Centre for Education Systems

INTERNATIONAL COMPARATIVE REVIEW

CURRICULUM POLICY

Report

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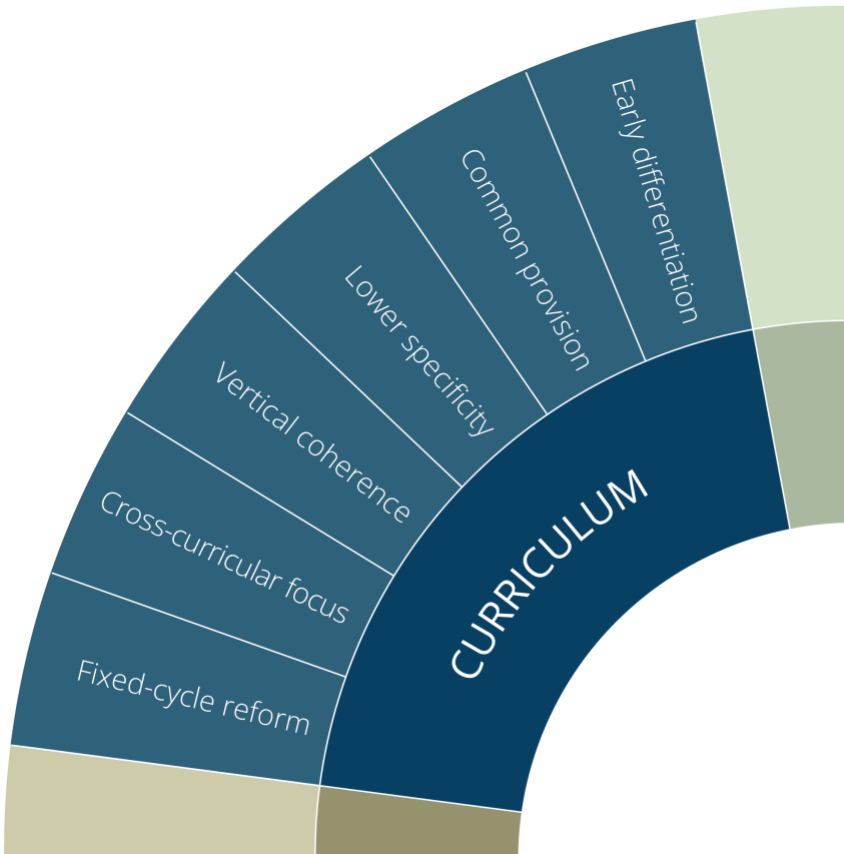

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Acknowledgements

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Section1: Executive Summary

1.1. Key takeaways

Curriculum differentiation by early student choice or academic selection tends to reinforce existing inequalities. Systems with early tracking onto different courses, or early subject choice, consistently show disadvantaged learners clustered into narrower or less academic pathways. Systems keeping a common curriculum entitlement until age 15–16 tend to have smaller socio-economic performance differences.

There are risks associated with having too much content in the curriculum. An overloaded curriculum leads to curriculum narrowing, as limited time forces teachers to select only the things teachers think are most important, or that are tested. Alternatively, if teachers attempt to include everything, not enough time is given to each topic to ensure all students have a secure understanding, which risks leaving some students behind.

There are also risks with having too little content in the curriculum. Reducing content too much can mean that students aren't guaranteed access to important knowledge and skills, exaggerating the difference between those who have the means of learning these things at home, and those who don't. The 'sweet spot' is a focused curriculum which allows time for secure understanding of foundational topics.

Specificity about what is to be learned in a curriculum is important for clarity, progression, and equality. Systems which have less-specific curricula have experienced teacher confusion, increased workload, inequalities between schools, and difficulties with student progression at transitions. Insufficient specificity can also lead to curriculum overload.

Flexibility to adapt the curriculum is often valued by teachers and can be achieved in different ways. Some systems opt to increase flexibility by reducing specificity. Others, with more-specific curricula, build in flexibility through choices of content, options to vary pace, alternative curricula for some SEND students, and/or unallocated time; though not all systems with specific curricula do these things.

Systems take a combination of different approaches to managing different rates of student progress. Some allow for extra time within the school system, some offer additional support to keep up with the class, some move students into different sets or streams, and others build in different rates of progression to their curriculum framework.

Most systems prescribe a certain amount of teaching time per curriculum subject, at least for some of the subjects in the curriculum. This can support curriculum breadth and guard against curriculum narrowing. The countries in the United Kingdom are the exception, and do not prescribe such teaching time.

The introduction of cross-curricular components such as '21st Century skills' and competencies often leads to teacher confusion and/or additional workload. This is due to teachers being unsure about how to teach cross-curricular components in different subjects, and in some systems, due to the planning and teaching of these components becoming unmanageable when too many are framed as the responsibility of all teachers.

The curriculum features of specificity and organisation by subject are compatible with a focus on cross-curricular components – they are not in opposites. Several systems have both specific curricula and cross-curricular frameworks, and this model allows for the integration of 'cross curricular' elements in syllabi in subject-sensitive ways.

Although many systems now emphasise student wellbeing, high-stakes examinations and limited teacher capacity to take on additional responsibilities often undermine these aims. Relatedly, the narrowing of the curriculum due to examinations or curriculum overload can affect student enjoyment and engagement.

Implementation conditions matter more than the formal reform model. Although different reform models exist, these models did not have meaningful differences in their reported effects. What mattered more to the success or otherwise of a reform (other than the structure of the curriculum) was the availability of supporting resources, professional development, and teacher time.

Stated curriculum purposes were similar across systems but not systematically related to their structure. Similar purposes of the curriculum were pursued in different ways in different countries. This doesn't mean that purpose doesn't matter; rather that there is convergence on the overall purposes of curriculum, but not on how to achieve them.

1.2. Questions for policymakers

- What are the purposes of this curriculum, and how should they be expressed?
- At what age should student choice or selection be prioritised over a common curriculum?
- Should the amount of time spent per subject be centrally mandated?
- What is the best way to achieve the appropriate amount of content in each subject?
- How can the curriculum provide sufficient specificity to support clarity, progression and equality?
- How can the curriculum build in sufficient flexibility to support teacher autonomy?
- How can this curriculum support student progress over time, and address different rates of progress between different pupils?
- How can this curriculum support links across subjects, and broader skills, without confusing or overwhelming teachers?

- Who should oversee curriculum reform, and how should wider involvement and consultation be managed?
- How will the implementation of the curriculum framework allow teachers the time, resources and support to make a success of it?

1.3. Summary of overarching findings

1.3.1. Purpose and structure

- Although relationships between the stated purposes of national curricula and their structural features might be expected, this analysis across 14 systems revealed no such overarching pattern.
- Systems could not be meaningfully grouped by expressed purpose, because most drew on the same four broad objectives:
    - Academic development
    - Preparation for citizenship and work
    - Personal development and wellbeing
    - Societal change.
- While the emphasis placed on these objectives varied between countries, these differences were not substantial enough to identify common types, and individual relationships between purpose and structure did not generalise across the group.
- Systems did differ significantly in how these purposes were expressed, with some keeping these aims concise, and others going into more detail, among other differences.

1.3.2. Common provision vs. student choice or selection

- All systems differentiate curricular provision at some point, either via student choice or academic selection (based on a test or teacher recommendation). This differentiation can happen gradually - with some choice and a small number of subjects remaining compulsory - or move from a common curriculum to complete choice or selection more abruptly.
- Differentiating the curriculum by either choice or selection at a younger age (12–14) tends to lead to a narrower curriculum for less advantaged students, particularly where schools serving disadvantaged communities offer fewer choices.
- More equitable systems tend to delay this differentiation, with almost all students studying a broad common curriculum until age 15 or 16.

- However, the success of this depends on curriculum design and implementation being sufficiently successful for younger students, so that all are able to access the same curriculum for longer.
- Related to common provision, systems that delayed curricular differentiation also tended to mandate the minimum amount of time to be spent on each subject.

1.3.3. The amount of content in the curriculum

- Curriculum overload is reported in two types of curricula: those that are specific about content and include too much of it, and those that are not specific about what should be taught or learned. Curricula that don't cause overload are those which are specific but focused in their content selection.
- Curriculum overload leads to a narrowing of the curriculum to focus on tested content, or if everything is attempted, means there isn't time for students to become secure in their understanding, or to develop fluency in their skills. This is particularly problematic for those children who need more time and input to achieve the same level of understanding, and risks leaving them behind.
- However, too little content limits universal access to foundational knowledge and skills, and therefore exaggerates existing inequalities based on parental background (as some will access greater breadth of knowledge at home).
- The 'sweet spot' is a focused curriculum, in which there is time for foundational knowledge and skills to be covered in depth, allowing for students to access more content later in the curriculum. Benchmarking with other systems' syllabuses can help to identify this balance, subject by subject.

1.3.4. Specificity of curriculum content

- Though specificity is on a spectrum, the 14 systems broadly fell into two groups; lower-specificity and higher-specificity. Six of the 14 systems have lower-specificity curricula, which leave a lot of room for interpretation, in the name of teacher autonomy.
- Practitioners in these systems tend to report a high incidence of teacher confusion, additional teacher workload, perceived or actual inequalities between schools and students, and/or difficulties with student progression at transitions.
- Three potential mechanisms underpin the relationship between a lack of specificity and inequality:
    - Different capacity and expertise in curriculum design between schools

    - Gaps in student knowledge as a result of vague curricula affecting some children more than others, due to differing support at home
    - Teachers interpreting ambiguous curriculum objectives differently and having lower expectations of students from disadvantaged backgrounds.
- Four of these six systems are responding to these problems by shifting back to being more specific about what children should learn, though one other system is moving in the opposite direction.
- Despite the consistency of this evidence, teachers also report benefits to the flexibility inherent in lower-specificity systems, including the ability to be responsive to the interests and needs of the students.
- Some higher-specificity systems achieve these benefits by building in flexibility in different ways: through choices of specific content (this topic or that topic), options to vary pace, alternative curricula for some SEND students, and/or unallocated time (e.g. conceived of as 'white space').

1.3.5. Progression and vertical coherence (links over time)

- Vertical coherence is the degree to which topics in a curriculum are logically sequenced and connected across grades, so that earlier learning provides the foundation for later learning, supporting progression. It can be thought of as 'links over time'.
- A lack of specificity in a curriculum undermines vertical coherence at a system level, and therefore harms student progression. This is especially the case at transitions between schools, where individual school-level curricula cannot ensure vertical coherence, resulting in children arriving in secondary school without common foundations for future learning.
- Systems with low-specificity curricula also tend to conceptualise student progression as being movement through a series of levels or steps defined by broad outcomes, which are independent of movement through year groups or stages. This approach is associated with teacher confusion about progression and assessment of student progress.
- This conceptualisation is intended to be inclusive of students with SEND, and legitimises different rates of progression between students. However, this risks further exaggerating the differences in knowledge and skill between students in the same year groups, which can add to the challenges students face at transitions.
- A contrasting conceptualisation of student progression is manifest in systems which use the curriculum itself as the progression model, where there are expectations of

specific knowledge and skill for students to achieve in each year or stage, and which build on each other over time. To move through the curriculum is to make progress.

- In these systems, curricula are specific enough that students who are falling behind can be identified. Responses then differ:
    - Targeted support in specific areas to help them keep up with the class
    - Movement of students into different streams or ability-based sets
    - Giving students more time within the education system, e.g. repeating a grade, or having an additional year at the end of basic schooling
    - For students with identified SEND, introducing flexibility in curricular requirements and varying pace or curricular content in individualised ways.

1.3.6. Horizontal coherence (links across subjects)

- Alongside vertical coherence (links over time), systems commonly attempt to support horizontal coherence in their curricula: the links between subjects.
- This can happen in three main ways:
    - Combining subjects into broader 'areas of learning'
    - Identifying links between specific subject content in different subjects
    - Including cross-curricular components in the curriculum such as '21st Century skills' (addressed fully in section 1.3.7)
- Collapsing subjects completely into 'areas of learning' undermines subject-specificity, and is therefore associated with the challenges described above. However, several systems identify and organise content by subject within 'areas of learning', allowing them to both identify commonalities and links across subjects, but also to be specific about subject content.
- Some systems indicate links between subjects within subject syllabi, though there is no evidence on the effects of this approach.

1.3.7. Cross-curricular components (skills, topics, and competencies)

- Many systems incorporated components in their frameworks which were intended to be integrated across all subjects. These included broad skills, cross-curricular topics or themes, and/or a combination of these, often expressed as 'competencies'.
- Systems also varied in how specifically these components were articulated, and whether they were expressed in subject-sensitive ways within syllabi.

- Perceived conflicts with examinations and curriculum overload meant teachers in many systems deprioritised cross-curricular components in favour of test preparation, especially where curricula or exam syllabi were perceived as overly full.
- Teacher confusion and workload were reported in most systems with substantial cross-curricular frameworks, driven by uncertainty about what these skills looked like across subjects and how to teach them, leading to inconsistent implementation.
- In two countries that implemented 'student-centred' pedagogies which were thought to support broad skills, there was some evidence of this disadvantaging less-supported or less-motivated students, potentially widening achievement gaps.
- Contrary to global narratives, systems with cross-curricular frameworks included several with specific, subject-based syllabi. Among these is Singapore, which incorporates cross-curricular components in a subject-sensitive way into subject syllabi.

1.3.8. Reform model

- Three broad approaches to designing the curriculum framework were identified:
    - Participatory reform
    - Expert-guided and strategic reform
    - Government-driven reform.
- Teacher stress and workload pressures occurred across all three models, due to frequent changes, compressed timelines, and overlapping reforms.
- Surprisingly, even participatory structures did not ensure that teacher involvement or consultation felt meaningfully consultative; perhaps because meaningful involvement can only ever include a small proportion of teachers in a country.
- Professional development was consistently identified as critical to successful implementation, with lack of induction, delays in training, or insufficient time to participate undermining curriculum delivery across multiple systems.
- The quality of resources and guidance strongly influenced confidence and fidelity of implementation, with insufficient materials leading to superficial compliance, late or inconsistent resources creating barriers, unions or publishers filling gaps, and teachers struggling to make sense of overly extensive guidance.
- Overall, the approach to designing reforms appeared less influential than the availability of time, professional development, and high-quality resources.

Introduction

Curriculum policy is a key lever for improving education systems. Many education systems around the world attempt to improve the quality of the curricula offered in schools by making changes to their system-level curriculum frameworks, often taking contrasting approaches even when attempting to achieve similar purposes. Comparative evidence on curriculum policy is therefore much needed.

The purpose of this report is to generate comparative insights to inform curriculum policy and system-level curriculum design. To do this, we focus on providing an overview of curriculum policy – including the design of curriculum frameworks - in fourteen jurisdictions representing a broad mix of approaches: England, Scotland, Northern Ireland, Wales, Ireland, France, the Netherlands, Finland, Estonia, Poland, Japan, Singapore, New Zealand and Ontario.

This report does not offer exhaustive profiles of any single system but highlights groups of differing features and approaches that recur across all of them. It does this to provide insight into different types of 'policy options' available to policy makers.

The report synthesises findings across jurisdictions to the following questions:

1. What is the purpose of the curriculum?
2. What is the structure of the curriculum?
3. How is curriculum policy made and introduced?
4. How is curriculum policy evaluated?
5. How does context shape curriculum policy and reform?
6. What is the evidence about the effects of the curriculum?

The first two questions are addressed in the first section titled 'Purpose and Structure'. The second two questions are addressed in the next section, titled 'Development and Evaluation'. The final two questions are addressed in the section 'Context and Effects'. These sections are followed by an analysis in 'Overarching Findings' which identifies patterns and relationships between the types of approaches identified in the first two sections, with the effects described in the third.

The report uses the term 'curriculum' throughout to refer to system-level curricular frameworks, unless 'school curriculum' is specified. However, we recognise that these frameworks can never include all of things students in schools learn and experience,

and that their role is to influence the curriculum at the school level. 'Curriculum' is used as a shorthand, as it often is in policy documents[1].

It is important to note that system-level curricula are reformed and replaced by new or updated frameworks every few years (how regularly this happens varies by system). This report is based on the curricula that the 14 systems under consideration had in the summer of 2025, and several of these are in the process of being changed already. Although this will make the information about what kinds of curricula individual systems currently have out of date in just a year or two, this is not the information that is of greatest interest. Of more importance is setting out the options that are available to policy makers - described in this report as types of approaches – and considering their effects in different contexts. This information will remain relevant long after countries have updated their current curricula.

Evidence for this report draws on in-depth case studies of curriculum policy in each jurisdiction conducted by Cambridge University Press & Assessment (CUPA) and is collated in a group of tables and reports which are accessible on the CES website (see Methodology in Appendices). Occasionally, findings in the report rely on additional evidence beyond what is captured in the tables and reports from CUPA – in these cases footnotes are used to provide the source of claims. It is worth noting too that at various points in the report, 'spotlights' of certain jurisdictions are offered. These spotlights should not be read as providing examples of 'exemplary' curriculum policy. Instead, they are designed to show the breadth of different policy options available to policy makers.

In presenting this report, CES recognises that there will always be multiple legitimate interpretations of the same policy evidence and source material. CES recognises that comparative reviews of this kind will have areas which remain unexplored and, in places, remain high-level. Policy documentation by its nature can sometimes be ambiguous, contradictory and fast changing. We have therefore done our utmost to ensure accuracy but welcome any corrections.

[1] For discussion of scope, see Cambridge University Press & Assessment report, "Understanding curriculum policy: A descriptive summary of curriculum policies in 14 jurisdictions", on the CES website.

Section 2: Purpose and Structure

2.1. Introduction

This section of the full report builds on work that addresses research questions one and two on the purpose and structure of the system-level curriculum framework (henceforth 'curriculum'), by selecting and organising descriptive information about each curriculum into themes relevant to policymakers, and within each theme, identifying several distinct policy choices or approaches that systems take across a range of relevant variables. It also identifies patterns in the combinations of approaches that are often taken together, and uses these to describe curriculum types.

Where there are curricula which are archetypes of a particular type, or take most of the approaches which constitute a type, these system curricula are given as examples of that type. Within most themes, there will also be systems which don't fit neatly into any of the identified types; these remain unplaced, and it is not our intention in this work to comprehensively describe every variable for all 14 systems.

The ultimate aim of this section of the report is to use these types to set out a conceptual framework for describing the different structural features that system-level curriculum frameworks can have, drawing on a combination of existing literature, and what is emergent from the information in the underlying country case studies.

In order for this conceptual framework to take into account important features which are known to have relevant effects (in broader literature, and in the effects identified in our evidence synthesis), two structural curriculum features are included in the framework below which we are not able to make judgements on in relation to our 14 systems, due to our focus being primarily on policy documents, and our approach not including a full analysis of curricula content. These features are focus and vertical coherence, and will be described in the relevant sections below.

The report is organised under the following themes:

- The purpose of the curriculum
- Common provision vs. student choice
- Focus and specificity
- Vertical coherence and progression
- Horizontal coherence.

2.2. The purpose of the curriculum

While curriculum documents serve as frameworks for educators, influencing what is taught, they also function as public statements of educational intent and societal values, articulating what education systems aspire to achieve for learners and communities. Most of the

curriculum frameworks studied include broad statements describing what education should achieve, for learners and for society as a whole. A few did not include these within the curriculum framework, but did express the purposes of education as a whole, in terms very similar to other systems' curriculum aims and purposes. For these systems, we have analysed their overall educational goals, rather than solely the goals of their curricula. How the documentation describes such aspirations – purposes, aims, or something else – varies across systems.

2.2.1. The format and style of purpose statements

The format of these aims or purposes differs across countries. Some jurisdictions, like England and Northern Ireland, present concise summary statements of their aims. Others, such as Poland or Estonia, use detailed lists of aims. Around half combine brief overarching statements with lists or explanatory text. In each case, the chosen format reflects a policy decision about how clearly, and in how much detail, educational purposes should be presented in the main text of a curriculum, outside of individual subject syllabi.

The style of expression for these aims and purposes also varies. Some systems adopt a 'provision' style, in which aims describe what should be provided to learners. For example, Ontario aspires to "provide students with the opportunity to realize their potential and develop into highly skilled, knowledgeable, caring citizens who contribute to their society". Others use a 'pupil outcomes' style to express some or all of their curriculum aims, in which they set out the character and capabilities which graduates should demonstrate. Singapore, Wales, Scotland, and Northern Ireland are remarkably similar in this respect, all presenting the purposes of their curricula as three or four descriptions of what students should become.

Table 1: Example descriptors of 'pupil outcome' curriculum aims

Singapore's desired outcomes	**Wales' purposes**	**Northern Ireland's objectives**	**Scotland's capacities**
Self-directed learners	Ambitious, capable learners		Successful learners
Active contributors	Enterprising, creative contributors	Contributors to the economy/environment	Effective contributors
Concerned citizens	Ethical, informed citizens	Contributors to society	Responsible citizens
Confident persons	Healthy, confident individuals	Individuals	Confident individuals

A smaller number also express the purpose as the experiences that should be made available, such as in Scotland's Curriculum for Excellence, which says students should "experience a traditionally broad Scottish curriculum that develops skills for learning, skills for life and skills for work, with a sustained focus on literacy and numeracy, encourages an active, healthy and environmentally sustainable lifestyle and builds an appreciation of

Scotland and its place in the world". A few jurisdictions combine more than one of these styles across their curriculum documents, as seen in Scotland, Northern Ireland, and New Zealand's two national curricula.

2.2.2. Purposes expressed in curricular documentation

While these differences in format and style mean that purpose or aims statements look quite different at a first glance, their actual contents include a great deal of similarity. To support a comparison, we have grouped the range of purposes expressed in curricular documentation into four broad categories[2] which draw on wider curriculum literature. These are:

- Academic development
- Preparation for citizenship and work
- Personal development and wellbeing
- Societal change.

This section explores each type of purpose and gives illustrations of each, as expressed in system-level curricular documentation, before drawing conclusions about the similarities and differences between jurisdictions. The mention of a particular system within the sections below does not imply that this system has only that sole purpose; in fact, all systems studied reflect more than one purpose.

Academic development

A curriculum statement that reflects or includes the purpose of academic development emphasises that one purpose of education is to help children learn the accumulated knowledge of their culture through academic disciplines. Acquiring an understanding of an academic discipline involves learning its content, conceptual frameworks, and ways of thinking. This purpose is about the development of knowledge, literacy, numeracy, cognitive skills, readiness for further education, and academic excellence.

England, Ireland, and Japan are examples of systems which reflect this purpose through their emphasis on disciplinary knowledge and structured academic learning. England's National Curriculum focuses on providing "essential knowledge that they [pupils] need to be educated citizens", while Ireland's curriculum identifies knowledge, literacy, numeracy, and cognitive development as key aims, including "numeracy and problem-solving skills" and "independent thought".

Finland and Poland both link academic knowledge with understanding the world in organised ways. Finland's National Core Curriculum for Basic Education emphasises the

[2] Various authors have developed categories for grouping such curricular purposes; here we draw predominantly on the purposes inherent in the description of curriculum ideologies identified by Schiro (2012). As we are solely concerned with the purposes for this analysis, and not the broader ideologies about which approaches are thought to lead to the various goals, we have used different terms.

promotion of knowledge and skills, while Poland's National Core Curriculum uses similar language to describe its aim to provide "a body of knowledge and skills that enables pupils to understand the world in a more mature and structured way".

Preparation for citizenship and work

A curriculum statement that reflects or includes the purpose of preparation for citizenship and work emphasises preparing learners to meet the needs of society by training them to become responsible, contributing members of their communities and economies. This can be thought of as two strands: preparation for social participation and citizenship, and preparation for economic life. Both strands emphasise education's role in developing skills and values that enable individuals to contribute productively to wider society.

Reflective of the first strand, which focuses on citizenship and community, Wales, Scotland, and France explicitly frame education around civic responsibility and participation. Wales aims for learners who are "ready to play a full part in life and work" and "valued members of society". Scotland's Curriculum for Excellence identifies "responsible citizens" as one of its four capacities, while France's Education Code describes the mission of education as preparing "students to live in society and to become responsible and free citizens".

The second strand emphasises preparation for economic participation. Ontario, Singapore, and Finland present education as a means of developing employment skills and adaptability. Ontario's policy framework describes the purpose of education as helping students "realize their potential and develop into highly skilled, knowledgeable, caring citizens who contribute to their society", while later guidance emphasises "success with real-life and job skills". Singapore's Desired Outcomes of Education identifies pupils as "active contributors", and one of Northern Ireland's curriculum objectives is "to help young people develop as contributors to the economy and the environment".

Personal development and wellbeing

A curriculum statement that reflects or includes the purpose of personal development and wellbeing emphasises the needs and experiences of individual learners. Aims which fall under this category include individuality, self-awareness, physical and emotional wellbeing and fulfilment – viewing education as a means for learners to realise their potential and lead balanced, meaningful lives.

For example, Wales defines one of the four purposes of its curriculum as enabling learners to "lead fulfilling lives as valued members of society", Estonia says that "basic schools lay a foundation for self-determination as a self-aware person", and Japan describes the importance of "developing individuals' abilities, cultivating creativity, and fostering a spirit of autonomy and independence by respecting the value of the individual".

Societal change

A curriculum statement that reflects or includes the purpose of societal change emphasises the role of the curriculum as a means of changing society – often in favour of making it more just, equitable, inclusive, and/or sustainable. This purpose positions education as a means of addressing inequality and fostering the values needed for a fair and sustainable future, ensuring that all learners can participate fully and fairly in social life.

This approach is evident across a range of systems. Wales integrates sustainability and wellbeing throughout its curriculum through encouraging pupils to contribute to a sustainable and fair future. Scotland and Finland both define "equity" and "equality" as central aims and New Zealand foregrounds Māori-medium education and recognition of Te Ao Māori (the Māori worldview), promoting indigenous equality and cultural inclusion. France emphasises republican equality and secular values as the foundation for inclusion and social justice, while Japan promotes moral development and cultural harmony. In all these cases, education is framed as an agent of equity, inclusion and sustainability, enabling social and cultural transformation.

Comparative Insights

Overwhelmingly, the commonalities across these systems in terms of their expression of purpose outweigh their divergences. We took three different approaches to the analysis of these purposes (outlined in the Methodology section in Appendices), each looking to see if there were significant differences, or types we could group systems into.

Although we found some differences in the extent of articulation and emphasis, our analyses revealed that nearly all of the curricula aim for nearly all of the purposes set out in the categories above. All jurisdictions express, to some degree, an aspiration for students' academic development, preparation for citizenship and work, and personal development and wellbeing. Most also include some reference to the curriculum supporting social reconstruction of some kind.

Although these purposes appear across systems, countries do differ with regard to the purpose they articulate the most clearly or extensively. In their stated aims, England and Japan place particular value on disciplinary knowledge and academics. Estonia and Northern Ireland meanwhile, emphasise personal development and wellbeing more strongly. Ontario and France particularly emphasise the role of the curriculum to prepare young people for citizenship and work. Some jurisdictions place significant weight on multiple purposes. Wales and New Zealand, for instance, emphasise all four purposes to a significant extent.

2.2.3. Trends in curriculum priorities

Across jurisdictions, curriculum priorities follow five trends of an increasing emphasis on:

- Modernisation
- Literacy and numeracy
- Inclusion and diversity
- Wellbeing
- National identity.

Modernisation

Many jurisdictions have expanded their curricula to reflect social, technological, and environmental change. Ireland, Ontario, and Poland have updated their curriculums relating to technology, digital competence, modern languages, and/or sustainability. In Estonia and Ontario, these new areas are integrated across the curriculum rather than introduced as separate subjects, with sustainability and global citizenship embedded through learning themes. System approaches to cross-curricular topics are themes are explored below.

Strengthening literacy and numeracy

A prominent trend across recent reforms is renewed emphasis on literacy and numeracy as the foundations of learning. Wales, Northern Ireland, Ireland, Ontario, New Zealand, the Netherlands, and France have each strengthened their focus on reading, writing, and mathematics within updated national curricula. These changes typically aim to clarify expectations for progression, establish greater coherence across stages of schooling, and improve consistency in attainment. In several cases, the renewed focus responds to national concern about variable standards in basic skills, particularly in early and middle years. Although approaches differ, jurisdictions share the objective of ensuring that every learner develops secure literacy and numeracy as the essential basis for wider academic and personal success.

Increasing emphasis on inclusion and diversity

Recent curriculum reforms increasingly foreground equity and inclusion as central aims. Some jurisdictions – such as Finland, Ireland, and France – frame inclusion as a universal entitlement rooted in equality and social justice. Others – including New Zealand, Ontario, Singapore, and Estonia – emphasise recognition of cultural and linguistic diversity and minority identities. In New Zealand, this includes the strengthening of Māori-medium education and curriculum principles grounded in Te Ao Māori, which demonstrate a growing commitment to indigenous language, culture, and learner identity.

A third group – represented by Scotland, Wales, and Poland – prioritises reducing barriers and meeting learners' differing needs, particularly for pupils with additional learning needs or other forms of disadvantage. Across jurisdictions, inclusion commitments are now

articulated through specific curriculum expectations relating to cultural and linguistic diversity, support for learners with special educational needs and disabilities, attention to socio-economic disadvantage, and recognition of minority and indigenous groups. Although approaches vary, jurisdictions increasingly identify inclusion and diversity as explicit policy priorities and present education as a means of enabling full and equitable participation in society.

Emphasis on learner wellbeing

Jurisdictions are increasingly emphasising learner wellbeing as an explicit goal of curriculum policy. Wales's Curriculum for Wales identifies learners who can "lead fulfilling lives as valued members of society", while both Finland's Basic Education Act and Ireland's Framework for Junior Cycle make student wellbeing an explicit statutory commitment. These reforms place greater emphasis on the social, emotional, and personal development of learners, reflecting a broader movement towards prioritising emotional safety, positive relationships, and healthy development in schools.

Compared to earlier frameworks that solely emphasised academic rigour and civic preparation, recent curricula also place value on the wellbeing and holistic development of individual learners. In this shift, wellbeing appears not only as a policy principle but as a curricular aim (corresponding to the 'personal development and wellbeing' purpose above, section 2.2.2): education is increasingly framed as supporting the whole learner. There may also be other ways jurisdictions are working to improve learner wellbeing, for instance through increased investment in SEND support or changes to the school day, that sit beyond the curriculum.

