



What types of challenges do countries/ jurisdictions face in addressing curriculum overload, and what strategies do they use to address these challenges?

This section outlines the challenges faced by countries and jurisdictions attempting to address curriculum overload, and the strategies they have adopted to address them. They relate to curriculum overload in three areas examined in this chapter: **content expansion**, **content overload**, and **curriculum pitch and workload**.

It is important to note that the strategies listed are not recommendations, but rather opportunities for countries/jurisdictions to learn from one another, in line with the Education 2030 project's peer-learning mission.

CONTENT EXPANSION: OVERVIEW OF CHALLENGES AND STRATEGIES

To compete for curriculum space, various actors may add pressure to have their own area of interest covered in curriculum, and when governments try to accommodate all of these areas, curriculum can become overcrowded. Countries and jurisdictions articulated the challenge of content expansion and outlined the strategies they have adopted to counteract it (Table 7).

Table 7 **Challenges and strategies related to content expansion**

	Challenge/strategy	Countries/jurisdictions reporting the challenge/strategy
Challenges	Content expansion resulting from new demands from society, particularly from interest groups	Czech Republic, Estonia, Hungary, Ireland, Japan, New Zealand, Ontario (Canada), Québec (Canada), Argentina, Brazil ¹ , Hong Kong (China), Costa Rica, India ¹ , Singapore, Viet Nam
Strategies	Creating a subject to accommodate various changing social demands	Chile, Finland, Japan, New Zealand, Norway, Portugal, Mexico, Sweden, Hong Kong (China), Kazakhstan
	Selecting key or core cross-curricular competencies and embedding them into existing subjects/learning areas	Australia, Czech Republic, Estonia, Finland, Ireland, Japan, New Zealand, Norway, Ontario (Canada), Québec (Canada), Wales (United Kingdom), Brazil ¹ , Argentina, Hong Kong (China), Costa Rica

Note: 1. Responses for these countries/jurisdictions were submitted by independent researchers, not government administrations.

Source: Data from the PQC, findings from the research section

Content expansion: Challenges

A contributing factor to curriculum overload is **content expansion resulting from new demands from society, particularly from interest groups** lobbying for the addition for new subjects or topics (see “What does research say?”). New content is often added without revising the existing curriculum, leading to overload. Subject experts may also put pressure on policy makers to ensure that their subject discipline remains in the curriculum and that its content is expanded. These interest groups can perceive the reduction of subject content or its removal as a threat to their job security or policy influence (see “What does research say?”).

Content expansion resulting from new demands from society, particularly from interest groups

Lobby groups in many countries and jurisdictions have put pressure on governments to include new concepts in curriculum, including 21st century skills and competency-based education (as in Hungary and Brazil); digital technologies, coding and a stronger focus on STEM (as in New Zealand); citizenship, health education, coding and digital media literacy (as in Ireland); and social issues (as in Argentina). When countries/jurisdictions accommodate these requests or demands without removing existing content, curriculum becomes overloaded.

- In **Hungary**, lobbying by stakeholders led to the emergence of new literacy content and further subjects being introduced to the curriculum. For example, in the course of developing the National Core Curriculum there were regular discussions with several social organisations. As a result of these discussions, it was decided, for example, that knowledge concerning the Jewish and Roma communities, including the Holocaust, should be emphatically presented in the documents regulating the content of education. Another example of lobbying is that organisations have prepared specific framework curriculum for specific knowledge elements, like education for family life, domestic tourism and leisure activities, or even playing chess. While these are positive efforts, the result is a confusing increase in the number of framework curricula. Substantial reduction in content, shifting from knowledge-centric education to education that offers ready-to-use knowledge is one of the main goals of development.
- **Ireland's** second-level curriculum was broadened in 1996 to include compulsory citizenship and in 2000 to include compulsory health education. Also in 2000, a new religious education subject was adopted by a large number of schools. Consequently, in many schools, students were studying 12 or more subjects for their final examinations. At the same time, there was pressure on schools from employers and universities to introduce to the curriculum aspects such as entrepreneurial education and key digital skills. Curriculum overload was one of the factors leading to reform of the Junior Cycle (lower secondary education) introduced in 2015.
- In **New Zealand**, curriculum expansion was seen in 2018, with the addition of digital technology to the 2007 New Zealand Curriculum and *Te Marautanga o Aotearoa*. This was a curriculum refresh, introducing a new strand to the existing technology/*hangarau* curriculum, which required reframing of the learning-area statement. Formally integrating digital technology into the curriculum is intended to support young people to develop skills, confidence and interest in digital technologies and lead them to opportunities across the information technology sector. Schools have struggled to find space for the new material in timetables. This issue contributed to the delay some schools encountered in implementing the new content. New Zealand is currently working to provide additional support for schools to understand how this content can be built into school curricula. At the same time, teachers and schools have felt the need to respond to a wide variety of stakeholder demands, including tensions associated with being focused on the future and responding to calls for a move back to the basics (which often, but not always, refers to reading, writing and mathematics).
- **Argentina** notes that curriculum overload is due in part to pressure exerted by external stakeholders to include specific content related to the news and/or social issues (e.g. corruption, abortion, poverty).
- In **Brazil**, there is a movement advocating for the development of competencies and new disciplines that prepare students for the future. However, it is difficult to establish system-wide support among educators for competence-based reform, as some are concerned by lobbying from professional groups and unions (e.g. teachers who teach specific disciplines) that push to ensure that certain content continues to be included in the curriculum. Some educators believe that the “competence educational movement” serves solely to meet the demand of the private sector for human capital.

Content expansion: Strategies

One strategy to address the challenge of content expansion due to societal demands is that of **creating a subject specifically to address new social changes**. Addressing a new theme by creating a specific subject often assures that an issue stands out and does not “get lost” among content within existing subjects. The themes selected as stand-alone subjects within the curriculum vary across countries/jurisdictions (see Table 8).

