

Audit of the Content of Early Years and Primary Curricula in Eight Jurisdictions

Desk study for the National Council for Curriculum and Assessment (NCCA)

Overview report

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1. Introduction

In July 2018, the National Council for Curriculum and Assessment (NCCA) commissioned an audit of early years and primary curriculum content in eight jurisdictions - Finland, France, Ireland, New Zealand, Ontario (Canada), Scotland, Singapore and Wales.¹ The audit included a desk study in response to research questions on:

1. content in the curriculum for 4- to 12-year-olds
2. how curriculum content reflects the aims and purposes of primary education
3. the influence from policy and reform on primary curriculum content
4. overload in the primary curriculum, and
5. curriculum continuity in the design and development of primary curriculum content.

The project also involved a desktop audit of the breadth, depth and organisation of curriculum content in the early, middle and upper primary years.

The suite of project outputs includes:

- a set of detailed tables - one for each of the eight jurisdictions - responding to the five research questions
- a set of tables summarising, for each jurisdiction, the knowledge and skills included in each compulsory curriculum area in the early, middle and upper primary years (the 'breadth and depth' tables)
- two overview reports synthesising the findings from the two sets of tables.

This first of the two reports reflects on the key findings from the desk study on the five research questions. It is intended to inform the development of the primary curriculum in Ireland and, to place the report in its full context, is best read alongside the other project outputs.

¹ These jurisdictions were selected to reflect a variety of curricular approaches and stages of curriculum (re)development. They form a subset of those jurisdictions included in recent early years and primary education international desk studies completed for the NCCA. In this way, the audit enables the NCCA to more easily view the outputs from this research in their contextual framework, and recognises the contextual disparity of approach inherent in international comparisons. Ireland is included to facilitate comparison in the project outputs.

2. Curriculum organisation and continuity 4-12

For children aged 4-12, in six of the eight jurisdictions the early years is a separate phase, with a separate curriculum framework (Table 1).

In Scotland, the [Curriculum for Excellence \(CfE\)](#) (Education Scotland, 2018a) spans the early years and primary and secondary education, as will the new [Curriculum for Wales](#) (Welsh Government, 2018a) for 3- to 16-year-olds when it is introduced in September 2022. In the interim in Wales, the [Foundation Phase Framework](#) (Welsh Government, 2015) ‘straddles’ both early years and lower primary education.

Table 1: Curriculum organisation 4-12

Jurisdiction	Phase of education	Curriculum framework
Finland	Early childhood education and care (ECEC), 0-6	National Core Curriculum for ECEC
	Compulsory pre-primary education, ages 6-7	National Core Curriculum for Pre-Primary Education
	Compulsory basic education, ages 7-16	National Core Curriculum for Basic Education
France	Pre-school/nursery education, ages 3-6	Cycle 1 Curriculum for ages 3-6
	Primary education, ages 6-11	Cycle 2 Curriculum for ages 6-9
	Lower secondary education, ages 11-15	Cycle 3 Curriculum for ages 9-12
		Cycle 4 Curriculum for ages 12-15
Ireland	Early childhood care and education, ages 0-6	<i>Aistear</i> , Early Childhood Curriculum Framework
	Primary education, ages (4+)/6-12	Primary Curriculum
New Zealand	Early childhood education, ages 0-5/6	<i>Te Whāriki</i> , Early Childhood Curriculum
	Elementary education, Years 1-8, ages 5-13	New Zealand Curriculum
Ontario	Full-day Kindergarten, ages 4-6	The Kindergarten Program
	Elementary education, ages 6-14	Ontario Curriculum
Scotland	Early learning and childcare, ages 3-5	Curriculum for Excellence 3-18
	Primary education, ages 5-12	
Singapore	Kindergarten, ages 4-6	Nurturing Early Learners Curriculum Framework
	Primary education, ages 6-12	Primary Curriculum
Wales	Pre-school/early years education, ages 3-5	Foundation Phase Framework, ages 3-7
	Primary education, ages 5-11	National Curriculum Key Stage 2, ages 7-11
	Secondary education, ages 11-16	National Curriculum Key Stage 3, ages 11-14 (New Curriculum for Wales, ages 3-16)

The curriculum frameworks in Scotland, Wales and France intentionally link phases of education in the lower or upper primary years.

The Curriculum for Excellence (CfE), in treating the two years prior to starting compulsory education (ages 3-5) and the first year of primary education (Primary 1, P1, ages 5-6) as the ‘early education’ level of the curriculum, and the remaining years of primary education as the first and second levels, aims to provide a flexible curriculum continuum. In this, some children approaching the end of primary education (Primary 7, P7, age 12), for example, may be able to move on to study at the third (secondary) level of the CfE in some curriculum areas (Figure 1).

The Foundation Phase Framework in Wales, spanning the four years from age 3 to age 7, is similarly planned as a progressive framework, intended to meet the diverse needs of children developing at different rates in these early formative years. By being appropriate to children’s stage of learning and not focusing solely on age-related outcomes, the Framework aims to enable children to move on to the next stages of their learning when they are developmentally ready and at their own pace, and so to work for those who are at an earlier stage of development and those who are more able. The new Curriculum for Wales will be based on a similar continuum of learning and ‘progression steps’ for all pupils from age 3 to age 16. The aim is to allow pupils to progress at different rates, or on different paths, in their ‘learning journey’.

Figure 1: Curriculum for Excellence (CfE) levels, Scotland

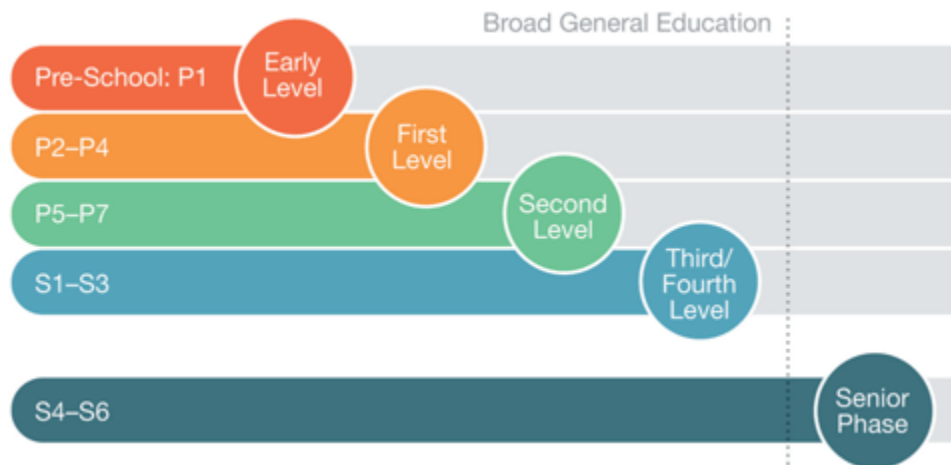


Figure 1 shows the CfE levels with progression to the senior phase (Secondary 4 to Secondary 6, S4-S6, ages 15-18). Early level includes pre-school and Primary 1 (P1) (ages 3 to 5-6); first level includes P2-P4 (ages 6-9); second level includes P5-P7 (ages 9-12); and third/fourth level includes Secondary 1 to Secondary 3 (S1-S3, ages 12-15). The levels provide a general guide; learners progress at their own pace through the curriculum levels.