Reinforcing national identity

A growing number of jurisdictions use curriculum reform to reinforce national identity and shared values. Wales and Ireland connect education with cultural heritage and bilingual identity. In their curricula reforms, these jurisdictions frame learning around community, belonging, and civic participation. In Singapore, Japan, and France, national identity is linked to moral development, collective responsibility, and social harmony. Estonia and the Netherlands emphasise democratic citizenship and participation through positioning education as a means of sustaining civic institutions and social unity.

Several jurisdictions embed national identity directly into curriculum content. The New Zealand Curriculum affirms Māori cultural identity and values, including supporting learners to "be confident in the Māori world". France emphasises "the values of the Republic, the citizen, and secularism", while Japan's Basic Act on Education identifies national identity as a guiding principle. Ireland and Singapore incorporate cultural continuity, civic participation, and shared values within curriculum aims.

2.2.4. Curriculum purposes conclusions

Each of these trends can be related back to one of the purpose categories expressed above. The topics updated and addressed within the trend to modernisation are about supporting young people to be prepared for the future of work, and as global citizens. The trend to focus on literacy and numeracy shows that a focus on the academic proficiencies of young people is still important to these systems. An emphasis on learner wellbeing naturally aligns with the purpose of personal development and wellbeing, and the moves to focusing on national identity, and inclusion and diversity, both relate to the aim of societal change. In this way, not only do systems across our sample seek the same range of aims (albeit to differing degrees), but all aims continue to be important.

The purposes of curricula within systems tell us about what they aspire to, but it is the structures of these curricula which have the potential to determine whether they are successful in meeting these aspirations. The remainder of this report focuses on the structures of curricula, and the main ways in which they differ.

2.3. Common provision vs. student choice

2.3.1. The age at which systems cease common curriculum provision

In designing a system-level curriculum, policymakers have a choice: until what age will the majority of pupils (those without significant special needs) study the same broad curriculum, and at what point will the curriculum offer differ to meet the needs and interests of different young people?

For the majority of countries studied, children and young people all follow the same broad curriculum (common provision) until the end of lower secondary education. At this point, in these countries, curriculum becomes naturally differentiated as students choose to take different courses in upper secondary (or to leave school at this age), with a range of approaches to which subjects or courses remain compulsory at this stage (see section 2.3.3).

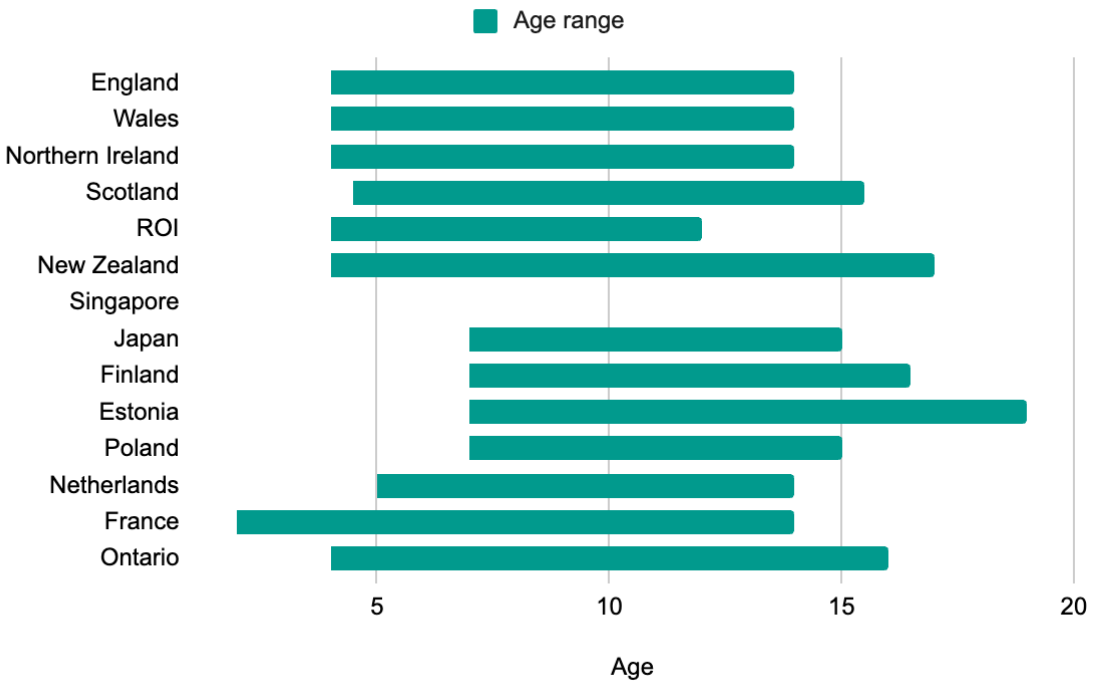
However, within this group of countries which have a common curriculum to the end of lower secondary education, there is meaningful variation:

- The age at which lower secondary education (and common provision) finishes varies: in England, Wales, Ontario and Northern Ireland, this is at 14, whereas in Ireland, Poland, Japan and France this is 15, and in Finland and Estonia, it is 16. This means that students in Finland and Estonia follow a common, universal curriculum for an additional two years compared to most UK countries.
- Within this common curriculum to the end of lower secondary, countries have different approaches to the number of subjects which are a compulsory part of this curriculum. In most, a broad curriculum is mandated in lower secondary, but in

Ireland's Junior Cycle which begins at age 12, only six subjects are compulsory, with students making choices about other subjects studied.

Three countries in our study stream children into different types of school at the end of primary school. In Singapore, students have different curricula from age 12 depending on their subject banding (though with the possibility of movement between subject bands, and therefore curricula), and even within upper primary school, content is offered at different levels based on the set students are in. In the Netherlands, although students are tracked into different schools at age 12, they take a common national curriculum for the first two years, meaning there is curriculum differentiation at 14. And in Northern Ireland, the curriculum is the same in both selective and non-selective schools until the end of lower secondary, with students choosing their own subject courses from age 14.

Figure 1: Ages during which jurisdictions teach a common broad[3] curriculum



2.3.2. Approaches to choice about general or vocational pathways

In half of the systems studied, compulsory education finishes at age 15–16, so students have the choice to leave education altogether at this age. In five countries it is compulsory until 17 or 18, with Northern Ireland shortly joining this group. While this group includes England and Poland, in both countries education is only compulsory part-time from the age of 16

[3] For the purposes of this Figure, a common broad curriculum was defined as all students being required to study a language, mathematics, a science, a humanities subject, and an arts subject.

and 15 respectively. Singapore is the odd country out here, as schooling is only compulsory to the age of 12, although the vast majority stay in school for the secondary level.

Whether or not education is compulsory past the end of lower secondary school, students in all of the systems have the option to choose to specialise in vocational areas or more general or academic subjects. How they do this differs in two main ways: the age at which these choices are offered (or enforced); and whether this differentiation in curriculum happens within clearly defined pathways and often separate institutions, or whether students can take a more 'mix and match' approach.

Most systems offer separate vocational pathways, and do so at around age 15–16, with the exceptions of the Netherlands and Singapore, which select children into different streams or subject sets with different curricula sooner. In these countries, entry into these streams is not usually the students' choice, but rather, determined by assessments.

Ontario and New Zealand don't offer separate vocational pathways in separate institutions, but still offer young people the opportunity to take vocational courses, alongside academic ones if they choose, within the same school. This allows for more of a blend of courses than in those systems in which students choose either a vocational or academic institution. In practice, some other systems allow for this also, with general schools offering some vocational courses in England and Northern Ireland for example, alongside colleges that are explicitly set up to deliver a vocational curriculum also offering more academic courses. For more information on vocational pathways, see the Tom Richmond and CES 2025 report on VET pathways and assessment.

2.3.3. Approaches to subject choice in upper secondary school

In most systems, the curriculum at upper secondary school is determined by courses or qualifications (and their associated syllabi), rather than a national curriculum. While the national curricula in Wales and New Zealand officially apply to some or all of the upper secondary level, the curriculum content is largely determined by which qualifications young people choose to take, as their curriculum content is very broadly expressed at this stage.

Systems differ based on the number of particular courses and qualifications that are compulsory at this level. For some, like Northern Ireland, very few courses are compulsory, with only PE and religion compulsory between 14 and 16, and no particular subjects beyond that. The UK countries and Ireland give students more choice over the courses taken in upper secondary than other systems.

At the other end of the spectrum, the five countries in our sample from mainland Europe (excepting the Netherlands) have a wide range of subjects compulsory in some types of school until the end of upper secondary school. Some within this group, like Finland, only make such subjects compulsory in academic high schools, with a different core of more vocationally focused courses compulsory in vocational schools. Others, like Poland, continue

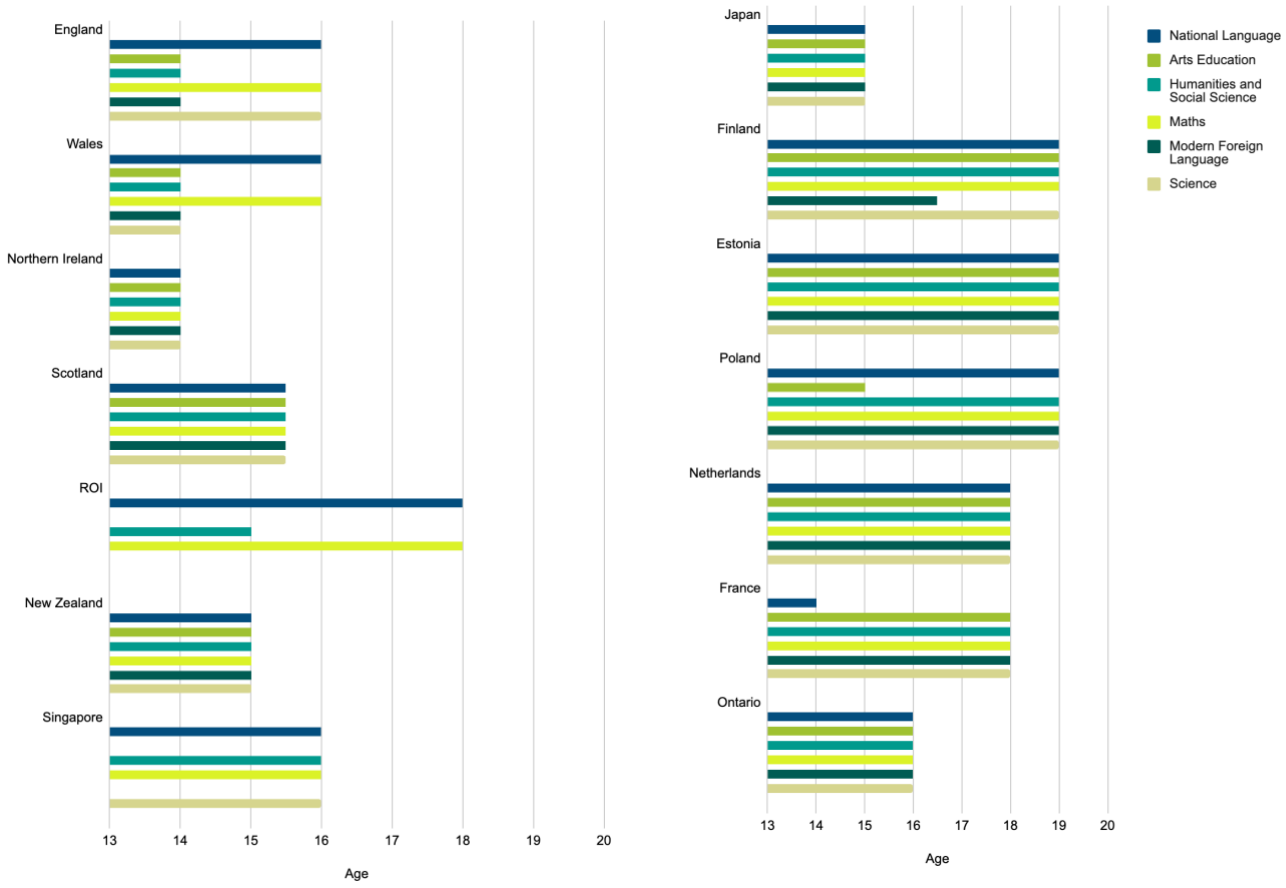
to make mandatory the teaching of a core of academic subjects, in academic and vocational schools alike (although it does not follow that this is the same curriculum).

Table 2: Ages at which subjects stop being compulsory for those still in school

	National language	Arts education	Humanities and social science	Maths	Modern Foreign Language	Science
England	16	14	14	16	14	16
Wales	16	14	14	16	14	14
Northern Ireland	14	14	14	14	14	14
Scotland[4]	15.5	15.5	15.5	15.5	15.5	15.5
Republic of Ireland	19	12	15	15	12	12
Ontario	16	16	16	16	16	16
New Zealand	17	17	17	17	17	17
Singapore[5]	16	12	16	16	0	16
Japan	15	15	15	15	15	15
Finland	19	19	19	19	16.5	19
Estonia	19	19	19	19	19	19
Poland	19	15	19	19	19	19
Netherlands	18	18	18	18	18	18
France	14	18	18	18	18	18

[4] Although these subjects are officially taught until the end of Broad General Education at around age 15.5, in practice many schools begin Senior phase a year earlier by requiring students to select subjects.
[5] Although a modern foreign language is not compulsory, children study a second national language (their "Mother Tongue") to age 16.

Figure 2: Jurisdictions' approaches to post-14 compulsory education



There is one final important distinction to be drawn in this area. Even where subjects are not compulsory, and curriculum is determined by student choice, the extent of that choice may be significant or limited. Some systems guarantee an 'entitlement' to the study of certain subjects, by requiring schools and colleges to offer certain courses, even if students don't have to take up this offer. This is the case with Northern Ireland's 'Entitlement Framework' and the new recommendation from the English Curriculum and Assessment Review that all students should have the entitlement to study a triple science qualification. On the other hand, not offering an entitlement can mean that student choice is limited by what courses the school or college chooses to offer.

2.3.4. Mandated time per subject

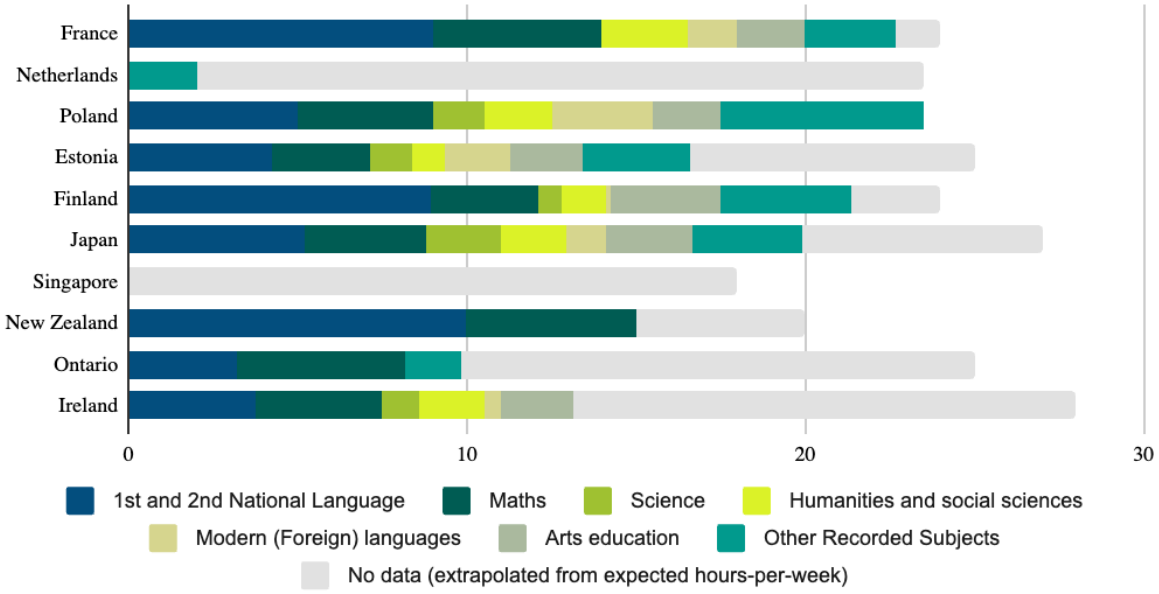
Even when listed subjects are officially compulsory for all students, there are circumstances in which students may get a very limited experience of some subjects, affecting their entitlement to that subject. This can be the case when some subjects are considered less important than others by the school – particularly where schools are held to account for their results in some subjects but not others. One policy approach to mitigating this

problem is to mandate the minimum amount of time that students should spend studying each subject.

Most countries in our sample prescribe a certain amount of teaching time per curriculum subject, at least for some of the subjects in the curriculum. The countries in the UK are the exception here, as they don't prescribe particular teaching time per subject, instead leaving it up to schools to decide how long to spend on each one. Singapore's Ministry of Education offers a recommended time per subject, with some flexibility, but these recommendations are not publicly available.

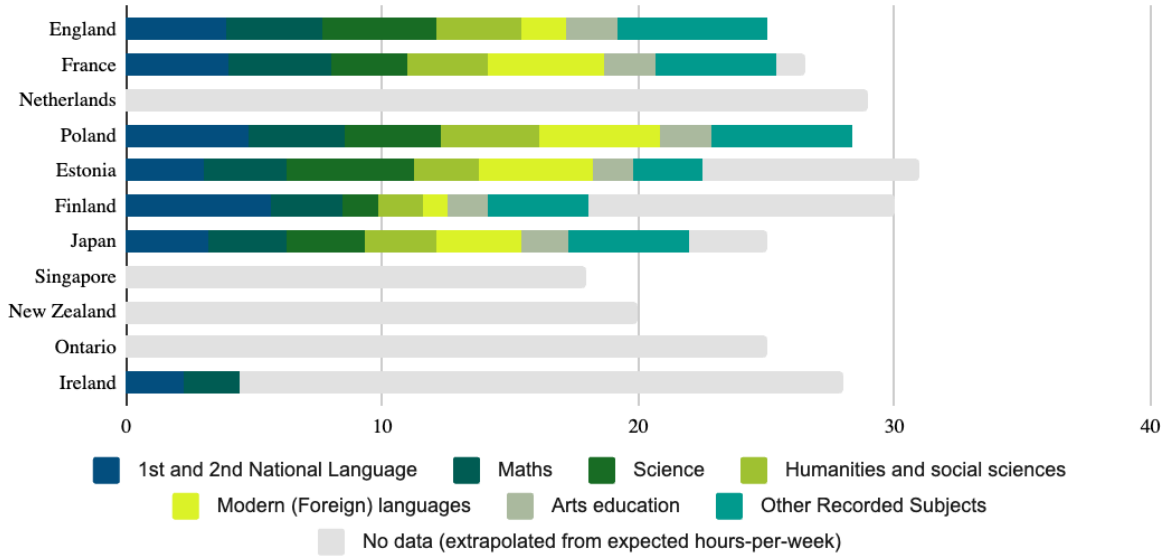
The diagram below illustrates the percentage of hours each subject is expected to be taught at primary level, out of the total curriculum time. It illustrates that some countries – namely France and New Zealand – give significantly more time to core subjects of the national language and mathematics, while other countries spread the recommended hours more evenly across the curriculum.

Figure 3: Proportion of hours per week prescribed to subjects at primary level



The following diagram shows the proportion at lower secondary level. As might be expected, the time weighting given to different subjects was more equal at this level, across all systems. Fewer countries prescribe the amount of time per subject at this level.

Figure 4: Proportion of hours per week prescribed to subjects at lower secondary level



This approach of setting rules or recommendations about the amount of time students should spend on each subject guarantees an entitlement to studying that subject. However, it does not affect students' experience of *what* is taught within each subject. This will be addressed in section 2.4.2.

2.3.5. Typology on common provision vs. choice

Taking into account the patterns of approaches taken across the age at which common provision ends, the approaches to subject and pathway choice at upper secondary, and the extent of mandated time per subject, three main types emerge. Systems which prioritise:

Early differentiation by choice: These countries prioritise curricular differentiation via student choice over the subjects chosen and the pathway taken, at a younger age than other systems (typically 14). They also leave more autonomy to schools for how long to spend on each subject (especially so in the UK). *Includes England, Northern Ireland, Ireland, Scotland, Wales.*

Early differentiation by selection: These countries prioritise curricular differentiation via selection over the pathway taken, at a younger age than other systems (with selection at 12). They vary over whether the time spent on each subject is mandated. *Singapore and the Netherlands.*

Common provision: These countries prioritise a common, broad curriculum for longer, delaying student choice over subjects or pathways until students are 16, and often continuing to mandate the study of particular subjects within some streams until the end of compulsory education. They are more likely to mandate the amount of time spent on each subject too. *Includes Finland, Estonia, Poland, Japan*.

2.4. Focus and specificity

2.4.1. Approaches to reducing curriculum overload

Curriculum overload – the perception that there is too much content in the curriculum for teachers and students to manage – has been reported as a problem in the current or previous curricula of many countries, and is often one of the reasons for curriculum reform. It has the effect of reducing student and teacher choice on what is taught and learned, as there is no time to do anything other than what is in the system-level curriculum.

In contrast, a curriculum feature known as 'focus' refers to "the extent to which attention is concentrated on a relatively limited number of topics at each grade level, avoiding the inclusion of many topics that can only be treated superficially".[6] This can have the effect of leaving enough time for students and/or teachers to include topics of their own choosing (see Singapore's concept of 'white space', below). For the purposes of identifying all of the possible policy options, we can also describe a curriculum which has too few topics specified as experiencing 'curriculum underload'.

One policy choice which can help mitigate against curriculum overload in the first place is the practice of setting a certain amount of curriculum time per subject at each stage (described in section 2.3.4); this gives curriculum designers the parameters within which they can work, as they are encouraged to plan for only as much content as can be comfortably explored in the time provided (though there is no guarantee that they will actually do so).

The nature of our analysis means that we weren't able to do a comparison of the amount of content in each curriculum framework, either as a whole or by subject. This is more complex than comparing the number of words in a framework, as different curricula include content at different levels of generality. Perceptions of curriculum overload by teachers will be explored in the report on the context and effects of curriculum policy.

During the process of curriculum reform, there are two different approaches to cutting the amount of content in a national curriculum in response to a perception of curriculum overload. Some systems cut the amount of content in the curriculum; others cut all specific content and replace it with fewer, more generic statements.

Reducing the amount of specific content:

- Estonia cut the amount of content in 2011 by narrowing topic breadth. Then in 2023, there was a further "trimming" exercise, which pared back subject syllabuses.
- In Poland, the 2024 curriculum reform focused on the general slimming-down of the core curriculum, and reduced the teaching content of almost all subjects by approximately 20%.

[6] Schmidt et al. (2005).

- In 1997, the Singaporean curriculum was reviewed and content reduced. The primary science curriculum represents the result of this, by building in 'white space' for teachers to choose content based on student or teacher interests, alongside a mandatory core.

Replacing specific content with fewer, more generic statements:

- In 2010, the Curriculum for Excellence in Scotland replaced a more content-heavy curriculum, and replaced it with more general 'experiences and outcomes'.
- Northern Ireland's introduction of its 2007 curriculum replaced more specific content with fewer, broadly expressed outcomes.

Both approaches to reducing overload have the effect of increasing student or teacher choice in the content of the school curriculum (within the subjects or areas students are studying), but the first errs more on the side of common provision (as it retains specific content) while the second errs more on the side of student/teacher choice (as it replaces specific content with broad statements, leaving much more of the curricular decision-making up to schools). This variation between curricula in terms of their level of specificity has several implications, and it is explored in greater depth below.

2.4.2. The degree of curriculum specificity within primary and lower secondary education

Countries vary significantly in the degree to which curriculum content is either specific or broadly stated, and this also varies within countries between subjects. To illustrate the extent of these differences, here are two curriculum statements about music from Wales and from Estonia, from the parts of the curriculum which would include most 9–10-year-olds.

> Wales: "I can draw upon my familiarity with a range of discipline-specific techniques in my creative work".
> Estonia: "Create rhythmic-melodic improvisations, accompaniments or ostinato on body percussion, rhythm instruments, xylophones and digital media; perform them alone or in a group."

For our analysis (see Methodology in Appendices), we focused on two areas of the curriculum within which to make a judgement on specificity: the topic of 'Forces' within science and the topic of 'Tempo' within music.

We did not include the amount of detail (the depth of treatment of a particular concept) in this analysis, as this would be more indicative of another spectrum along which curricula can differ – that of the *amount* of content in the curriculum (addressed in Section 2.4.1 above). Specificity is a measure of the level of detail, rather than the amount.

Table 3: Specificity judgements for both phases and subjects

	Science Specificity 9–10 year olds	Science Specificity 13–14 year olds	Music Specificity 9–10 year olds	Music specificity 13–14 year olds
England	High	High	Low	Low
Wales	Low	Low	Very Low	Very Low
N.Ireland	Low	Low	Medium	Low
Scotland	Medium	Medium	Medium	Medium
Rep of Ireland	Medium	Medium	Very High	High
Ontario	Medium	Medium	Very High	Very High
New Zealand	Low	Low	Low	Low
Singapore	Very High	Medium	Very High	Very High
Japan	Medium	Medium	Very High	Very High
Finland	Medium	Medium	Medium	Medium
Estonia	High	High	Very High	Very High
Poland	High	High	High	High
Netherlands	Low	Low	Very Low	Very Low
France	Very High	Very High	Very High	Very High

While most countries had the same or similar ratings for both phases and both subjects, there were some differences within countries based on the phase or subject studied. England had a much more specific treatment for science than music, whereas in Ireland it was the other way around. In Singapore, the treatment of secondary science is less specific than primary, though this may be due to the presence of textbooks.

Sometimes, when a curriculum contains only broad statements, the detail on what teachers should teach is contained elsewhere, either in state-approved textbooks and guides, or through subject-specific assessment statements (either in curriculum/assessment documentation or exam syllabi).

The table below sets out an overall specificity rating for each system, alongside whether or not there are state-approved textbooks or content-linked assessment statements. On the basis of this information, systems have been grouped in *'Lower-specificity'* systems and '*Higher-specificity*' systems.

Table 4: Types of approaches based on specificity ratings and supporting instruments

	Overall specificity judgement	State approved textbooks/guides	Content-linked assessment statements
Wales	Low (1)	No	No
Northern Ireland	Low (1)	No	No
New Zealand	Low (1)	No	No
Netherlands*	Low (1)	Not known	Not known
England* (music)	Low (1)	No	No
Scotland	Medium (2)	No	Yes
Finland	Medium (2)	No	Yes
Ireland	Medium/high (3)	No	No/Yes (primary/lower sec)
Ontario	Medium/high (3)	Yes	None found
Japan	Medium/high (3)	Yes	None found
England* (science)	High (4)	No	No
Poland	High (4)	Yes	Not known
Singapore	High (4)	Yes	None found
Estonia	High (4)	Yes	Yes
France	Very high (5)	No (not state approved)	Not known

Systems in **bold** are classified as 'lower-specificity systems' on the basis of these characteristics, and systems in ***bold and italics*** as 'higher-specificity systems'.

***In these countries, specificity differs significantly across the curriculum

2.4.3. Typology on specificity

Lower-specificity systems

Wales, Northern Ireland, New Zealand and the Netherlands have the lowest level of specificity across both subjects. In addition, none of these have state-approved textbooks or assessment frameworks which could provide specificity via another means. In the Netherlands, while there is low specificity for science and music, there are detailed achievement descriptions for language and mathematics. This difference in approach across subjects mimics England's: its music curriculum falls in this 'low specificity' category, but its approach to science is so different that we have reported on the two curricula separately.

Scotland and Finland are slightly more specific, with a specificity rating of 'medium' in both subjects. Both also have assessment standards which add a little more specificity compared to those in the low category, although Scotland's benchmarks are optional, and Finland's assessment standards have been described as vague.

Systems which fall within this type include all of those which have attempted to reduce curriculum overload by replacing specific content with fewer, more generic statements of content.

Higher-specificity systems

Ontario, Ireland, and Japan are rated as medium in science and high/very high in music. Ontario and Japan also have state-approved textbooks, and Ireland has specific assessment statements at lower secondary level.

England (science only), Poland, Estonia, and Singapore all have highly specific curricula. The latter three have state-approved textbooks. While England doesn't have approved textbooks for science, it does have approved schemes for the teaching of mathematics and early reading, which may be linked to funding. France has the highest specificity rating, with 'very high' ratings in both subjects, after their recent curriculum reform called "choc des savoirs" – the shock of knowledge.

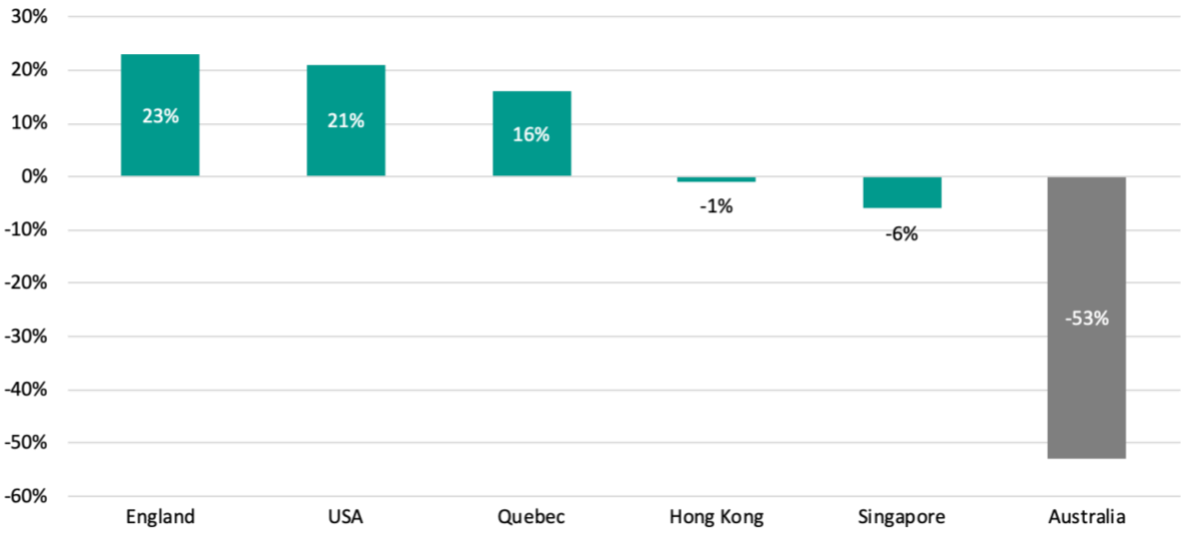
Systems within this group include all those which attempted to reduce curriculum overload by reducing the amount of specific content in their curricula. Not all systems will have done this, and not all will have been successful, meaning that higher-specificity systems will vary in the degree to which the amount of content specified is manageable.