Creating new subjects, however, can add to the burden of students’ and teachers’ timetables. To avoid this, another popular approach among countries/jurisdictions is to **translate societal needs into cross-curricular themes and/or cross-curricular competencies and embed them into existing subjects or learning areas**, rather than creating new ones (see “How do countries compare?”). However, this strategy may require good guidance to schools on how to embed the articulated themes or competencies into the existing subjects.

Creating a subject to accommodate various changing social demands

A number of countries/jurisdictions recognise the risk of content expansion in response to societal demands and have created new, non-traditional or non-academic subjects to accommodate this expansion. Japan, for example, have created a specific subject in which new curricular content can be introduced without overloading multiple other subjects. Leaving space in curriculum in this way allows for evolving changing societal needs to be accommodated in the curriculum without the need for frequent overhaul. In other countries/jurisdictions, the new subjects created reflect themes informed by global trends (e.g. environmental education in Chile), or address needs more relevant to their national contexts (e.g. citizenship education in Chile and Portugal, “mother tongue” instruction in Sweden, and basics of law in Kazakhstan). In some countries, such as New Zealand, schools are given the autonomy to address themes that are particularly relevant within a local context. This strategy can avoid adding to teachers’ perception of overload or mistrust in frequent curriculum changes, but it requires design capacity on the part of teachers and school leaders to use the space as intended in the curriculum.

Table 8 **Non-traditional or non-academic subjects taught at ISCED 2 and/or ISCED 3 level in countries/jurisdictions participating in the PQC**

Career education, work studies, entrepreneurial education	Health education, well-being, lifestyle	Local and global citizenship, peace	Environmental education	Media education	Applied design skills and technologies, informatics	Others
Australia	Hungary	Australia ²	Korea	Australia	Australia ³	Finland
British Columbia (Canada)	Ireland	Northern Ireland (United Kingdom) ¹	Norway	British Columbia (Canada)	British Columbia (Canada)	Japan
Estonia	Norway	Norway	India ¹	Ontario (Canada)	Ontario (Canada)	Norway
Kazakhstan	India ¹	Mexico		Northern Ireland (United Kingdom) ¹	Estonia	Mexico
Korea		India ¹			Kazakhstan	Portugal
Mexico					Norway	Sweden
Norway						Kazakhstan
Ontario (Canada)						New Zealand
Poland						Hong Kong (China)
Québec (Canada)						
Viet Nam						

Note: This table refers to cases in which new competencies/contents are embedded in the curriculum as separate subjects and not as content integrated into existing subjects.

1. Responses for these countries/jurisdictions were submitted by independent researchers, not government administrations.
2. Civics and citizenship is included in ISCED 1 as part of humanities and social sciences and as a separate subject in ISCED 2 and 3.
3. Media arts, design and technologies, and digital technologies are separate subjects in the curriculum for ISCED 1 and 2.
4. Captures countries/jurisdictions where newly created subjects do not fall under any particular or frequently-mentioned domain.

Source: Data from the PQC, item 1.1.3.1.

- In 2019, curriculum for 11th and 12th grades in **Chile** was updated to respond to emerging national and global developments through the creation of new subjects such as “Sciences for Citizenship”, “Geography, Territory and Socio-environmental Challenges”, “Participating and Argumentation in a Democracy”, “Computational thinking and Programming”, “Economics” and others.
- **Finland** offers guidance counselling and optional studies for students in ISCED 2 and ISCED 3.
- **Japan’s** National Curriculum Standards (2017) attempt to address the many social issues in education through a concept called curriculum management. The National Curriculum Standards not only support an interdisciplinary approach within relevant subjects, but also secure time in the curriculum for interdisciplinary learning, through a dedicated subject called “Period for Inquiry-Based Cross-Disciplinary Study” that provides students with opportunities to connect contents across subject areas.
- Secondary schools in **New Zealand** are able to develop their own subjects by selecting from a range of assessment standards to make up a course. Many schools include a subject on sustainability studies for students in ISCED 3. This subject addresses the specific issue of sustainability, drawing from different topical domains such as social sciences or environmental education.
- **Norway** recently added specific subjects in its curriculum, including international co-operation, social entrepreneurship, stagecraft and performance, and production and development of commodities and services. These are also offered as elective subjects in the curriculum of more advanced education levels, starting at ISCED 2.
- **Portugal** offers a subject on citizenship and development that builds on a wide range of mandatory themes that are also found in other subjects, including human rights, gender equality, interculturality, sustainable development, environmental education, health, sexuality, media, institutions and democratic participation, financial literacy and consumption education, road safety, entrepreneurship, risk, world of work, security, defence and peace, animal well-being and volunteering.
- In **Mexico**, schools can offer elective subjects that cater to a variety of topics, including sign language, conflict resolution, chess, poetry and creative writing,
- Reflecting the increasing multiculturalism in their country, **Sweden** offers “mother tongue” instruction to students who have a parent/guardian with a first language other than Swedish, alongside national language (Swedish) and religion as separate subjects.

- In **Hong Kong (China)**, liberal studies was introduced as a core subject in the three-year senior secondary curriculum in 2009 as part of the New Academic Structure in senior secondary education. The subject aims to broaden students' knowledge base and enhance their social awareness through the study of a wide range of issues. The modules selected for the curriculum focus on themes of significance to students, society and the world, designed to enable students to make connections across different fields of knowledge and to broaden their horizons. The learning experiences provided will foster students' capacity for lifelong learning, so that they can face the challenges of the future with confidence.
- **Kazakhstan** offers the elective subject of basics of law for students in ISCED 3.

Table 8 provides an overview of the main emerging themes that countries/jurisdictions have included as new subjects in their curricula. These non-traditional or non-academic subjects include such varied areas as media education, local and global citizenship, and career or entrepreneurial studies.

