more

disadvantaged schools will struggle to catch up with. Pioneer and Innovation schools acknowledged that the extra funding they received was a decisive factor in their ability to experiment with the curriculum, including paying for curriculum activities and replacements during teachers' professional learning. Welsh Government officials report progress in exploring systematic collaboration between Pioneer and Innovation schools with other schools, aiming for more schools to have the possibility to share experiences and best practices[(Wavehill, 2019^[86]) and OECD interviews]. This focus on collaboration is to be commended given the insights from research on the role of networks in the success of education reform efforts (Liou et al., 2015^[96]; Siciliano et al., 2017^[33]).

Securing resources and timing

The new curriculum comes with some concerns regarding inequalities, therefore, equity should be placed at the forefront when considering its development and implementation. To prevent inequalities from increasing with this new curriculum, schools in need of support and local authorities might require special focus throughout implementation, on top of the Welsh Government's existing policies. The amount, quality and distribution of resources allocated to implementation, determine to a great extent whether and how a policy is implemented (OECD, 2010^[97]). A recurring issue with resources is not only about whether they are available for implementation, or in sufficient quantities, but how they are used, and what for (OECD, 2015^[15]). There is a threshold level of funding below which implementing institutions (e.g. governmental agencies) will not be able to achieve the implementation goals they were allocated (Viennet and Pont, 2017^[3]). Using multiple funding sources and setting additional funding for specific measures of a policy can be determinant in early implementation stages (Gage et al., 2014^[98]).

The OECD team and other observers have highlighted the issue of school funding in previous assessments of the Welsh system (National Assembly for Wales Children, 2019^[99]; OECD, 2018^[20]). The Welsh Government responded in 2019 by commissioning an independent study to assess the amount of funding necessary to fund schools in Wales, especially considering the costs incurred by the ongoing reforms (Welsh Government, 2019^[100]). The funding of education and schools in Wales is a topic for ongoing debate more broadly, as there are complexities and disparities observed from one local authority to the next. The new curriculum has considerable potential to help students achieve better outcomes. However, all schools and children will not benefit equally unless these concerns are acknowledged across the system and tackled from the beginning of the implementation process.

Wales invested unprecedented resources in reforming the curriculum, as reported by the Welsh Government: it estimated having committed GBP 40 million overall by the summer 2019, and more specifically, GBP 24 million over 18 months to fund and renew professional learning (OECD interviews). It is difficult to judge the feasibility of the curriculum reform with current information but some initial studies (Newton, Power and Taylor, 2019^[92]) give elements to believe that without extra funding and human resources, non-Pioneer schools will have difficulties adapting and implementing the curriculum, even starting from 2022. It will be important to ensure that there are long-term resources to realise the new curriculum, as schools will require sufficient and sustainable resources to be able to adapt and shape the new curriculum to provide the type of learning trajectories for students based on their local needs. In this regard, the upcoming school funding review should be instrumental in informing resource planning for implementation of the curriculum.

Significant efforts were also made on adapting the timing of the reform. In 2017, the Minister for Education in the Welsh Government announced that implementation of the curriculum would be given more time and would be sequenced by classes of age over several years, as opposed to the so-called “big bang” approach

initially selected (Welsh Government, 2017^[101]). More precisely, instead of having to implement the curriculum for all classes of age starting in September 2021, schools will have 2.5 years (between January 2020 and September 2022) to familiarise themselves with the new curriculum before officially introducing it. In this way, September 2022 marks the beginning of implementation of the new curriculum, as it will be compulsory only for the classes between nursery levels and Year 7 (corresponding to early childhood, primary and the first year of lower secondary education). The Welsh Government further plans for the curriculum to be rolled-out for the upper classes (Years 8 to 11) between 2023 and 2026, at a rate of one class per year (Welsh Government, 2017^[2]).

The ministerial decision to roll out the curriculum was well received in Wales, as it displayed a long-term commitment to the reform that could go beyond political cycles, and took some pressure off schools and other stakeholders to implement. Giving some time to implementation is globally well perceived in the literature and in international experience on policy and curriculum change (Viennet and Pont, 2017^[3]; Tichnor-Wagner, 2019^[102]). This translates, for instance, into more time for teachers and school leaders to adjust to the new curriculum before expecting full implementation, which is crucial for these reforms to be sustained (Tikkanen et al., 2017^[103]). This time to get ready is especially important in the case of Wales, since teachers and school leaders also become curriculum designers.

Conclusions

Wales has successfully mapped out its policy plan to move away from a highly prescriptive national curriculum, to one that focuses on the future, adapted to learners' diverse needs and puts the teachers and principals back into positions of leaders of learning and teaching. The policy vision is clear and looks to the long term. The new curriculum framework aspires to best practices in terms of 21st century learning, and affords high levels of agency for all stakeholders. The curriculum reform was developed as part of a wider reform agenda including key complementary policies for its implementation, and the Welsh Government and other system leaders are building support for schools.

When analysing next steps, the challenge for Wales is mainly to remain true to the vision but shift the perspective of the strategy from being policy-driven to one focused on schools. More concretely, several areas have been highlighted that could interfere with the effective realisation of the curriculum. There appears to be a lack of deep understanding of what successful realisation of the curriculum might look like in practice. This can imply lack of understanding of the “statement of what matters” or of the principles of the new curriculum. Additionally, new approaches for assessment for learning and pedagogy will be important for teachers and schools to support student progress with the new curriculum.

For schools, there may be a range of challenges that need careful consideration in terms of their role in designing their own curriculum and for equity considerations. Designing curriculum relies on the development of specific capabilities which will be required across the system, as well as time for schools and their staff to undertake this. Schools will also need to plan effective transitions from the old to the new curriculum. There are risks of inequalities increasing across Wales due to the flexibility of the new curriculum. Some schools may also encounter additional challenges to design and implement the new curriculum unless they have the appropriate support. This can be exacerbated if there is lack of clarity in resources available for schools to be able to adapt and shape the new curriculum to their local needs and over the longer term.

To move forward, Wales can consider first developing a shared understanding of what successful realisation of the curriculum looks like on the ground. Such understanding should then help to initiate better

coherence both within the curriculum and between policy initiatives; inform initiatives to develop capabilities across the system; clarify which resources are needed and where; and define useful indicators and targets to monitor the reform's progress. For the next steps in the implementation strategy, the OECD team suggests to provide support for the realisation of the curriculum across all schools in Wales.

This chapter has presented a detailed analysis of the Curriculum for Wales and its progress, as well as resource, capacity and equity considerations that will need to be considered to contribute to success with the implementation of the Curriculum for Wales. It will be crucial for Wales to develop a shared understanding of what the curriculum means for schools and to provide support for its realisation across all schools in Wales. Building on the analysis developed in this chapter and the following ones, Chapter 5 develops and weaves together a set of concrete recommendations and actions for a coherent implementation strategy to ensure the Curriculum for Wales reaches schools and classrooms.

Notes

¹ Welsh Government officials specified to the OECD team that provision of early childhood education and care is not yet an integrated system in Wales, as a variety of school and other settings provide education and care to young children following different models. They reported that integration could be an ambition for the future.

² The educational settings providing early childhood education and care are not expected to manage their own assessment, nor to design their own curriculum, as national arrangements will be published later (Welsh Government, 2020^[17]).

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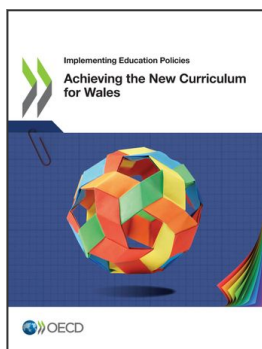
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