Source: Education Scotland, 2018b - <https://education.gov.scot/parentzone/learning-in-scotland/Curriculum%20levels>

In France, the [curriculum framework](#) for Cycle 3 (ages 9-12) (Ministère de l'Éducation Nationale, 2015a) encompasses the final two primary years and the first year of lower secondary education, with the aim of facilitating continuity when pupils move from elementary school to the lower secondary *collège* at age 11. The curriculum framework document from age 6, the start of compulsory primary education, which covers Cycles 2, 3 and 4 together (Table 1), also contributes to continuity by facilitating practitioner access to what is covered in the curriculum in other years or cycles.²

Other jurisdictions also pay regard to curriculum continuity and the role of one phase of education in preparing pupils for the next phase and beyond, and this is an explicit consideration in the early years curricula in all eight jurisdictions. In New Zealand, for example, the 'refreshed' (2017) [Te Whāriki Early Childhood Curriculum](#) (New Zealand Ministry of Education, 2017) includes explicit links to the [New Zealand Curriculum](#) for 5- to 18-year-olds (New Zealand Ministry of Education, 2007). These 'Pathways to School' sections of *Te Whāriki* (pages 51-58) aim to support children's transition pathways and learning continuity. They take into account, in particular, a request from the Minister of Education, when commissioning the advisory group on early learning to advise on the update of *Te Whāriki*, to recommend strategies for fostering continuity of learning for children from the ages of 0-8. In Ireland, where 4-year-olds may be in primary education and following the [Primary Curriculum](#) (Government of Ireland, 1999) or *Aistear* - the Early Childhood Curriculum Framework, it has been a particular focus of the new primary language curriculum, to ensure that the learning outcomes for 4- to 6-year-olds align with the principles and methodologies of *Aistear* (NCCA, 2009). In Finland, the transversal competences included in the three separate [National Core Curriculum documents](#) for pre-compulsory ECEC, compulsory pre-primary education, and compulsory basic education (Finnish National Agency for Education, 2017; 2016a; 2016b) reflect those of the preceding or next phase(s), and recent revisions of the National Core Curriculum documents for each of these phases have focused on ensuring closer alignment. In France, the same legislation that established the third cycle of education, 'uniting' the curriculum in the final years of primary education and the start of lower secondary, also established the pre-school phase as the first cycle in the system. This was with the intention of affirming pre-school as the first step in the system, important for building children's 'appetite' for school and establishing the foundations for future learning at school and beyond.

Concluding remarks

Although, in the majority of the jurisdictions included in the study, there are separate curriculum frameworks for the different phases of education covering the age range 4-12, there are explicit considerations in the supporting documentation of the importance of foregrounding curricular continuance.

² In September 2018, the expectations for French, mathematics, and moral and civic education in the Cycle 2, 3 and 4 curriculum in France were simplified and clarified slightly. The changes introduced made the terminology clearer and subject content more explicit. As the revised curriculum was not available at the time of the data collection for this study, it is based on the 2015 curriculum document. The 2018 curriculum is now available [online](#).

3. Early years curriculum content

The curriculum frameworks in place for the early years in Finland, France, Ireland, New Zealand, Ontario, Singapore and Wales are organised around a number of areas of learning or themes / strands, as summarised in Table 2.

Table 2: Early years frameworks

Jurisdiction: framework document (age range)	Curriculum organisers
Finland: National Core Curriculum for ECEC (0-6)	5 learning areas
Finland: National Core Curriculum for Pre-Primary Education (6-7)	5 common objectives for instruction
France: Pre-school / nursery curriculum (3-6)	5 areas of learning
Ireland: <i>Aistear</i> – the Early Childhood Curriculum Framework (0-6)	4 themes
New Zealand: <i>Te Whāriki</i> – the Early Childhood Curriculum (0-5/6)	5 curriculum strands
Ontario: the Kindergarten Program (4-6)	4 frames / broad areas of learning
Singapore: Nurturing Early Learners Curriculum Framework (4-6)	6 learning areas
Wales: the Foundation Phase Framework (3-7)	7 areas of learning

Not only do these areas of learning cover comparable territory, as reflected in Table 3 below, there are also similarities in when and how they are taught.

3.1 Teaching of curriculum content

Table 3 groups the learning areas included in the early years frameworks across the eight jurisdictions. It highlights the importance of language and communication; personal and social development; developing early mathematical behaviours and problem-solving and thinking skills; beginning to understand the world; and creative and physical development.

In all eight jurisdictions, all learning areas are included throughout early years education and this may be an explicit requirement, as in France, where each area of learning must be included at some point during every day of teaching in nursery education. In Ireland, the four themes of *Aistear* (NCCA, 2009) apply throughout early childhood care and education (ECCE) (0-6), but learning opportunities, as in *Te Whāriki* in New Zealand (New Zealand Ministry of Education, 2017), are presented in three (overlapping) age groups, enabling the frameworks to be adapted to children’s stage of development.

Teaching and learning in the early years also cover more than one theme / learning area at once, with a view to ensuring children’s holistic development, and the focus is on learning through play.

Table 3: Early years learning areas

Rich world of languages Using language in a multitude of different ways Communicating Communication Demonstrating literacy and mathematics behaviours Language and literacy Language, literacy and communication skills Welsh language development	Finland France Ireland New Zealand Ontario Singapore Wales Wales	Ages 0-6, 6-7 Ages 3-6 Ages 0-6 Ages 0-5/6 Ages 4-6 Ages 4-6 Ages 3-7 Ages 3-7
Exploring and interacting with my environment Acting, expressing oneself and understanding through physical activity Exploring and thinking Exploration Problem-solving and innovating Motor skills and development Physical development	Finland France Ireland New Zealand Ontario Singapore Wales	Ages 0-6, 6-7 Ages 3-6 Ages 0-6 Ages 0-5/6 Ages 4-6 Ages 4-6 Ages 3-7
Diverse forms of expression Acting, expressing oneself and understanding through the arts Aesthetics and creative expression Creative development	Finland France Singapore Wales	Ages 0-6, 6-7 Ages 3-6 Ages 4-6 Ages 3-7
Creating the first tools for organising one's thoughts Demonstrating literacy and mathematics behaviours Numeracy Mathematical development	France Ontario Singapore Wales	Ages 3-6 Ages 4-6 Ages 4-6 Ages 3-7
Me and our community Exploring the world Identity and belonging Belonging Contribution Belonging and contributing Discovery of the world Knowledge and understanding of the world	Finland France Ireland New Zealand New Zealand Ontario Singapore Wales	Ages 0-6, 6-7 Ages 3-6 Ages 0-6 Ages 0-5/6 Ages 0-5/6 Ages 4-6 Ages 4-6 Ages 3-7
I grow, move and develop I grow and develop Well-being Well-being Self-regulation and well-being Social and emotional development Personal and social development, well-being and cultural diversity	Finland Finland Ireland New Zealand Ontario Singapore Wales	Ages 0-6 Ages 6-7 Ages 0-6 Ages 0-5/6 Ages 4-6 Ages 4-6 Ages 3-7

All curriculum frameworks for this phase, with the exception of that for Singapore, specifically highlight the importance of play. In Wales, for example, where the [Foundation Phase Framework](#) (Welsh Government, 2015) is built on the principles of play-based learning, the seven areas of learning are also intended to work together in a complementary, cross-curricular approach to form a practical, relevant curriculum. They should not be approached in isolation, but integrated in a suitable approach to young children's learning. In France, teaching and learning situations in nursery education often cover several themes at once, and learning through play is supported by learning through problem-solving; learning through practice; and learning through memorisation. In Ireland, *Aistear's* four interconnected themes present early learning as an integrated process and, in Singapore, the [Nurturing Early Learners \(NEL\) curriculum framework](#) (Singapore Ministry of Education, 2012) refers explicitly to an 'integrated approach to learning' (page 31) as one of the '[iTeach principles](#)' (Singapore Ministry of Education, 2017), which guide the planning, design and facilitation of meaningful and appropriate learning experiences for children. The four frames of curriculum content in the [Kindergarten Program](#) in Ontario (belonging and contributing; self-regulation and well-being; demonstrating literacy and mathematics behaviours; and problem-solving and innovating) (Ontario Ministry of Education, 2016) are similarly intended to support an integrated approach to learning that aligns with the way children's learning occurs naturally, i.e. through play and inquiry. In Scotland, interdisciplinary learning is one of the four 'contexts' of [Curriculum for Excellence \(CfE\)](#) (Education Scotland, 2018a), which contribute to the development and achievements of children and young people at all stages of their schooling. The other contexts are curriculum areas and subjects; the ethos and life of the school/setting; and opportunities for personal achievement.