Translating societal needs into cross-curricular competencies and themes and embedding these into existing subjects/learning areas

As an alternative (or supplementary) approach to creating a new subject to accommodate societal needs, some countries and jurisdictions reported selecting key cross-curricular themes or competencies and embedding these into existing subjects/learning areas. Such an approach has been taken by Estonia, Japan, New Zealand, Norway and Wales (United Kingdom), among others. Generally speaking, a 'theme' comprises types of knowledge and understanding, while 'competency' is a more holistic concept that includes knowledge, skills, attitudes and values (although the distinction is not always clear-cut). Several countries/jurisdictions, including Australia and British Columbia (Canada), take the dual approach of embedding cross-curricular competencies and themes into curriculum (see Table 9).

- The **Australian** curriculum is often presented as a three-dimensional model, composed of: 1) learning areas; 2) cross-curricular themes; and 3) cross-curricular competencies (i.e. general capabilities). The model suggests that students learn all three of these dimensions interdependently, and it organises them through an integrated approach, rather than as stand-alone subjects. Australia has intentionally embedded its seven general capabilities within its eight learning areas. General capabilities comprise an integrated and interconnected set of knowledge, skills, behaviours and dispositions that students develop and use in their learning across the curriculum. They are addressed through the learning areas and are identified in content descriptions wherever they are developed or applied. General capabilities are also identified where they offer opportunities to add depth and richness to student learning via optional content elaborations.
- **British Columbia (Canada)** also combines themes and competencies and labels its curriculum as a "concept-based, competency-driven curriculum", highlighting that competency-development cannot happen in isolation. It states that effective competency-development can only happen if concept acquisition is also emphasised as part of key knowledge.
- **Estonia** embeds cross-curricular competencies into subject areas. For example, the study of mathematics is described as developing not only mathematics competencies but all other general competencies. Estonia's syllabus for mathematics explains how the general competencies are taught through mathematics, (e.g. cultural values: mathematics is a science that unifies different cultures, and students can learn about the works of mathematicians from different countries and eras). In Estonia, cross-curricular themes and competencies are used in combination with new stand-alone subjects to emphasise topics of special importance. This approach is used for information and communications technology (ICT), which is addressed with a holistic approach across the curriculum.
- In **Finland**, phenomenon-based learning has gained attention in curriculum design. In this approach, competency-development is articulated through phenomenon- or theme-based lessons. In this way, subjects are not compartmentalised, but rather broken down into phenomenon-based lessons that address a given theme with a holistic perspective, cutting across subject boundaries. This approach fosters students' competencies by encouraging them to understand, use, and construct different models to interpret and explain human behaviour, the environment and related phenomena, using active-learning pedagogies like small-scale research projects or field trips.
- **Japan** organises the curriculum around three competencies: 1) knowledge and skills; 2) abilities to think, make judgments and express oneself; and 3) motivation to learn and humanity. The curriculum aims to develop these competencies not by adding new subjects, but rather by embedding them in existing subjects.
- **New Zealand's** curriculum describes five "key competencies": thinking; using language, symbol and texts; managing self; relating to others; participating and contributing. The competencies are broad and flexible, and each includes sub-competencies that are determined contextually. Key competencies include skills, but also emphasise how skills relate to knowledge, attitudes, and values, and how skills can be used in interactions with others in various contexts. The details of how the key competencies are integrated into classroom teaching have been left to schools to determine, though additional guidance is given in supporting materials. The use of these competencies has evolved over time, as they have

increasingly been integrated into learning areas and woven together to inform more action-oriented learning such inquiry projects.

- In **Norway**, schools facilitate learning in three interdisciplinary themes: health and life skills; democracy and citizenship; and sustainable development. The goals for what pupils should learn in these topics are stated in the competence goals for individual subjects where this is relevant. Students develop competence related to the interdisciplinary topics by working with issues on various subjects. They gain insight into challenges and dilemmas on these topics. The knowledge base for finding solutions to problems can be found in many subjects, and the topics must help pupils to achieve understanding and see connections across subjects.
- In **Ontario (Canada)**, each curriculum subject includes a section called “cross-curricular and integrated learning” which outlines how the subject’s content and expected competencies relate to other subjects. The section also provides specific examples of how cross-curriculum learning can be organised. The government has mandated that new subject areas should not be added but rather embedded across the curriculum, allowing for cross-curricular competencies such as financial literacy.
- As part of the 2020 redesign of the curriculum in **Wales (United Kingdom)**, six Areas of Learning and Experience are accompanied by three cross-curriculum competencies: literacy, numeracy and digital competence. Cross-curriculum competencies are intended to develop high levels of competence, by providing frequent opportunities to develop, extend and apply them across the curriculum.
- **Argentina** is moving from disciplinary to interdisciplinary learning, where teachers can integrate content and emerging knowledge from different subject areas and relate their lessons to local and global issues. Learning goals have been developed by the national authority for every cycle and subject area of compulsory education to help teachers focus on the most relevant content.
- In **Hong Kong, (China)**, STEM education has been strengthened as part of the latest ongoing curriculum renewal. Instead of introducing a new STEM curriculum, enhancement was made by introducing integrated learning and teaching of the curriculum content in the three Key Learning Areas (KLAs) of Science Education, Technology Education, and Mathematics Education. As a result, new curriculum content was added by drawing from and integrating relevant curriculum contents from the three KLAs to avoid curriculum expansion and overlapping.

Table 9 illustrates the different approaches countries/jurisdictions use to embed cross-curricular themes and/or cross-curricular competencies in their curriculum. Currently, the majority have moved to a competency-based curriculum, meaning cross-curricular competencies stand out as a tool of choice to accommodate societal needs while managing curriculum overload. Countries like Japan, Poland and Turkey, as well as India, the Russian Federation and Viet Nam, exclusively emphasise this cross-curricular competency-based approach. However, a majority of countries/jurisdictions combine cross-curricular competencies with cross-curricular themes.