The relationship between focus and specificity

The curriculum features of focus and specificity are related but separate; a curriculum must be specific enough to identify what topics must be taught in order to count as focused (as to not specify this would be to leave the curriculum open to the interpretation that many topics should be taught more superficially), but a curriculum can have a medium or high-level of specificity, and vary with regard to the degree of focus vs. curriculum overload.

Although we have not been able to assess the level of focus in this project, the diagram below from Australian organisation Learning First gives an indication of the amount of content in a few different science curricula.

Figure 5: Percentage of science content in system curricula compared to the average, from Foundation to Year 8.



Science curriculum content: Jensen et al. 2023

This demonstrates the relationship above: both England and Singapore have highly specific science curricula, but based on the amount of content, only Singapore's could be considered as 'focused'. The case of Australia however, highlights the possibility that focusing attention on just a few topics can go too far, and Jensen and colleagues argue that there is a lack of both breadth and depth in the Australian science curriculum.[7] This can be described as curriculum underload.

2.5. Vertical coherence and progression

2.5.1. Vertical coherence

Coherence is a term often used in curriculum literature, to mean different things. In this work, we distinguish between three types:

- Vertical coherence (coherence over time)
- Horizontal coherence (coherence across subjects), and
- Policy coherence (coherence between the curriculum and other areas of policy).

Vertical coherence is what Schmidt and colleagues in their international curriculum analysis refer to as simply 'coherence', which they describe as a feature of a curriculum that "refers to the degree to which topics are logically sequenced and connected across grades so that

[7] Jensen et al. (2023).

earlier learning provides the foundation for later learning".[8] They also describe this logical structure as being built around the structure of the discipline.

The nature of this project means we were unable to analyse curricula for whether or not they are vertically coherent, but there are two other features we have been able to examine, which give an indication of whether or not a curriculum is likely to be coherent.

One of these is specificity (detailed in the section above). In order for earlier learning to provide a foundation for later learning, the expression of this earlier learning set out in the curriculum needs to be specific enough that it can capture what is essential about that learning, in relation to what comes next. If a curriculum is expressed only in very broad terms, it is unable to do this. For example, below are two "descriptions of learning" from the expressive arts Area of Learning from the Welsh curriculum. These are set out within the same strand, with one describing an expectation for 'progression step 3' and one for 'progression step 4'.

Figure 6: Descriptions of Learning from the Curriculum for Wales.

Progression Step 3

Expressive Arts

I can draw upon my familiarity with a range of discipline-specific techniques in my creative work.

Progression Step 4

Expressive Arts

I can apply specialised technical skills in my creative work.

These descriptions are expressed very broadly, and therefore a teacher may choose from a wide range of discipline-specific techniques at progression step 3, drawn from art, music, dance or drama. If a teacher chooses to teach the discipline-specific technique of line drawing in upper primary, which broadly corresponds to this progression step, then this statement will only support future learning if a future teacher in lower secondary also decides to focus on line drawing, and encourages children to apply it in their creative work. If she chooses the technique of plucking a string instrument at lower secondary, there is no way in which the former learning supports the later learning. Some level of specificity is therefore necessary – although not sufficient on its own – for a curriculum to be vertically

[8] Schmidt et al. (2005).

coherent. The other feature which supports vertical coherence is continuity, which is discussed below.

2.5.2. The degree of curriculum continuity between primary and lower secondary education

Continuity as a curriculum feature is the ease with which teachers are made aware of potential vertical links within the curriculum (as opposed to whether or not such links exist), and can understand what pupils have learned previously, so that they can relate it to later learning.

This is particularly important to support coherence across school transitions, where such coherence cannot be carried by a school-level curriculum. The relationship between curriculum documents and the structure of schooling falls into three types:

- Some have education structures which combine primary and lower secondary into one schooling stage, so have a single curriculum document which corresponds to this (Ontario, Finland, Poland, and Estonia).
- Some national curricula are split into primary and secondary, following the structure of their corresponding education system, with, for example, a primary curriculum document for primary schools and a lower secondary curriculum document for lower secondary (England, Northern Ireland, Ireland, Singapore, and Japan).
- A third group have a single curriculum framework which spans two different schooling stages (primary and secondary), meaning that teachers in different schools are using the same framework (New Zealand, Scotland, Wales).

It is particularly important for the latter two types that system-level curricula are continuous – that there are obvious links between the content taught in primary and lower secondary – because this teaching is happening in different schools, and so teachers cannot rely on staffroom conversations or seeing schemes of work to give them an indication of what of relevance has been taught before.

However, these structures are unrelated to whether or not a curriculum makes explicit the links between content across years and stages, with some curricula in both groups which include school transitions setting out related content from different years or stages side by side, or explicitly pointing to relevant prior knowledge.

In these same countries it is also particularly important that system-level curricula are vertically coherent – i.e. that prior content does actually support access to later content - because it is very difficult for different schools to coordinate their curricula to ensure that students at one stage have the knowledge and skill that they need to support the next stage. While those curricula with explicit links between earlier and later content can be described as 'continuous', it does not follow that they are vertically coherent (as described above with the Welsh expressive arts content).Another way these links can be made obvious

– but not explicit – is to use the same headings or themes to organise curriculum content in different phases. For example, Singapore's science curricula group topics under the same themes in primary and secondary syllabi, allowing secondary teachers to look back and see the previously taught content that closely relates to what they are currently teaching. Other curricula take neither approach, and the links between later and earlier content within a curriculum are opaque.

This leads to three groupings:

- Explicitly continuous
- Implicitly continuous via curriculum headings
  Not continuous.

2.5.3. Typology on approaches to progression

For this section, rather than describing policy choices within individual variables first and then combining them into types, it provides greater clarity to describe the types from the outset, along with the policy choices which indicate them.

There are two main ways of thinking about what progression means in education, which are evident among the systems studied: curriculum as the progression model, which is specific and school-stage based; and progression through continuous levels, which is based on more generic statements and independent of school stages.

Curriculum as the progression model

This first sees progression as achieving the defined outcomes (e.g. what children should know or be able to do) in the curriculum, year on year, or stage by stage. The curriculum is the progression model, because if a child successfully masters the curriculum at each stage, they are making progress.

This model lends itself to assessment reporting that is content-specific: a teacher-assigned mark out of ten for each subject for each year (Finland), or the reporting of results on individual assignments or tests (Singapore). It assumes that the curriculum is structured in such a way that knowledge and skills in each year build on the knowledge and skills of previous years (i.e. that the curriculum is vertically coherent), even though progress is not represented by a series of numbers or grades that improve over time (e.g. a child may get 70% or a 'B' in a science test each year, and still be making progress).

Another characteristic that gives an indication of this approach is that these systems will usually have some form of process for identifying whether or not a child has achieved the defined outcomes, and for what they do about this. Some may have systemic support structures (such as Estonia, see box), and some may not. These systems usually have an option of children repeating a year, though in all cases, it is a small minority of children who actually do so.

Countries that take the 'curriculum as the progression model' approach to the curriculum include: Finland, Estonia, Poland, Singapore, Japan, England.

Estonia's approach to supporting progression

Student progression in the Estonian system is tied to achieving the specific national curriculum learning outcomes. Formative assessment is conducted throughout the year to provide feedback on progress, and to identify where a student might be missing important knowledge or skills. This aligns with the Education Strategy 2021-2035, which supports early identification of learning needs. If a student is identified as at risk of falling behind, additional support is provided.

If supplementary study and support is insufficient, and a student still receives "poor" or "weak" grades in three or more subjects, making "further progression unfeasible", then, as a last resort, grade retention is used. The final decision to require a student to repeat a grade is made by the teachers' council, in consultation with the parents or legal guardian. It is made with the expectation that the student can, as a result of repeating the year, access the content the following year and continue to make progress through the curriculum.

For those students who face additional barriers to progression on account of Special Educational Needs (SEN), Estonia's curriculum framework includes differentiated learning pathways which allow schools to use individualised curricula for these students. A student's progress and achievement can be tracked against adapted goals, enabling appropriate referrals for additional support when needed.

Schools are required to adjust teaching methods and provide safe learning environments to meet these needs, and instruction may be provided in a language other than Estonian if recommended by an external advisory team.

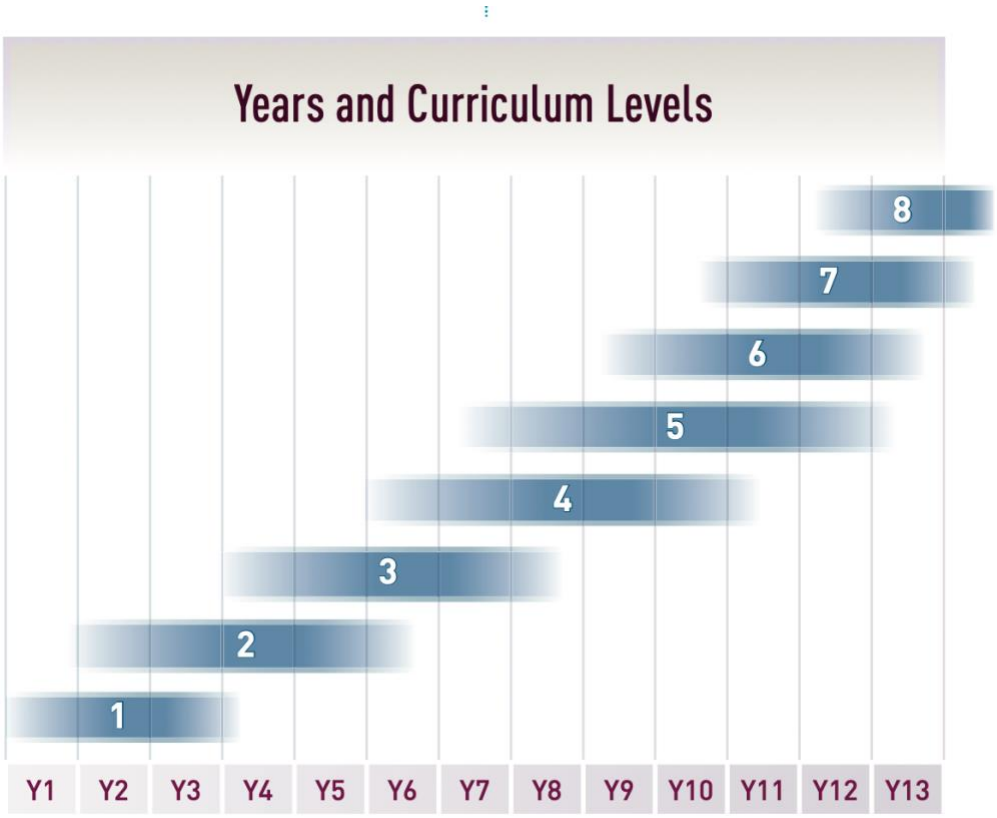
Progression through continuous levels

In contrast, some systems choose to dissociate moving through the curriculum from progression, and present progression as movement through a series of levels, which are usually fairly broad in their expression, and are independent of school years and stages. This legitimizes different rates of progression; students can be in the same school stage, but working at different levels.

These levels can either be made up from the contents of the curriculum (e.g. the content in New Zealand's curriculum is expressed by level, rather than by year or school stage), or sit alongside the curriculum as a separate measure of progress (Northern Ireland's 'Levels of

Progression' exist separately to broadly expressed subject content, and are based on cross-curricular skills). These systems therefore tend to have automatic progression from year to year, which is not dependent on students mastering the content for a particular stage. Assessment and reporting tend to be based on the achievement of these levels or steps, and therefore increase in a linear fashion over time (e.g. moving from Level 2 Science to Level 3).

Figure 7: The relationship between levels and years, as represented in New Zealand's curriculum.[9]



Systems that take a 'progression through continuous levels' approach are Wales, Northern Ireland, Scotland, and New Zealand. These countries are all explicit about the continuity in their curriculum (see section above), showing how content in one level or step relates to content in the next. However, perhaps inevitably given the high possibility of teaching children of several different levels in the same class, these are also all systems which are characterised as being 'lower specificity' systems. This means that such continuity does not necessarily carry vertical coherence – "the degree to which topics are logically sequenced and connected across grades so that earlier learning provides the foundation for later

[9] Te Mahau (2007).

learning."[10] This will be further explored in the synthesis section, which relates these descriptions of systems with evidence on their effects.

2.6. Horizontal coherence

Horizontal coherence, understood as links across subjects, can be represented and encouraged within curriculum documentation in several ways. The first part of this section elaborates on the different components of different curricula, which can all contribute to making evident the links between different parts of the curriculum. It will then give more detail on how cross-curricular skills and topics are organised in jurisdictions, and the different ways in which subjects are grouped.

2.6.1. Curriculum components

Curricula differ in the extent to which they have different curricula components. Some, like England, have a simple structure, with one aim, one syllabus per subject, and just two interdisciplinary areas, which have no content of their own.

Most have more components, in addition to subject or learning-area syllabi, which are either additional expressions of the overall aims of the curriculum, or articulations of different types of cross-curricular components. For example, Scotland expresses the purpose of its curriculum as four capacities, which each have their own defined attributes and characteristics which underpin them. Wales takes a similar approach.

When it comes to cross-curricular components, many systems (including Ontario and Estonia) divide these into different categories; one of the most common being a distinction between cross-curricular skills and cross-curricular topics or themes (see the representation of Ontario's curriculum below for an example of this separation).

[10] Schmidt et al. (2005).

Figure 8: The components of Ontario's curriculum.

Ontario's elementary curriculum

Compulsory learning areas

Ontario's elementary curriculum has the following compulsory learning areas:

- The Arts
- French as a Second Language (if in English)
- language school)
- Health & PE
- Social Studies, History and Geography.
- Languages
- Native Language
- Science and Technology;
- Mathematics

Transferable skills

Ontario's "transferable skills", described as the "skills and attributes students need to thrive in the modern world" which are intended to be developed through the learning areas:

- Critical thinking and problem solving
- Innovation, creativity and Entrepreneurship
- Self-Directed Learning
- Collaboration
- Communication
- Global citizenship and sustainability
- Digital literacy

Cross curricular and integrated learning framework

Ontario's curriculum also includes a "cross curricular and integrated learning" framework. This is a "variety of overarching perspectives, themes, and skills that are intentionally incorporated by educators… across all subjects and disciplines in the curriculum"

- Financial Literacy
- STEM Education
- Indigenous Education
- Literacy
- Critical Thinking and Critical Literacy
- Mathematical Literacy
- Environmental Education
- Social-Emotional Learning Skills

Those that don't distinguish between skills and topics are able to do so because they have conceptualised both as 'competencies', which combine knowledge, skills, and dispositions or values. This recognises the knowledge and dispositions that are required for many '21st Century skills', and the skills and dispositions/values that are intended to accompany knowledge of a cross-curricular topic or theme.

To better compare cross-curricular components across the sample of jurisdictions, we identified and listed these named components in each curriculum, allowing us to compare the number of:

- Formal cross-curricular items included (range of 0–20)
- Named categories these were grouped into (range of 0–5)
- Different 'types' of cross-curricular items included (range of 2–5).

The 'types' of cross-curricular items we used were drawn from an existing evidence-based typology,[11] which divides cross-curricular components into:

Interdisciplinary themes/topics – e.g. environmental awareness, financial management.
Literacies – e.g. literacy, numeracy, digital literacy.
Cognitive processes and thinking – e.g. critical thinking, creativity, problem-solving.
Interpersonal processes – e.g. oracy, teamwork, communication.
Intrapersonal processes – e.g. emotional regulation, resilience, metacognition.

In summary, the treatment of cross-curricular components clustered into:

- No formal cross-curricular components: Netherlands and Poland
- 2–3 items, including only one or two types: England and Japan
- 7–9 items, including all types: Scotland, Finland, Ireland
- 12–20 items, including all types: Wales, Northern Ireland, Ontario, New Zealand, Singapore, Estonia, France.

Broadly speaking, this can be further simplified into curricula that have relatively little focus on cross-curricular components (Poland, Netherlands, England, and Japan), and those that have a substantial cross-curricular framework. Further details on cross-curricular skills/competencies and topics, and their treatment in different jurisdictions, are included below.

2.6.2. Cross-curricular skills

In addition to the differences above – what these skills were called (e.g. 'generic' skills, competencies, or '21st Century' skills), the number of them, and the types of skills included – systems also differ in where they express cross-curricular skills within their framework, and the nature of that expression. This is relevant to the ease with which teachers are able to use them, and how much guidance they are given to do so.

Most jurisdictions tend to either explicitly or implicitly integrate cross-curricular skills into their learning areas. They also express them with varying levels of

- Depth: skill descriptions only in an overview vs. embedded within content
- Specificity: the clarity and detail with which the skill is described
- Differentiation by subject: whether the skill is described as having different characteristics or manifestations in different subjects, or treated as transferable.

[11] McGuiness (2018).

Table 5: Examples of different treatments of cross-curricular skills in systems' curricula

1. Deep vs shallow embedding of cross-curricular skills	
Deep Embedding	***Shallow Embedding***
Ontario expresses their cross-curricular skills in high-level curriculum documents, in learning area documents and under the curriculum expectations of specified content.	Scotland's *"Building skills for learning, life and work"* document sets out the skills desired for its learners across the curriculum, but it is left to teachers to decide how and where these skills are developed within learning areas.
2. Specific vs broad descriptions of cross-curricular skills	
Specific	***Broad***
• "Analyse observations and data to infer patterns and relationships or explain findings." • "Seek clarification to deepen understanding of science concepts and assess reasonableness, accuracy and quality of information and ideas."	"When studying mathematics, it is essential to perceive the learning material in depth and understand everything. Solving problem tasks develops analytical, rational method finding and critical outcome assessment skills. Generalisation and analogy-using skills are very important: skills in carrying acquired knowledge over to suitable contexts."
3. Differentiated vs undifferentiated by subject	
Differentiated	***Undifferentiated***
In Singapore, critical thinking in Maths involves students varying their approaches to solve different yet related mathematical problems. In English, it involves distinguishing fact from falsehood, and examining sources from diverse viewpoints to form an opinion.	Some jurisdictions do not differentiate by subject (at least visibly on their curriculum documents) in their treatment of generic skills; these skills are treated as transferable.

Contrary to what might be expected, there is not a clear-cut relationship between a substantial focus on cross-curricular components in the overall framework and the depth, specificity, and differentiation which characterises how these skills could or should be taught in the curriculum.

For example, both Poland (which has no formal cross-curricular skills) and England (which only has literacy and numeracy) incidentally articulate skills that are often considered to be 'cross-curricular' (such as critical thinking and problem-solving) in a specific and differentiated manner within subject-specific content.

2.6.3. Cross-curricular topics

Another way in which systems attempt to create links across the curriculum is through the introduction of cross-curricular topics, or themes. We have identified three approaches to how these are integrated:

- **Structuring the content** of individual subjects around cross-curricular topics or themes. For example, at Key Stage 3 in Northern Ireland, subject content is organised by categories such as 'media awareness' and 'cultural understanding'.
- Requiring teachers to teach **cross-curricular topics** alongside traditional subjects, in separate thematic or integrated lessons. For example, there is a requirement in Finland for students to study at least one multidisciplinary learning module a year, and Japan takes a similar approach with its 'integrated study' lessons. Neither country says what these topics must be, just that there must be subject integration.
- Listing cross-curricular themes or topics, and **requiring teachers to integrate these** into lessons as they see fit. This is the approach taken in Estonia.

2.6.4. Subject organisation

There are three approaches to subject organisation demonstrated within the 14 systems, which reflect different intentions about the extent to which there are horizontal links between subjects. Sometimes, different approaches will be taken within the same system, depending on the learning area.

- **Organisation by individual subject.** These curricula have a separate document or separate section within the same main curriculum document for each individual subject syllabus. England and Singapore organise their curricula in this way. Links across subjects may be made within the subject syllabi.
- **Organisation by learning area, subsequently broken down by subject (i.e. both).** In these curricula, subjects are grouped together and presented as learning areas, which include guidance about the area in general and about links between the subjects within it. Alongside this cross-curricular guidance, there are also sections listing curriculum content organised by individual subject (sometimes described as a subject syllabus). Estonia and Ontario take this approach.
- **Organisation by learning area.** In these curricula, subject content is grouped into a learning area, and the curriculum content itself is presented in a way which is undifferentiated by subject, often focusing on broader outcomes or skills. Wales and Scotland take this approach in some areas.

Table 6: Approaches to subject organisation

	Content items organised by subject	Generic content items
Individual subject grouping	England Singapore	NA
Learning area grouping	Estonia Wales (science) Northern Ireland (environment & society) Ontario	Wales (expressive arts) Wales (humanities) Northern Ireland (The world around us)

This is related to, but different from, the variable of specificity discussed in section 2.4 above. Systems that express their content in broader learning areas (without subsequently organising content by subject) tend to be less specific in their articulation of the content within these areas. Systems which organise their content by subject, or by subject within wider learning areas, tend to be more specific. The section below draws on both, and considers how subject organisation and specificity align or otherwise with a focus on cross-curricularity.

2.6.5. Typology on cross-curricular and subject-specific articulation

Sometimes in the discourse around cross-curricular skills and subject knowledge, there is an assumption that there are two main approaches to curriculum: a specific, subject-based curriculum which has little or no focus on broader skills; and a broadly articulated, skills-led curriculum which has less focus on subject knowledge (or less specificity with regard to which knowledge should be taught).

Based on our analysis, these two groups do exist, with England, Poland, and Japan falling in the group which is more specific and subject-led and less focused with regard to the exposition of cross-curricular skills, and Wales, Scotland, New Zealand, and Northern Ireland falling in the group which is more concerned with defining cross-curricular skills and links, and less specific about subject knowledge.

However, our analysis suggests that there are two further groups, and therefore two further possibilities for curriculum design. The Netherlands, due to its unique (in our sample) commitment to complete school autonomy, sits alone in a group which is neither specific about subject knowledge, nor requiring of cross-curricular components.

Finally, there is a group which includes Singapore, Estonia, Ontario, Ireland, and France; these systems are concerned with both specific, discipline-based knowledge, and the exposition of cross-curricular skills and topics.

Table 7: Specificity and focus on cross-curricular components

	Little/no focus on cross-curricular components	**Clear focus on cross-curricularcomponents**
Lower specificity	Netherlands	Wales Northern Ireland New Zealand Scotland Finland
Higher specificity	England Japan Poland	Ireland Ontario Singapore Estonia France

2.7. Conclusion

This report has set out a series of curriculum features and dimensions, and described how systems differ in these respects. While many systems do occupy either end of each dimension, and some systems do cluster together on a series of curriculum features (such as the broad framing of subject content, a focus on cross-curricular skills, and a move to expressing content by subject area rather than subject), there is also lots of nuance in between – for example:

- An approach to reducing curriculum overload and subsequently introducing more school autonomy can be achieved by reducing the number of topics, without getting rid of the specificity in the curriculum. Therefore specificity and curriculum overload are not synonymous; some countries get the balance of being specific and focused, e.g. Singapore.
- Organisation by learning areas is more subtle a framing than a rejection of subject boundaries; Estonia and Ontario demonstrate that you can still organise content by subject, but point out the commonalities within a learning area also.
- A focus on specific knowledge and skills organised by subject need not be seen in opposition to an exposition of cross-curricular skills or competencies; several countries have a focus on both.

In the section 'Context and Effects', we will examine the available evidence on the effects of various curricula (independently from the analysis in this section) and in the 'Overarching Findings' section we will then examine the relationship between that evidence and the approaches and typologies discussed in this document, to draw tentative conclusions about the impact of policy choices.

2.8. References

Where claims are not referenced in the text, this is because they are drawn from descriptions in the underlying CUPA reports or tables, or earlier sections in the full report.

Jensen, B., et al. (2023). *Fixing the hole in Australian education: the Australian curriculum benchmarked against the best*. Learning First. https://learningfirst.com/wp-content/uploads/2023/11/FULL-REPORT-COMBINED.pdf

McGuiness, C. (2018). *Research-Informed Analysis of 21st Century Competencies in a Redeveloped Primary Curriculum*. Queen's University, Belfast. https://ncca.ie/media/3500/seminar_two_mcguinness_paper.pdf

Schiro, M. S. (2012). *Curriculum Theory: Conflicting Visions and Enduring Concerns* (2nd ed.). Sage Publications.

Schmidt, W. H., Wang, H. C., & McKnight, C. C. (2005). Curriculum coherence: An examination of US mathematics and science content standards from an international perspective. *Journal of Curriculum Studies, 37*(5), 525–559. https://doi.org/10.1080/0022027042000294682

Te Mahau. (2007). *The New Zealand Curriculum*. New Zealand Ministry of Education. https://newzealandcurriculum.tahurangi.education.govt.nz/new-zealand-curriculum/5637175326.p

Section 3: Development and Evaluation

3.1. Introduction

This comparative report is based on detailed case studies of the system-level curriculum frameworks of 14 jurisdictions. Cambridge University Press & Assessment undertook these case studies, and produced cross-jurisdiction reports and tables for each of the six research questions of this study:

RQ1. What is the purpose of the curriculum?
RQ2. What is the structure of the curriculum?
RQ3. How is curriculum policy made and introduced?
RQ4. How is curriculum policy evaluated?
RQ5. How does context shape curriculum policy and reform?
RQ6. What is the evidence about the effects of the curriculum?

This section builds on work that addresses RQ3 and RQ4 on the how curriculum policy is made, introduced, and evaluated. It takes different stages in the policymaking process, from initial design to evaluation, and sets out a range of approaches or policy choices which systems make at each stage. It also identifies patterns in the combinations of approaches that are often taken together, and uses these to describe curriculum 'typologies'.

Where there are curricula which are archetypes of a particular type, or take most of the approaches which constitute a type, these system curricula are given as examples of that type. Within most themes, there will also be systems which don't fit neatly into any of the identified types; these remain unplaced, and it is not our intention in this work to comprehensively describe every variable for all 14 systems.

This report also outlines what evidence is available on the relationship between approaches to the process of curriculum design and implementation, and their effects on teachers and schools. For evidence on these effects, this report also draws on an additional realist-informed analysis of the jurisdiction case studies (for a methodology, see Appendices).

The report is organised under the following themes:

- Why is curriculum reformed?
- Who is responsible for the reform, and how do they go about it?
- What is the role of consultation and wider involvement?
- How is the new curriculum framework implemented?
- How is curriculum reform evaluated?
- Effects associated with these approaches.

3.2. Why is curriculum reformed?

Curriculum reform occurs for a range of reasons, reflecting national priorities, political contexts, and approaches to educational improvement. Some jurisdictions follow planned reform cycles, while others act in response to specific reviews or evaluations. Reform may aim to modernise subject content, promote broader competencies, or align education with national strategies. Across systems, reform processes differ in how they are initiated, framed, and justified.

3.2.1. Planned vs. ad hoc approaches

Some jurisdictions operate on a planned or cyclical model, where reforms occur at regular intervals or follow a national framework for review. Others adopt a more ad hoc approach, where reforms are triggered by policy reviews, evaluations, or ministerial priorities. Jurisdictions with fixed cycles include Ontario and Japan, while those operating ad-hoc reform processes include England, Wales, Scotland, Finland, and France.

Table 8: Planned vs ad hoc approaches to curriculum reform

Planned or Fixed-Cycle Reform	Ad Hoc or Responsive Reform
Japan: reforms linked to the Basic Plans for the Promotion of Education	**England:** 2014 curriculum following expert review
Ontario: five-year curriculum review cycle	**Wales:** Curriculum for Wales (2020) following OECD review
Estonia: follows a five-year strategy for updating curricula, led by the Ministry of Education and Research	**Scotland:** Curriculum for Excellence (2016) following Curriculum Review Group recommendations
Singapore: six-year curriculum review cycle (see box)	**Finland:** 2014 reform guided by the Curriculum Road Map
	Ireland: reforms initiated for each cycle (Primary, Junior, Senior) as needed

Ontario has established a planned reform cycle through a fixed five-year review process for curriculum renewal. The system is guided by the Ontario Curriculum Review and Revision Guide, published following an audit in 2024, ensuring updates occur regularly. This structure supports consistency across subject areas and provides predictable timelines for teacher preparation and implementation. Singapore follows a six-year cycle, which is described in Box 1. Japan also operates on a planned cycle linked to the Basic Plans for the Promotion of Education, which define national priorities and guide curriculum renewal across stages.

England's 2014 curriculum reform represents an ad-hoc approach driven by ministerial decision-making. Expert panels were appointed by the Department for Education (DfE) to draft changes without a fixed review schedule. Similarly, Wales, Scotland, Finland, and France undertake curriculum reforms at irregular intervals, often responding to major reviews, research findings, or national priorities.

Singapore's Curriculum Review Cycle

Curricular reform in Singapore is an ongoing, cyclical process. The curriculum is managed centrally by the Ministry of Education, structured as a collection of syllabuses for each subject by stage (e.g. primary Science). The Ministry designs these syllabuses, and then iteratively refines them in partnership with schools. Cyclical reforms can be relatively minor, or they can represent significant change.

Singapore reviews syllabuses on a six-year cycle, staggered across subjects so that each area receives attention at different times. The review pattern tends to follow a similar pattern, as laid out in the table below:

Stage	Focus	Description
Year 1	Initial implementation	New syllabus and instructional materials introduced in schools
Years 2–3	Mid-term review	Minor adjustments based on feedback and observed implementation
Year 4	Full review	Discussions with schools to gather suggestions and refine syllabus direction
Years 5–6	Prepare and trial	Trial new materials, pedagogies and assessments; professional development and school visits ahead of next implementation

Source: Roberts-Hull et al. (2021)

3.2.2. Triggers of reform

Curriculum reforms are triggered or initiated for various reasons, arising for example from research and evaluation, ministerial direction, or strategic alignment with broader national plans. Jurisdictions such as Scotland, Northern Ireland, and Finland base reforms on

research and evaluation findings, while England, France, and Poland initiate changes through ministerial or political direction. Japan and Estonia align reforms with national education strategies.