3.2 Supporting 'pillars' of curriculum content

The four frames of the Kindergarten Program in Ontario align with four 'foundational conditions' needed for children to grow and flourish - belonging, well-being, expression, and engagement. In Finland and Singapore, transversal competences and learning dispositions respectively are explicitly included in the early years curriculum framework to support the areas of learning / subject content, while in Ireland, New Zealand and Wales, the learning areas are supported by essential principles of learning for this phase (Table 4).

In essence, the foundational conditions, transversal competences, learning dispositions and essential principles of learning are the aspects of learning that are critical to young children's development. They encapsulate the behaviours and attitudes to learning which underpin the acquisition of knowledge and skills in the learning areas. In Singapore, for example, the learning dispositions are described as the elements which develop the wonder, perseverance and mastery that make every child a lifelong learner; in Finland, the transversal competences are expressed as the associated knowledge, skills, values and attitudes that children should develop, and which will promote their growth as individuals, members of their community and society; while in Ireland, New Zealand and Wales, the principles of early learning and development underpinning the early years curriculum frameworks, and supporting the areas of learning, form a guide for pedagogy and practice and the foundations of curriculum decision-making. The curriculum framework documents emphasise that it is in combining these underpinning 'pillars' with the learning areas that early years practitioners produce a holistic learning framework for the children in their care. Table 4 summarises the supporting pillars.

Table 4: Early years supporting pillars

Finland	Transversal competences	<ul style="list-style-type: none"> • Thinking and learning • Cultural competence, interaction and self-expression • Taking care of oneself and everyday skills • Multiliteracy and competence in ICT • Participation and involvement
Ireland	Principles of early learning and development	<ul style="list-style-type: none"> • The child's uniqueness • Equality and diversity • Children as citizens • Relationships • Parents, family and community • The adult's role • Holistic learning and development • Active learning • Play and hands-on experiences • Relevant and meaningful experiences • Communication and language • The learning environment
New Zealand	Principles	<ul style="list-style-type: none"> • Empowerment • Holistic development • Family and community • Relationships
Ontario	Foundations / foundational conditions	<ul style="list-style-type: none"> • Belonging • Well-being • Expression • Engagement
Singapore	Learning dispositions	<ul style="list-style-type: none"> • Perseverance • Reflectiveness • Appreciation • Inventiveness • A sense of wonder and curiosity • Engagement
Wales	Principles and benefits	Principles of learning through play: <ul style="list-style-type: none"> • Self-motivation and independence • The ability to make mistakes without fear of failure • Language and communication skills • Confidence • A positive attitude to learning • Numeracy skills • Expression through dance, art and music • Thinking and problem-solving skills

Concluding remarks

Across the eight jurisdictions, early years curricula focus on a 'rounded' combination of learning areas, including language and communication; personal and social development; developing early mathematical behaviours, problem-solving and thinking skills; beginning to understand the world; and creative and physical development. They are taught in an integrated way, based on the principles of play, and supporting pillars, encompassing the behaviours and attitudes underpinning the acquisition of knowledge and skills and forming a guide for pedagogy and practice, help practitioners in some jurisdictions to create this holistic framework for children.

4. Primary curriculum content

As summarised in Table 5, in general, all primary curriculum subjects are taught throughout the primary years, with some changes of emphasis. There is a move away from the broader learning areas of the early years to more discrete subjects, although in Wales this doesn't currently happen until pupils reach the age of 7. This will change with the introduction of the [Curriculum for Wales](#) in September 2022 (Welsh Government, 2018a), one of the explicit aims of which is³, in replacing individual subject disciplines with six areas of learning and experience (AoLE) across the 3-16 curriculum, to remove divisions between subjects, facilitate opportunities to integrate teaching across the AoLE, reduce complexity and redundancy, and improve curricular continuity. In France, there is one integrated learning area in the earlier primary years – 'questioning the world'. This covers aspects of science and history and geography, which become discrete subjects from the start of Cycle 3, age 9. In Finland, children in Grades 1-6 (ages 7-13) study environmental studies, integrating biology and geography, physics and chemistry, and health education, which are taught as separate subjects from Grade 7 (age 13+). In Singapore, science doesn't feature in the primary curriculum until Primary 3, age 8+.

France, New Zealand, Ontario and Singapore do not include religious education / ethics as a separate subject in the primary curriculum, although in September 2015 the French Government introduced a new programme of moral and civic education, replacing the previous civics programme. This new compulsory programme of learning seeks to strengthen the teaching of secular and republican values in school, prompted in part by the terrorist attacks of January 2015. The curriculum documents also make explicit that the teaching of moral and civic education in France is the responsibility of a child's family as well as that of the school. In Singapore, aspects of moral education form part of character and citizenship education, while 'appreciating the world and religion we live in' is a specific theme taught in social studies in Primary 5 and 6 (ages 10-12).

Only in Singapore is there explicit differentiation in the level of the curriculum followed by primary pupils. That is, from age 10, individual pupils follow one of two curricula (at either foundation or standard level) in the subjects of English, mother tongue language, mathematics and science. The level at which they study these individual subjects depends on their performance in tests taken towards the end of Primary 4, aged 9-10. In mother tongue language, there is an additional higher level curriculum for particularly high attaining pupils.

Optional / elective subjects are not a common feature of the primary phase curriculum across the eight jurisdictions – usually being introduced from age 11/12 onwards. That said, in Finland, there is flexibility, through the allocation of some time in the curriculum for optional subjects, to allow schools to focus on different subjects in different ways in Grades 1-6 (ages 7-13). In addition, pupils aged 7-13 in Finland can study elective artistic and practical subjects. In Ireland, primary schools have discretionary curriculum time, which can be allocated to prescribed curriculum areas in response to school and pupils needs and circumstances.

³ Based on the evidence and recommendations from the independent [Donaldson review](#) (2015).

Table 5: Primary curriculum subjects

Finland	Ages 7-13		
	Mother tongue and literature (Finnish or Swedish) Second national language (Swedish or Finnish) Foreign languages (must be taught from Grade 5, age 11+ but individual schools/localities may introduce earlier) Mathematics Environmental studies (includes elements of biology, geography, physics, chemistry, and health education) Religion/ethics History and social studies (must be taught from Grade 4, age 10+ but individual schools/localities may introduce earlier) Music Visual arts Crafts Physical education		
France	Ages 6-9	Ages 9-11	Age 11-12
	French Mathematics Foreign (or regional) language Physical education Art education (art and music) Questioning the world Moral and civic education	French Mathematics Foreign language Physical education Art education (art, music, history of art) Science and technology History and geography Moral and civic education	French Mathematics Foreign language Physical education Art education (art, music, history of art) Science and technology (includes physics and chemistry) History and geography Moral and civic education Optional subjects
Ireland	Ages (4+)6-12		
	Arts education – broken down into the subjects of music, drama, and visual arts Language – Irish, English Mathematics Social environmental and scientific education (SESE) – broken down into the subjects of history, geography, and science Physical education Social, personal and health education (SPHE) Religious education		

New Zealand	Ages 5/6-13 English The arts – dance, drama, music (sound arts) and visual arts Health and physical education – health education, physical education, and home economics Languages* Mathematics and statistics Science Social sciences Technology
Ontario	Ages 6-14 The arts (includes the strands of dance, drama, music and visual arts) French as a second language Health and physical education English language Mathematics Science and technology Social studies (Grades 1-6, ages 6-12) (history and geography in Grades 7-8, ages 12-14) Native languages (where relevant)
Scotland	Ages 3-15 Expressive arts (includes art and design, dance, drama, and music) Health and well-being (includes food and health, personal and social education, and physical education) Languages (includes literacy, English, Gaelic and modern/foreign languages) Mathematics, including numeracy Religious and moral education Sciences Social studies Technologies