CONTENT OVERLOAD: OVERVIEW OF CHALLENGES AND STRATEGIES

As noted earlier, “content overload” is the most frequently reported form of curriculum overload (see “What does research say?”). Table 10 summarises the challenges faced by countries/jurisdictions in redesigning curriculum to avoid content overload and the strategies they use to address these challenges.

Content overload: Challenges

In many countries/jurisdictions, **an excessive number of subjects** or **an excessive amount of content** are the main drivers of overload. There seems to be broad consensus that curricular content needs to be carefully selected, with a relatively small number of topics, to ensure the depth and quality of students’ learning. However, several countries and jurisdictions report that their curricula contain too much content to allow in-depth coverage of all topics. Moreover, reducing the number of topics or subjects can create a perception among some sectors that educational standards or quality are being lowered. These perceptions can easily lead to countries/jurisdictions shifting from content reduction to content expansion and then back again, often associated with election cycles.

Another challenge relates to the **duplication of content across subjects or grades**. This often results from a subject-specific approach to curriculum redesign, where subject experts lead the process with limited cross-subject co-ordination. Teachers of different subjects then cover the same competencies or content without building on the knowledge already acquired from other subjects. In addition, if curriculum is broadly defined without specifying at what grade level content should be addressed, it may lead to duplication of content across grade levels. This can be detrimental to students’ learning, as time that should be spent on deepening learning or exploring new competencies can be wasted on repeating the same content (see “What does research say?”). However, it is important to make a clear distinction between unnecessary duplication and purposeful reflection on the same content for furthering and deepening students’ understanding of key concepts.

Table 9 Countries/jurisdictions applying theme-based and competency-based approaches

Theme-based approach only	Competency-based approach only		Both approaches	
	Partner	OECD	Partner	OECD
China	Japan Poland Turkey	India ¹ Russian Federation Viet Nam	Australia British Columbia (Canada) Chile Czech Republic Denmark Estonia Finland Hungary Ireland Korea Lithuania Mexico Netherlands New Zealand Northern Ireland (United Kingdom) ¹ Norway Ontario (Canada) ² Portugal Québec (Canada) Scotland (United Kingdom) ² Sweden ²	Argentina Brazil ¹ Hong Kong (China) Costa Rica Kazakhstan Singapore South Africa

Notes: 1. Responses for these countries/jurisdictions were submitted by independent researchers, not government administrations.

2. The country provided the same answer to cross-curricular competencies and cross-curricular themes.

Source: Data from the PQC, item 1.1.2.4.

A disconnect in learning progression for students across different education levels is another challenge that many countries and jurisdictions face. Policy makers report concerns about the lack of coherence of curriculum across different levels (see “How do countries compare?”). Curricula of later levels do not always build upon the learning acquired earlier. This is particularly true for the transition from early childhood education to primary education, but it can also be observed in some countries/jurisdictions at the transition from lower secondary to upper secondary. This lack of coherence in content may be due to limited co-ordination between curriculum developers across different education levels. It may also be due to issues of sequencing in curriculum reform, for example when the curriculum of one cycle has been modified, but the proceeding or succeeding cycle has not.

The manner in which curriculum documents are structured and presented, including the language used, may also lead to a feeling of overload for teachers. The **size and volume of curriculum documents** can be overwhelming in some countries and jurisdictions. This is particularly the case when the curriculum is presented as physical, paper-based documents, limiting teachers’ capacity to navigate between sections and search for information. Even if the curriculum document itself is short and written in accessible language, teachers and students can still feel overwhelmed if textbooks are not properly written or do not include the right number and types of exercises. It is important to ensure that the size, volume and quality of textbooks does not impede the efforts to reduce content. The prescriptive nature of the curriculum or the level of detail included may also lead to confusion over what is mandatory and what is not.

Some countries/jurisdictions report **difficulties at local or school levels in prioritising or designing curriculum content**. Schools’ responsibility over curriculum design and management is increasing across countries/jurisdictions. This approach to curriculum design has proven to be beneficial for ensuring that the curriculum meets the needs of students and of the local community. However, schools and local education authorities may not always be able to exercise their responsibility as curriculum designers. Additionally, the distinction between core curriculum content and optional content may be unclear for some teachers,

who then consider the whole as the required curriculum to cover. Countries/jurisdictions reported that if some teachers feel that they need to implement all of the elements covered in the curriculum, this leaves little room for in-depth coverage of some topics or reviewing content that some students may be struggling with. If schools lack the capacity to prioritise curriculum content from the national curriculum, or are not empowered to do so, this can lead to a perception of overload.

Table 10 **Challenges and strategies related to content overload**

	Challenge/strategy	Countries/jurisdictions reporting the challenge/strategy
Challenges	An excessive number of subjects or an excessive amount of content	British Columbia (Canada), Chile, Japan, Korea, Norway, Wales (United Kingdom), Argentina, Brazil ¹ , Hong Kong (China), India ¹ , Kazakhstan, Russian Federation, South Africa, Viet Nam
	Duplication of content across subjects or across grades	Australia, Hungary, Korea, New Zealand, Netherlands, Brazil ¹ , Russian Federation
	Disconnect in learning progression across different levels of education	Australia, Chile, Ireland, Ontario (Canada)
	Size and volume of curriculum documents	British Columbia (Canada), Ontario (Canada), Portugal, Argentina
	Difficulties prioritising or designing curriculum content at local and school levels	Finland, Ireland, New Zealand, Scotland (United Kingdom), United States ¹ , Argentina
Strategies	Defining the right number of topics	Australia, British Columbia (Canada), Chile, Ireland, Japan, Korea, New Zealand, Poland, Wales (United Kingdom), Argentina, India ¹
	Selecting topics as key concepts in a crowded curriculum	British Columbia (Canada), Norway, Korea, India ¹ , Singapore,
	Removing content duplication across grades and across different subjects	Australia, Finland, Korea, Ireland
	Deliberately repeating topics across grades, learning cycles and education levels	Estonia, Ireland, New Zealand
	Piloting efforts to address content overload and review its impact on teaching and learning and well-being	Australia, British Columbia (Canada), Czech Republic, Japan, Scotland (United Kingdom), Brazil ¹ , Singapore
	Making curriculum documents more accessible by involving teachers in the development process	Chile, British Columbia (Canada), Norway
	Defining the core content at the national level and giving autonomy to schools and local government on content adaptations	Czech Republic, Netherlands, Mexico, Poland, Scotland (United Kingdom), Wales (United Kingdom), Hong Kong (China), Kazakhstan
	Developing schools' capacity to design their own content	Ireland, New Zealand, Scotland (United Kingdom), Argentina, Russian Federation, Viet Nam