Scotland's curriculum reform was guided by the Curriculum Review Group's recommendations, which set out principles for the Curriculum for Excellence. In Northern Ireland, reforms followed evaluation and research by the Council for the Curriculum, Examinations and Assessment (CCEA), aligning changes with findings from local and national studies. Finland's process was shaped by the results of national evaluations and development projects, ensuring evidence informed the new core curriculum.

In England, reform is often initiated by ministerial direction. The DfE oversees the process, with the Secretary of State retaining authority to make changes by order. France and Poland also follow politically directed reform models, with their respective education ministries instructing advisory councils to initiate review and revision. Japan and Estonia, by contrast, align curriculum renewal with broader education strategies, such as Japan's Basic Education Plans and Estonia's five-year national education strategy.

3.2.3. The framing of reform

Curriculum reforms are framed in different ways, depending on how jurisdictions justify and conceptualise change: whether reforms are grounded in evidence, guided by expert or advisory bodies, or shaped through broad consultation.

Some systems base reform on research and evaluation from dedicated agencies, such as Northern Ireland's CCEA or Japan's National Institute for Educational Research (NIER). Others rely on expert or advisory committees, like Ireland's National Council for Curriculum and Assessment (NCCA) or France's Higher Council for Programmes (CSP), to provide professional and disciplinary insight. A third group prioritises consultation, in which teachers, schools, unions, and local authorities co-construct the curriculum, as in Wales, New Zealand, and Poland.

In Northern Ireland, the CCEA plays a central role in developing reforms grounded in research and evaluation. The 2007 curriculum was informed by a programme of reviews and commissioned studies, including national consultations and the National Foundation for Educational Research (NFER) cohort study. The CCEA developed recommendations based on its own research, which were provided to the Minister for approval, ensuring policy design was evidence-informed and aligned with local needs.

In Ireland, curriculum reform is framed by expert advisory processes led by the NCCA. The NCCA convenes committees with broad membership to produce drafts and recommendations, which are approved by the council and presented to the Minister. Policy advice from the NCCA is rarely ignored, ensuring that expert consensus guides the direction

and content of reform. This process values professional expertise while maintaining ministerial accountability.

In Wales, reform is explicitly consultative and co-constructive. The Curriculum for Wales (2021) was developed through collaboration between the Education Directorate, teachers, regional consortia, local authorities, Estyn, and other national stakeholders. Pioneer Schools tested and refined draft frameworks between 2016 and 2019, ensuring classroom practice directly informed policy. This participatory framing positioned reform as a shared national project, emphasising school agency and professional ownership.

3.3. Who is responsible for reform, and how do they go about it?

Curriculum reform is organised differently across systems, depending on whether responsibility sits within government or an independent agency. Some ministries lead reforms directly, coordinating expert groups and consultations internally, while others delegate this role to a permanent curriculum body.

The structure of responsibility influences the speed, scope, and nature of reform: jurisdictions with permanent curriculum bodies – such as Ireland, France, and Finland – typically have longer development periods due to structured consultation, multi-stage approval, and pilot testing. By contrast, central government-led reforms – such as those in England and New Zealand – are often completed more quickly (usually within three to five years).

The table below contains examples of jurisdictions with government-led and independent or agency-led reform processes.

Table 9: Examples of responsibility for curriculum reform

Government-led reform	Independent or agency-led reform
England: DfE directs reforms through expert panels	Ireland: NCCA develops recommendations for Ministerial approval
Wales: co-construction led by the Education Directorate	Scotland: Education Scotland oversees development and implementation
New Zealand: Ministry of Education coordinates writing groups	France: CSP leads expert drafting and consultation
Singapore: steering committees and Ministry taskforces lead reforms	Netherlands: SLO (Netherlands Institute for Curriculum Development) elaborates core objectives
Ontario: Ministry-led review process with advisory input	Northern Ireland: CCEA develops recommendations

3.3.1. Government-led reform

In several jurisdictions, curriculum reform is directed and managed within the government ministry, with processes ranging from tightly controlled expert-led drafting to collaborative co-construction with stakeholders. Systems such as England, Singapore, and Ontario exemplify ministerial control, while Wales and New Zealand demonstrate more participatory approaches within government oversight. Jurisdictions in which reform is led directly from government can be further divided into two categories: those with ministry-led expert design, and those with collaborative government design.

Ministry-led expert design

The models in some jurisdictions, like England or Singapore, are characterised by small groups of experts and ministry staff responsible for drafting curriculum reforms under direct political oversight.

In England, the DfE appoints expert panels to draft curriculum reforms for ministerial approval. The DfE appoints specialists in subject and assessment areas to review evidence, draft proposals, and revise content through closed and open consultations. Singapore similarly uses a centralised model, with the Ministry of Education steering reforms through focus groups involving educators and sector representatives.

Collaborative government design

Some jurisdictions, like Wales or New Zealand, take a collaborative approach within government-led reform, sometimes described as a 'co-constructive' approach, engaging teachers, school leaders, and other stakeholders directly in curriculum development.

Wales' Education Directorate led a co-construction process between 2014 and 2021 that involved teachers, local authorities, regional consortia, and national agencies such as Estyn and Qualifications Wales. This collaborative model integrated professional expertise and classroom experience into curriculum development. New Zealand's writing-group model, coordinated by the Ministry, followed a similar collaborative structure that brought teachers and academics together to shape the curriculum.

3.3.2. Independent or agency-led reform

In other systems, curriculum reform is led by a dedicated agency that operates at arm's length from government, though still under ministerial oversight. These organisations provide stability and continuity across political cycles. Examples include the NCCA in Ireland, the CSP in France, the SLO in the Netherlands, and Education Scotland.

Ireland's NCCA convenes committees to produce draft frameworks, which are reviewed and approved by its council before being submitted to the Minister. The 2015 Junior Cycle reform took around five years to design, with phased implementation over the following

seven years. The process emphasised evidence-informed development and broad stakeholder representation.

France's CSP establishes expert groups to draft and revise programmes for the Ministry of Education. The council operates under an eight-point process, ensuring systematic review and structured approval. The CSP's role provides continuity between political cycles and helps maintain coherence across subjects and stages.

3.3.3. Piloting

Wales, Singapore, the Netherlands, and France pilot reforms before implementation. Wales' Pioneer Schools tested the new curriculum and informed teacher training prior to national rollout. In Singapore, the Full Subject-Based Banding reform was piloted in selected schools before full implementation. The Netherlands and France also conducted piloting through schools and expert groups, using feedback to refine final drafts. In contrast, England, Ontario, and Finland implemented reforms without piloting, relying instead on post-implementation feedback and adjustment.

3.4. What is the role of consultation and wider involvement?

The answer to this question overlaps with the question above; collaborative government-led approaches inherently incorporate 'wider involvement'. These systems that directly involve educators and stakeholders in curriculum writing, whereas others rely on smaller expert groups or advisory bodies to draft and review policy. But there is a further step to potential consultation and wider involvement, beyond the writing of the curriculum framework; some jurisdictions subsequently share the curriculum framework in an open consultation to the public, while others consult only within defined representative structures.

The descriptions below take both steps into account to consider the overall approaches to consultation and wider involvement, which are represented in Table 10.

Table 10: Curriculum reform approaches to consultation and wider involvement

Collaborative or co-constructed design	Expert-led with consultation	Advisory or representative consultation structures
Wales: co-construction involving schools, teachers, unions, and regional consortia	**England:** expert panel drafts reviewed through public and stakeholder consultations	**Ireland:** NCCA committees represent diverse sectors and conduct public consultations
New Zealand: writing groups and online forums with over 15,000 participants	**Japan:** drafts informed by reports from Central Council for Education (CCE) and NIER	**France:** CSP and Higher Council for Education (CSE) coordinate stakeholder input
Finland: National Agency for Education (EDUFI) working groups include teachers, principals, and researchers	**Singapore:** focus groups with educators, academics, and industry	**Scotland:** consultation through multiple committees and advisory bodies
		Poland: national consultations including teachers, parents, and citizens

3.4.1. Collaborative or co-constructed design

'Co-construction' refers to systems in which educators and stakeholders participate directly in writing and shaping the curriculum, often through iterative development and trialling. This collaborative approach is prominent in Wales, New Zealand, and Finland, where broad professional and community engagement is integral to curriculum design.

In Wales, the Education Directorate led a co-constructive process between 2014 and 2021, involving teachers, school leaders, unions, regional consortia, local authorities, and national agencies such as Estyn and Qualifications Wales. Pioneer Schools tested and refined the draft curriculum from 2016 to 2019, helping to build teacher capacity and inform revisions before final approval. The process emphasised shared authorship and school agency, with ongoing updates to professional learning and support materials after phased implementation began in 2021.

New Zealand's Ministry of Education followed a similarly participatory model for the 2007 curriculum reform. Academics from Waikato University coordinated working groups, focus groups, and online forums engaging over 15,000 students, teachers, principals, advisers, and academics. Writing groups for each learning area incorporated this feedback into revised drafts, ensuring the final curriculum reflected broad practitioner and community input.

3.4.2. Expert-led with consultation

This model relies on expert or ministry-appointed groups to prepare drafts, supported by formal consultation processes. England, Japan, and Singapore illustrate this approach, combining central coordination with targeted engagement from professional and academic communities.

In England, the DfE appointed expert panels of academics and professionals to review evidence and draft proposals for the 2014 National Curriculum. These drafts underwent both closed and open consultations, including public calls for evidence and engagement with concurrent policy reviews such as the Early Years Foundation Stage. The DfE coordinated feedback centrally and finalised the curriculum for full implementation without a published process for later amendment.

Japan's Ministry of Education, Culture, Sports, Science and Technology (MEXT) develops the Course of Study in collaboration with the CCE and the NIER. Drafts are informed by NIER's analyses and the CCE's reports, which draw on pilot schools and national consultations. This expert-driven model ensures reforms remain aligned with Japan's Basic Plans for the Promotion of Education, which operate on a fixed cycle.

3.4.3. Advisory or representative consultation structures

In this model, consultation is channelled through permanent or statutory advisory bodies that include representatives of educators, researchers, unions, and the public. Ireland, France, and Scotland, for instance, coordinate consultation and maintain consistency between evidence and policy.

Ireland's NCCA coordinates curriculum reform through committees and boards with broad representation from teachers, researchers, policymakers, and social partners. Consultation occurs at multiple stages, and public engagement accompanies the release of draft frameworks and specifications. The NCCA submits its recommendations to the Minister, and these are normally accepted with minor modification, maintaining consistency between evidence and policy.

In France, the CSP leads curriculum drafting and consultation for the Ministry of Education. Expert groups within the CSP prepare draft programmes, while the CSE ensures consultation with unions, parents, and local representatives. Hearings and feedback sessions precede ministerial approval, and the Ministry may hold additional consultations before publication in the *Bulletin officiel*.

3.4.4. Open or public consultation processes

Some systems extend consultation beyond structured advisory mechanisms, publishing drafts for open review and inviting feedback from schools, educators, and the public. Finland, Poland, and the Netherlands are examples of this approach, using digital or national consultation platforms to gather broad input on draft curricula.

In Finland, open consultation is a defining feature of curriculum reform. The EDUFI published several draft versions of the 2014 core curriculum online and invited feedback from schools, municipalities, universities, and associations via a digital platform. This

approach ensured that both local and national perspectives shaped the final curriculum, balancing consistency with autonomy.

Poland's Ministry of National Education routinely conducts public consultations during curriculum reform. Online meetings bring together teachers, parents, students, and civil-society organisations to discuss draft curricula. Feedback from these sessions is incorporated into ministerial drafts before adoption, creating a transparent and participatory review process.

3.5. How is the new curriculum framework implemented?

Implementation processes differ in timing, sequencing, and the level of support provided to schools and teachers. Some jurisdictions introduce reforms gradually, while others apply them nationally in full. Guidance materials and teacher training vary in scope and organisation.

3.5.1. Phased vs. full implementation

Some jurisdictions phase implementation by year group or education stage (for example, Wales, Japan, Scotland, Singapore), some phase by subject (for example, Ireland, New Zealand, the Netherlands), and others implement their new curriculum in full all at once (for example, England, Finland, France, Ontario, Poland). The choice of approach often reflects the scale of reform, political context, and the degree of local flexibility built into the curriculum model.

In Wales, the 2021 Curriculum for Wales was introduced using a phased approach based on year groups. Although the framework became statutory in 2021, schools were permitted to delay implementation due to COVID-19 disruption. Initially, the curriculum was adopted in Reception through Year 6 and in Year 7, before rolling forward one year at a time to reach all secondary levels by 2026. This gradual transition was designed to give schools time to plan and co-construct local curricula within the national framework, supported by the National Network for Curriculum Implementation.

The Netherlands offers a different phasing model focused on subjects. Implementation was planned for 2025, with new core objectives to be introduced progressively by subject from 2026. The aim is to have all subjects legislated by 2031, with piloting and review led by advisory groups and schools in order to refine content ahead of final approval. This approach allows flexibility and testing across subject areas before national adoption.

England implemented its 2014 National Curriculum simultaneously across all key stages. There was no phased introduction or piloting, and the DfE provided no national implementation plan. Schools were expected to adapt directly to the new curriculum, supported only by limited guidance and subject-specific documents.

3.5.2. Subject vs. whole-curriculum reform

Reforms may target the full curriculum at once or a single subject area, allowing flexibility and staged evaluation. Ireland, New Zealand, and the Netherlands adopt subject-by-subject sequencing, while Finland, Scotland, and Japan reform the curriculum as a whole.

In Ireland, reform distinguishes between comprehensive and incremental approaches. The 1999 Primary Curriculum was implemented nationally in full, while the Junior Cycle (2015) and Senior Cycle reforms proceed subject by subject, allowing new specifications to be piloted and refined before wider rollout. This staged approach facilitates alignment between curriculum, assessment, and professional learning, ensuring each subject is supported with appropriate resources before national implementation.

In New Zealand, the 2007 curriculum reform took a whole-curriculum approach, introducing an outcomes-based framework across all learning areas simultaneously. Subsequent reforms, however, have adopted a subject-by-subject model, with updates to specific areas such as digital technologies (2017) and Aotearoa New Zealand's histories (2022). Current post-2023 reforms continue this pattern, allowing new subjects to be introduced and refined iteratively within the overarching national curriculum framework.

3.5.3. Support materials

Support for implementation varies from extensive digital platforms to minimal guidance. Jurisdictions such as Ontario. Singapore and France provide detailed resources and exemplars, whereas England and Finland rely more on professional interpretation and local materials.

Ontario provides comprehensive implementation support through its online Curriculum and Resources portal. This includes guidance on planning, assessment, and evaluation, as well as exemplar teaching materials and the Growing Success framework. The resources ensure consistency in how the curriculum is interpreted and assessed across the province. Singapore also has a comprehensive programme of resource development – see box below.

France updates official instructional guides at each reform stage. Inspectors deliver training to schools and communicate changes to publishers, ensuring that textbooks and teaching resources reflect current programmes. These materials are considered an integral part of reform implementation.

3.5.4. Teacher training

Professional learning is central to successful reform but varies in organisation and reach. Singapore, Japan, and Scotland offer coordinated national training strategies, while Finland, Estonia, and England embed professional learning more loosely within existing education systems.

Finland integrated reform messages into both pre-service and in-service teacher education. Universities and other organisations revised programmes to reflect the 2014 core curriculum. However, participation was uneven due to fragmentation and limited funding, and many teachers developed their own materials to accompany the new curriculum.

Curriculum implementation in Singapore

Singapore describes its approach as 'centralised decentralisation': the curriculum is centrally designed but flexibly implemented in schools. In practice, this means that a centrally maintained national framework offers schools space to deliver the curriculum using their own approach, with awareness of the clear expectations and standards expected of them by the Ministry of Education.

To support this school-based curriculum design, curriculum managers from the Ministry of Education work directly with teachers in schools, helping them to plan schemes of work which are suited to the school context, while at the same time, meeting the standards set out in the national curriculum. They also work with schools to trial and receive feedback on new instructional materials that accompany changes to the syllabus, which are designed by the Ministry in partnership with Master Teachers (the top rung of the 'teaching track' of the teacher career structure).

To further reduce teacher workload, the Ministry of Education maintains an approved textbook list for each syllabus, which is reviewed annually. Schools have the flexibility to choose the materials that are not on this list, but almost all use approved materials, as they are closely aligned to the syllabus.

Alongside this, the Singapore Teaching Practice model provides a shared reference for high-quality teaching. It offers guidance and examples in areas such as lesson preparation, classroom culture, and assessment and feedback, and is supported by an online platform of videos and resources. This ensures consistent support for teachers through periods of syllabus renewal, and gives schools concrete tools to translate new expectations into practice.

Source: Roberts-Hull et al. (2021)

3.6. How is curriculum reform evaluated?

Evaluation approaches range from formal national data systems to inspection, commissioned research, and embedded monitoring cycles. Some jurisdictions plan

evaluation as part of reform from the outset, while others rely on feedback gathered during implementation.

3.6.1. National data and monitoring

Several jurisdictions embed evaluation in national data collection and monitoring frameworks. Japan's MEXT and NIER systematically collect national data on curriculum implementation. Evaluation is embedded in the Basic Plans for the Promotion of Education and linked to research studies across school levels. Findings inform the next iteration of curriculum development, maintaining a continuous improvement cycle.

Finland's EDUFI evaluates curriculum reform through ongoing research and development initiatives. The Future of Learning 2030 barometer and related projects monitor system outcomes and stakeholder experiences. Results inform subsequent updates and national education strategy.

3.6.2. Inspectorate review

In some systems, inspectorates or national quality agencies play a key role in evaluating curriculum implementation. Scotland, France, and Wales integrate inspection and evaluation into broader quality frameworks, ensuring that findings from schools feed directly into curriculum improvement.

Scotland integrates curriculum evaluation into national inspection and improvement frameworks. Education Scotland monitors implementation through school reviews and national reporting, feeding learnings into the ongoing development of support materials. Evaluation is continuous and formative, supporting iterative improvement rather than single-stage review.

France's national inspectorate contributes to curriculum evaluation by training teachers and monitoring classroom practice. Inspectors' findings inform updates to teaching guidance and future programme revisions. This creates a feedback loop between inspection, implementation, and curriculum renewal.

3.6.3. Research-led or externally commissioned evaluation

Many jurisdictions engage researchers or external partners to review curriculum reform and its impact. Wales, Ireland, and New Zealand have formalised this process, often drawing on academic partnerships or international organisations such as the OECD.

Wales builds evaluation into curriculum reform through research and partnership. Independent studies by the OECD (2021a) and the Camau i'r Dyfodol project assess implementation progress and inform ongoing adjustments. Evidence from these reviews shapes professional learning priorities and guidance for schools.

Ireland's NCCA conducts its own research and stakeholder consultations to assess reform impact. Evidence collected through these processes supports the council's advice to the Minister and informs future curriculum development cycles. Evaluation is continuous and embedded in the agency's statutory remit.

3.6.4. Use of assessment and performance data

Some jurisdictions evaluate curriculum reform indirectly, using assessment and performance data as indicators of success. National and international test results serve as proxies for how well the curriculum supports learning outcomes, rather than through dedicated evaluation studies. This approach is used in systems such as England and Ontario, where existing accountability frameworks provide the primary evidence of impact.

In England, there is no formal national process for evaluating curriculum reform. The effectiveness of the 2014 National Curriculum is assessed largely through national assessment outcomes, school inspection findings, and periodic policy reviews such as the Rose Review. This reliance on performance data reflects a focus on measurable attainment rather than ongoing research into curriculum implementation.

In Ontario, curriculum success is monitored through evidence from the Education Quality and Accountability Office (EQAO). Standardised assessments and reporting against key performance indicators provide data on system performance and student achievement. These results are used within Ontario's five-year review cycle to inform future revisions and ensure that the curriculum remains responsive to evidence of learning outcomes.

3.6.5. Defining success

Ontario integrates evaluation into its five-year review cycle, using assessment data, labour-market trends, and stakeholder feedback to inform revisions. The cycle ensures each curriculum iteration reflects evidence from implementation and learning outcomes before full re-approval. Finland, meanwhile, defines success through its national education aims, which include equality, competence development, and ethical growth. Wales describes success in terms of improved learner experiences, stronger professional practice, and greater school capacity for curriculum design. Independent reviews, inspection evidence, and research partnerships inform decisions about guidance and support. The Welsh Government uses evaluation evidence to refine implementation support and to ensure that Curriculum for Wales reflects national aims, system learning, and local needs.

3.7. Effects associated with these approaches

3.7.1. Effects of collaborative national curriculum design models

It was evident across jurisdictions that decisions regarding curriculum design and development had an impact on the degree of support for, and fidelity of, the curriculum. Some jurisdictions, such as Finland, were described by those close to the system as collaborative in their approach to curriculum design,[12] with interviewee evidence also indicating that Singapore shared some of these consultative characteristics. In contrast, jurisdictions such as Japan were characterised as being non-consultative in their curriculum design approach in Japan, with evidence indicating that some school leaders perceived curriculum changes to be 'top-down' with a lack of teacher input into the design.[13] There was also interviewee evidence to indicate a similar sentiment held by teachers in Ireland and France.

It is important to note that even in jurisdictions that were seen to be consultative in their intention, this did not necessarily translate to a belief held by teachers that the design process was meaningfully consultative. For example, in Finland, despite involvement in the curriculum design process, teachers perceived their degree of involvement as more symbolic or nominal than substantial.[14] Furthermore, it was noted that different actors within the Finnish system held different perceptions about the effectiveness of consultation in curriculum design. For example, when engaging in curriculum 'sense-making' actors that were closer to the centre of curriculum development (i.e. those at the macro or meso levels) were seen to have more favourable perceptions of curriculum reform attempts than teachers operating at the micro level of curriculum development.[15]

3.7.2. Effects of the frequency and scale of curriculum reforms

It was observed that the frequency and scale of curriculum reforms can impact teacher wellbeing, and perceptions of reforms across multiple jurisdictions.

The relationship between political factors and the frequency of curriculum reform was a consistent theme across jurisdictions. In France, it was noted that a combination of a centralised and politicised education policy framework and political instability (as understood to mean frequent change in political leadership) has contributed to frequent changes in curriculum policy.[16] Evidence has suggested that this contributed to reform

[12] Karlsson (2017); Halinen (2018); Salonen-Hakomäki et al. (2024).
[13] Sakurai (2016).
[14] Karlsson (2017); Salonen-Hakomäki et al. (2024).
[15] Priestley et al. (2021).
[16] Mathou (2023).

fatigue in France, where teachers are experiencing heightened stress due to the need to keep up with ongoing policy changes.[17]

Reform fatigue was also evident in Japan, where 'policy swings' in curriculum priorities can cause confusion among teachers, with this confusion contributing to low curriculum fidelity.[18] In Poland, it was similarly observed that shifts in the political landscape can contribute to changes in curriculum priorities (particularly in citizenship education);[19] however, there was an absence of evidence to indicate that this contributed to heightened teacher stress or workload. It is interesting to note that policy swings in curriculum can exist regardless of the political context and perceived ideological influence of politics on curriculum policy.

In France and Poland, policy swings are suggested to be a consequence of ideological political shifts (in what are seen to be more politicised systems), whereas in Japan it was attributed to a PISA shock response (as Japan is considered to have a less ideologically driven curriculum).

Beyond the frequency of reforms, it was also observed that in some jurisdictions the scale of reforms contributed to teacher fatigue and stress. For example, in Wales a combination of the volume of changes to the curriculum and a short timeframe for teachers to implement these reforms contributed to heightened stress.[20] Elsewhere, in Scotland, there was evidence to suggest that a perceived overload of curriculum guidance documents (in addition to the curriculum itself) can also contribute to teacher workload by making it challenging for teachers to identify what to prioritise in curriculum delivery.[21] However, it is also worth noting that in England there was evidence to show that it was not necessarily the scale of curriculum reform itself that contributed to teacher fatigue but the fact that curriculum reforms were sometimes implemented concurrently with other system reforms in areas such as accountability systems or qualifications.[22] This was also noted in the interviewee evidence as being applicable to the context in Scotland as well.

In contrast to these examples, interviewee evidence from Singapore suggested that long term political stability had contributed to incremental and gradual change, rather than 'drastic' curriculum reforms. This was seen to contribute to stronger understanding of reform by teachers, more time to consult on and implement changes, and greater teacher buy-in for reforms. However, it was noted that this approach was deeply rooted in Singapore's political culture and may not be easily appropriated in other socio-political contexts.

[17] OECD (2020a).
[18] Sakurai (2016).
[19] Zamęcki & Załęski (2023); Eurydice (2025).
[20] Scott et al. (2021); Morrison-Love et al. (2023); Priestley et al. (2025).
[21] OECD (2021a); Education Scotland (2024).
[22] Lynch et al. (2016).

3.7.3. Effects related to professional learning and development

Strategically aligned teacher professional development was seen to have an impact on the success of reform implementation. Here, professional learning can be considered to include workshops or seminars about curriculum changes as well as collaborative teacher meetings on curriculum issues (either at a department, school, or inter-school level).

An absence of effective and relevant professional development was a critical barrier to effective curriculum implementation. This was relevant to early career teachers, where a lack of a structured and well-resourced induction program for beginning teachers in Estonia adversely impacted their capacity to implement the new curriculum.[23] More generally, evidence from Northern Ireland and Wales highlighted that ongoing professional learning for teachers was integral to support effective curriculum delivery.[24]

In Northern Ireland, the absence of such professional learning contributed to teachers using outdated and ineffective teaching materials that did not deliver on curriculum intentions.[25] The timeliness of this kind of support was also considered essential to success, with evidence from Wales indicating delayed delivery could undermine effective implementation of the curriculum.[26]

In Japan, a lack of training support for primary school English teachers also contributed to teacher concerns about effective curriculum reform delivery, despite the fact that teachers generally supported the reform itself.[27] This suggests that teacher buy-in for reforms is not sufficient in itself for effective delivery, and must be accompanied with relevant professional development.

Sufficient time to for teachers to familiarise themselves with the curriculum was a related theme. In Finland, a lack of time to do so was a barrier to the delivery of the new curriculum, despite support for reforms.[28] Short timelines for implementation of new curricula can also exacerbate teacher stress, as evident in Wales.[29]

This was reinforced by interviewee evidence in France, where a lack of time to respond to ongoing curriculum reforms can heighten reluctance in adopting new policies. Time was also an important factor in terms of access to professional development, with interview evidence in Ontario suggesting a lack of funding to give teachers time (through payment of relief teachers) inhibited access to professional development and collaborative learning time. These challenges were in sharp contrast to Singapore, where interviewee evidence

[23] Löfström & Eisenschmidt (2009).
[24] Nehring & Szczesiul (2015); Duggan et al. (2022); Estyn (2022); Evans (2023); Hutt et al. (2024).
[25] McFlynn (2024).
[26] Priestley et al. (2025).
[27] Matikainen et al. (2023).
[28] Karlsson (2017).
[29] Morrison-Love et al. (2023).

indicated that a more gradual reform process enabled teachers to have time to process the reforms and thereby enhance understanding and teacher buy-in.

3.7.4. Effects related to provision of curriculum resources and guidance

Beyond access to professional development opportunities, there was also evidence to highlight the importance of effective provision of resources and guidance documents to help teachers deliver curriculum reforms in classrooms. Here, 'resources' can be understood to mean sample curriculum resources (such as assessment exemplars or curriculum planning documents) which serve as the provision of teaching and learning resources, while 'guidance documents' are meant as suggestions or statutory requirements for curriculum implementation.

On one level, interviewee evidence from Japan suggested that a lack of curriculum resource materials may undermine teacher confidence in curriculum delivery, which leads to 'superficial compliance' in which the realities of what is taught in classrooms does not align with what is claimed by teachers. Even in Northern Ireland, where curriculum materials were made available to teachers by the curriculum regulator (in this case the Council for the Curriculum, Examinations and Assessment), the variability in the quality of resources and the need to find and contextualise suitable resources were seen as barriers to the usefulness of such resources.[30] Interviewee evidence from Northern Ireland further highlighted the challenges of the timeliness and availability of resources.

In the absence of such supporting resources from curriculum regulators or authorities, it was observed across jurisdictions that alternative sources of resources can emerge in response to teacher need for support. In Ontario, interviewee evidence suggested that teacher unions played a role in supporting teachers through provision of curriculum resources in response to perceived resource gaps. In the Netherlands and Estonia, interviewee evidence noted that the lack of effective resourcing contributed to the emergence of private textbook publishers in both jurisdictions. It was indicated that in the Dutch context, collaboration between publishers and the Ministry has contributed to curriculum aligned resources; however, in Estonia, teachers often use outdated materials which do not necessarily align with curriculum reforms.

In contrast, with regard to curriculum guidance, a perceived overload of guidance documents can adversely impact the success of curriculum reforms. This was seen in Scotland, where teachers felt overwhelmed by the volume of guidance materials which contributed to an acknowledgment of the need to streamline these documents to improve teacher understanding.[31]

[30] Crehan (2025).
[31] OECD (2021a); Education Scotland (2024).

3.8. Synthesis of types and effects

3.8.1 Overarching types of approach to curricular reform

Broadly speaking, jurisdictions can be grouped into three overarching types, here called 'participatory reform', 'expert-guided and strategic reform', and 'government-driven reform', according to their approach to curricular reform. These high-level groupings take into account the types of approaches discussed above, including structure, culture, and purpose of reform. They take into account how reform is organised and led, what its underlying purpose and cultural orientation is, and how systems generate legitimacy for change.

Table 11: Core features and examples of over-arching curricular reform types

Type	Core features	Example jurisdictions
Participatory reform	Reform is shaped through participation, school involvement, and trialling. Legitimacy is built through consensus and shared development. Teachers, schools, and professional groups tend to help test and design the curriculum and its content. Implementation is often phased.	Wales, New Zealand, Scotland
Expert-guided and strategic reform	Reform is guided by national strategy, evidence cycles, and expert advisory processes. Direction is coordinated, planning is long-term, and expertise supports policy stability.	Japan, Singapore, the Netherlands, Ireland
Government-driven reform	Reform is directed by government. A small expert group often drafts content quickly. Implementation happens at once with no, or only limited, piloting. Consultation mainly follows drafting. Evaluation uses existing assessment and inspection systems.	England, Poland

These overarching types themselves do not consistently relate to any particular effects, but can nevertheless be useful in thinking about different approaches to design.