Singapore**	Ages 6-8	Ages 8-10	Ages 10-12
	English language Mother tongue language (Chinese, Malay, or Tamil) Social studies Art Music Mathematics Physical education (PE) (includes dance) Character and citizenship education	English language Mother tongue language (Chinese, Malay, or Tamil) Social studies Art Music Mathematics Science Physical education (PE) (includes dance) Character and citizenship education	English language (foundation or standard level) Mother tongue language (Chinese, Malay, or Tamil) (foundation, standard or higher level) Social studies Art Music Mathematics (foundation or standard level) Science (foundation or standard level) Physical education (PE) (includes dance) Character and citizenship education
Wales	Ages 3-7	Ages 7-11	Ages 11-12
	Personal and social development, well-being and cultural diversity Language, literacy and communication skills Mathematical development Welsh language development Knowledge and understanding of the world Physical development Creative development Religious education (from age 4/5 in primary school education)	English Welsh first language Mathematics Science Design and technology Information and communication technology (ICT) History Geography Art and design Music Physical education (PE) Welsh second language (compulsory if the pupil is not studying Welsh first language) Religious education Personal and social education (PSE)	English Welsh first language Mathematics Science Design and technology Information and communication technology (ICT) History Geography Art and design Music Physical education (PE) Welsh second language (compulsory if the pupil is not studying Welsh first language) Modern foreign language Religious education Personal and social education (PSE) (including a programme of sex and relationships education) An introduction to careers and the world of work

Wales	Ages 3-16, areas of learning and experience (AoLE), from September 2022 ***
	<p>Expressive arts (will include the disciplines of music, dance, drama, art, film and digital media)</p> <p>Health and well-being</p> <p>Humanities (to include history, geography, RE, business, and social studies)</p> <p>Languages, literacy and communication (including Welsh, English, other languages, and digital media)</p> <p>Mathematics and numeracy</p> <p>Science and technology (will include elements of biology, chemistry, physics, engineering, design technology [including food technology, textiles and product design], computer science and IT)</p>

***New Zealand:** Pupils aged 5 to 11 (Years 1-6) receive teaching in at least seven of the eight learning areas; learning languages is the exception. Schools with pupils in Years 7-10 (ages 11/12-14/15) are expected to be working towards offering students opportunities for learning a second or subsequent language.

****Singapore:** PE, along with character and citizenship education, are part of the life skills strand of the curriculum.

*****Wales:** The areas of learning and experience are in the process of development. The Curriculum for Wales [blog](#) (Welsh Government, 2018b) provides up-to-date information on progress. This [July 2017 progress report](#) (Welsh Government, 2017) discusses the development of the AoLE.

4.1 Foreign languages in the primary curriculum

There is some flexibility in curriculum frameworks across the eight jurisdictions for schools to introduce some subjects at an earlier point than is officially required by the curriculum framework documents. This is, for example, the case for history and social studies in Finland, which schools may choose to introduce before the subject becomes compulsory in Grade 4, age 10, and for a foreign language which they may introduce before it becomes compulsory in Grade 5 (age 11+).⁴

In Ontario and Wales also, schools have the discretion to introduce a foreign language in primary education, although it is only in France that a foreign language is currently compulsory from the start of the primary phase. That said, in Scotland, under the '1+2 approach' (English plus two modern languages), the Scottish Government intends that, by August 2021, all children will have an entitlement to learn a first foreign language (or Gaelic) (known as L2) from Primary 1 (P1, age 5) until the end of broad general education in Secondary 3 (S3, age 15), and a second foreign language (or Gaelic) (L3) from Primary 5 (P5, age 9+). The intention is to ensure that children growing up in a multilingual world develop the ability to communicate effectively in social, academic and commercial settings and so play their full part as global citizens (Scottish Government, 2017a). The approach is also being introduced against the backdrop of a decline in the numbers of pupils taking foreign language qualifications in the upper secondary years. Under the initiative, the Government is keen that primary schools should incorporate as large a pool of languages as possible (Denholm, 2017).

Although international languages are not included as part of the Ontario curriculum at elementary level, parents may request international language courses for their children. Where a school board receives written requests from parents on behalf of 23 pupils or more for the establishment of a programme in an international language, it must provide the programme. Classes take place outside of regular instruction time, e.g. during the lunch break. In Ireland, although modern languages are not part of the [Primary Curriculum](#) (Government of Ireland, 1999), around 550 primary schools participated in the Modern Languages in Primary Schools Initiative (MLPSI), which was established as a pilot project in 1998. Its aim was to introduce modern languages (Italian, Spanish, German or French) at primary level, and MLPSI schools used the discretionary time provided in the curriculum to teach the target language for between 1 and 1.5 hours each week, mainly to pupils in upper primary education, ages 10-12. The MLPSI ended in June 2012 as a result of concerns relating to curriculum overload at primary level.

In Singapore, English is taught as the first language in primary school since it is considered to be an essential skill as the *lingua franca* of international business, science and technology. At the same time, bilingualism is regarded as a cornerstone of the education system and all pupils study the mother tongue in addition, which may be Chinese, Malay, or Tamil. The situation is similar in Wales, where all pupils study Welsh, either as a first or second language in addition to English. In New Zealand, English is

⁴ The current strategic programme of government (Prime Minister's Office, Finland, 2015), which outlines the Government's long-term objectives for education, includes proposals to pilot the compulsory study of the first foreign language in Grade 1 (age 7+).

the medium for teaching and learning in most schools and is regarded as a *de facto* official language by virtue of its widespread use, but *te reo Māori* (the Māori language) and New Zealand Sign Language (NZSL) are also official languages, and all three may be studied as first or additional languages. All schools with students in Years 7-10 (ages 11/12-14/15) are expected to be working towards offering students opportunities for learning a second or subsequent language.

4.2 Priorities in the primary curriculum

Although, across the eight jurisdictions, the overarching intention is that the primary curriculum should be broad and balanced, providing pupils with access to a range of learning areas that are valuable in themselves but also in providing the foundation for future learning, work and citizenship, in the early years of primary education, in particular, there is a focus on **language acquisition / literacy** alongside **numeracy**.

In France, for example, the timetable of teaching hours allocates 10 of the available 24 each week for 6- to 9-year-olds (Cycle 2) to the teaching of French, and 5 to mathematics. In addition, the weekly timetable states that, across the 24 teaching hours, 10 should be dedicated to speaking, reading and writing tasks which transcend individual subject boundaries. By age 11, the time allocated to each of French and mathematics is 4 hours 30 minutes each week. The [New Zealand Curriculum](#) framework (New Zealand Ministry of Education, 2007) recommends that teaching and learning programmes for children in Years 1 to 6 (ages 5-11) are developed through a wide range of experiences across all learning areas, but with a focus on literacy and numeracy. In Ireland, the time spent on the teaching and learning of the core skills of literacy and numeracy in primary school was increased in 2012, with a view to ensuring that all young people leave school able to read, communicate orally, in writing and in digital media, and able to understand and use mathematics in their everyday lives and in further learning.

In Ontario, there is a particular [focus on mathematics](#), with schools expected to protect a block of time in each school day for elementary school teachers (Grades 1-8, pupils aged 6-14) to focus on effective mathematics instruction. The intention is to nurture a culture of mathematics practice and problem solving and to embed mathematics skills across all areas of the curriculum.