Note: 1. Responses for these countries/jurisdictions were submitted by independent researchers, not government administrations.

Source: Data from the PQC, findings from the research section.

Excessive number of subjects or excessive amount of content

Recognising that curriculum space is not unlimited, countries/jurisdictions report that an excessive number of subjects is likely to hinder student learning, as in Korea. Even when curricular requirements are reduced and there is a shift from detailed prescribed content to broader objectives, overload can persist as teachers and students struggle with what they perceive as vague goals, as in Norway.

- In **Korea**, research conducted in 2015 concluded that, despite curriculum improvement efforts in the previous 2009 Revised Curriculum, there had been persistent issues, such as a large amount of learning content in the curriculum and textbooks (Kim et al., 2015^[1]). In addition, many middle-school teachers identified curriculum overload as one of the crucial challenges that hindered student learning and innovation of instruction (Kim et al., 2014^[2]).
- **Norway's** changes under the Knowledge Promotion reforms of 2006 resulted in a considerable reduction in curriculum requirements, with the focus shifting from detailed learning content to broader objectives. However, evaluation of the reform showed that the subject areas still suffered from overload, with many themes and topics and comprehensive yet vague subject-specific goals.

Duplication of content across subjects or across grades

Several countries/jurisdictions reported that a key overload challenge resulting from the curriculum design process is the unintended duplication of content across subjects or grades. Such duplication can result from a staggered design process, as in Australia, or the lack of specific grade objectives, as in New Zealand. Such duplication can have negative impacts on student learning, as reported by Korea.

- In **Australia**, the curriculum was developed in three phases, and, as a consequence, some duplication occurred in across subjects and grades. For example, content related to map reading occurs in both mathematics and humanities in different grades, and content related to the seasons occurs in mathematics, science and humanities in different grades.
- **Korea** cites challenges with the overlap of content across subject areas. This is linked with the need to reduce education content, and presenting similar or identical themes recurrently in each subject curriculum and textbook has been addressed as a factor that decreases the effectiveness of learning.
- The **New Zealand** Curriculum generally does not specify particular topics or content to be explored at specific ages or stages of learning. This means that decisions about the appropriate contexts for learning are made at the classroom or school level and that, without co-ordination between teachers across a child's education, topics may be repeated or not covered at all. New Zealand's National Monitoring Study of Student Achievement suggests that this is a persistent issue in a number of learning areas. The risk that this flexible curriculum may lead to important topics being missed or repeated without meaningful development is a key driver behind plans to introduce additional content on New Zealand's history into the curriculum. This move responds to concerns that learners could complete schooling without having learned about critical events in the development of their country.

Disconnect in learning progression across different levels of education

Students' learning in one education level should build on their learning in previous levels. Countries/jurisdictions may recognise the importance of coherence in students' learning across educational levels, but experience challenges in achieving this, as reported by Ireland.

- **Ireland** notes the importance of maintaining coherence in curriculum development at different levels. For example, the review of the Irish language curriculum at ISCED 2 (Junior Cycle) was completed before the start of the review of the Irish curriculum at the upper end of ISCED 1. This review is now completed. From September 2019, the new Irish Language Curriculum was in place for all students of primary education and lower and upper secondary education. Maintaining rigour and focus between the two levels will be an area of particular concern in the coming years to ensure smooth and coherent transitions between primary and post-primary schools. High-quality whole-school planning and teacher planning need to underpin the school's work in each curriculum area in order to achieve coherence. Ireland has found this to be challenging for schools.

The size and volume of curriculum documents

Policy makers report that the length of curriculum documents may overwhelm teachers, even if the mandatory curriculum content has been reduced, as in Ontario (Canada). Furthermore, it is important to note that the size and volume of curriculum documents can increase when material such as achievement indicators are included, as in British Columbia (Canada).

- In **British Columbia (Canada)**, teachers viewed the previous provincial curriculum as too detailed and prescriptive, particularly in areas where there was a provincial examination to assess content. As a result, teaching in these areas became very focused on covering the content, without the time to engage in deeper or more hands-on learning. The fullness of the previous curriculum was further complicated by achievement indicators. Many teachers viewed these as another required layer of curriculum.
- **Ontario (Canada)** views one of the issues of curriculum overload as related to the physical size of curriculum documents. Teachers see the size and volume of the documents and perceive that content has been added, when in fact the content has been reduced and there is more support within the document. A deeper understanding of the structure and content of the curriculum may help to clarify that there are more supports built into the curriculum to support teaching and learning.

Difficulty prioritising or designing curriculum content at local and school levels

Insufficient training and limited understanding of national guidelines on how to design an effective, coherent curriculum may both contribute to overload, as reported by New Zealand and Argentina. For example, a school may attempt to cover more context than actually required by the national curriculum. Schools and local authorities may lack the capacity to make informed decisions on what to include in the curriculum or how to prioritise content, as in Finland and Ireland.