3.8.2. Relationship between approaches and effects

Two key conclusions describe the relationship between more granular approaches to reform and their effects. Firstly, there are reports of teacher stress and heavy workload due to curriculum reform across jurisdictions, regardless of their approach to this reform, including the frequency and scale. Secondly, approaches to reform do not appear to reliably predict teachers' lived experiences of reform, such as their sense of influence, and how meaningful or genuine teacher participation or consultation feels in the reform process.

Teachers report stress and workload pressures regardless of the scale and frequency of curriculum reform in their jurisdiction. There does not appear to be a systematic relationship between teachers' reported stress levels and variables such as the structure of a jurisdiction's reform apparatus, the use of consultation, and the wider reform approach. Indeed, across the 14 jurisdictions, teachers report a variety of different reasons for feeling

workload pressure. In France, teachers linked their stress levels to the extent of curricular change. In Wales, teachers linked both the scale and timeframe of reform to increased workload pressures and implementation demands. In England, workload concerns were linked to curriculum reform taking place alongside wider system changes. Singapore is an outlier here: we did not find evidence of teachers reporting stress and workload pressures.

Curriculum design principles do not reliably predict teachers' lived experiences of reform. Jurisdictions that take a collaborative, government-led, or expert-guided approach all show similar variation in how teachers experience curriculum change. In Finland, where collaboration is a key aspect of curriculum development, many teachers reported that their involvement felt symbolic rather than influential. Teachers in France similarly reported feeling that they had limited opportunity to shape decisions within the jurisdiction's expert-guided approach. Again, Singapore is an outlier: in interviews, teachers described its combination of expert consultation and structured engagement as coherent and purposeful, and they associated it with a clearer understanding of reform.

Taken together, these patterns suggest that teachers' experiences of curriculum reform are shaped less by the formal design of a jurisdiction's approach, and more by how reforms are introduced, communicated, and enacted in practice. The evidence indicates that workload pressures, perceptions of limited influence, and mixed experiences of reform can arise in any system, regardless of its model or intent. Taken together, these examples show that similar experiences of reform can be found across jurisdictions with different approaches.

3.9. References

Where claims are not referenced in the text, this is because they are drawn from descriptions in the underlying CUPA reports or tables, or earlier sections in the full report.

Crehan, L. (2025). *A Strategic Review of the Northern Ireland Curriculum: A Foundation for the Future*. Department of Education (NI). https://www.education-ni.gov.uk/publications/ni-curriculum-review

Duggan, B., et al. (2022). *Practitioner survey on preparations for Curriculum and Assessment Reforms 2022: final report*. Welsh Government. https://www.gov.wales/practitioners-preparations-roll-out-curriculum-wales-final-report

Education Scotland. (2024). *Background and a Case for Change: Findings from the Pilot Curriculum Reviews 2023/24: A Discussion Paper*. https://blogs.glowscotland.org.uk/glowblogs/public/cices/uploads/sites/10666/2024/11/13214842/CIC-A-CASE-FOR-CHANGE-PILOT-CURRICULUM-REVIEWS141124.pdf

Estyn. (2022). *Summary of engagement calls and visits to schools and PRUs: Autumn 2021*. https://www.estyn.gov.wales/system/files/2022-02/Summary%20of%20engagement%20calls%20and%20visits%20to%20schools%20and%20PRUs%20%E2%80%93%20autumn%202021_3.pdf

Eurydice. (2025). *Ongoing reforms and policy developments: National reforms in school education*. European Commission. https://eurydice.eacea.ec.europa.eu/eurypedia/poland/national-reforms-school-education (accessed 24 November 2025)

Evans, G. (2023). *A new dawn or false hope? Exploring the early implementation of Curriculum for Wales*. Education Inquiry. https://doi.org/10.1080/20004508.2023.2297506

Halinen, I. (2018). The new educational curriculum in Finland. In: Matthes, M. et al. (Eds.), *Improving the Quality of Childhood in Europe* (pp. 75–89). Alliance for Childhood European Network Foundation. https://physiart.com/wp-content/uploads/2020/01/The-new-educational-curriculum-in-Finland.pdf

Hutt, M., Smith, K., & Jones, K., (2024) Professional learning in education: policy and practice in Wales since devolution. *Wales Journal of Education, 26*(2), 39–53. https://doi.org/10.16922/wje.26.2.4

Karlsson, P. (2017). *Teachers' Perspectives on the National Core Curriculum of Basic Education 2016* [MA thesis]. Aalto University. https://aaltodoc.aalto.fi/server/api/core/bitstreams/990db9a9-e3a3-4490-ba35-7d311304cb90/content

Löfström, E., & Eisenschmidt, E. (2009). Novice teachers' perspectives on mentoring: The case of the Estonian induction year. *Teaching and Teacher Education, 25*(5), 681–689. https://doi.org/10.1016/j.tate.2008.12.005

Lynch, S., et al. (2016). *Engaging Teachers: NFER Analysis of Teacher Retention*. NFER. https://www.nfer.ac.uk/media/52vm1q5k/lfsb01.pdf

Mathou, C. (2023). Contemporary curriculum policies: globalization, recontextualization and hybridization of pedagogic models. In: Tierney, R. J., et al. (Eds.), *International Encyclopedia of Education (Fourth Edition)* (pp. 8–18). https://doi.org/10.1016/B978-0-12-818630-5.03002-5

Matikainen, T., Ng, P. C. L., & Glasgow, G. P. (2023). Teachers' Attitudes Toward Primary School English Teaching Reform in Japan. *Second Language Teacher Education, 2*(1), 43–66. https://utppublishing.com/doi/10.1558/slte.24476

McFlynn, P., et al. (2024). Fulfilling the unmet potential: Harnessing ambition, autonomy, and agility in Northern Ireland's education system. *The Curriculum Journal, 35*(4), 637–651. https://doi.org/10.1002/curj.282

Morrison-Love, D., et al. (2023) *Camau i'r Dyfodol: Curriculum for Wales: evolving understandings of progression in learning. Project Report*. University of Glasgow and University of Wales Trinity Saint David. https://doi.org/10.36399/gla.pubs.298263

Nehring, J. H., & Szczesiul, S. (2015). Redefining high performance in Northern Ireland: Deeper learning and twenty-first century skills meet high stakes accountability. *J Educ Change, 16*, 327–348. https://doi.org/10.1007/s10833-015-9250-8

OECD. (2020a). *TALIS 2018 Results (Volume II): Teachers and School Leaders as Valued Professionals*. TALIS, OECD Publishing. https://doi.org/10.1787/19cf08df-en

OECD. (2021a). *OECD Independent Review Of Curriculum For Excellence 2020-2021: Initial Evidence Pack*. Scottish Government. https://www.gov.scot/publications/oecd-independent-review-curriculum-excellence-2020-2021-initial-evidence-pack/

Priestley, M., et al. (2021). Curriculum Making: A Conceptual Framing. In: Priestley, M., et al. (Eds.), *Curriculum making in Europe*. Emerald Publishing. https://doi.org/10.1108/9781838677350

Priestley, M., et al. (2025). *Curriculum and assessment design and pedagogy in the Curriculum for Wales: a qualitative study*. Welsh Government. https://www.gov.wales/curriculum-and-assessment-design-and-pedagogy-curriculum-wales-qualitative-study (accessed 24 November 2025).

Roberts-Hull, K., Jensen, B., & Murnane, N. (2021). *Teaching Critical Thinking: exploring implications for Stages 4 and 5 Science and History teaching. Case Studies: Singapore and Hong Kong*. Learning First. https://education.nsw.gov.au/content/dam/main-education/teaching-

and-learning/education-for-a-changing-world/media/documents/TEACHING_CRITICAL_THINKING_CASE_STUDIES.pdf

Sakurai, R. (2016). *Teachers' Perspectives on School Reform in Japan*. Hiroshima University. https://cice.hiroshima-u.ac.jp/wp-content/uploads/2019/07/Teachers-Perspective-on-School-Reform-in-Japan.pdf

Salonen-Hakomäki, S. M., et al.,. (2024). Leading Complex Educational Change Via National Participative Reforms? A Case of Finnish Core Curriculum Reform Leadership. *J Educ Change, 25*, 531–554. https://doi.org/10.1007/s10833-024-09502-3

Scott, S., Limbert, C., & Sykes, P. (2021). Work-related stress among headteachers in Wales: Prevalence, sources, and solutions. *Educational Management Administration & Leadership, 52*(1), 208–229. https://doi.org/10.1177/17411432211054630

Zamęcki, Ł., & Załęski, P. (2023). How Right-Wing Populists Influence Citizenship Education—Evidence from Poland. *East European Politics and Societies, 37*(4), 1314–1336. https://doi.org/10.1177/08883254221144710

Section 4: Context and Effects

4.1. Introduction

This comparative report is based on detailed case studies of the system-level curriculum frameworks of 14 jurisdictions. Cambridge University Press & Assessment undertook these case studies, and produced cross-jurisdiction reports and tables for each of the six research questions of this study:

RQ1. What is the purpose of the curriculum?
RQ2. What is the structure of the curriculum?
RQ3. How is curriculum policy made and introduced?
RQ4. How is curriculum policy evaluated?
RQ5. How does context shape curriculum policy and reform?
RQ6. What is the evidence about the effects of the curriculum?

This section builds on work that addresses RQ5 and RQ6 on how context effects the system-level curriculum framework (henceforth 'curriculum'), and how the curriculum and wider contextual factors have their own effects.

For the purposes of this report, we also conducted an additional realist-informed analysis drawing on the jurisdiction case studies. This involved going through the case studies, which include references to relevant literature and interview data from in-country interviewees, and collating any references to possible causal relationships – either between structural features of curricula in context and overall outcomes, or more commonly, between these structural factors in context and their more immediate effects in schools, as reported by school leaders and teachers. These proposed causal relationships were compiled for each system, and then organised into likely context-mechanism-outcome configurations. For a full methodology, see Appendices.

The realist-informed analysis, and the cross-jurisdiction report from CUPA, focused on different and complementary things – the latter giving more attention to the overall outcomes of systems, such as their PISA scores, or their teacher retention figures. Broadly speaking, while interesting and useful for future analysis when CES has studied more policy areas, we do not think we are able to draw meaningful conclusions about the effects of the curricula alone on these outcomes (as opposed to the effects of the wider education system), as there is not sufficient evidence to do so.

The second part of this section - on the effects of curricula - therefore draws more heavily on the realist-informed analysis, which focuses on the more intermediary effects within

schools. This section begins though, with a consideration of the wider contextual factors which have an influence on jurisdictions' system-level curriculum frameworks.

The section is organised under the following themes:

- The effects of the wider context on the design of the curriculum
- Evidence of effects relating to curriculum specificity
- Evidence of effects related to curriculum scope
- Effects related to the inclusion of '21st-Century' skills and pedagogies
- Policy coherence between curriculum and other policy areas.

4.2. The effects of wider context on the design of the curriculum

The systems' context is relevant to our study in two distinct ways. The first is in how the historical, socio-cultural, political and international context shapes policy choices about the design of the curriculum – that is what will be addressed in this section. The second is how the more immediate context, including other policies and funding, alongside the wider context, mediates the effects of the curriculum – this will be addressed wherever we have evidence for it in the sections below.

4.2.1. Historical influences on curriculum

Historical influences in terms of a country's gaining of independence from colonisation or occupation has contributed to the prioritisation of identity building and citizenship education in the curriculum.

Historical experiences with sovereignty loss in Poland and Estonia have strengthened both countries' commitments to using education to foster a sense of national identity. Following decades of Soviet ideological indoctrination through education, both states hold space for their contemporary curriculums as an opportunity to empower their population and promote cohesive cultural identity. However, as noted below, this makes the curriculum susceptible to politicisation and ideological swings in the context of Poland.

In states such as Ontario and New Zealand, both of which have modern histories rooted in British colonisation, there is growing pressure to address historical injustices through incorporating both colonial (i.e. Western) and Indigenous / First Nations ideological and epistemological perspectives in the curriculum (including when discussing concepts around identity, citizenship, and nationhood).

4.2.2. Socio-cultural influences on curriculum

Deep rooted cultural and religious philosophies play a significant role in shaping curriculum priorities and choices in current contexts.

Singapore and Japan are shaped by strong Confucian philosophies, which is considered to be evident in their education systems (albeit with slightly different manifestations). This influence emerges in the curriculum through the strong emphasis placed on examination and high stakes assessments. In Europe, Enlightenment thinking from the 18th and 19th Centuries is seen to shape curriculum priorities in the embedding of key values such as rationality, rule of law, commitment to scientific method, and democratic values.

Although diminishing over time, religious influences were also considered to play a role in historical curriculum choices; however, this was limited in states such as France and is minimal in other European states today.

The demographic diversity of a country (as represented by linguistic diversity or First Nations communities) can also influence curriculum choices, though countries have adopted divergent approaches on curriculum inclusion. Some states leverage ethno-linguistic diversity to broaden the scope of their curriculum to promote wider recognition of diverse cultures, histories, and languages. This is evident in Ontario given Canada's emphasis on bilingualism, but also Ireland following independence from the UK. Recognition of linguistic diversity is an emerging priority in Wales as it seeks to navigate the historical exclusion of Welsh with recently acquired curriculum-making authority.

In Estonia, despite linguistic diversity represented by minority Russian-speaking populations, there is a conscious curriculum shift in promoting Estonian as the primary medium of instruction in schools. Singapore's linguistic diversity has shaped an alternative approach on curriculum choices, where the primary language and medium of instruction remains English in an effort to avoid privileging one ethno-linguistic group over the others.

4.2.3. Political influences on curriculum

Political structures and culture, and the degree to which this permeates curriculum-making institutions, influence the extent to which curriculum is understood to be politicised. This is compounded by swings in governance, which cause policy swings in curriculum priorities.

In some states, such as Japan, political influences are seen to be neutralised because educational policy debates are not highly politicised. In others, such as Estonia, Finland, and Ireland, intentional legislative mechanisms have been designed to insulate policymaking from political influences. This has included the introduction of apolitical curriculum bodies (the National Council for Curriculum and Assessment in Ireland), high burdens for curriculum reviews making it harder for governments to enact change (Estonia), and the need for legislative change (Finland).

However, in France, England, Ontario, and Poland, curriculum changes are seen to be politically charged and entrenched in ideological politicking, often exacerbated by media focus on curriculum decisions. For example, civic education in Poland has witnessed ongoing ideological shifts in terms of what is included and promoted by the curriculum.

4.2.4. International influences on curriculum

International institutions, such as the Organisation for Economic Co-operation and Development (OECD), have shaped curriculum priorities across most jurisdictions, with an emphasis on promoting '21st-Century' skills to prepare students for an increasingly globalised landscape.

The OECD, by virtue of it being a multi-national entity, is seen to support the prioritisation of 21st-Century skills that transcend national contexts. The inclusion of such skills (referred to as 'transversal', 'interdisciplinary', or simply '21st-Century' skills) reflects the growing influence exerted by the OECD on system-level curriculum development. However, it is worth noting England's pivot towards a knowledge-based curriculum in 2014 as a counter example to this trend.

International Large-Scale Assessments (ILSAs), such as the OECD's PISA, along with TIMSS, are seen to greatly influence curriculum policy decisions in multiple jurisdictions. PISA shock was suggested as an influence in curriculum reform decisions in Japan, Ireland, Scotland, New Zealand, and France. A related, yet distinct, international influence is that of the EU on the curriculum choices in member states, with the degree of influence varying (seen more strongly in Estonia and Poland than others).

4.3. Evidence of effects related to curriculum specificity

4.3.1. Curriculum specificity and variability between schools

To promote teacher and school autonomy in curriculum making, some systems intentionally make their curriculum content less specific. This has led to variation, either intentionally or unintentionally, in curriculum delivery across schools.

One reason for this variation was the effect of less-specific curricula on teachers' understanding of the intentions of the system-level curriculum. In some jurisdictions, teachers perceived the language in curriculum documentation to ambiguous or vague. This contributed to different teachers adopting different interpretations of what the curriculum

sought to achieve, causing confusion on how to implement it, notably in Finland,[32] Wales,[33] and New Zealand.[34]

Similar observations were made by interviewees regarding teachers' variable understanding of high-level "core objectives" in the Dutch Curriculum, and its impact on school-to-school variation. Teachers and leaders in Northern Ireland also reported significantly different interpretations of the curriculum in different schools, on account of curriculum statements being unclear.

One effect of this variability in what was taught in different schools was raised as a concern in New Zealand, where there is high mobility of students between schools.[35] These significant differences in the taught curriculum between schools were seen as disruptive to the progress of those students who move from school to school.

The variability caused by differing interpretations of curricula was also an equity concern in several countries. In Finland, schools with high resourcing and capacity were seen as better able to leverage autonomy in curriculum making to develop rich learning opportunities compared to less resourced schools.[36] School resourcing in terms of effective leadership was also seen as an important factor, with evidence from Wales raising concerns about potential inconsistencies in the quality of curriculum content between schools due to dependency on school-level leadership in guiding curriculum development.[37] Concerns regarding the impact of school leadership were also highlighted as a factor affecting curriculum differences between primary schools in New Zealand.[38]

4.3.2. Curriculum specificity and student progression

The aforementioned variability in curriculum interpretation within systems with less-specific curricula was found to cause challenges with student progression and transitions between different stages of schooling across multiple jurisdictions.

In Wales it was noted that, despite the requirement for schools to have transition plans for students from Year 6 to Year 7, variation in primary curricula between schools caused challenges with student progression to secondary schools.[39] A feature of this curriculum that further exaggerates the differences in the knowledge and skills of students moving into secondary is the inclusion of a Progression Code, which sets the pace of progression as being unique to individual learners, rather than being based on ages or school stages,

[32] Karlsson (2017).
[33] Priestley et al. (2025).
[34] Cowie et al. (2009).
[35] Ibid.
[36] Priestley et al. (2021).
[37] Priestley et al. (2025).
[38] Warnock (2020).
[39] Priestley et al. (2025).

allowing for intentional variation in the pace of progression. According to one interviewee, this risks widening the gap between advantaged and disadvantaged students.

In Northern Ireland, a lack of specificity in the primary curriculum contributed to difficulties in transition to post-primary school.[40] In Scotland, a shift from a knowledge-based curriculum to an 'Experiences and Outcomes'-focused curriculum (which was seen to being open to interpretation by teachers) contributed to variability in what students learnt in primary school.[41] In both countries, a consequence of this was that secondary-level teachers often had to 're-teach' content or skills due to the inconsistent knowledge base of students entering secondary schools.[42]

It is important to note that this challenge is not exclusive to the transition from primary to secondary stages of learning, with both Ireland and Scotland highlighting challenges between stages within the secondary school context. In Ireland, this was attributed to a divergence in priorities between the Junior Cycle and Senior Cycle curriculums, with the former promoting a reformed approach to student-centred learning, with less subject specificity, and the latter being highly influenced by examination preparation. This disconnect contributed to perceived challenges in student preparedness as they moved from the Junior Cycle to the Senior Cycle.[43] Evidence from Scotland suggested a similar challenge as students transitioned from the less-specific Broad General Education (BGE) into the Senior Phase, which was centred around exam-focused qualifications.[44]

4.3.3. Curriculum specificity and the impact on teachers and students

There was both some recognition of the benefits of flexibility in enabling a system-level curriculum to be tailored to students' needs, as well as evidence highlighting the workload implications for teachers.

Some systems that adopted a flexible curriculum model were positively viewed by teachers. In Wales, it was suggested that practitioners and school leaders viewed the flexibility and freedom enabled by the Curriculum for Wales (CfW) as a positive feature, enabling content to be tailored to local contexts (with this also being contingent on effective school leadership).[45] This flexibility was also reported to lead to increased student ownership of their learning.[46]

Similarly in Northern Ireland, many teachers viewed a strength of the curriculum as being the flexibility to tailor curriculum content to pupils' needs, interests, and context.[47] Balancing

[40] Crehan (2025).
[41] Education Scotland (2024).
[42] Ibid.; Crehan (2025).
[43] McGarr et al. (2023); Smyth et al. (2019).
[44] OECD (2021b); Education Scotland (2024).
[45] Priestley et al. (2025).
[46] Ibid.
[47] Crehan (2025).

flexibility with specificity was seen as a strength of Ontario's approach, with interviewee evidence suggesting that broad 'overarching expectations' in the curriculum were complemented by more defined, yet not mandated, 'specific expectations' (which are accompanied by teaching examples to guide practice). This was seen as an effective middle ground in which experienced teachers could exercise autonomy by following the overarching expectations whereas less experienced teachers could use the specific expectations to help guide their curriculum delivery.

However, across several countries, the flexibility inherent in less-specific curricula was also a source of concern for teachers, particularly in terms of stress and workload implications. This exacerbated stress and workload was seen to stem from the need for teachers to develop their own curriculum resources due to the non-specific curriculum design. For example, in New Zealand the non-prescriptive nature of the curriculum required teachers to create 'localised content' which added to workload,[48] with manageable workload being a challenge for half of New Zealand secondary school teachers.[49] This was also observed in Northern Ireland[50] and Wales.[51]

Compounding these challenges was the perceived inadequacies in curriculum guidance and resourcing, which caused further confusion and teacher stress. Interview evidence from Finland indicated that this was a challenge experienced by Finnish teachers, where a complex curriculum and decentralised system resulted in disparities in support and expectations. In Wales, it was reported that teachers were struggling to make sense of the large amount of guidance; in particular, the lack of clarity in expectations for progression and standards.[52]

A related, yet separate, challenge was the degree to which curriculum documentation provided clarity in the scope and meaning of 'teacher autonomy'. In Scotland it was noted that despite the provision of teacher autonomy in curriculum autonomy, the lack of clarity about the parameters of this autonomy contributed to teacher confusion.[53] This contrasted with the approach in Ontario which was suggested to strike a better balance between autonomy and specificity.

[48] Spurdle (2023).
[49] Alansari et al. (2022).
[50] Crehan (2025).
[51] Priestley et al. (2025).
[52] Evans (2023), and interview evidence.
[53] OECD (2021b).

4.4. Evidence of effects related to the curriculum scope

4.4.1. Causes of curriculum overload

Curriculum overload is experienced in a range of different systems, which take different curricular approaches.

Some curricula, such as those in England and Ontario, are experienced as overloaded on account on the amount of subject-based content. In England, for example, the science curriculum contains significantly more content that the science curricula in Singapore and Hong Kong.[54] In Ontario, this feeling of overload is compounded by the addition of cross-curricular components in the curriculum (see Section 4.4.5).

Even in systems that were not highly specific in their curriculum (i.e. they promoted teacher autonomy and flexibility in curriculum making), curriculum overload was seen as an unintentional consequence of this approach. In Northern Ireland, curriculum ambiguity exacerbates curriculum overload in the context of inspection and league table pressures, compelling teachers to teach more content 'just in case' because of the undefined nature of curriculum objectives.[55]

This is compounded by the previously discussed transition challenges caused by primary school curriculum flexibility, in which students enter secondary schools with large variation in prior knowledge, requiring secondary teachers to often re-teach primary content in addition to the secondary curriculum, contributing to overload.[56]

In Finland, it was suggested that the unintentional curriculum overload was a product of the distributed curriculum-making model, in which local-level actors exercised their autonomy by adding more content.[57]

4.4.2. Impact of curriculum overload

Reports of too much content in the curriculum – curriculum overload – was seen to contribute to a lack of curriculum fidelity, as well as the prioritisation of certain subjects over others.

Perceived overload was evident in Ontario, where interviewees noted concerns about the volume of curriculum items teachers were expected to teach, and the impact this has on curriculum fidelity and wellbeing.

Despite reforms to 'slim down' the English curriculum in 2014, following a review, some teachers still hold a perception that there is too much content in the English National

[54] Jensen et al. (2023).
[55] Crehan (2025).
[56] Ibid.
[57] OECD (2020b).

Curriculum.[58] In such contexts where teachers don't feel they have time to teach the full breadth of the curriculum, an effect can be the prioritisation of certain subjects over others. The 2014 slimming in England saw an emphasis placed on the core subjects of maths, English, and science, with the rigour of teaching of other subjects found to be less than intended in the primary school context.[59]

One small study suggested that this emphasis on core subjects had compounded challenges for low-attaining and special educational needs (SEN) students in primary school contexts, who have adversely been affected by the deprioritisation of subjects perceived as engaging for these students.[60] Prioritisation of numeracy- and literacy-based subjects over others was also observed in Wales, due to teacher perceptions about the importance of such subjects.[61]

Alternatively, curriculum overload can lead to teachers feeling pressured to move through curriculum topics at a pace that does not leave enough time for lower-performing students to master foundational topics, further disadvantaging these students[62.]

4.4.3. Curriculum slimming

It is worth noting how curriculum slimming may also result in unintentional outcomes, particularly in terms of student equity and access.

This was seen in Japan, where Yutori curriculum reforms in the early 2000s sought to slim down the curriculum by 30% (including student contact hours) in order to promote student wellbeing.[63] However, the strong social emphasis on examination culture encouraged families, particularly those from high socio-economic backgrounds, to seek supplementary academic learning for their children through the form of shadow education systems (i.e. tutoring classes or *juku*).[64] Therefore, reforms seeking to achieve curriculum slimming were seen to exacerbate socio-economic inequality in Japan through unequal access to private education opportunities, with evidence highlighting that declining achievement scores were concentrated among socially and economically disadvantaged students.[65] These reforms were subsequently reversed through the Datsu-Yutori policy in the late 2007s in response to public pressure and perceptions of declining PISA results.

Other jurisdictions, such as Poland, are also seeking to pursue a slimmed down curriculum model with the intention of promoting teacher autonomy; however, given the ongoing implementation of Poland's reform, it is not possible to comment on its efficacy or outcomes.[66]

[58] Ofsted (2025).
[59] Ofsted (2018).
[60] Hargreaves et al. (2023).
[61] Priestley et al. (2025).
[62] OECD (2020b).
[63] Kagohashi (2010).
[64] Takeuchi (2019); Neuman (2013).
[65] Park & Lee (2013).
[66] Greenhill (2024).

4.4.4. The prioritisation of student wellbeing

Curriculum reforms are increasingly focusing on promoting holistic child development and student wellbeing; however, the evidence suggests that the degree of efficacy of these approaches is variable due to the impact of high-stakes examinations, and limitations on teacher capacity.

Discussions of wellbeing cannot ignore the impact of high-stakes examinations on intended goals, with this applying across multiple levels of schooling and across jurisdictions. In Ireland, evidence highlighted that the emphasis on high-stakes examinations has diminished opportunities for social engagement and extracurricular involvement among students in the Senior Cycle, undermining their sense of wellbeing.[67] Wellbeing initiatives in the Junior Cycle were rendered ineffective due to competing academic and time pressures.[68] Taken together, this evidence indicates that despite a shifting emphasis towards promoting student mental health in Ireland, ongoing academic pressures have limited opportunities for improvement.

It is also important to note how an emphasis on whole-child development may adversely impact teacher wellbeing, which was suggested to be an unintended consequence in Japan. Curriculum reforms aligned with a whole-child educational philosophy were seen to exacerbate teacher workload through an unsustainable extension of teacher responsibilities.[69] Wellbeing-focused reforms were also seen to contribute to increased teacher workload in Singapore, although the evidence base for this was limited.[70] It is worth acknowledging how the Confucian academic culture in both Singapore and Japan may intersect with issues of student wellbeing, and therefore the efficacy of reform attempts.

4.4.5. Curriculum breadth and student choice

A related theme is how curriculum design seeks to balance subject breadth and common provision in student subject exposure, with the choice by, or selection of, students to pursue subjects or pathways based on their interest and/or capacity.

In some systems, such as the Netherlands, there is an intentional emphasis on early student tracking into vocational, general, or tertiary pathways that has been shaped by historical influences from the German context. Students are tracked into streams at the end of eight years of primary education, with this pathway determined by a final school report (shaped by performance on a final year test as well as teacher advice on attainment and "educational potential").

[67] Smyth et al. (2019).
[68] McGarr et al. (2023).
[69] OECD (2018); Kimie (2023).
[70] Ho (2023).

Interviewees suggested that the Dutch system enables little movement between tracks, despite an intention to be flexible, and that early student tracking limits subject selection opportunities – which is considered to contribute to lower student engagement and motivation. Movement is more likely to be seen when students are 'down-graded' between tracks, with evidence suggesting that students from low socio-economic backgrounds are especially likely to be down-tracked.[71] Students from immigrant backgrounds, who tend to have a more disadvantaged socio-economic background in the Netherlands, are also more likely to be tracked into the vocational pathway.[72]

In Ontario there is a similar pattern, in which students in areas with lower socio-economic status are more likely to opt for applied streams in upper secondary education.[73] However, in this case, it is officially student choice determining these placements, rather than schools and teachers making these decisions.

In Scotland, a system that seeks to promote equity as a core tenet, students' curriculum choice in the Senior Phase is seen to be constrained by the pressure placed on schools to demonstrate strong attainment results. This pressure has caused a decrease in subject offerings of the more rigorous National 4 and National 5 subjects in some schools, particularly those in areas of high deprivation, depriving students of the entitlement to these courses.[74] This stratification of curriculum breadth and entitlement based on socio-economic index was found to contribute to adverse student outcomes in terms of attainment and post-school pathways.[75]

Even when students do have a choice, presented as an entitlement to study certain subjects as opposed to a common provision, this may contribute to curriculum narrowing which exacerbates socio-economic differences. It was noted by interviewee evidence that reforms providing greater subject choice in French middle schools contributed to perceptions of subject hierarchy, with the choice of some specialised elective subjects (e.g. Latin or German) being markers of prestige and elitism. In Northern Ireland, the introduction of an "Entitlement Framework" makes it statutory that students have access to a broad choice of subjects, but this is consistent with some students choosing a narrow curriculum which prematurely narrows their future career and study opportunities. And in England, an approach of using accountability measures to incentivise schools to enter students for a common core of subjects (but without requiring schools to do so) led to only around 40% of students overall taking these subjects, and just 27.4% of students who were eligible for free school meals (FSM).[76]

[71] OECD (2016), p. 83.
[72] Tielman et al. (2022).
[73] Halmin & Cameron (2015).
[74] Hargreaves et al. (2023); Shapira et al. (2023a).
[75] Shapira et al. (2023b); Scottish Government (2025).
[76] UK Government (2024).