In Wales, all teachers are expected to develop pupils' literacy and numeracy skills and, under the new [Curriculum for Wales](#) (Welsh Government, 2018a), will be required to have the same cross-curricular responsibility for **digital competence**. In Ireland, where ICT has been integrated into teaching and learning in all subjects since the [Primary Curriculum](#) was introduced in 1999 (Government of Ireland, 1999), the [Digital Strategy for Schools 2015-2020](#) (Department of Education and Skills, 2015) also emphasises the importance of embedding digital learning across the curriculum. In New Zealand, the [technology learning area](#) in the New Zealand Curriculum (New Zealand Ministry of Education, 2018) was revised in 2017 to strengthen the positioning of digital technologies and encourage learners to become digital 'creators' in addition to users and consumers of digital technologies.

In Scotland, all teachers and early learning and childcare (ELC) practitioners for children aged 3-15 have a similar responsibility to those in Wales for the teaching of literacy and numeracy, and must, in addition, reinforce **health and well-being** as an ‘across learning’ skill. Well-being, taking care of oneself and daily life management, along with ICT skills, are also embedded in in the [National Core Curriculum for Basic Education](#) (for 7- to 16-year-olds) in Finland (Finnish National Agency for Education, 2016b), as key life skills which pupils will need for their futures. In Ireland and Ontario, strategies guiding the future development of and priorities for the education system (Department of Education and Skills, 2016; Ontario Ministry of Education, 2014) place an explicit emphasis on promoting well-being, while in other jurisdictions health and well-being is incorporated in specific curriculum subjects (e.g. in the programme for PE in France; within character and citizenship education in Singapore; and within the current programme of personal and social education (PSE) for those aged 7+ in Wales (which builds on the ‘personal and social development, well-being and cultural diversity’ area of learning for 3- to 7-year-olds in the [Foundation Phase Framework](#) (Welsh Government, 2015)). Health and well-being will also form one of six the areas of learning and experience (AoLE) of the new [Curriculum for Wales](#) (Welsh Government, 2018a).

4.3 Supporting ‘pillars’ in the primary curriculum

As in the early years, in six of the jurisdictions the primary curriculum subjects are supported by the teaching and learning of values, competences or skills, which permeate the curriculum framework (Table 6).

Table 6: Supporting pillars in the primary curriculum

Jurisdiction	Values, competences, skills
Finland	Transversal competence areas
France	The <i>socle commun</i>
New Zealand	Values; key competencies (KC)
Scotland	Values
Singapore	21 st century competencies*
Wales	Cross-curricular skills/competences

*The [Framework for 21st Century Competencies and Student Outcomes](#) (Singapore Ministry of Education, 2015a) makes explicit that the development of these competencies is the responsibility of both schools and parents in Singapore.

These cross-curricular competences are those skills and values that children will need to thrive in a changing society and to be successful in education, the workplace, the home and elsewhere. They are intended to complement the curriculum subjects through, for example, being part of the everyday curriculum and developed, encouraged, modelled and explored through teaching and learning (New Zealand), or by being applied and reinforced to develop understanding and respect for others and a sense of personal and collective responsibility (Scotland). Table 7 summarises and groups the range of values / competences included in the curriculum frameworks in Finland, France, New Zealand, Scotland, Singapore and Wales.

Table 7: Values/competences in the primary curriculum

Integrity; respect Integrity; justice Core values: respect, responsibility, resilience, integrity, care, harmony	New Zealand (values) Scotland Singapore
Taking care of oneself and managing daily life Managing self Social and emotional competences: self-awareness, self-management, social awareness, relationship management, responsible decision-making	Finland New Zealand (KC) Singapore
Thinking and learning to learn Methods and tools for learning Innovation, inquiry and curiosity Thinking Wisdom Critical and inventive thinking Thinking skills	Finland France New Zealand (value) New Zealand (KC) Scotland Singapore Wales
Multiliteracy Languages and skills for communicating Using language, symbols and texts Communication, collaboration and information skills Communication skills/literacy	Finland France New Zealand (KC) Singapore Wales
ICT competence ICT skills/digital competence	Finland Wales
Participation, involvement and building a sustainable future Forming one's identity and becoming a citizen Community and participation; ecological sustainability Participating and contributing Civic literacy, global awareness and cross-cultural skills Curriculum Cymreig/Wales-specific aspects of the curriculum	Finland France New Zealand (values) New Zealand (KC) Singapore Wales
Natural and technical systems	France
Cultural competence, interaction and self-expression Representations of the world and human activity Diversity Relating to others Compassion	Finland France New Zealand (value) New Zealand (KC) Scotland
Skills for working life and entrepreneurship	Finland
Excellence	New Zealand (value)
Equity	New Zealand (value)
Using number / numeracy	Wales

In New Zealand in addition, the curriculum is underpinned by a set of eight principles. These contrast with the values and key competencies of the New Zealand Curriculum in that they relate to how curriculum is formalised in a school and are particularly relevant to the processes of planning, prioritising and review. In Scotland, similarly, seven broad principles underpin [Curriculum for Excellence \(CfE\)](#) (Education Scotland, 2018a). These apply at all stages of learning (ages 3-18), with different emphases at different times, and are the principles that practitioners should take into consideration

when planning learning. The CfE principles are challenge and enjoyment; breadth; progression; depth; personalisation and choice; coherence; and relevance.

Figure 2 summarises how the values, key competencies, learning areas and principles form the framework for the New Zealand Curriculum. It is a matter for schools to decide how to organise their local curriculum using this framework. They may, for example, choose to focus the curriculum around one of values, key competencies, or learning areas, and deliberately weave the other two areas through their programmes, or they may organise their curriculum around central themes, integrating values, key competencies, knowledge, and skills across a number of learning areas.

Figure 2: A schematic view of the New Zealand Curriculum

Directions for learning		
Vision: Young people who will be confident, connected, actively involved, lifelong learners		
Values	Key competencies	Learning areas
Excellence	Thinking	English
Innovation, inquiry, and curiosity	Using language, symbols, and texts	The arts
Diversity	Managing self	Health and physical education
Equity	Relating to others	Learning languages
Community and participation	Participating and contributing	Mathematics and statistics
Ecological sustainability		Science
Integrity		Social sciences
Respect		Technology
Principles: high expectations; Treaty of Waitangi; cultural diversity; inclusion; learning to learn; community engagement; coherence; future focus		

Adapted from Ministry of Education, 2017, *The New Zealand Curriculum* - <http://nzcurriculum.tki.org.nz/The-New-Zealand-Curriculum>

In France, the [*socle commun*](#) (Ministère de l'Éducation Nationale, 2015b) has a particular position, outlining the indispensable knowledge, skills and culture that pupils are guaranteed during compulsory education (ages 6-16), and forming the basis from which the curricula / programmes of study for the individual subjects in primary and secondary education are developed.

In Singapore, the [Desired Outcomes of Education \(DOE\)](#) (Singapore Ministry of Education, 2015b) also outline minimum outcomes that compulsory education should guarantee for pupils. They are the attributes that educators should aim for all to pupils to have by the end of their formal education. As Table 8 highlights, there is similarity between the content of the DoE, the 'capacities' of the [Curriculum for Excellence \(CfE\)](#) (Education Scotland, 2018a), the four purposes of the new [Curriculum for Wales](#) (Welsh Government, 2018a), and the New Zealand Curriculum vision for learners (as highlighted in Figure 2), which underpin their respective curricula and link the curriculum to the overarching aims of the education system.