- In **Finland**, there was a lot of criticism of the National Core Curriculum for Basic Education 2004 because of curriculum overload, but overload is actually observed to be heavier in local curricula. Professionals preparing curricula at the local level want to add new, up-to-date aspects, but sometimes do not remove any of the previous goals or content.
- **Ireland's** National Council of Curriculum and Assessment (2010) identified the number and nature of curriculum space demands driven at the local level as a crowding factor that can lead to content-heavy teaching and learning.
- The **New Zealand** Curriculum for Grades 1 to 10 is organised in eight learning areas. Short statements set out in broad terms what the learning area is about, the purpose of studying that area and how it is structured. While the learning areas are presented as distinct, this does not limit the ways in which schools structure the learning experiences offered to students. Schools are expected to make use of the natural connections that exist between learning areas and to link learning areas to the values and key competencies. This has led to significant variability in the way curriculum is delivered in schools, and some schools are struggling to develop effective local curriculum with limited guidance from the national curriculum, including how to define the priority contents.
- In **Argentina**, principals and teachers struggle with what to emphasise and what to discard when planning learning opportunities at the school level. Teachers particularly face difficulties in deciding what to teach and how to prioritise. Moreover, in the presence of an expanded curriculum, principals do not have the knowledge and tools to act as curriculum managers at the school level. Principals in Argentina currently do not receive specific training to perform a management and leadership role.

Content overload: Strategies

Countries/jurisdictions have reported a wide variety of strategies to address content overload, including taking proactive efforts to **define the right number of topics** in curriculum. Such an approach can involve rethinking the number and combination of subjects in order to ensure conceptual coherence and limit the risk of content duplication. Recent developments include combining subjects in areas in response to growing social demands from the labour market, rather than conceptual underpinnings, such as STEM (science, technology, engineering, and mathematics). The OECD Education 2030 Working Group on Mathematic Curriculum Analysis suggests that teachers in these disciplines need to have conceptual understanding of each other's discipline (i.e. how students can follow the coherent conceptual sequencing both within and across these subjects). Furthermore, some countries/jurisdictions experience a pushback against approaches driven by labour market needs. A new movement has emerged to integrate arts (liberal arts, language arts, social studies, physical arts, and fine arts and music) into STEM by adding an "A" (for Arts) to the acronym, converting it from STEM to STEAM (OECD, 2020). This initiative aims to broaden the focus of the range of skills students develop prior to entering the workforce.

A growing number of countries/jurisdictions (see "What does research say?") are taking the approach of **selecting topics as key concepts in a crowded curriculum**. These are broad overarching themes that relate to a number of subjects. Key concepts or "big ideas" help ensure overall coherence in the curriculum and thus create criteria for what content should be included and what should be omitted.

To address the challenge of content duplication, some countries/jurisdictions have set up processes to **remove duplicated content across grades and subjects**. This can involve, for example, establishing national committees of subject experts or research teams to identify duplication and decide where curriculum content should be retained and where it should be removed.

While unintended duplication of content was reported as a challenge by some countries/jurisdictions, a number of them take the approach of **deliberately repeating topics across grades, learning cycles and education levels** to reinforce students' understanding of ideas or concepts they are learning. Students learn effectively when curriculum recognises their prior knowledge, skills, and learning progressions. This recognition is reflected in a "spiral curriculum", which allows curriculum space for students to progress through their learning by stages rather than in a rigid, linear progression through each grade. This approach allows for more coherence of curriculum content across grades and thus reduces the risk of unnecessary duplication. It also gives teachers and schools some flexibility to readjust the content to their students' learning progression, so that teachers review content in a meaningful way to deepen students' learning. Such an approach guards against shallow learning over a broad range of topics that results from curriculum overload.

As curriculum overload has become a central issue of curriculum redesign in many countries/jurisdictions, some policy makers are taking the careful approach of **piloting efforts to address content overload and evaluating their impact on teaching, learning and well-being**. Such an approach means that decisions regarding measures to address overload can be informed by evidence on the potential impact on students of these measures.

To address the challenge of lengthy detailed curricular documents that lead to feelings of overload, some countries/jurisdictions focus on **making curriculum documents more accessible by involving teachers in the development process**. Such an approach, which can involve making language clearer or reducing the size of curriculum documents, is designed to make it less onerous for teachers to engage with curriculum.

In some countries/jurisdictions, strategies to address content overload include **defining the core content at the national level and giving autonomy to schools and local government to make adaptations**. Such an approach is designed to raise awareness among teachers and school leaders about what is core content and what is discretionary content and to provide schools with a level of flexibility on curriculum.

Finally, countries/jurisdictions are increasingly making efforts to **develop schools' capacity to design their own content**. Granting schools the autonomy to design curricular content – and supporting them to develop their capacity to do so – means that curriculum content can be less prescriptive, which can, in turn, alleviate content overload.

Defining the right number of topics

In their attempts to reduce overload, Australia, New Zealand and Wales (United Kingdom) now group subjects by learning areas. These groupings help to articulate cross-subject goals or competencies and to promote collaboration and alignment across subjects. They may also help to alleviate assessment overload, as reported by Australia. Grouping subjects in this way, however, requires careful consideration of conceptual coherence, as reported by British Columbia (Canada).