The impact of tracking on equity and achievement was also examined in Poland. Curriculum and structural reforms introduced in 1999 sought to extend the common curriculum by one year (by introducing a comprehensive lower secondary stage that delayed secondary pathway streaming from the age of 15 to the age of 16). The outcome of this reform was a statistically significant improvement in the PISA results of all students at the age of 15, particularly those who would have otherwise entered in a vocational pathway at this age.[77] However, given that tracking was merely delayed and not abolished, it was found that these improvements in equity were not sustained in the long term, with no narrowing in the achievement gap between students in vocational and non-vocational pathways at age 17 (i.e. after they had been streamed).[78]

4.5. Effects related to the inclusion of '21st-Century' skills and pedagogies

Some system-level curricula include competencies or '21st-Century' skills as separate components that they require teachers to integrate into their lessons. These are articulated differently in different systems, but often include things such as: creativity, collaboration, critical thinking, problem-solving, and digital literacy. Separately but relatedly, several systems have expressed in their curriculum documentation the kinds of pedagogical approaches that they believe lead to these skills, and have encouraged or required teachers to take such approaches. While also articulated differently, they can broadly be considered to include: student-centred approaches to learning, inquiry focused models of learning, collaborative learning opportunities, and interdisciplinary learning projects.

4.5.1. '21st-Century' skills and high-stakes examinations

It was observed that a number of jurisdictions have sought to introduce and prioritise the development of '21st-Century' skills among their students in primary and secondary school contexts. However, it was evident that in some jurisdictions, teachers experienced challenges in prioritising the teaching of these intended skills, caused by a misalignment, or perceived misalignment, between such curriculum priorities and high-stakes examinations.

The misalignment between a 21st-Century-skills-focused curriculum and high-stakes examinations contributed to poor curriculum fidelity in this respect across jurisdictions including Ireland,[79] Japan,[80] and Northern Ireland.[81] This position was further supported by interviewee evidence for Scotland. Even if these high-stakes examinations occurred at the end of the final stage of secondary school, there was a wash-back effect to earlier stages of

[77] Jakubowski et al. (2010).
[78] Ibid.
[79] Johnson et al. (2019).
[80] Paxton et al. (2022).
[81] Crehan (2025); Nehring & Szczesiul (2015); Gallagher et al. (2012).

schooling where curriculum emphases on 21st-Century skills were deprioritised in favour of examination preparation.

This was seen in Japan, where teachers felt pressured to prepare students for university entrance examination in secondary schools, years before students were scheduled to sit the examinations.[82] This dynamic was also somewhat observed in Ireland, where high stakes examinations are present both in the Senior Cycle (ages 15–18) and Junior Cycle (ages 12–14) phases of schooling. In the final year of the Junior Cycle (i.e. the year of the examination), there was a shift in pedagogical approach from the intended student-centred experience believed to promote 21st-Century skills, to a more didactic pedagogy.[83] Even when teachers did prioritise developing 21st-Century skills in the Junior Cycle, this was perceived as 'disconnected' from the priorities of the Senior Cycle, and therefore contributed to difficulties in student transition from one phase to another.[84]

The introduction of interdisciplinary subjects to promote these skills and pedagogies also experienced poor curriculum fidelity when faced with exam pressures, as noted in Japan where the time dedicated to 'Integrated Studies' was sometimes repurposed for examination preparation.[85]

It is interesting to note how historical and cultural context shapes the tensions in curriculum priorities with regard to these jurisdictions. Japan has faced challenges with balancing an exam-oriented, Confucian education culture with the need to 'modernise' its curriculum to promote global cosmopolitanism; however, this has contributed to a degree of perceived curriculum dissonance. This may also be attributed to cultural pressures which were suggested to place a higher value on social conformity and obedience which were seen as being at odds with the skills of critical thinking and creativity.[86]

Similarly, in Ireland, the curriculum emphasis is seen as a hybrid of both an English colonial legacy (which has been seen to prioritise outcomes and content development) and a desire to pursue a Continental model (which is suggested to prioritise process and skills development). This has led to perceived tensions, in which curriculum priorities around 21st-Century skills are seen to be misaligned with high-stakes examinations. It was noted that even in jurisdictions such as Estonia, which sought to promote school and teacher autonomy in the post-Soviet era of democratisation and liberalisation, the extent to which teachers are able to exercise autonomy in pedagogy and pursue innovative teaching practices was limited by the pressures caused by examinations.[87]

[82] Paxton et al. (2022).
[83] McGarr et al. (2023).
[84] Ibid.; Smyth et al. (2019).
[85] DeCoker (2006); Bjork (2009).
[86] Ittoku (2020); Hashimoto (2004); Dunn (2015).
[87] Erss et al. (2014); Erss et al. (2016).

In contrast, in Finland, where there is an absence of high-stakes assessments in basic education, interviewees noted that curriculum fidelity and the promotion of creative skills aligned with curriculum goals may be made possible. However, teachers still experienced these curriculum goals as being problematic (see sections 4.5.2 and 4.5.3), as those in other jurisdictions did, in addition to the problems of examination alignment.

4.5.2. Teacher confusion regarding the teaching and assessment of '21st-Century' skills

Compounding the challenge of teaching '21st-Century' skills and adopting innovative pedagogical approaches is the lack of curriculum clarity in terms of what these skills are and how they ought to be taught and/or assessed, leading to inconsistency in implementation, and additional teacher workload.

Challenges with how to teach these skills was one of the key barriers to implementation in schools. In Scotland, interviewees reported that the interdisciplinary skills described as "responsibility for all" (here considered to be numeracy, literacy, and health and wellbeing) are not meaningfully taught across subjects. This was attributed to the challenges of contextualising these skills in different subjects, and a lack of clarity around responsibility for their delivery. Further evidence highlighted that rather than being interdisciplinary in nature, these skills are being delivered in Scotland through single subject lenses.[88]

A lack of clarity was also evident in Ontario, where different policy documents often use different language when describing the same skills, indicating challenges with teacher understanding and therefore delivery of these skills.[89] Common understanding of curriculum language around competencies, and teaching practices such as "teaching as inquiry", was also raised as a challenge in New Zealand. There, this key terminology is subject to differing, and often incorrect, interpretations between teachers.[90] Additionally, there were challenges around understanding and using the "eight key principles" which were supposed to inform curriculum making (cross-curricular issues such as sustainability, enterprise, and globalisation).[91] Only a third of schools in one study had evidence to suggest that these principles were highly evident in their curriculum documents, with limited monitoring of whether classroom practice delivered on this – highlighting the degree of inconsistency in practice.[92]

Interviewee evidence for Wales suggested that curriculum reforms intended to promote a "process-oriented curriculum" that emphasises student-centred and individualised learning

[88] Education Scotland (2024).
[89] Zhu et al. (2024).
[90] Sinnema (2007); McGee et al. (2010).
[91] Te Mahau (2007).
[92] Education Review Office (2012).

has contributed to teacher confusion regarding the nature of this approach. This was similar to interviewee evidence from France which noted difficulties experienced by teachers in understanding how to implement and assess cross-curricular competencies.

In Estonia, teachers indicated that the abstract nature of curriculum language around the addition of competencies and cross-curricular themes, combined with a lack of preparation and skill to exercise their autonomy over the teaching of these competencies, contributed to heavy workloads and overwhelming individual responsibility in school-level curriculum design.[93]

Interviewee commentary from Ontario further highlighted the challenges faced by teachers navigating the volume of curriculum requirements, who sometimes resort to foregoing teaching trans-disciplinary topics and skills learning in an effort to "tick-off" curriculum requirements.

This is further compounded by the challenge of how these skills could, or should, be assessed. This was evident in Ontario, where a lack of emphasis on how to assess for these competencies in initial teacher education programs was seen as a barrier to implementation.[94] The challenges of teaching and assessing these skills was also highlighted in Finland, where teachers also reported confusion, partly due to the lack of concrete assessment tools for assessing the competencies set out in the curriculum.[95]

4.5.3. '21st-Century' pedagogies and their perceived effects

Despite challenges with implementing '21st-Century' or 'innovative' pedagogies or approaches, some jurisdictions were able to do so, with mixed effects. A report of positive effects of an innovative transition year in one country is contrasted with reports from two countries of exacerbated student inequality.

In Ireland, an inspectors report found that the optional transition year – in which 15-year-old students have a flexible and more student-led curriculum – supports key cross-curricular skills such as communication, collaboration, creativity, and critical thinking.

However, it was suggested elsewhere that when it was part of the main curriculum, a requirement to teach via so-called 'innovative' pedagogies may contribute to student inequity. This was a view held by a small group of Finnish teachers – the only system in our sample where teachers were not otherwise constrained by teaching for external tests. These concerns centred around how the shift towards student-centred and open-ended inquiry-based pedagogy may contribute to lower performance for less motivated or less supported students. It was suggested that this open-ended approach was contingent on students' capacity to work independently, with less motivated and/or skilled students using this

[93] Erss et al. (2014).
[94] Merchant et al. (2022).
[95] Karlsson (2017); interviewee evidence.

flexibility to engage in work avoidance.[96] In a separate survey of Finnish teachers, 61% of teachers said they believed achievement gaps were widening due to the new curriculum.[97]

Similar observations regarding student equity were made in Japan, but this time within the context of the interdisciplinary 'Integrated Studies' time in secondary schools. Here students' and teachers' perceptions about the value of interdisciplinary learning varied, depending on the academic ability of the students.[98] As was suggested to be the case in Finland, academically struggling students in Japan found it challenging to navigate the self-directed nature of Integrated Studies, and repurposed the time to "socialise, doodle, or sleep".[99]

4.6. Policy coherence between curriculum and other policy areas

There was variation across the jurisdictions studied with regard to the degree of alignment between curriculum and related policy areas, such as assessment, accountability, pedagogy, and initial teacher training (ITE).

4.6.1. Structural conditions related to policy coherence

Some jurisdictions, such as Singapore and Wales, were seen to have a higher degree of coherence between curriculum policy and other domains – attributed in Singapore and Wales' case partly to the smaller size of both jurisdictions – which enables active engagement with a limited number of local authorities. This was reinforced in Singapore by a strong cultural emphasis on efficiency and uniformity.

Policy coherence was also evident in France, where state centralisation is a strong Republican feature, suggesting that centralisation can be a key factor in ensuring coherence (though not on its own sufficient to guarantee it). However, the evidence also showed that centralisation is *not* a prerequisite for coherent policymaking. Less centralised systems, such as Poland and Finland, also exhibit strong alignment between curriculum and some policy areas, including pedagogy, teacher evaluation, and teacher training. Furthermore, even highly centralised systems such as Japan could experience limited coherence, as suggested by evidence of poor alignment between curriculum, teacher training, pedagogy, and teacher evaluation.

Additionally, even in systems with evidence of policy alignment, a lack of clarity in supporting materials or resourcing could undermine this coherence, as observed in France and, to a lesser extent, in Ontario.

[96] Karlsson (2017).
[97] Ibid.; Kallunki (2019).
[98] Bjork (2009).
[99] Ibid.

Table 12: Coherence between curriculum and related policy areas, by country (from CUPA cross-jurisdiction report)

Coherence between curriculum and..	Assessment	Pedagogy	Teacher training	TLMs	Teacher evaluation
England	National assessment is linked to the curriculum and this is stronger in certain subjects.	Pedagogical approach is not specified for the majority of subjects.	Curriculum is embedded in ITT. Provision of CPD is fragmented and less overtly aligned to curriculum.	Assessment papers & exam papers are the key TLMs used in schools. There is a gradual adoption of textbooks related to curriculum	Via Ofsted, which has improved mapping of inspection and evaluations to the demands of the curriculum since 2019.
Scotland	Assessment widely considered not coherent with CfE.Qualifications have significant backwash into previous phases of education.	Not covered in the report.	Not covered in the report.	Textbooks are available but are not endorsed or quality-assured. There is variation in how coherent these teaching and learning materials are with the curriculum.	Not covered in the report, evaluations are done at school level by HMIE.
Wales	National Qualifications support the aims of CfW, although descriptions of progression can be high-level and hard for teachers to implement.	Explicit link between curriculum and pedagogy stipulated, with guidance for teachers on pedagogical principles best suited to support the curriculum and students.	Despite CPD being launched to support the curriculum reforms, schools reported a need for further professional learning to support curriculum progression and design. Uneven access to CPD and new approaches to training has led to a lack of coherence and left some teachers feeling disempowered.	No state approved textbooks, educational resources on Hwb website aligned to the curriculum to support teachers & learners.	Estyn focuses on school inspections rather than evaluation of specific teachers but the the Estyn website supports teachers in self-evaluation
Northern Ireland	Product/outcome-based exams conflict with the process-based learning of the curriculum.	Alignment between the curriculum and pedagogy not yet cemented, with inspections focused on pedagogical delivery to support the curriculum often viewed as undermining teacher autonomy.	Need identified for more cohesive teacher training to support professional development. While teacher training has been aligned to the curriculum, this has been criticised as insufficient for	Curriculum is process-driven and adaptive but identified lack of resources available for teachers to supplement delivery of curriculum.	Not covered in the report.

			professional development needs.		
Ireland	Weakened by legacy subject syllabuses that focus on content rather than clearly defined learning outcomes.	The breadth and detail of the curriculum has made it challenging to enact recommended, flexible pedagogical approaches in the classroom. A clear need to increase the use of innovative, active teaching approaches to support the curriculum.	ITT programmes geared towards curriculum design, pedagogy and teaching methodologies relevant to the national curriculum in their field. This QA model has been criticised for being too prescriptive and misaligned to the curricular autonomy of teachers.	Lack of coherence as textbooks are the choice of individual teachers and books are still seen as the drivers of education and more powerful than the curriculum in shaping what is taught.	School Self-Evaluation for QA, working alongside external inspections, although little focus on individuals and no accountability means implementation varies, which weakens coherence.
France	Teachers lack resources on how the essential competencies link to assessment.	Not covered in the report.	The CSP is responsible for ensuring teacher training is aligned to the curriculum.	Publishers reliably align textbooks, which are state provided but not state approved, with the curriculum.	Not covered in the report.
Netherlands	End of primary exams only test maths and literacy, narrowing focus and weakening alignment. Syllabi for secondary organised by subject with no overall rationale.	Freedom for schools to use their own pedagogical principles to deliver the curriculum. While an 'authentic pedagogy' has been recommended in curriculum reviews to better support the curriculum, this has not been adopted consistently across schools.	Teacher training competencies are linked to supporting student learning geared to the curriculum and to developing appropriate teaching methods to support the curriculum.	Textbooks trusted and seen as the basis of what is taught – they essentially are the 'curriculum'. New 2025 curriculum calls for greater coherence on what content should be taught.	No information found for the report.
Poland	National assessments are arranged in alignment with the knowledge and skills specified in the curriculum.	Clear alignment of curriculum and pedagogy in areas emphasised as a priority in the curriculum intended to increase pupil agency and participation, such as creative thinking.	No information found for the report.	No information found for the report.	Teacher appraisals are carried out by the Ministry and adherence to the curriculum is a criterion in that appraisal.
Estonia	Mis-aligned accountability practices can hollow out constructivist, learner-centred intentions.Leaving can "drive teaching and inadvertently …	Teachers find it difficult to reconcile the curriculum's values with pedagogical approaches that will encourage formative learner-centred	Lack of coherence observed in curriculum thinking in teacher training. Teachers often have theoretical knowledge but little support for putting a	Lack of materials to support the curriculum. Reliance on legacy textbooks, in which the content and methodology does	Teachers' performance pay is linked to exam scores. Intense focus on outputs and centralised accountability measures with too much

	undermine" the wider curriculum	strategies, especially in exam classes where coverage pressures limit the opportunity for the adoption of more flexible pedagogy.	competence-based curriculum into practice. CPD on curriculum design and progression is not of a consistent standard.	not align with the aims of the current curriculum.	paperwork attached can impede curricular intent.
Finland	Alignment in principle but achieving practical coherence has proven difficult. Teachers initially found the integration of formative assessment with transversal competencies confusing	While the curriculum provides recommendations for pedagogical approaches, teachers have the autonomy to select the most suitable approaches for their students that will encourage the active and self-regulated learning strategies targeted in the curriculum.	Explicit aim of teacher education is to support and complement the national curriculum. Changes in curriculum policy are accompanied by parallel changes in teacher education and training, so teachers have the knowledge and skills to implement the vision of the curriculum.	Schools autonomous in deciding on LTMs. Approved textbooks to support the curriculum abolished in 1994. Can lead to variable outcomes.	No formal inspectorate in the Finnish education system. Instead, Finland relies on what has been termed "intelligent accountability" which is reciprocal and trust-based. Implementation and amount of feedback teachers receive can vary.
Japan	Assessments are designed to reflect curriculum content and are increasingly aligned with international benchmarks. Implementation can suffer from lack of teacher support.	Although the curriculum outlines recommended pedagogical approaches, supported by training initiatives, there remains a disconnect between the emphasis on communicative pedagogical strategies outlined in the curriculum and classroom practice where a lack of teacher autonomy is still observed.	MEXT deploys curriculum specialists and provides training materials to support implementation. However, there seems to be a disconnect between policy and practice. Teachers often lack sufficient training and support, with professional development delivered in ineffective formats and rarely incentivised.	Textbooks explicitly approved on the basis of their alignment with the curriculum. Local education boards and schools choose from approved books for their classes.	While evaluation mechanisms exist, such as annual reviews and performance metrics tied to student outcomes, these often contribute to teacher stress rather than meaningful pedagogical improvement
Singapore	Strong coherence between curriculum and assessment. SEAB work closely with MOE to ensure that assessment policies reflect curriculum goals.	NIE works in close partnership with the MOE and schools, ensuring that teacher preparation is directly informed by pedagogical frameworks.	The NIE and MOE developed the Teacher Education Model for the 21st Century, which aligns teacher training with the curriculum.	Textbooks state-approved and widely used but selected by schools who consider their suitability for supporting the curriculum.	No accountability measures suggested in the report, but teaching is a highly competitive field with huge amounts of public resource put into training.
Ontario	Provincial assessments, administered by the EQAO are designed to be directly aligned	Curriculum outlines learning goals and advocates teachers and students coming to a	Teachers are well supported by the unions and teaching federations who have played	Textbooks approved by MoE on the basis of their supporting >85% of the curriculum –	Teachers go through appraisals every 5 years, based on a list of

	with the curriculum and measure the outlined learning expectations.	common understanding on student-focused approaches best placed to achieve them. Teachers can choose pedagogical strategies but are encouraged to engage in professional collaboration to refine and align strategies.	an important, and effective, role in curriculum implementation, largely through the resources, AQs and other additional learning that they enable teachers to undertake.	assuring alignment of the curriculum with teaching & learning resources.	competencies which facilitate curriculum coherence.
New Zealand	The New Zealand Curriculum explicitly states the link between teaching, learning, and assessment. NCEA (which are being replaced) are designed to align to the curriculum although they were designed before the curriculum. Curriculum refreshes have talked about improving articulation of assessment targets.	Pedagogical creativity is coherent with the curriculum making coherence difficult to determine. Some specific approaches (e.g. teaching as inquiry) are promoted in the curriculum. Monitoring reports during implementation suggested these are applied with variable understanding and success.	As with pedagogy, teacher educators have interpreted the curriculum as promoting varied approaches. External factors reportedly prevent them for innovating. Recent TALIS data suggests that most graduate teachers are not confident in teaching the curriculum.	There is no Ministry endorsement of textbooks in New Zealand. In secondary schools, textbooks are more commonly described as aligned to assessments. They are popular in lower secondary classes where they reportedly provide a guide to structuring the curriculum.	Teacher appraisals were replaced in 2020. Some have criticised this as a missed opportunity to maintain coherence. The standards used in the Professional Growth Cycle require “a thorough knowledge of curriculum content […]”. Outcomes used in ERO school evaluations are “derived from” the curriculum.

4.6.2. Alignment between curriculum, assessment, accountability, and ITE

In England, a partial degree of coherence indicated that alignment between curriculum, assessment, and teacher evaluation was a significant determinant of system-wide perceptions of coherence, even if alignment with other policy areas was weaker.

In contrast, Northern Ireland, Scotland, and Japan were viewed as having poor policy coherence, particularly between curriculum and assessment. This misalignment created competing pressures on what was taught in schools, with examinations – rather than curriculum – shaping practice.

In systems with limited coherence across domains, such as Scotland and Estonia, efforts to give teachers greater autonomy through flexible curricula were undermined by the combination of high output regulations – such as inspections, examinations, and attainment data – with fewer input regulations. This dynamic rendered autonomy largely ineffective in practice.

The alignment of curriculum and ITE also shaped coherence. The contrast between Singapore and New Zealand highlighted the importance of ITE that is effective and aligned with curriculum intentions for promoting curriculum fidelity.

Similarly, contrasting approaches between England and Scotland demonstrated the impact of accountability models on curriculum fidelity. In Scotland, an outcomes-focused accountability framework drove stronger emphasis on examination preparation, while in England accountability was seen to be closely aligned with curriculum implementation, because of the focus on this within the inspection framework.

4.6.3. Effects of policy coherence or misalignment on teacher practice and curriculum fidelity

Policy coherence was a key determinant of teachers' understanding of the curriculum and therefore curriculum fidelity. Where systems had strong coherence/alignment across curriculum and other policy areas – such as Singapore – teachers were better able to implement curriculum intentions consistently. By contrast, misalignment in systems such as Scotland and Estonia contributed to weakened curriculum fidelity, as teachers responded to conflicting pressures between curriculum guidance and accountability expectations.

As seen in section 4.5.1 above, in several countries including Scotland and Estonia, a lack of alignment between curriculum intentions and examinations contributed to poor curriculum fidelity and increased emphasis on examination preparation in secondary schools.

Examples from New Zealand further highlighted the importance of alignment with ITE, as insufficient preparation for curriculum expectations undermined teacher confidence and therefore curriculum fidelity.

4.7 References

Where claims are not referenced in the text, this is because they are drawn from descriptions in the underlying CUPA reports or tables, or earlier sections in the full report.

Alansari, M., et al. (2022). *Secondary teachers' perspectives from NZCER's 2021 National Survey of Secondary Schools*. NZCER. https://doi.org/10.18296/rep.0022

Bjork, C. (2009). Local implementation of Japan's Integrated Studies reform: a preliminary analysis of efforts to decentralise the curriculum. *Comparative Education, 45*(1), 23–44. https://doi.org/10.1080/03050060802661386

Cowie, B., et al. (2009). *Curriculum Implementation Exploratory Studies*. Ministry of Education (New Zealand). https://thehub.sia.govt.nz/assets/documents/42421_CIESs_0.pdf

Crehan, L. (2025). *A Strategic Review of the Northern Ireland Curriculum: A Foundation for the Future*. Department of Education (NI). https://www.education-ni.gov.uk/publications/ni-curriculum-review

DeCoker, G. (2006). Japan's Schools: Myths, Realities, and Comparisons with the United States. *Education about Asia, 11*(2), 30–34. https://www.asianstudies.org/publications/eaa/archives/japans-schools-myths-realities-and-comparisons-with-the-united-states/

Dunn, J. (2015). Critical Thinking in Japanese Secondary Education: Student and Teacher Perspectives. *Critical Thinking and Language Learning, 2*, 29–39. https://www.researchgate.net/publication/309634759_Critical_Thinking_in_Japanese_Secondary_Education_Student_and_Teacher_Perspectives

Education Review Office. (2012). *The New Zealand Curriculum Principles: Foundations for Curriculum Decision-Making*. https://www.ero.govt.nz/sites/default/files/2021-05/Curriculum-Principles-2012.pdf

Education Scotland. (2024). *Background and a Case for Change: Findings from the Pilot Curriculum Reviews 2023/24: A Discussion Paper*. https://blogs.glowscotland.org.uk/glowblogs/public/cices/uploads/sites/10666/2024/11/13214842/CIC-A-CASE-FOR-CHANGE-PILOT-CURRICULUM-REVIEWS141124.pdf

Erss, M., et al. (2014). Teachers' Views of Curriculum Policy: The Case of Estonia. *British Journal of Educational Studies, 62*(4), 393–411. https://doi.org/10.1080/00071005.2014.941786

Erss, M., Kalmus, V., & Autio, T.H. (2016). 'Walking a fine line': teachers' perception of curricular autonomy in Estonia, Finland and Germany. *Journal of Curriculum Studies, 48*(5), 589–609. https://doi.org/10.1080/00220272.2016.1167960

Evans, G. (2023). *A new dawn or false hope? Exploring the early implementation of Curriculum for Wales*. Education Inquiry. https://doi.org/10.1080/20004508.2023.2297506

Gallagher, C., Hipkins, R., & Zohar, A. (2012). Positioning thinking within national curriculum and assessment systems: Perspectives from Israel, New Zealand and Northern Ireland. *Thinking Skills and Creativity, 7*(2), 134–143. https://doi.org/10.1016/j.tsc.2012.04.005

Greenhill, R. (2024). *Five expert views on Poland's new 'slimmed down' school curriculum*. Notes from Poland. https://notesfrompoland.com/2024/07/19/five-expert-views-on-polands-new-slimmed-down-school-curriculum/

Hamlin, D. and Cameron, D. (2015). *Applied or Academic: High Impact Decisions for Ontario Students*. People for Education. https://peopleforeducation.ca/wp-content/uploads/2017/07/Applied-or-Academic-Report-2015.pdf

Hargreaves, E., Quick, L., & Buchanan, D. (2023). National Curriculum and Assessment in England and the continuing narrowed experiences of lower-attainers in primary schools. *Journal of Curriculum Studies, 55*(5), 545–561. https://doi.org/10.1080/00220272.2023.2253455

Hashimoto, A. (2004). Power to the Imagination. *Asia Program, 121*, 9–12. https://www.wilsoncenter.org/sites/default/files/media/documents/publication/asiarpt121.pdf

Ho, G. (2023, March 28). Time to do away with stigmatising academic labels like Normal and Express. *The Straits Times*. https://www.straitstimes.com/singapore/politics/time-to-do-away-with-stigmatising-academic-labels-like-normal-and-express

Ittoku, T. (2020, May 26). Transforming Japan's Conformist Education System. *Nippon*. https://www.nippon.com/en/japan-topics/g00831/

Jakubowski, M., et al. (2010). *The Impact of the 1999 Education Reform in Poland*. World Bank. https://doi.org/10.1596/1813-9450-5263

Jensen, B., et al. (2023). *Fixing the hole in Australian education: the Australian curriculum benchmarked against the best*. Learning First. https://learningfirst.com/wp-content/uploads/2023/11/FULL-REPORT-COMBINED.pdf

Johnson, P., Freemyer, J.V., & Fitzmaurice, O. (2019). The Perceptions of Irish Mathematics Teachers Toward a Curriculum Reform 5 Years After Its Implementation. *Frontiers in Education, 4*. https://doi.org/10.3389/feduc.2019.00013

Kagohashi, T. (2010, January 1). 21st century skills and learning in Japan: Will Japanese school children be equipped to thrive in the 21st century? *Child Research Net*.

Kallunki, E. (2019, January 21). Opetuksen uudistus on lisännyt tasoeroja luokassa, sanovat opettajat Ylen kyselyssä – "Heikoimmat tipahtavat kärryiltä, lahjakkaat ja viitseliäät tekevät ryhmätyöt". *Yle*. https://yle.fi/a/3-10606166

Karlsson, P. (2017). *Teachers' Perspectives on the National Core Curriculum of Basic Education 2016* [MA thesis]. Aalto University.

https://aaltodoc.aalto.fi/server/api/core/bitstreams/990db9a9-e3a3-4490-ba35-7d311304cb90/content

Kimie, I. (2023, April 11). Japanese Teachers at the Breaking Point: Long Hours Blamed for Growing Shortage (trans. Masatoshi, S.). *Nippon*. https://www.nippon.com/en/in-depth/d00887/

McGarr, O., et al. (2023). *Exploring the introduction of the Framework for Junior Cycle: A longitudinal study. Interim report No. 2*. University of Limerick. https://doi.org/10.34961/researchrepository-ul.22656892.v1

McGee, C., Cowie, B., & Cooper, B. (2010). Initial teacher eduction and the a New Zealand curriculum. *Waikato Journal of Education*, *15*(1). https://doi.org/10.15663/wje.v15i1.120

Merchant, S.D., Klinger, D., & Kirby, J. (2022). Assessing Learning Skills and Work Habits: What Do Report Card Data Tell Us? *Canadian Journal of Education / Revue Canadienne De l'éducation, 45*(3), 670–702. https://doi.org/10.53967/cje-rce.v45i3.5191

Nehring, J.H., & Szczesiul, S. (2015). Redefining high performance in Northern Ireland: Deeper learning and twenty-first century skills meet high stakes accountability. *J Educ Change, 16*, 327–348. https://doi.org/10.1007/s10833-015-9250-8

Neuman, L. (2013). Review: Japanese Education in an Era of Globalization: Culture, Politics, and Equity. *Education about Asia, 19*(1). https://www.asianstudies.org/publications/eaa/archives/japanese-education-in-an-era-of-globalization-culture-politics-and-equity/

OECD. (2016). *Netherlands 2016: Foundations for the Future, Reviews of National Policies for Education*. https://doi.org/10.1787/9789264257658-en

OECD. (2018). *Education Policy in Japan: Building Bridges towards 2030*. https://doi.org/10.1787/9789264302402-en

OECD. (2020b), *Curriculum Overload: A Way Forward*. https://doi.org/10.1787/3081ceca-en

OECD. (2021b). *Scotland's Curriculum for Excellence: Into the Future*. https://www.oecd.org/content/dam/oecd/en/publications/reports/2021/06/scotland-s-curriculum-for-excellence_9de88365/bf624417-en.pdf

Ofsted. (2018). *An investigation into how to assess the quality of education through curriculum intent, implementation and impact Phase 3 findings of curriculum research*. https://assets.publishing.service.gov.uk/media/5fb3e55fe90e07208fd2cb85/Curriculum_research_How_to_assess_intent_and_implementation_of_curriculum_191218.pdf

Ofsted. (2025). *To what extent has curriculum quality changed in schools since the introduction of the education inspection framework?* https://www.gov.uk/government/publications/curriculum-quality-evaluating-the-impact-of-

the-education-inspection-framework/to-what-extent-has-curriculum-quality-changed-in-schools-since-the-introduction-of-the-education-inspection-framework

Park, H. J., & Lee, T. J. (2013). Growing educational inequality in Japan during the 2000s. In G. DeCoker & C. Bjork (Eds.), *Japanese Education in an Era of Globalization* (pp. 147-169). New York: Teachers College Press.