Table 8: Comparable curriculum purposes

New Zealand	Scotland	Singapore	Wales
<p>The vision of the New Zealand Curriculum is for young people who will be:</p> <ul style="list-style-type: none"> • confident learners - positive in their own identity; motivated and reliable; resourceful; enterprising and entrepreneurial; and resilient • connected learners - able to relate well to others; effective users of communication tools; connected to the land and environment; members of communities; and international citizens • actively involved learners - participants in a range of life contexts, and contributors to the social, economic and environmental well-being of New Zealand • lifelong learners - literate and numerate; critical and creative thinkers; active seekers, users and creators of knowledge; and informed decision makers. 	<p>The Curriculum for Excellence aims to help all children and young people to develop the four capacities of:</p> <ul style="list-style-type: none"> • successful learners - who express themselves, think innovatively, meet challenges positively and find imaginative solutions to problems • confident individuals - who have developed self-awareness, self-discipline, determination, commitment and confidence • responsible citizens - who can explore ethical questions, respond to personal and social issues, and develop stances and views • effective contributors - who can develop and express their creativity, work cooperatively and communicate with others. <p>Developing the capabilities and attributes of the four capacities should be embedded across all learning.</p>	<p>The DOE in Singapore aim to ensure that the person who is schooled in the Singapore education system is:</p> <ul style="list-style-type: none"> • a confident person who has a strong sense of right and wrong, is adaptable and resilient, knows himself, is discerning in judgment, thinks independently and critically, and communicates effectively • a self-directed learner who questions, reflects, perseveres and takes responsibility for his own learning • an active contributor who is able to work effectively in teams, is innovative, exercises initiative, takes calculated risks and strives for excellence • a concerned citizen who is rooted to Singapore, has a strong sense of civic responsibility, is informed about Singapore and the world, and takes an active part in bettering the lives of others around him. 	<p>The four purposes of the new Curriculum for Wales, which will be formally introduced from September 2022, are that learners should become:</p> <ul style="list-style-type: none"> • ambitious, capable learners, ready to learn throughout 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. <p>The model for the development of the content of the areas of learning (AoLE) in the new curriculum establishes the expectation that the specification for each individual AoLE will link explicitly to these purposes, explaining how the AoLE will contribute to them (Welsh Government, 2018c).</p>

4.4 Coherence and continuity in curriculum content

Across the eight jurisdictions, the curriculum documents reflect the importance of coherence and continuity in curriculum content.

In France, for example, individual subject specifications not only include dedicated sections addressing the ways in which that particular subject links to, interrelates with and can be developed and taught with other subjects within the same cycle, but also explicitly reference the knowledge and skills that pupils have acquired in previous cycles. One of the principles of the [New Zealand Curriculum](#) (New Zealand Ministry of Education, 2007) (see Figure 2 above), and of [Curriculum for Excellence \(CfE\)](#) (Education Scotland, 2018a) in Scotland, each of which are intended to underpin and guide the design of the local curriculum, is coherence. In New Zealand, the aim is to ensure that the curriculum offers all students a broad education that makes links within and across learning areas, provides for coherent transitions, and opens up pathways to further learning. The New Zealand Curriculum framework document also relates the school curriculum to that of the earlier and later phases by, for example, linking the five curriculum strands of *Te Whāriki* (the Early Childhood Curriculum framework) to the key competencies of the New Zealand Curriculum, and linking these, in turn, to the tertiary competencies (New Zealand Ministry of Education, 2007, page 42). *Te Whāriki* (New Zealand Ministry of Education, 2017) also includes ‘pathways to school’, linking the Early Childhood Curriculum with the next phase of education (pages 51-58). In Ontario, the same model of learning expectations (overall expectations and specific expectations) is used for all curriculum disciplines from Kindergarten (age 4) onwards, while the Grade 1-8 Ontario Curriculum specifications for the individual subject disciplines in the elementary / primary phase (ages 6-14) make specific reference to the documents for the next phase, the sharing of a common vision, or common fundamental concepts.

In Scotland, the levels of the CfE (see Figure 1, page 5) are intended, much like the progression steps (at ages 5, 8, 11, 14 and 16) in the new [Curriculum for Wales](#) (Welsh Government, 2018a), to facilitate learners progressing at their own pace and working through the curriculum experiences and outcomes at the most appropriate level for them. The aim in the CfE was to not create artificial ceilings which might limit expectations of what children can achieve, and to space the levels widely, so that they are not regarded as hurdles to get over as quickly as possible but rather as staging posts in a curricular experience which offers continuity, coherence, depth, enrichment and consolidation of learning.

In Ireland, France, Ontario and Singapore also, the curriculum documents, the [socle commun](#) (Ministère de l'Éducation Nationale, 2015b) and the [Desired Outcomes of Education \(DOE\)](#) (Singapore Ministry of Education, 2015b) highlight the developmental nature of the curriculum and set the expectation that the development of knowledge is a gradual process. The DoE, for example, are set out as a series of developmental outcomes for each stage of education (early years, primary, secondary and post-secondary), and each educational level builds upon the previous stages and lays the foundation for subsequent ones. In Ireland, the [Primary Curriculum](#) (Government of Ireland, 1999) makes explicit reference to children having the opportunity to return at regular intervals to knowledge, ideas and skills they have acquired at a simple level, with a view to deepening and developing their understanding,

using their existing knowledge and experience as a starting point for acquiring new understanding, and moving from the known to the unknown, the simple to the more complex, and the concrete to the abstract.

Concluding remarks

Although the primary curriculum aims to be broad and balanced, providing the foundations for future learning, work and citizenship, there is a focus on literacy and numeracy, particularly in the earlier primary years. Digital competence and health and well-being also have an important place in curriculum frameworks. Optional subjects are not a key feature in the primary phase, although in some jurisdictions, schools have flexibility to introduce some subjects at an earlier point than is officially required by the curriculum framework documents. A foreign language is compulsory in France from the start of primary education, and will be in Scotland from August 2021.

Cross-curricular values, competences and skills complement subject-specific content and are intended to be part of the everyday curriculum, embedded in teaching and learning. Explicit curriculum purposes in New Zealand, Scotland and Wales (new curriculum), like the *socle commun* in France and the Desired Outcomes of Education in Singapore, provide the foundations for curriculum development, and link the curriculum to the overarching aims of the education system.

5. Influence of policy and reform

Policy proposals and reforms impacting on curriculum content in the early, middle and upper primary years can be stimulated by overarching programmes for government and cross-governmental improvement frameworks, such as the [Programme for a Partnership Government](#) (2016-2021) (Department of the Taoiseach, 2016) in Ireland, and the [National Performance Framework](#) (Scottish Government, 2018) and [Programme for Government 2017-18](#) (Scottish Government, 2017b) in Scotland. These have led to the development of separate action plans for education and to specific strategies for particular areas e.g. literacy and numeracy, digital education, and health and well-being, which are key drivers for the curriculum.

Economic policies, highlighting the importance of preparing the population for a futures-focused economy, operating in a globalised, digitised environment, can also influence the curriculum. This is the case in Singapore, for example, where, since 2012, the Government has looked to refresh curriculum content, not only to make it more relevant and engaging, but also to ensure that it equips children with the core skills and competences to be economically productive and to flourish in what the Singapore Government terms the VUCA (volatile, uncertain, complex and ambiguous) world.

In Ontario, the social studies curriculum was revised in 2018 with the specific objective of strengthening pupils' knowledge and understanding of indigenous history and culture. This is a direct response to the work of the [Truth and Reconciliation Commission of Canada](#).

Concerns over standards of attainment, or to reduce the attainment gap, can also impact on curriculum reform and, in the case of France and Wales, these concerns have been highlighted by disappointing results in international surveys of student attainment, notably PISA 2012. Reform of the curriculum in Wales has been under particular consideration since the country's performance in the 2012 survey, which stimulated the Welsh Government's commissioning of a number of independent reviews, chief of which was the independent Donaldson review of curriculum and assessment arrangements (Donaldson, 2015). The review report provided the blueprint for the new [Curriculum for Wales](#) (Welsh Government, 2018a), noting that the curriculum remained essentially as devised in 1988, before advances in technology and the advent of globalisation and their profound implications for what, and how, children need to learn. In France, PISA 2012 provided the impetus for the introduction of legislation to reform the school system to the current learning cycles, to redefine the *socle commun*, and to introduce new curricula in all phases of education. In Ontario also, concerns over pupil performance in mathematics have provided the impetus for a focus on deepening mathematical skills and knowledge in the elementary phase (Grades 1-8, ages 6-14) in particular. In Ireland in 2011, concerns that many pupils were not developing the required literacy and numeracy skills resulted in the introduction of the literacy and numeracy strategy, and the requirement, in 2012, for schools to increase the amount of time dedicated to teaching these core skills, at the expense, at that time, of the Modern Languages in Primary Schools Initiative (MLPSI) in particular.