- The **Australian** Foundation-Year 10 curriculum is organised around eight “learning areas”, seven “general capabilities” and three “cross-curriculum priorities”. Learning areas are groupings of subjects that share common learning goals and achievement standards. Some learning areas, such as English and mathematics, include only one subject, while others include several subjects. For instance, the “Humanities and Social Sciences” learning area includes the subjects of history, geography, economics and business, and civics and citizenship. Moreover, in Australia, where each learning area comprises multiple subjects, an optional achievement standard has been developed for the learning area to reduce the need to report against each subject in the primary years of schooling. An example is found in the Australian Curriculum area “The Arts”, which consists of five subjects.
- The curriculum reform implemented in **British Columbia (Canada)** in 2016 shifted the focus of the curriculum from facts and topics to concepts and deeper learning (see “What does research say?”). With this shift, some key subject matter became more or less prominent, and some was shifted and realigned. While some concepts were moved from one grade level to another, in general, most of the development teams considered the existing sequence to be reasonably strong. However, some concepts were moved and combined in different ways to bring better balance to the whole curriculum. This most often happened by raising the conceptual level of the subject matter. For example, the previous British Columbia (Canada) curriculum had a focused physical education area of learning and combined health and career education into a different area of learning. During this most recent revision process, career education was instead turned into a focused area of learning, and a new physical and health education programme was created to take a comprehensive approach towards overall health and well-being.
- In **Japan**, a subject called “Modern and Contemporary History” was created by the revised National Curriculum Standard in high schools in 2018, and it is compulsory for all students in upper secondary schools. The main feature of this subject is that students learn how to understand history by focusing on major changes in history. Previously, students in Japan studied Japanese history in lower secondary schools and world history as a compulsory subject in upper secondary schools. However, with rapidly advancing globalisation, students need to develop the skills to grasp the world and domestic affairs from a wider and mutual perspective and to study modern history related to the origin of contemporary social issues. That is why this new subject was created. This subject combines Japanese history and world history, but with a different approach. If the courses on Japanese history and world history had simply been combined, it would have led to curriculum overload. Instead, the content of this subject has been limited to modern history after the 18th century, when the industrial revolution occurred. This is a good example of how to avoid curriculum overload by focusing on the content of the subject. In addition to this subject, students in upper secondary schools can choose world history or Japanese history to learn history from ancient times, according to their interest.
- As part of the 2020 redesign of the curriculum in **Wales (United Kingdom)**, subjects have been replaced by six Areas of Learning and Experience (AoLEs): expressive arts; health and well-being; humanities; languages, literacy and communication; mathematics and numeracy; and science and technology. The AoLEs are not intended to be seen as compartments, but rather as a means of organising the direction for pupils' learning. AoLEs can be included in the scope of other AoLEs and have clear connections between them. Each AoLE should have both a Welsh dimension and an international perspective. By removing distinctions between core and foundation elements of the curriculum, this approach aims to help ensure breadth and encourage appropriate decisions about balance in a child's or young person's learning experience.

Selecting topics as key concepts in a crowded curriculum

Some countries/jurisdictions are centring their curriculum around key concepts or “big ideas” in order to reduce curricular content and alleviate the burden of content overload on teachers and students. For example, British Columbia (Canada) has used the idea of “big ideas” and reduced the number of learning standards in its curriculum. This helps teachers focus on core content and gives them flexibility to add new content, based on their students’ needs. Norway identified “core elements” and reduced the number of competence aims in curriculum, while Korea also carefully selected “core concepts” and reduced the content of curriculum to 80% of what it was previously.

- **British Columbia (Canada)** has significantly reduced both the number and specificity of learning standards across the curriculum. In the past, teachers complained about increasing demands for content coverage and lack of flexibility in the curriculum. The 2016 provincial curriculum presents “big ideas” and has fewer topics listed, with less specificity than previous curricula to allow teachers to customise their teaching to their local contexts and students’ interests. These “big ideas” represent what students are expected to understand at the completion of their grade and what will contribute to future understanding. Each course has a set of big ideas that provide an umbrella for the content and curricular competency learning standards. For example, one of the big ideas in Grade 8 mathematics is: “Number represents, describes, and compares the quantities of ratios, rates, and percents”. One of the big ideas in Grade 9 social studies is: “Emerging ideas and ideologies profoundly influence societies and events”. The curriculum is structured around a number of big ideas for each grade, which are applied across the curriculum subjects. Big ideas are designed to generalise key concepts into broader knowledge and know-how (See Figure 4).
- As part of its curriculum renewal process, **Norway** has identified the core elements in subjects as a direct strategy to address curriculum overload and to facilitate in-depth learning. The core elements found in the curricula for each subject describe the most central content and competencies. The number of competence aims has been reduced. The curricula focus more on explorative learning in order to enhance in-depth learning.
- For its 2015 revised curriculum, **Korea** structured and selected the educational content of each curriculum based on appropriateness and rigour. In particular, core concepts for each curriculum and essential academic components were carefully selected and used as a standard to reduce academic content to 80% in proportion to the time allocated for each subject. The associations and links between subjects and domains were presented to promote integrated and comprehensive learning.
- **Singapore** launched the “Teach Less, Learn More” (TLLM) initiative in 2005, which aimed to reduce content in the curriculum to free up time for teachers to use innovative learning techniques and make learning more engaging, effective and motivating for students. As part of a remodelled national education strategy, the initiative promoted individual learning experiences for students rather than rote learning. TLLM was not simply an attempt to reduce content. Rather, it provided top-down support for ground-up initiatives by teachers and schools. For example, it provided schools with the ability to hire more support staff so that teachers could better focus on tailoring lessons to meet the needs of their diverse classrooms. TLLM also reviewed and streamlined syllabuses while retaining appropriate preparation for higher education. It also diversified the curriculum, giving students more choice in subjects and more opportunities to explore their interests. Singapore reviews curriculum content regularly through a syllabus review cycle. These reviews include consulting stakeholders to ensure that the curriculum load is appropriately sized and that support structures for syllabus implementation are adequate. As part of the 1997 “Thinking Schools, Learning Nation” (TSLN) vision, Singapore made reductions to national curriculum content to create instructional time and space for students to learn through inquiry approaches in teaching and learning and place greater emphasis on the development of 21st century competencies.

Removing content duplication across grades and across different subjects

Some countries/jurisdictions, such as Australia and Korea, have set up processes to review curriculum content to identify and remove duplicated content in an effort to reduce curriculum overload. This can involve identifying and removing generic content, as in Australia. The process may involve bringing together subject experts, as in Korea.