Paxton, S., Yamazaki, T., & Kunert, H. (2022). Japanese University English Language Entrance Exams and the Washback Effect: A Systematic Review of the Research. *Journal of Pan-Pacific Association of Applied Linguistics, 26*(2), 1–20. https://eric.ed.gov/?id=EJ1414438

Priestley, M., et al. (2021). Curriculum Making: A Conceptual Framing. In: Priestley, M., et al. (Eds.), *Curriculum making in Europe*. Emerald Publishing. https://doi.org/10.1108/9781838677350

Priestley, M., et al. (2025). *Curriculum and assessment design and pedagogy in the Curriculum for Wales: a qualitative study*. Welsh Government. https://www.gov.wales/curriculum-and-assessment-design-and-pedagogy-curriculum-wales-qualitative-study (accessed 24 November 2025).

Scottish Government . (2025). Summary Statistics for Attainment and Initial Leaver Destinations, No. 7: 2025 edition. https://www.gov.scot/publications/summary-statistics-for-attainment-and-initial-leaver-destinations-no-7-2025-edition/

Shapira, M., et al. (2023a). Exploring Curriculum Making in Scottish Secondary Schools: Trends and Effects. *Scottish Affairs* 32(4), 397–424. https://www.euppublishing.com/doi/10.3366/scot.2023.0473

Shapira, M., et al. (2023b). Choice, Attainment and Positive Destinations: Exploring the impact of curriculum policy change on young people. University of Sterling, Nuffield Foundation. https://www.nuffieldfoundation.org/wp-content/uploads/2023/02/CAPD_Main_Public_Report_final_Feb2023.pdf

Sinnema, C. (2007). *Monitoring and evaluating curriculum implementation: Final evaluation report on the implementation of the NZ Curriculum 2008-09*. Education Counts. https://www.educationcounts.govt.nz/publications/schooling2/curriculum/executive-summary

Smyth, E., McCoy, S., & Banks, J. (2019). *Student, teacher and parent perspectives on senior cycle education, ESRI Research Series 94*. ESRI. https://doi.org/10.26504/rs94.pdf

Spurdle, M. (2023). *Tomorrow's teachers: Recruit, (re)train and retain*. Maxim Institute. https://www.maxim.org.nz/content/uploads/2023/09/Tomorrows-Teachers-Recruit-retrain-and-retain_v3.pdf

Takeuchi, M. (2019). Why Has Japanese Educational Reform Come to a De Facto End? *Journal of Education and Learning, 8*(3), 13–20. https://doi.org/10.5539/jel.v8n3p13

Te Mahau. (2007). *The New Zealand Curriculum*. New Zealand Ministry of Education. https://newzealandcurriculum.tahurangi.education.govt.nz/new-zealand-curriculum/5637175326.p

Tielman, K., Wesselink, R., & den Brok, P. J. (2022). Tensions experienced by teachers of Dutch culturally diverse senior secondary vocational education and training: An exploratory study. *International Journal of Training and Development, 26*, 102–119. https://doi.org/10.1111/ijtd.12238

UK Government. (2024). *English Baccalaureate entry and achievement (Oct 2024)*. https://www.ethnicity-facts-figures.service.gov.uk/education-skills-and-training/11-to-16-years-old/english-baccalaureate-entry-and-achievement/latest/

Warnock, S. (2020). *Primary Teacher Burnout: Through the lenses of theory & experience* [Masters' thesis]. Victoria University of Wellington. https://doi.org/10.26686/wgtn.14417660.v1

Zhu, H., et al. (2024). *Generic skills in the 14-19 curriculum: an international review: Ontario international case study*. Sheffield Hallam University, CES. https://www.shu.ac.uk/sheffield-institute-education-research/projects/generic-skills-in-the-14-19-curriculum-an-international-review

Section 5: Overarching Findings

5.1. Introduction

This synthesis brings together the description and analysis in the Purpose and Structure report, Development and Evaluation report, and the Context and Effects report, to identify notable relationships between the different types of curricular approach addressed in these different reports, and the relationships between these types and evidence of effects.

In doing so, it moves beyond the level of what is happening in individual countries, to talk in evidence-informed generalities. These are not intended to be taken as definitive conclusions, or general laws that apply everywhere; rather they express common patterns of findings.

Most of the generalities discussed in this report concern how different approaches to curriculum policy relate to their effects. When effects are reported in the literature, it is not always clear which specific curriculum characteristics caused them. Sometimes teachers, leaders, or policymakers identify particular characteristics of the curriculum that helped or created problems, and we report these; but often the effects arise from the curriculum as a whole, or are reported as such.

To understand this better, we consider:

1. Whether systems with similar curriculum characteristics show similar effects
2. Whether these effects also appear in systems with different characteristics.

When the answer is 'yes' to the first and 'no' to the second, we can begin to identify which curriculum characteristics are most likely causing the effect, especially where a proposed mechanism connects them. This approach is used where possible in the sections that follow.

With the exception of section 5.2 on the relationship between expressed purposes and structure, in each section below, the typologies identified in the comparative report will be briefly described, followed by findings about the effects of the different types – or of the characteristics within them – which were reported in more than one system. Where an effect reported in just one system is helpful for understanding a broader pattern, this is included also.

5.2. The relationship between purpose and structure

Sometimes a significant finding is finding nothing at all. Based on existing literature and global narratives, we had expected to find some pervasive relationships between the expressed purpose of a system-level curriculum, and its structure. In order to find such a relationship, there would need to be meaningful differences in the expressed purposes of the systems studied.

Despite taking three different approaches to analysing the differences between the expressed curricular purposes, we were unable to group our 14 systems on this basis. This is because the vast majority of systems all expressed to a greater or lesser extent the same three or four objectives of their curriculum:

- Academic development
- Preparation for citizenship and work
- Personal development and wellbeing
- Societal change.

This doesn't mean that all the expressed purposes were the same; some systems placed more emphasis on one than another, or occasionally did not give attention to one or two purposes at all.

Although we therefore aren't able to group systems into different types based on expressed purpose, and link these types to different structures, we can point out some individual instances where variability in a system appears to relate to its structure:

- England's 2014 curriculum purposes focus on academic development and citizenship, and do not mention personal development and wellbeing, or social reconstruction. In its structure, it is specific about knowledge, and is one of only a few systems with very little focus on cross-curricular components.
- By way of contrast, Northern Ireland's objectives from its 2007 curriculum mention three out of the four purposes, excluding mention of academic development. Its structure is non-specific, and it has a substantial focus on cross-curricular components.
- Despite these two contrasting purposes and structures, it cannot be said either that specific knowledge features more commonly in countries which include academic development as part of their expressed curriculum purpose, nor that a focus on the cross-curricular is more common in those that don't (nor should it be assumed that such a relationship would be expected or logical).
- One final small-scale relationship that may be notable is between Singapore's and the Netherlands' lack of mention of social change in their purposes (often expressed as a focus on improving equity in other systems), and their system structures that track students onto different curriculum pathways at a relatively young age.

5.3. Common provision vs. student choice or selection

One significant way in which systems differ is the extent of commonality in the subjects and courses young people study. This breaks down into three considerations: the age at which a common curriculum is replaced by student choice or selection; the extent to which systems mandate the time to be spent on different subjects during that common curriculum; and the extent of student choice over subjects or courses once that common curriculum ends.

These three variables allow us to group systems in to three main types, with other systems falling between the two.

Systems which prioritise early differentiation by choice: These countries prioritise curricular differentiation via student choice over the subjects chosen and the pathway taken at a younger age than other systems (typically 14). They also leave more autonomy to schools for how long to spend on each subject (especially so in the UK). *Includes England, Northern Ireland, Ireland, Scotland, Wales.*

Systems which prioritise early differentiation by selection: These countries prioritise curricular differentiation via selection over the pathway taken at a younger age than other systems (with selection at 12). They vary over whether the time spent on each subject is mandated. *Singapore and the Netherlands.*

Systems which prioritise common provision: These countries prioritise a common, broad curriculum for longer, delaying student choice over subjects or pathways until students are 15 or 16, and often continuing to mandate the study of particular subjects within some streams until the end of compulsory education. They are more likely to mandate the amount of time spent on each subject too. *Includes Finland, Estonia, Poland, Japan*.

5.3.1. Cross-country findings relating to these choices:

- Systems which track students into different pathways to study different curricula at a relatively early age, based on attainment or teacher advice, tend to have a disproportionate number of students from a disadvantaged social background being tracked into less academic pathways. Relatedly, they have a greater performance gap between more and less advantaged students than most other systems (Netherlands and Singapore).
- In those countries which prioritise differentiation via student choice, this still tends to lead to more students from disadvantaged backgrounds making (or being advised to make) choices which result in a narrower curriculum, and/or choosing courses which limit their future options. This effect is exaggerated in (but not dependent on) contexts where schools serving more disadvantaged populations offer a narrower range of choices for students to choose from (England, Northern Ireland, Scotland).
- In contrast, by definition, countries which prioritise common provision of a broad range of subjects for a longer time (until 15/16), and mandate all students to study this curriculum, have students from different backgrounds all studying a broad general curriculum for longer. We found little evidence on the effects of this approach, but a Polish reform which extended the general education curriculum by one year was linked to increases in student performance, and Finland, Japan, and Estonia (but not Poland) have some of the lowest variance in performance that is explained by socio-economic background (Finland, Estonia, Poland, Japan).

5.4. The amount of content in the curriculum

Our study methods did not allow for a comparison of the amount of content in the curriculum, but the comparative report and evidence synthesis identified this as being an important variable which makes a difference to how the curriculum functions.

There are three possibilities here, all of which are partially subjective judgments (as they relate to how system-level curricula are experienced), but which can be triangulated with evidence of the relative amounts of content in different curricula. These possibilities are:

Curriculum overload: When there is too much content in the curriculum for teachers and students to teach and learn, respectively.

Focus: Refers to "the extent to which attention is concentrated on a relatively limited number of topics at each grade level, avoiding the inclusion of many topics that can only be treated superficially".[100]

Curriculum underload: When there isn't enough content in the curriculum to support entitlement or equity (see effects, below).

5.4.1. Cross-country findings relating to these choices:

- Curriculum overload was experienced in relation to different types of system-level curricula, and can be thought of as having three distinct causes.
    - Some curricula (e.g. the English science curriculum) are overloaded as a result of having too much specific content.
    - Others (Finland and Northern Ireland) were experienced by teachers as overloaded on account of a lack of specificity on what was to be taught, leading to
        - teachers and leaders interpreting ambiguous curriculum statements as requiring a wide range of content and experiences in local curricula, and/or
        - leaving enough ambiguity for local or national government to put additional expectations on schools in response to societal issues, without changing the framework.

- The effects of overload included curriculum narrowing in several countries, in which schools focused more time and attention on 'core' subjects, and less on the full breadth of the curriculum. One study found this narrowing affected the engagement of some students, and another that attempting to cover all the topics in an overly-full curriculum could further disadvantage lower-performing students, due to the

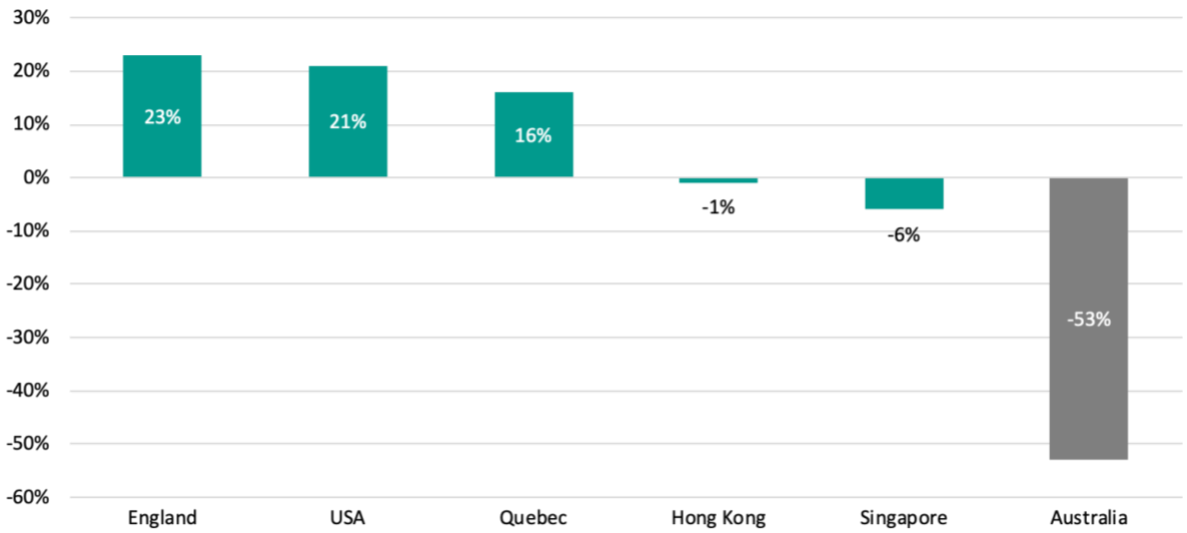
[100] Schmidt et al. (2005).

inappropriate pace. A related effect of curriculum overload was a negative impact on teacher wellbeing.

- In an international study of the curricula of countries participating in the TIMSS test, researchers found 'focus' (as defined above) to be a common feature of high-performing mathematics and science curricula, which lower performing curricula did not share. This feature requires specificity about what topics are included, but specificity alone is not sufficient, as there is still the possibility of either too much or too little content being specified.
- Specifying too little in the curriculum (curriculum underload) can have negative effects on equity. In Japan, slimming down the curriculum reinforced inequities between students, as in the context of exams that determined future opportunities, more advantaged students made up for the missing content outside of school. In the very different context of Australia, a lack of depth and breadth in the content in the science curriculum (partly on account of the lack of specificity) was suggested to relate to both declining performance and increasing inequities.

Although not generated by this study, the following diagram can be helpful in illustrating the 'sweet spot' of a 'focused' curriculum, alongside the ways in which the amount of content can go wrong. Singapore is the highest performer in science in the world, and has significantly less content in its science curriculum than England (specific but overly full), but more than Australia (unspecific and lacking in both depth and breadth).

Figure 9: Percentage of science content in system curriculums compared to the average, from Foundation to Year 8.[101]



Science curriculum content: Jensen et al. 2023

[101] Jensen et al. (2023).

5.5. The level of specificity in the curriculum

Education systems vary significantly with respect to how specific they are in the expression of curriculum content. To illustrate the extent of these differences, here are two curriculum statements about music from Wales and from Estonia, from the parts of the curriculum which would include most 9–10-year-olds.

> Wales: "I can draw upon my familiarity with a range of discipline-specific techniques in my creative work".
> Estonia: "Create rhythmic-melodic improvisations, accompaniments or ostinato on body percussion, rhythm instruments, xylophones and digital media; perform them alone or in a group."

For this project, curricula have been categorised based on the specificity of curriculum statements for science and music, at primary and secondary. This gave a rating from 1 to 5. To create a typology relating to specificity as experienced by teachers, we also took into account whether or not the system had government-approved lists of textbooks and teacher guides, and/or specific content-linked assessment statements (as these can act as de facto curriculum statements if they are more specific than the curriculum itself).

This led to a broad distinction between the following types:

Lower-specificity systems: Curriculum statements that include mainly high-level concepts and areas, and that are less likely to include specific concepts, content, and pedagogy than in other systems. These systems do not have state-approved textbooks, and specific assessment statements are less common. *Includes Wales, Netherlands, Northern Ireland, New Zealand, Scotland, Finland.*

Higher-specificity systems: Curriculum statements more likely to include specific concepts, content, and pedagogy, and these systems are also more likely to have state approved textbooks, and/or specific assessment statements. *Includes Estonia, Singapore, England (Science), Poland, France, Ireland, Ontario, Japan.*

Almost all of the evidence relating to the degree of specificity was in relation to the effects of lower-specificity curricula, with lots of overlapping findings coming from the countries of this type. The only evidence identified that spoke to either the positive or negative effects of having a more specific curriculum was from Ontario, so this is shared below.

5.5.1. Cross-country findings relating to these choices:

- In Ontario, broad "overarching expectations" in the curriculum were complemented by more defined, yet not mandated, "specific expectations". This was seen as a balance in which experienced teachers could exercise autonomy by following the overarching expectations whereas less experienced teachers could use the specific expectations to help guide their curriculum delivery (Ontario).

- In low-specificity systems, there were commonly reports of teachers finding the curriculum 'vague' and confusing, and as a result, this leading to significantly different interpretations of the curriculum in different schools (Finland, Wales, New Zealand, Northern Ireland, the Netherlands).
- On a more positive note, the flexibility inherent in curriculum statements that are more open to interpretation was sometimes reported by teachers and school leaders as being a strength of the curriculum, as it allowed them to adjust what they were teaching to suit the particular needs and interests of the children in their school, and subsequently, to better engage the children in their learning, and in Wales, to give them greater ownership of their learning (Wales, Northern Ireland).
- In some systems, a less-specific curriculum was associated with increased teacher workload and stress, arising from the need for teachers to develop their own curriculum and curriculum resources. This was exaggerated in contexts where the curriculum was seen as complex, and the support decentralised (New Zealand, Northern Ireland, Finland).
- In some systems, some teachers and school leaders reported concerns that a lack of specificity in the curriculum was leading to inequalities between schools. The suggested mechanism was that low-specificity system-level curricula required significant time, capacity, knowledge, and resources of teachers and leaders in order for them to design a curriculum at the school level, and that this resource was unequally distributed between schools (Wales, Finland, New Zealand).
- In low-specificity systems, teachers and school leaders also observed that the lack of specificity was leading to inequalities between students via two other mechanisms, further disadvantaging those who were already disadvantaged:
    - One suggested mechanism was that the lack of specificity around knowledge led to gaps in children's understanding, which could not be filled as easily by those with more disadvantaged home lives (Wales).
    - Another possible mechanism was demonstrated by research in New Zealand, which found that the lack of specificity allowed for teachers in more disadvantaged schools to have lower expectations of those children (New Zealand).

It is important to note that there is variability in the curricula taught in different schools in every country, as even the most specific system-level curricula leave room for interpretation at the level of the school. The evidence above therefore relates to the degree of variability between schools, not its existence.

Whether or not variability is characterised by inequality between schools, or just differences in localised school curriculum content that is of a consistent standard, the level of variability caused by low-specificity curricula has also been found to have various additional effects on student progression. This will be addressed in the next section.

Why does a lack of specificity lead to disrupted progression?

Vertical coherence is feature of a curriculum that "refers to the degree to which topics are logically sequenced and connected across grades so that earlier learning provides the foundation for later learning".[102] It is recognised to be supportive of the development of student understanding – in other words, student progression. Vertical coherence requires a degree of specificity, especially across transitions between schools or phases, as if earlier curriculum statements are open to significant interpretation, there is no guarantee that children have had the opportunity to learn the relevant requisite foundations that they need for future learning.

5.6. Approaches to conceptualising student progression

Two different but related curriculum features have effects on student progression, and/or teachers' understandings of it. The first is the degree of specificity articulated in a curriculum, which is set out in the section above. The second is the conceptualisation of progression within the curriculum and wider system, which has effects on the actions taken by schools.

We identified two main conceptualisations of progression. As with other typologies, some systems are well represented by one or other type, and others have some features of both.

Curriculum as the progression model: This conceptualisation sees progression as mastering the knowledge and skills in the curriculum, year on year, or stage by stage. The curriculum is the progression model, because if a child successfully masters the curriculum at each stage, they are making progress. *Includes Singapore, Estonia, Poland, England, Finland.*

Progression through continuous levels: This conceptualisation sees progression as students developing in relation to broader outcomes, which are dissociated from school years or stages. These are usually expressed as levels or steps which are continuous, and increase numerically as students move through them at different rates. *Includes Wales, Scotland, Northern Ireland, New Zealand.*

There is considerable overlap between systems which understand progression as movement through continuous levels, and those which have lower-specificity curricula: Wales, Scotland, Northern Ireland, and New Zealand are in both groups. One reason for this approach as articulated in some of these systems is that this flexibility of both content and pace is more inclusive for students with SEND.

[102] Schmidt et al. (2005).

This combination of a lower-specificity approach and a conceptualisation of progression as movement through continuous levels is logical, as this understanding of progression is relaxed about children having different levels of knowledge and skill within the same year group, and therefore the lack of specificity within the curriculum is designed to allow teachers to interpret statements in a way that matches the varied knowledge and skill of their students. There are no systems in our sample which take this approach to progression, and have more specific curricula.[103]

Due to this overlap, it is difficult to completely separate out the relative effects of the lower-specificity curricula, and of progression being conceptualised as continuous levels. They are therefore presented together below, with one or other feature highlighted where there is a source or a feasible mechanism to disaggregate their effects.

5.6.1. Cross-country findings relating to these choices:

- A common finding in all four of the systems with both low specificity of curricula statements, and a 'continuous levels' conceptualisation of progression, was that student progression was disrupted at transitions between different schools, or stages of schooling. This was on account of the significant variation in what students had learned in different schools, leading to little common ground on which their new teachers could build. This was reported to lead to unhelpful repetition for some students, and gaps in learning for others (Wales, Scotland, Northern Ireland, New Zealand).
- In some of the same countries, teachers were reported to be struggling with a lack of clarity around progression, and the assessment and reporting of student progress. In Northern Ireland, this was a part of what led to teachers not assessing students against levels. In Scotland, this confusion led to the introduction of more specific assessment benchmarks. In Finland, confusion over assessment of their lower-specificity curricula has led to the ongoing development of more concrete tools. And in Wales, an interviewee reported that some schools are using assessment descriptors from the previous curriculum, on account of the absence of an assessment framework in the new curriculum (Wales, Northern Ireland, Scotland, Finland).
- Some higher-specificity systems have also had teachers report confusion over assessment, but in these instances the confusion has been about the assessment of competencies and broader skills which were introduced in addition to specific content (and assessed separately). These will be addressed in the next section.

[103] On the other hand, there is a system in our sample which has a lower-specificity curricula, and still conceptualises the curriculum as the progression model: Finland. It is noteworthy that teachers in Finland have reported difficulty applying the assessment criteria from the curriculum consistently, due to their perceived vagueness.

Different approaches to variations in student progression

There are four different approaches that countries take to account for natural variations in student progression, with some taking more than one approach.

A. **Targeted support**. In some of these countries, such as Estonia, curriculum standards are used to identify where students are falling behind, and trigger additional support for these students to help them catch up. Where this isn't possible, a small minority will repeat the year, allowing them more time to reach the requisite levels of knowledge and skill which will enable them to access the curriculum the following year.
B. **Setting and streaming**. In other countries, such as England, a more common response to students who progress more slowly is to group these students together into a lower 'set', and to teach them a less challenging curriculum. This has the potential to lead to lower expectations for these students.
C. **More time in the school system.** In some countries, such as Finland, students who are struggling may have more time to achieve the same progress as their peers, by adding an additional year to their schooling at either end of the basic school curriculum, either in pre-school, or in an optional 'year 10'. Singapore similarly offers some students more time by having two tracks leading to the same examinations – one group takes four years, the other takes five.
D. **Building different rates of progression into the framework.** Some countries, such as Wales and Scotland, place an emphasis on students progressing at different rates through a broad curriculum framework, but don't give those students who progress at a slower rate more time. While a benefit of this is that students can develop their knowledge and skills at their own pace, a potential unintended side-effect of this emphasis might be an increasing gap between advantaged and disadvantaged students, as some groups of parents are less likely to accept a slower pace of progression, whereas the slower progression of other students becomes accepted and normalised.

5.7. Cross-curricular components (skills and topics)

Most systems in our sample included cross-curricular components: skills, competencies, or topics which were formally identified and named within the curriculum framework, separately from the subject- or area-specific content.

Broadly speaking, the systems in our sample split into two main groups:

Systems with little focus on cross-curricular components: These systems either had no cross-curricular skills or topics in their framework, or just two or three. *Includes Poland, Netherlands, England, and Japan.*

Systems with a substantial cross-curricular framework: These systems had substantial cross-curricular components, including literacies, interdisciplinary topics, cognitive skills, intrapersonal skills, and interpersonal skills. *Includes Wales, Northern Ireland, Ontario, New Zealand, Singapore, Estonia, France, Scotland, Finland, Ireland.*

Systems also differed in the degree to which these components were then integrated into subject areas in three ways:[104]

Depth: Skill descriptions only in an overview vs. embedded within content

Specificity: The clarity and detail with which the skill is described

Differentiation by subject: Whether the skill is described as having different characteristics or manifestations in different subjects, or treated as transferable.

5.7.1. Cross-country findings relating to these choices:

- In many systems, the deliberate pursuit of cross-curricular components such as competencies and cross-curricular skills (pursued through particular pedagogies) was experienced as being at odds with the contents of examinations, and so teachers did not use the '21st-Century' pedagogical approaches as much as intended, focusing instead on exam preparation (Ireland, Japan, Northern Ireland, Scotland, Estonia). In Ireland, however, a 'transition year' at age 15/16 in which students experienced a flexible curriculum with no exams was reported as having a positive effect on student skills.
- This effect interacts with curriculum and assessment overload; if either the curriculum itself or the examination syllabi are perceived to be overly full, there is less time for anything other than teacher exposition of the content and exam practice (Ontario). However, keeping the curriculum content focused and/or getting rid of 'high-stakes' examinations would not be sufficient to solve the problems faced by countries in relation to the teaching of cross-curricular components, as seen below.
- In most systems with a clear focus on cross-curricular components in their curricula, there were reports of teachers finding these confusing and being unsure about a) what these things looked like across the curriculum, and b) how to teach them. This led to inconsistent implementation, and/or increased teacher workload and stress (Scotland, Northern Ireland, Ontario, New Zealand, Estonia, Finland, France, Wales). In two countries, the fact that all teachers were responsible for all components was raised as being a concern, leading to inconsistency (Scotland, Northern Ireland).

[104] Although we noticed these variables in the curricula, we have not yet done enough of an analysis of syllabi across subjects to categorise countries based on these variables, so our examples are illustrative only.

- Singapore was the only system with a substantial cross-curricular framework where there were no reports of its components either being downplayed or causing confusion. This could be because the cultural and political context makes criticism of government policy less likely, or it could be because Singapore is one of the few systems in which competencies are expressed in a subject-specific manner and embedded within subject content (in addition to sitting in the cross-curricular framework), perhaps leading to more clarity on how and where to teach these things.
- Finally, evidence from two countries raised concerns about the effect of '21st-Century' pedagogies on equity (which were encouraged within some curricula). In both Japan and Finland, researchers or teachers observed that students who were less motivated, less supported, and/or less academically able were not benefiting from a more student-centred, open-ended pedagogical approach. In both countries, there was a suggestion that this was contributing to widening achievement gaps (Japan, Finland).

5.8. Management models

Across jurisdictions, curriculum design and reform approaches shape teacher perceptions, workload, stress, and the fidelity with which reforms are enacted. Three overall types describe how systems organise and legitimate curriculum reform, and the evidence on their effects highlights patterns that occur across all three.

Participatory reform: These systems shape reform through participation, school involvement, and trialling. Legitimacy is built through shared development and phased implementation. *Includes Wales, New Zealand, Scotland, Finland.*

Expert-guided and strategic reform: These systems link reform to national strategy, evidence cycles, or structured advisory processes, using expert input to maintain coherence and long-term planning. *Includes Japan, Singapore, the Netherlands, Ireland.*

Government-driven reform: These systems are characterised by government-directed reform, small expert groups drafting content quickly, and implementation occurring at once, with consultation mainly following drafting. *Includes England, Poland.*

5.8.1. Cross-country findings relating to these choices:

- Teacher stress and workload pressures appear across all types.
  Teacher stress was linked to frequent changes in France, short timelines and volume of change in Wales, and concurrent reforms in England. These pressures arose across participatory, expert-guided, and government-driven systems.
- Collaborative design intentions do not guarantee that teachers experience meaningful involvement, or the absence of stress.
  In Finland, teachers perceived their involvement as symbolic despite the system's

collaborative intent, and positive perceptions of the process decreased the closer participants were to the classroom. Within participatory structures, teachers may still experience increased stress when large volumes of change occur within short timelines or when guidance materials become extensive (Wales, Scotland).

- Professional development was seen as essential for successful implementation (and its absence was often identified as a barrier).
  Lack of induction and absence of, or delays in, professional learning undermined curriculum delivery. Time constraints further limited teachers' ability to access training (Estonia, Northern Ireland, Wales, Finland, France, Ontario).
- Resource provision and guidance quality shaped confidence and fidelity.
  Lack of materials contributed to superficial compliance (Japan), inconsistent or late resources created barriers (Northern Ireland), unions or publishers filled gaps (Ontario, Netherlands, Estonia), and guidance overload caused teacher overwhelm (Scotland).

5.9. Trends and conclusion

Across the systems in this study, a number of recurring patterns can be seen in how curriculum design choices relate to equity, progression, teacher workload, and the success or otherwise of implementation.

Most systems share broadly similar expressed purposes, and there is little evidence of a consistent relationship between these purposes and curriculum structure. In contrast, choices about common provision and curricular differentiation show clearer patterns: early tracking by selection or choice is associated with disadvantaged students entering less academic or narrower pathways, while systems that maintain a common, broad curriculum for longer ensure that students from different backgrounds study a similar general education for more years, with some evidence of benefits for performance and reduced socio-economic variance.

Recent reforms reflect these concerns, with some systems revising pathways to address equity more directly; for example, Ontario moving to destream Year 9 and Singapore shifting from streaming to subject-based banding.

Curriculum overload (whether caused by too much specified content or by ambiguity that encourages local additions) is linked to curriculum narrowing, threats to equity, and negative effects on teacher wellbeing. Estonia and Poland have both recently slimmed down the amount of content in their curricular framework, though this is not guaranteed to have a positive effect: elsewhere, having too little in the curriculum framework was linked to increasing inequalities, and more tenuously, declining or uneven performance.

There are also consistent trends in effects associated with the level of specificity in system-level curricula. Lower-specificity curricula and associated conceptions of progression are

frequently associated with variability between schools, disrupted progression at transition points, confusion around assessment and reporting, and concerns about inequalities between students and schools; even where flexibility is also experienced as a strength.

These pressures also sit behind several current or recent reform trajectories. Scotland, New Zealand, the Netherlands, Northern Ireland, and France are all moving (or have recently moved) towards greater specificity in their curricula, in response to problems associated with vagueness and curriculum complexity. The Netherlands is developing more "concrete" core objectives, New Zealand is replacing broad levels with more granular year-by-year outcomes, and Scotland is planning to make the intended progression in knowledge clearer.