Reforms can impact on primary curriculum content in a variety of additional ways. In Finland, for example, where curriculum content is renewed in line with a regular, approximately ten-year cycle, subject content / specifications have been streamlined with a view to focusing on the essentials and deepening learning and, at the same time, increasing flexibility for local development and adaptation. They have also been updated to more closely reflect contemporary society and include future-focused skills, e.g. ICT skills, well-being, and daily life management. There is also a focus on deepening learning by reinforcing links between subjects. In Finland, this is facilitated by the multidisciplinary learning module, introduced as part of the revised [National Core Curriculum for Basic Education](#) (Finnish National Agency for Education, 2016b), according to which, each year, every school must include one such module in the curriculum. It is a clearly defined theme, project or course which comprises learning from a combination of specifications from different subjects. Schools plan and implement the module, and topics and duration may vary based on local needs and interests. Modules can involve several teachers working with any given number of pupils simultaneously to enable them to make connections between subjects and understand their mutual dependencies. In France and Singapore, similarly, pupils take part in interdisciplinary project work, with a view to synthesising knowledge from different areas of learning and applying it to real-life situations. In France, this involves pupils from the final year of Cycle 3, aged 11+, i.e. from the first year of lower secondary education onwards, spending three hours each week completing project work which spans at least two subjects and falls into one of eight categories – health and well-being; culture and artistic creation; information, communication and citizenship; languages and cultures in antiquity; foreign / regional cultures and languages; the professional and economic world; science, technology and society; and ecological transition and sustainable development. The aim is to deepen knowledge and skills across the curriculum.

Concluding remarks

Reform of primary curriculum content can be driven by overarching governmental improvement frameworks - and resulting action plans and strategies for education; concerns over pupil attainment - in particular subject areas or for particular groups of pupils; and government policies and programmes to ensure that the education system prepares children to contribute to the future economy and society.

Refreshing curriculum content to make it relevant and engaging; increasing the focus on specific aspects of the primary curriculum, e.g. literacy, numeracy, ICT, well-being, and life management skills; and introducing multidisciplinary learning to enable pupils to deepen knowledge and skills across the curriculum have formulated responses to such policies for reform.

6. Issues of curriculum overload

Of the jurisdictions featured in this study, Ireland, New Zealand, Ontario, Scotland and Wales, in particular, have identified curriculum overload as a challenge. In Wales, for example, the Donaldson review of curriculum and assessment arrangements (2015) highlighted overload as one of the concerns influencing the review of the curriculum, while in New Zealand, the 2002 [Curriculum Stocktake](#) (Education Counts, 2018), which informed the development of the New Zealand Curriculum framework in 2007, identified curriculum ‘crowdedness’ as an issue.

In Ireland, the [final report](#) of the consultation on primary curriculum structure and time (NCCA, 2018) highlights that the curriculum can often be regarded as the site to respond to national priorities, needs and societal issues, with demands for the inclusion of new curriculum areas, or more time for existing curriculum areas, being ‘layered on top of the primary curriculum potentially adding further to an experience of curriculum overload’ (page 11).

In Ontario, the Ministry of Education has created a Provincial Committee on Ministry Initiatives. This is a network of education professionals (representing teacher federations, unions representing education workers, associations of principals, and school boards), established in response to sector concerns regarding ‘the ever-increasing workload faced by education workers due to their bombardment by various Ministry of Education initiatives’ (OSSTF, 2016). Its key remit is to share ideas for the streamlining and enhancing of initiatives and strategies, and to help move the education system from an initiatives-based approach to a coherent, system-wide approach to change. Following the Committee’s recommendations, requirements for the teaching of education and career life planning for children in Kindergarten to Grade 6 (ages 4-12), for example, were reduced in September 2017.

In Scotland, the Chief Inspector of Education highlighted in a [statement](#) on Curriculum for Excellence (CfE) in August 2016 (Education Scotland, 2016) that there ‘is currently too much support material and guidance for practitioners’, which ‘is contributing to the growth of over-bureaucratic approaches to planning and assessment in many schools and classrooms across the country’. She confirmed that, as a result, Education Scotland would be ‘significantly’ streamlining all support and guidance materials for the curriculum (page 1). Providing such support and guidance materials to teachers (usually in the form of online resources) is a feature in all eight jurisdictions. Although intended to reduce curriculum overload by preventing practitioners from ‘reinventing the wheel’, the plethora of recommended sites and resources may, as in Scotland, contribute to, rather than alleviate, the sense of overload.

Examples of further ways, identified by the study, in which the eight jurisdictions have attempted to combat overload are synthesised in Table 9.

Table 9: Combatting curriculum overload

<p>Reallocating curriculum time</p> <ul style="list-style-type: none"> In Ireland, in 2012, under the literacy and numeracy strategy (Department of Education and Skills, 2011), primary schools were required to increase the amount of time spent on the teaching and learning of these core skills. The Department of Education suggested that schools might create this additional curriculum time by integrating literacy and numeracy skills in other curriculum areas; using some or all of discretionary curriculum time for literacy and numeracy activities; reallocating time spent on the other subjects in the curriculum to the development of literacy and numeracy; prioritising the curriculum objectives which are considered most valuable in supporting children’s learning; or delaying the introduction of elements of some subjects to later in the primary cycle.
<p>Reducing subject specifications</p> <ul style="list-style-type: none"> In Finland, subject specifications in compulsory basic education have been restructured and slimmed down, with a view to encouraging a focus on essential knowledge, deepening pupil learning, and allowing increased local curriculum flexibility. In New Zealand, when the Te Whāriki Early Childhood Curriculum (New Zealand Ministry of Education, 2017) was refreshed, the update sought to ensure a clearer focus on ‘what matters most’. The learning outcomes for each strand and goal of the curriculum were reviewed and condensed to 20, from 118, with a view to providing a more focused approach to the holistic learning and development of each child, and to enabling greater focus on ‘what matters here’ (what matters most in the local area), when determining the local priorities for the early childhood curriculum. In Wales, the areas of learning and experience (AoLE) of the new Curriculum for Wales (Welsh Government, 2018a), currently in development, are also based on ‘what matters’ statements. The approach involves the identification of the key elements that all learners should experience during their journey along the continuum of learning, and each AoLE will contain a series of what matters statements, supported by the essential knowledge, skills and experiences identified as key to achieving them.
<p>Increasing connections between subjects</p> <ul style="list-style-type: none"> In Finland, the National Core Curriculum for Basic Education (Finnish National Agency for Education, 2016b) provides teachers with guidance and information on the importance of integrated education, multidisciplinary learning and collaborative classroom practices. The New Zealand Curriculum (New Zealand Ministry of Education, 2007) aims to provide a framework which facilitates the creation of links between learning areas to produce cross-cutting units of work, or broad programmes of learning linking learning areas, and the Ministry of Education’s Curriculum Resources webpage (New Zealand Ministry of Education, 2012) provides access to resources to teach such cross-cutting themes, such as financial capability. In Singapore, also, the Ministry of Education recommends that schools combine subjects to create new integrated subjects, while in Scotland, the Curriculum for Excellence (CfE) framework (Education Scotland, 2018a) highlights the importance of well-planned interdisciplinary activities and the reinforcement of learning across all curriculum areas. In addition, interdisciplinary

learning is one of the four 'contexts' of the CfE, which contribute to the development and achievements of children and young people at all stages of their schooling. The other contexts are curriculum areas and subjects; the ethos and life of the school/setting; and opportunities for personal achievement.

Enabling flexibility in curriculum organisation

- In Finland and New Zealand, the curriculum frameworks are designed and interpreted as a three-stage process – the national, local and school curriculum in Finland, the national, school and classroom curriculum in New Zealand. This aims to allow schools the flexibility to design a curriculum framework that meets local needs and is manageable, while meeting curriculum requirements.
- The [Primary Curriculum](#) framework in Ireland (Government of Ireland, 1999) aims to be similarly flexible, as does the Curriculum for Excellence (CfE) in Scotland, allowing teachers to plan a curriculum that is coherent and manageable, and that takes account of the local context, while ensuring appropriate progression and levels of attainment for all children.

Ensuring coherence and continuity in curriculum content

- The focus across the eight jurisdictions in 'joining up' curriculum content - across both phases and learning areas - to facilitate coherence and continuity (highlighted in Section 4.4 above) can also contribute towards reducing overload.

Concluding remarks

The eight study jurisdictions recognise to varying degrees the potential for curriculum overload and have introduced a range of measures to combat it. It is a question for debate, however, whether some of these measures can in themselves contribute to and exacerbate the perception of burden.

7. Concluding considerations for NCCA

This desk study of primary curriculum content in eight jurisdictions has highlighted some key features of curriculum content, organisation and design for 4- to 12-year-olds. It has also explored issues of primary curriculum policy and reform, curriculum overload, and continuity and coherence, which will be of interest to policy makers in Ireland (and elsewhere) responsible for the development of the primary level curriculum.

In examining the characteristics of primary curriculum organisation in other jurisdictions, the study has also stimulated a range of questions for consideration at the local level, including:

- Does our curriculum need to include the subjects / areas of learning that are currently included and do all subjects need to be included at all phases?
- Is there scope to introduce some subjects at a later stage, or to give schools (more) flexibility on when and how to introduce subjects? What scope should there be for optional subjects in the primary curriculum?
- Might focusing the primary curriculum on broad areas of learning, as opposed to discrete subjects, improve curricular continuity, enable effective interdisciplinary teaching and learning, and reduce curriculum overload?
- Are there / what are the essential core competences that need to permeate the whole of the primary curriculum, and how do we ensure that these are reflected in the curriculum documentation *and* manageable for teachers?
- How can these curriculum-related core competences, e.g. in areas such as literacy and numeracy, digital competence, and health and well-being, be supported by the cross-curricular skills, values and dispositions that are essential for this phase of learning, and how can these skills and dispositions be embedded in the curriculum in a way that is manageable for teachers and of maximum impact for learners?
- Is there merit to focusing the curriculum on a guaranteed foundation of learning, or desired outcomes or essential purposes for learning, from which all content is developed?
- Should our national-level curriculum be a top-level framework of the essentials / the 'what matters' in a given learning area, incorporating maximum flexibility for local adaptation (at the level of the local area, school, and / or class / teacher)? Will this help to put manageability in practitioners' hands or might it increase perceptions of overload?
- Are there merits in explicitly differentiated curricula in the core subjects - or in all subjects, or should differentiation remain the domain of the teacher, facilitated by a flexible, accommodating and inclusive curriculum framework?

The evidence from the models in place in Finland, France, New Zealand, Ontario, Singapore, Scotland and Wales provides a starting point for the discussion of such questions, as the NCCA considers the review of the primary curriculum in Ireland.

In reflecting on these and other questions in relation to the evidence from this desk study and the Irish context, it is, however, important to consider the context in the other study jurisdictions. Each curriculum framework for children aged 4-12 included in the study is unique, reflecting national priorities and pressures, the national and local context and the overarching aims of the education system. These important differences need to be taken into consideration. The detailed country tables and the second short overview report produced as part of the suite of outputs for this project provide this all-important context, reflecting the nuances of each system.

Appendix 1: research questions

<p>What content is included in the early, middle and upper years of primary education (4-12)?</p>	<ul style="list-style-type: none"> • What curriculum areas / subjects are included in the early, middle and upper years of primary education (4-12)? • Which curriculum areas / subjects occupy a greater / lesser proportion of curriculum space? • What justification is provided for including a particular curriculum area / subject in primary curricula? • At what point are particular curriculum areas / subjects introduced into primary curricula? • Are all learning areas / subjects compulsory? Are any curriculum areas / subjects encouraged but not required on a statutory basis?
<p>How does the primary (4-12) curriculum reflect its aims and purposes?</p>	<ul style="list-style-type: none"> • Identify, where possible, linkage (connections) between curriculum aims and the content objectives / learning outcomes / attainment targets of curriculum areas / subjects. • Explain how discrete curriculum areas / subjects contribute to achieving curriculum aims (purposes).
<p>To what extent is there an influence from policy and reform on primary curricula content (4-12)?</p>	<ul style="list-style-type: none"> • If available, identify examples where the development of primary curricula has been in response to political policies, reforms and / or priorities. • If available, provide examples of overarching curricular priorities e.g. sustainability, globalisation, citizenship, enterprise, innovation. How do they link to curriculum areas / subjects (in content objectives / learning outcomes and / or priorities).
<p>Curriculum overload is one of the well-documented challenges of the 1999 primary curriculum in Ireland. How has the presentation of recent primary curricula (4-12) in other jurisdictions addressed and responded to perennial issues of content overload (resulting from ‘new needs and requests’)?</p>	<ul style="list-style-type: none"> • If available, provide examples of specific, pragmatic curriculum development and design features / system features to alleviate curriculum content overload e.g. <ul style="list-style-type: none"> • strong emphasis on integration • frameworks to enable curriculum development and enactment at local level • online curriculum support materials for teachers • online annotated examples of children’s learning.
<p>How has the design and development of contemporary primary curricula (4-12) foregrounded curricular continuance mapping onto what precedes and follows?</p>	<ul style="list-style-type: none"> • If available, provide examples where: <ul style="list-style-type: none"> • Innovative curriculum design has provided a continuum of learning • Implicit or explicit reference is made to curriculum continuity • clear links between early childhood, primary and lower secondary education are implicit or explicit • continuity on a continuum of learning is a concern / priority of curriculum design and development.

Glossary of key terms and abbreviations

<i>Aistear</i>	The Early Childhood Curriculum Framework (Ireland)
AoLE	Areas of learning and experience - the learning areas of the new Curriculum for Wales which will be introduced in all schools in Wales from September 2022 and available for first feedback in April 2019
CfE	Curriculum for Excellence (Scotland)
DoE	Desired Outcomes of Education (Singapore)
ECCE	Early childhood care and education (Ireland)
ECEC	Early childhood education and care (Finland, New Zealand)
ELC	Early learning and childcare (Scotland)
ICT	Information and communication technology
IT	Information technology
MLPSI	Modern Languages in Primary Schools Initiative (Ireland)
NCC	National Core Curriculum (Finland)
NEL	Nurturing Early Learners - the curriculum framework for Kindergarten education (ages 4-6) in Singapore
OECD	Organisation for Economic Co-operation and Development
PE	Physical education
PISA	Programme for International Student Assessment - OECD's triennial international survey which aims to evaluate education systems worldwide by testing the skills and knowledge of 15-year-old students.
PSE	Personal and social education (Wales)
RE	Religious education
SESE	Social, environmental and scientific education (Ireland)
<i>socle commun</i>	In France, the 'common foundation of knowledge, skills and culture' – the core knowledge and skills which compulsory education guarantees for all pupils between the ages of 6 and 16
SPHE	Social, personal and health education (Ireland)
<i>Te Whāriki</i>	The Early Childhood Curriculum (New Zealand)

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