In contrast, Wales (and to a lesser extent, Finland) is maintaining a lower-specificity model, while Ireland's new primary curriculum goes in the opposite direction to most: reducing load by reducing specificity, and adopting broader learning outcomes and key competencies.

These issues also intersect with systems' approaches to the inclusion of cross-curricular components, though it is not the case that higher-specificity systems have less focus on these components, and vice versa, as several systems have high-specificity curricula with cross-curricular frameworks. However, competencies and cross-curricular skills and topics are frequently reported as confusing, workload-intensive, and unevenly implemented, with some evidence and concern about their impact on equity, alongside a small number of more positive cases.

Current reforms show systems responding to this in different ways: Scotland is repositioning cross-curricular knowledge and skills in response to the current complexity of them being the "responsibility of all"; Japan is seeking to balance knowledge and skills with reasoning, decision-making, and expression within its subject-specific programmes of study; while Ireland is newly introducing key competencies at primary.

Ambitions for competencies and cross-curricular skills also often sit uneasily alongside examination demands, and perceived curriculum overload. Relatedly, wellbeing is gaining prominence in multiple systems, including Wales, Ireland, Estonia, Poland, and Singapore. In Singapore, concerns about student stress have prompted an explicit wellbeing focus within the Character and Citizenship Education curriculum.

Finally, teachers commonly report stress and workload pressures across participatory, expert-guided, and government-driven curricular reforms. It is the availability and quality of professional learning and resources which repeatedly shape how far curricula are understood and enacted as intended, rather than the way in which the curriculum itself is designed.

These findings do not point to simple solutions, nor do they imply that any one system has resolved the tensions inherent in curriculum design. What they do show is a set of recurring patterns in how certain choices tend to play out across diverse contexts. For policymakers, the value of these patterns lies less in prescribing particular structures than in anticipating

the likely effects of different design decisions, and in ensuring that the conditions needed for successful enactment – coherence, clarity, time, and support – are in place.

5.10 References

Where claims are not referenced in the text, this is because they are drawn from descriptions in the underlying CUPA reports or tables, or earlier sections in the full report.

Jensen, B., et al. (2023). *Fixing the hole in Australian education: the Australian curriculum benchmarked against the best*. Learning First. https://learningfirst.com/wp-content/uploads/2023/11/FULL-REPORT-COMBINED.pdf

Schmidt, W. H., Wang, H. C., & McKnight, C. C. (2005). Curriculum coherence: An examination of US mathematics and science content standards from an international perspective. *Journal of Curriculum Studies, 37*(5), 525–559. https://doi.org/10.1080/0022027042000294682

Section 6: References

References are only provided in instances where source material has not otherwise been compiled and synthesised in the 'Curriculum Policy Tables' – see Tables section on website.

Alansari, M., et al. (2022). *Secondary teachers' perspectives from NZCER's 2021 National Survey of Secondary Schools*. NZCER. https://doi.org/10.18296/rep.0022

Bjork, C. (2009). Local implementation of Japan's Integrated Studies reform: a preliminary analysis of efforts to decentralise the curriculum. *Comparative Education, 45*(1), 23–44. https://doi.org/10.1080/03050060802661386

Cowie, B., et al. (2009). *Curriculum Implementation Exploratory Studies*. Ministry of Education (New Zealand). https://thehub.sia.govt.nz/assets/documents/42421_CIESs_0.pdf

Crehan, L. (2025). *A Strategic Review of the Northern Ireland Curriculum: A Foundation for the Future*. Department of Education (NI). https://www.education-ni.gov.uk/publications/ni-curriculum-review

DeCoker, G. (2006). Japan's Schools: Myths, Realities, and Comparisons with the United States. *Education about Asia, 11*(2), 30–34. https://www.asianstudies.org/publications/eaa/archives/japans-schools-myths-realities-and-comparisons-with-the-united-states/

Duggan, B., et al. (2022). *Practitioner survey on preparations for Curriculum and Assessment Reforms 2022: final report*. Welsh Government. https://www.gov.wales/practitioners-preparations-roll-out-curriculum-wales-final-report

Dunn, J. (2015). Critical Thinking in Japanese Secondary Education: Student and Teacher Perspectives. *Critical Thinking and Language Learning, 2*, 29–39. https://www.researchgate.net/publication/309634759_Critical_Thinking_in_Japanese_Secondary_Education_Student_and_Teacher_Perspectives

Education Review Office. (2012). *The New Zealand Curriculum Principles: Foundations for Curriculum Decision-Making*. https://www.ero.govt.nz/sites/default/files/2021-05/Curriculum-Principles-2012.pdf

Education Scotland. (2024). *Background and a Case for Change: Findings from the Pilot Curriculum Reviews 2023/24: A Discussion Paper*. https://blogs.glowscotland.org.uk/glowblogs/public/cices/uploads/sites/10666/2024/11/13214842/CIC-A-CASE-FOR-CHANGE-PILOT-CURRICULUM-REVIEWS141124.pdf

Erss, M., et al. (2014). Teachers' Views of Curriculum Policy: The Case of Estonia. *British Journal of Educational Studies, 62*(4), 393–411. https://doi.org/10.1080/00071005.2014.941786

Erss, M., Kalmus, V., & Autio, T.H. (2016). 'Walking a fine line': teachers' perception of curricular autonomy in Estonia, Finland and Germany. *Journal of Curriculum Studies, 48*(5), 589–609. https://doi.org/10.1080/00220272.2016.1167960

Estyn. (2022). *Summary of engagement calls and visits to schools and PRUs: Autumn 2021*. https://www.estyn.gov.wales/system/files/2022-02/Summary%20of%20engagement%20calls%20and%20visits%20to%20schools%20and%20PRUs%20%E2%80%93%20autumn%202021_3.pdf

Eurydice. (2025). *Ongoing reforms and policy developments: National reforms in school education*. European Commission. https://eurydice.eacea.ec.europa.eu/eurypedia/poland/national-reforms-school-education (accessed 24 November 2025)

Evans, G. (2023). *A new dawn or false hope? Exploring the early implementation of Curriculum for Wales*. Education Inquiry. https://doi.org/10.1080/20004508.2023.2297506

Gallagher, C., Hipkins, R., & Zohar, A. (2012). Positioning thinking within national curriculum and assessment systems: Perspectives from Israel, New Zealand and Northern Ireland. *Thinking Skills and Creativity, 7*(2), 134–143. https://doi.org/10.1016/j.tsc.2012.04.005

Greenhill, R. (2024). *Five expert views on Poland's new 'slimmed down' school curriculum*. Notes from Poland. https://notesfrompoland.com/2024/07/19/five-expert-views-on-polands-new-slimmed-down-school-curriculum/

Halinen, I. (2018). The new educational curriculum in Finland. In: Matthes, M. et al. (Eds.), *Improving the Quality of Childhood in Europe* (pp. 75–89). Alliance for Childhood European Network Foundation. https://physiart.com/wp-content/uploads/2020/01/The-new-educational-curriculum-in-Finland.pdf

Hargreaves, E., Quick, L., & Buchanan, D. (2023). National Curriculum and Assessment in England and the continuing narrowed experiences of lower-attainers in primary schools. *Journal of Curriculum Studies, 55*(5), 545–561. https://doi.org/10.1080/00220272.2023.2253455

Hashimoto, A. (2004). Power to the Imagination. *Asia Program, 121*, 9–12. https://www.wilsoncenter.org/sites/default/files/media/documents/publication/asiarpt121.pdf

Ho, G. (2023, March 28). Time to do away with stigmatising academic labels like Normal and Express. *The Straits Times*. https://www.straitstimes.com/singapore/politics/time-to-do-away-with-stigmatising-academic-labels-like-normal-and-express

Hutt, M., Smith, K., & Jones, K., (2024) Professional learning in education: policy and practice in Wales since devolution. *Wales Journal of Education, 26*(2), 39–53. https://doi.org/10.16922/wje.26.2.4

Ittoku, T. (2020, May 26). Transforming Japan's Conformist Education System. *Nippon*. https://www.nippon.com/en/japan-topics/g00831/

Jakubowski, M., et al. (2010). *The Impact of the 1999 Education Reform in Poland*. World Bank. https://doi.org/10.1596/1813-9450-5263

Jensen, B., et al. (2023). *Fixing the hole in Australian education: the Australian curriculum benchmarked against the best*. Learning First. https://learningfirst.com/wp-content/uploads/2023/11/FULL-REPORT-COMBINED.pdf

Johnson, P., Freemyer, J.V., & Fitzmaurice, O. (2019). The Perceptions of Irish Mathematics Teachers Toward a Curriculum Reform 5 Years After Its Implementation. *Frontiers in Education, 4*. https://doi.org/10.3389/feduc.2019.00013

Kagohashi, T. (2010, January 1). 21st century skills and learning in Japan: Will Japanese school children be equipped to thrive in the 21st century? *Child Research Net*.

Kallunki, E. (2019, January 21). Opetuksen uudistus on lisännyt tasoeroja luokassa, sanovat opettajat Ylen kyselyssä – "Heikoimmat tipahtavat kärryiltä, lahjakkaat ja viitseliäät tekevät ryhmätyöt". *Yle*. https://yle.fi/a/3-10606166

Karlsson, P. (2017). *Teachers' Perspectives on the National Core Curriculum of Basic Education 2016* [MA thesis]. Aalto University. https://aaltodoc.aalto.fi/server/api/core/bitstreams/990db9a9-e3a3-4490-ba35-7d311304cb90/content

Kimie, I. (2023, April 11). Japanese Teachers at the Breaking Point: Long Hours Blamed for Growing Shortage (trans. Masatoshi, S.). *Nippon*. https://www.nippon.com/en/in-depth/d00887/

Löfström, E., & Eisenschmidt, E. (2009). Novice teachers' perspectives on mentoring: The case of the Estonian induction year. *Teaching and Teacher Education, 25*(5), 681–689. https://doi.org/10.1016/j.tate.2008.12.005

Lynch, S., et al. (2016). *Engaging Teachers: NFER Analysis of Teacher Retention*. NFER. https://www.nfer.ac.uk/media/52vm1q5k/lfsb01.pdf

Mathou, C. (2023). Contemporary curriculum policies: globalization, recontextualization and hybridization of pedagogic models. In: Tierney, R. J., et al. (Eds.), *International Encyclopedia of Education (Fourth Edition)* (pp. 8–18). https://doi.org/10.1016/B978-0-12-818630-5.03002-5

Matikainen, T., Ng, P. C. L., & Glasgow, G. P. (2023). Teachers' Attitudes Toward Primary School English Teaching Reform in Japan. *Second Language Teacher Education, 2*(1), 43–66. https://utppublishing.com/doi/10.1558/slte.24476

McFlynn, P., et al. (2024). Fulfilling the unmet potential: Harnessing ambition, autonomy, and agility in Northern Ireland's education system. *The Curriculum Journal, 35*(4), 637–651. https://doi.org/10.1002/curj.282

McGarr, O., et al. (2023). *Exploring the introduction of the Framework for Junior Cycle: A longitudinal study. Interim report No. 2*. University of Limerick. https://doi.org/10.34961/researchrepository-ul.22656892.v1

McGee, C., Cowie, B., & Cooper, B. (2010). Initial teacher education and the a New Zealand curriculum. *Waikato Journal of Education*, *15*(1). https://doi.org/10.15663/wje.v15i1.120

McGuiness, C. (2018). *Research-Informed Analysis of 21st Century Competencies in a Redeveloped Primary Curriculum*. Queen's University, Belfast. https://ncca.ie/media/3500/seminar_two_mcguinness_paper.pdf

Merchant, S.D., Klinger, D., & Kirby, J. (2022). Assessing Learning Skills and Work Habits: What Do Report Card Data Tell Us? *Canadian Journal of Education / Revue Canadienne De l'éducation, 45*(3), 670–702. https://doi.org/10.53967/cje-rce.v45i3.5191

Morrison-Love, D., et al. (2023) *Camau i'r Dyfodol: Curriculum for Wales: evolving understandings of progression in learning. Project Report*. University of Glasgow and University of Wales Trinity Saint David. https://doi.org/10.36399/gla.pubs.298263

Nehring, J. H., & Szczesiul, S. (2015). Redefining high performance in Northern Ireland: Deeper learning and twenty-first century skills meet high stakes accountability. *J Educ Change, 16*, 327–348. https://doi.org/10.1007/s10833-015-9250-8

Neuman, L. (2013). Review: Japanese Education in an Era of Globalization: Culture, Politics, and Equity. *Education about Asia, 19*(1). https://www.asianstudies.org/publications/eaa/archives/japanese-education-in-an-era-of-globalization-culture-politics-and-equity/

OECD. (2016). *Netherlands 2016: Foundations for the Future, Reviews of National Policies for Education*. https://doi.org/10.1787/9789264257658-en

OECD. (2018). *Education Policy in Japan: Building Bridges towards 2030*. https://doi.org/10.1787/9789264302402-en

OECD. (2020a). *TALIS 2018 Results (Volume II): Teachers and School Leaders as Valued Professionals*. TALIS, OECD Publishing. https://doi.org/10.1787/19cf08df-en

OECD. (2020b), *Curriculum Overload: A Way Forward*. https://doi.org/10.1787/3081ceca-en

OECD. (2021a). *OECD Independent Review Of Curriculum For Excellence 2020-2021: Initial Evidence Pack*. Scottish Government. https://www.gov.scot/publications/oecd-independent-review-curriculum-excellence-2020-2021-initial-evidence-pack/

OECD. (2021b). *Scotland's Curriculum for Excellence: Into the Future*. https://www.oecd.org/content/dam/oecd/en/publications/reports/2021/06/scotland-s-curriculum-for-excellence_9de88365/bf624417-en.pdf

OECD. (2024). *Curriculum Flexibility and Autonomy: Promoting a Thriving Learning Environment*. https://doi.org/10.1787/eccbbac2-en

Ofsted. (2018). *An investigation into how to assess the quality of education through curriculum intent, implementation and impact Phase 3 findings of curriculum research*. https://assets.publishing.service.gov.uk/media/5fb3e55fe90e07208fd2cb85/Curriculum_research_How_to_assess_intent_and_implementation_of_curriculum_191218.pdf

Ofsted. (2025). *To what extent has curriculum quality changed in schools since the introduction of the education inspection framework?* https://www.gov.uk/government/publications/curriculum-quality-evaluating-the-impact-of-the-education-inspection-framework/to-what-extent-has-curriculum-quality-changed-in-schools-since-the-introduction-of-the-education-inspection-framework

Park, H. J., & Lee, T. J. (2013). Growing educational inequality in Japan during the 2000s. In G. DeCoker & C. Bjork (Eds.), *Japanese Education in an Era of Globalization* (pp. 147-169). New York: Teachers College Press.

Paxton, S., Yamazaki, T., & Kunert, H. (2022). Japanese University English Language Entrance Exams and the Washback Effect: A Systematic Review of the Research. *Journal of Pan-Pacific Association of Applied Linguistics, 26*(2), 1–20. https://eric.ed.gov/?id=EJ1414438

Priestley, M., et al. (2021). Curriculum Making: A Conceptual Framing. In: Priestley, M., et al. (Eds.), *Curriculum making in Europe*. Emerald Publishing. https://doi.org/10.1108/9781838677350

Priestley, M., et al. (2025). *Curriculum and assessment design and pedagogy in the Curriculum for Wales: a qualitative study*. Welsh Government. https://www.gov.wales/curriculum-and-assessment-design-and-pedagogy-curriculum-wales-qualitative-study (accessed 24 November 2025).

Roberts-Hull, K., Jensen, B., & Murnane, N. (2021). *Teaching Critical Thinking: exploring implications for Stages 4 and 5 Science and History teaching. Case Studies: Singapore and Hong Kong*. Learning First. https://education.nsw.gov.au/content/dam/main-education/teaching-and-learning/education-for-a-changing-world/media/documents/TEACHING_CRITICAL_THINKING_CASE_STUDIES.pdf

Sakurai, R. (2016). *Teachers' Perspectives on School Reform in Japan*. Hiroshima University. https://cice.hiroshima-u.ac.jp/wp-content/uploads/2019/07/Teachers-Perspective-on-School-Reform-in-Japan.pdf

Salonen-Hakomäki, S. M., et al.,. (2024). Leading Complex Educational Change Via National Participative Reforms? A Case of Finnish Core Curriculum Reform Leadership. *J Educ Change, 25*, 531–554. https://doi.org/10.1007/s10833-024-09502-3

Schiro, M. S. (2012). *Curriculum Theory: Conflicting Visions and Enduring Concerns* (2nd ed.). Sage Publications.

Schmidt, W.H., Wang, H.C., & McKnight, C.C. (2005). Curriculum coherence: An examination of US mathematics and science content standards from an international perspective. *Journal of Curriculum Studies, 37*(5), 525–559. https://doi.org/10.1080/0022027042000294682

Scott, S., Limbert, C., & Sykes, P. (2021). Work-related stress among headteachers in Wales: Prevalence, sources, and solutions. *Educational Management Administration & Leadership, 52*(1), 208–229. https://doi.org/10.1177/17411432211054630

Scottish Government . (2025). Summary Statistics for Attainment and Initial Leaver Destinations, No. 7: 2025 edition. https://www.gov.scot/publications/summary-statistics-for-attainment-and-initial-leaver-destinations-no-7-2025-edition/

Shapira, M., et al. (2023a). Exploring Curriculum Making in Scottish Secondary Schools: Trends and Effects. *Scottish Affairs* 32(4), 397–424. https://www.euppublishing.com/doi/10.3366/scot.2023.0473

Shapira, M., et al. (2023b). Choice, Attainment and Positive Destinations: Exploring the impact of curriculum policy change on young people. University of Sterling, Nuffield Foundation. https://www.nuffieldfoundation.org/wp-content/uploads/2023/02/CAPD_Main_Public_Report_final_Feb2023.pdf

Sinnema, C. (2007). *Monitoring and evaluating curriculum implementation: Final evaluation report on the implementation of the NZ Curriculum 2008-09*. Education Counts. https://www.educationcounts.govt.nz/publications/schooling2/curriculum/executive-summary

Smyth, E., McCoy, S., & Banks, J. (2019). *Student, teacher and parent perspectives on senior cycle education, ESRI Research Series 94*. ESRI. https://doi.org/10.26504/rs94.pdf

Spurdle, M. (2023). *Tomorrow's teachers: Recruit, (re)train and retain*. Maxim Institute. https://www.maxim.org.nz/content/uploads/2023/09/Tomorrows-Teachers-Recruit-retrain-and-retain_v3.pdf

Takeuchi, M. (2019). Why Has Japanese Educational Reform Come to a De Facto End? *Journal of Education and Learning, 8*(3), 13–20. https://doi.org/10.5539/jel.v8n3p13

Te Mahau. (2007). *The New Zealand Curriculum*. New Zealand Ministry of Education. https://newzealandcurriculum.tahurangi.education.govt.nz/new-zealand-curriculum/5637175326.p

Tielman, K., Wesselink, R., & den Brok, P. J. (2022). Tensions experienced by teachers of Dutch culturally diverse senior secondary vocational education and training: An exploratory study. *International Journal of Training and Development, 26*, 102–119. https://doi.org/10.1111/ijtd.12238

UK Government. (2024). *English Baccalaureate entry and achievement (Oct 2024)*. https://www.ethnicity-facts-figures.service.gov.uk/education-skills-and-training/11-to-16-years-old/english-baccalaureate-entry-and-achievement/latest/

Warnock, S. (2020). *Primary Teacher Burnout: Through the lenses of theory & experience* [Masters' thesis]. Victoria University of Wellington. https://doi.org/10.26686/wgtn.14417660.v1

Zamęcki, Ł., & Załęski, P. (2023). How Right-Wing Populists Influence Citizenship Education—Evidence from Poland. *East European Politics and Societies, 37*(4), 1314–1336. https://doi.org/10.1177/08883254221144710

Zhu, H., et al. (2024). *Generic skills in the 14-19 curriculum: an international review: Ontario international case study*. Sheffield Hallam University, CES. https://www.shu.ac.uk/sheffield-institute-education-research/projects/generic-skills-in-the-14-19-curriculum-an-international-review

Section 7: Appendices

7.1. Methodology Overview

7.1.1 Research Questions

Six main research questions guided this study, along with sub questions which were refined through policy stakeholder workshops.

Research Question 1. What is the purpose of the curriculum?

a. What are the stated aims of the curriculum?
b. Are there particular values, for example, fairness, excellence, and/or meritocracy, associated with the curriculum?
c. What, if any, shifts in priorities can be found in official communications and documentation?

Research Question 2. What is the structure of the curriculum?

a. What proportion of timetabled school hours are generally dedicated to the nationally prescribed curriculum?
b. What is the degree of detail, and what is the extent of prescription?
c. What is mandatory and at which stage?
d. To what extent, if any, are schools able to exercise discretion or innovate around mandatory and non-mandatory portions of the curriculum?
e. How do learners progress between grades/years/stages?

Research Question 3. How is curriculum policy made and introduced?

a. What is the process for managing change in curriculum policy and what, if any, bodies exist to manage this process?
b. How was the most recent curriculum designed and implemented, and who was involved?

Research Question 4. How is curriculum policy evaluated?

a. Are there regular or ad-hoc assessments of the curriculum system's effectiveness?
b. Are these evaluations carried out internally or by an independent partner not connected to the government?
c. What, if any, success metrics are used to assess the effectiveness of the curriculum?
d. How, if at all, are unintended consequences monitored?
e. What amount of evidence exists to show that policy evaluation has led to policy changes?

Research Question 5. How does context shape curriculum policy and reform?

a. How have historic and cultural factors and the country's education policy orientation influenced its curriculum system?
b. How has context, including political circumstances, such as electoral cycles, shaped recent curriculum reforms, and how will context continue to shape curriculum reform?
c. What level of coherence is there with other elements of the education system?

Research Question 6. What is the evidence about the effects of the curriculum system?

a. What does research from each jurisdiction say about the intended and unintended impacts that curricula have on outcomes such as:
    - student performance
    - students' engagement, attendance, and motivation to learn
    - psychological outcomes for teachers and students
    - the teaching workforce and related indicators, such as teacher performance, recruitment, and retention?
b. What does research from each jurisdiction say about key stakeholders' (students, headteachers, teachers) views and experiences of each country's curriculum system, including:
    - divergences between stated and unstated aims (cf. RQ1),
    - differences in views on the purpose of curriculum (cf. RQ1), and
    - the main criticisms of the system (including criticisms of how the system was developed where relevant)?
c. Looking across jurisdictions, what do the research evidence and stakeholder interviews tell us about the context, mechanisms, and outcomes of curriculum policy and structures?
d. To what extent were each country's latest curriculum reforms implemented as planned?

7.1.2 Case Selection

The project focused on fourteen jurisdictions: England, Scotland, Wales, Northern Ireland, the Republic of Ireland, Ontario, New Zealand, Singapore, Japan, Estonia, Finland, Poland, The Netherlands and France.

Jurisdictions were chosen based on diverse case selection. These were:

1. High or upper-middle income democracies which achieve near or above average results in PISA.
2. A combination of larger and smaller systems, as well as different political and cultural histories.

Additionally, jurisdictions that are of interest to CES' target audience of policy makers - primarily in the UK - were particularly prioritised. The final country selection was agreed following consultation with policy stakeholders from across all four UK Home Nations.

7.1.3 Research Strategy

Research questions and sub-questions were developed and then refined through workshops with policymakers from the four UK home nations. Subsequently the research consisted of three stages.

1. In-case analysis

- Development and validation of detailed country reports, structured around RQs and subquestions. This was undertaken by Cambridge University Press & Assessment (CUPA).

2. Cross-case analysis

- Development of cross-country comparative tables and a cross-jurisdiction report, conducted by CUPA.

3. Theory development and refinement

- Development of Context-Mechanism-Outcome Configurations through a Realist-informed analysis. Conducted by the CES team.
- Synthesis and report writing. Conducted by the CES team.

7.2. Methodology – in-case analysis

In-case analysis was conducted by Cambridge University Press & Assessment. The drafting of the jurisdiction reports was carried out in two phases, as different sources of evidence were needed for research questions 1 to 4 than for 5 and 6.

Research questions 1–4 describe the curriculum documentation, the processes surrounding its implementation and the curriculum review and evaluation process. Initial drafts of the reports for these four research questions were constructed using results from the grey literature searches. A report template was used to ensure consistency in the report structure across jurisdictions. These sections of the reports were then sent to at least two expert interviewees within each country, to check for accuracy.

These sections of the reports (represention RQs 1-4) were amended after the interview, correcting any inaccuracies noted by the interviewees and adding in any relevant information from the interview notes. If any contradictions arose, either between official published sources and the interviewee, or between different interviewees, the contradiction was noted in the report and both versions were included.

Education experts within the jurisdictions provided an important source of information for the project and were used in three different ways. They verified that the information contained within the jurisdiction report for the first four research questions was accurate, they were interviewed to provide information about the curriculum development cycle and their perceptions of the curriculum, and they were asked to suggest sources of information for research questions 5 and 6.

Research questions 5 and 6 describe the way in which context shapes curriculum policy and any effects of the curriculum. The drafts were constructed using evidence from the literature and the interview notes, using a report template to ensure consistency in the report structure across the jurisdictions. For details of the literature search and interviewee schedule, please see "Understanding curriculum policy: A descriptive summary of curriculum policies in 14 jurisdictions" by CUPA on the CES website.

7.3. Methodology – cross-case analysis

This stage of the project was intended to bring together the findings from the individual jurisdiction reports to identify common and unique features of the education systems in the 14 jurisdictions. Cross-jurisdiction reports and tables were produced for each of the six research questions.

The cross-jurisdiction tables were constructed using the relevant information from the research question within the report. Initially, variables were identified that covered an area information within a sections of the jurisdiction reports. Each variable was assigned to a row within the table. The cells for the variable in that row contain the information from the report for that variable, described as characteristics. For some variables only characteristics were identified, but for other variables, categories were developed to describe the groupings of countries.

The method for grouping countries in categories depended on the variable. Where possible the categories were taken from existing research. For other variables, the categories were developed inductively from the characteristics contained within the variable.

The cross-jurisdiction reports were constructed concurrently with the tables. The information contained within the tables and the individual jurisdiction reports were used to identify themes and groupings of jurisdictions within the data. These were then described in the summaries for each of the research questions. The summaries focused on profiles that were common amongst the jurisdictions and also commented on jurisdictions that appeared to be noticeably different. For a more comprehensive description of this process, see "Understanding curriculum policy: A descriptive summary of curriculum policies in 14 jurisdictions" by CUPA on the CES website.

7.4. Methodology – theory development and refinement

The theory development was conducted in three stages, broadly mirroring sections of this report:

1. analysis and theory-informed 'type' identification drawing on the information in CUPA reports and tables (underpinning 'Purpose and Structure' and 'Development and Evaluation');

2. a realist-informed analysis of evidence in the case study reports (underpinning 'Context and Effects'); and

3. a synthesis that brought together the identified 'types' of approaches, and their effects (underpinning 'Overarching Findings').

The sections on 'Purpose and Structure' and 'Development and Evaluation', which addressed the descriptive research questions about structure and approaches (in addition to effects of the latter), are based on analysis and theory-informed 'type' identification. This drew on the variables recorded within the CUPA tables, as well as additional identification of system characteristics, from the case-study reports.

In addition to drawing on groupings identified by CUPA in their tables and reports, the CES team identified further groupings of curricula approaches through a combination of

- an inductive approach: seeing what groupings arose when comparable information for each country was set out in tables and,
- a deductive approach: using existing theoretical frameworks to identify which groupings different curricula might belong to.

We then looked for common associations in these groupings – for example, where several countries were in the same grouping based on three different variables – and called these common occurances 'types'. This allowed us to generate typologies which described different options for policymakers, based on the kinds of decisions they might need to make about curriculum policy.

The third section, 'Context and Effects' addressed RQ5 and RQ6 on how context effects the system-level curriculum framework, and how the curriculum and wider contextual factors have their own effects. This section drew on a realist-informed analysis, conducted by the CES team, which used the evidence in the case studies to construct Context-Mechanism-Outcome (CMO) configurations for each jurisdiction. This is informed by a theory-driven approach to evaluation and, more specifically, 'realist inquiry'; an approach that allows us to understand why a programme worked, who it worked for, and in what context it worked. For more detail on the theoretical underpinnings of this approach, see Melanie Ehren's CMO report for accountability on the CES website.

Construction of the curriculum CMO configurations for each jurisdiction was informed by the following approach:

1. The CUPA case study jurisdiction reports (CUPA reports) were read in full to analyse the relationships between curriculum structure and features, specific mechanisms, and intended or unintended outcomes of specific reforms.
2. Specific aspects of the context, mechanisms, and outcomes within each jurisdiction report were highlighted and extracted to develop proposed CMO configurations for each system.

These CMOs and the evidence underpinning them were then tagged and grouped into broad categories or themes, which formed the basis for the 'Contexts and Effects' section. This section set out evidence in relation to the context and mechanisms as described and understood by study authors and interviewees – it was not organised based on the analysis of the first two sections.

Finally, the 'Overarching Findings' shares the results of a synthesis, combining the two analyses described above. For this synthesis, we identified notable relationships between the different types of curricular approach identified in the first two descriptive sections, and the relationships between these types and evidence of effects.

In doing so, this synthesis moves beyond the level of what is happening in individual countries, to talk in evidence-informed generalities. These are not intended to be taken as definitive conclusions, or general laws that apply everywhere; rather they express common patterns of findings that occur in more that one context.

Most of the generalities discussed in this report concern how different approaches to curriculum policy relate to their effects. When effects are reported in the literature, it is not always clear which specific curriculum characteristics caused them. Sometimes teachers, leaders, or policymakers identify particular characteristics of the curriculum that helped or created problems, and we report these; but often the effects arise from the curriculum as a whole, or are reported as such.

To understand this better, we considered:

1. Whether systems with similar curriculum characteristics show similar effects
2. Whether these effects also appear in systems with different characteristics.

When the answer is 'yes' to the first and 'no' to the second, we can begin to identify which curriculum characteristics are most likely causing the effect, especially where a proposed mechanism connects them. This approach was used where possible.

This study was specifically designed to provide actionable evidence for policy makers. The aim was not to reach a judgement on 'what works' but to identify different alternatives, the extent to which similar approaches have similar or different effects across contexts, and what effects might be associated with different approaches.