- In **Australia**, following concerns raised by some stakeholders as part of a review of the curriculum initiated by the federal government, action was taken to revise the curriculum through a number of strategies, including removing duplication of generic content across the curriculum and amalgamating aspects of some subject areas into broader learning-area constructs. For example, in the primary years of the Australian Curriculum, Humanities and Social Sciences, the individual subjects of history, geography, civics and citizenship and economics and business were amalgamated to form one learning area. This resulted in the refinement and reduction of content such as the development of cross-disciplinary skills.
- **Korea** created a national curriculum guideline research team and a national curriculum framework committee as part of its 2015 curriculum revision. The teams were established to examine and adjust content across subject areas, and subject

researchers examined the content and adjusted for potential repetition. A research team for subject curriculum adjustment and a national committee for subject curriculum adjustment were established to examine and adjust content across subject areas. Again, subject researchers examined the content and adjusted for potential repetition.

Deliberately repeating topics across grades, learning cycles and education levels

A growing number of countries/jurisdictions, such as Estonia, Finland, Ireland and New Zealand, have started to recognise the importance of teaching a topic in a way that means students can gradually assimilate it, and they take this into account when developing their curriculum frameworks. For example, some countries/jurisdictions have adopted a gyre or spiral approach to curriculum content redesign whereby topics are not designed to be covered in a discrete way in a particular grade, but are intentionally revisited across grades, learning cycles and education levels to ensure a deepening of students' understanding over time.

- In **Estonia**, the national curriculum design is based on the idea of a gyre or spiral. This means that the content of the new curriculum provides opportunities to review and repeat the most basic knowledge on a topic throughout the curriculum, but each time on the next level of learners' development. This is why the new curriculum is designed by study levels, rather than by classes/degrees. This concept might lead to in-depth learning and mastery of basic skills, which are crucial for learning on the next, higher level of thinking. The national curriculum presents learning objectives and learning outcomes at study stages (Stage I is Grades 1-3, Stage II is Grades 4-6 and Stage III is Grades 7-9). Each school drafts its own curriculum, basing it on the national curriculum. The study stages allow for differentiation and taking into account students' progress and development. At the local level, the school curriculum and subject syllabuses are developed by classes, taking into account differences in classes and students' characteristics.
- **Ireland** uses the spiral curriculum approach, with students returning to the same topic year after year, studied in more depth each year, for example, in social, personal and health education at different levels of schooling.
- The **New Zealand** Curriculum specifies eight learning areas: English, the arts; health and physical education; learning languages; mathematics and statistics; science, social sciences; and technology. Each area has levelled achievement objectives that set out selected learning processes, knowledge and skills relative to the eight levels of learning. These eight levels are not designed by individual grade levels; they are spread out across the 13 years of schooling in New Zealand. This is to accommodate the fact that student progression is not always steady or linear. There is no clear expectation for students to achieve a particular level of knowledge, understanding, and skills by a particular school year. This flexibility is intended to represent progress towards broader outcomes that ultimately amounts to deeper learning. An unintended consequence of this is that teachers can struggle to understand the learning experiences and outcomes that are appropriate for learners.

Piloting efforts to address content overload and evaluating their impact on teaching, learning and well-being

Policy makers in some countries/jurisdictions are taking the careful approach of testing and reviewing the impact of changes to curriculum content on students' learning and well-being. For example, some countries/jurisdictions, such as Brazil, pilot new curriculum content before scaling up. Other countries/jurisdictions, such as Australia, review the impact of curriculum reforms mid-way through the curriculum cycle so that adjustments can be made if needed. Piloting played an important role in Singapore's "Teach Less, Learn More" initiative.

- The first national curriculum in **Australia** was developed in phases from 2008 until 2016, with a mid-cycle review in 2014 prior to its completion. Once the entire curriculum was published, a process for a holistic review cycle was put in place to ensure coherent refinement across the curriculum for primary and lower secondary education. The curriculum refinement process ensures consideration of alignment with a national Early Years of Learning Framework.
- In **British Columbia (Canada)**, as part of the revision process for content topics and skills, development teams are asked to review topics from grade to grade within their area of learning and across multiple subject areas. Curriculum staff bring research and trends to the table to inform this work.
- In the **Czech Republic**, the Ministry of Education is undertaking a complex revision of its Framework Education Program for Basic Education (FEP BEs) from 2016-20, including the piloting of revised versions of FEP BEs in a small group of schools. The Ministry used piloting for previous curriculum reforms (1991-2001, 2000-2004 and 2007). From 2005 to 2006, it conducted an evaluation of the FEP BE and the school education programmes to ensure that they had enough information to use to design the new curricula.
- **Japan** set up a network of research and development schools to foster curriculum innovation and improve the National Curriculum Standards. These schools set their own research themes relevant to developing innovative curricula. They get approvals from the Ministry of Education, Culture, Sports, Science and Technology (MEXT) to carry out empirical experiments on curriculum and implement innovations that are not aligned with the National Curriculum Standards. The research and

development schools can introduce a new subject that is not currently included in the National Curriculum Standards. Over a couple of years, they test the feasibility of the subject's content, teaching materials, teaching time, pedagogy, assessments, etc. For example, based on the practices at these schools, MEXT introduced English education in 2008 to all primary schools as part of the revised National Curriculum Standards. This curriculum change was piloted before 2008 in the research and development schools. They examined the curriculum of English education from various perspectives, including whether it would overload the curriculum.

- **Brazil** highlights the value of small-scale development of projects in some schools that serve as role models and pilots to explore practices such as interdisciplinary projects implemented at the initiative of teachers and principals, or by private institutions and systems that prioritise the development of competencies.
- **Singapore** included evidence collection in its “Teach less, learn more” initiative, allowing a pilot batch of 28 schools in 2006 to explore innovative ways of imparting knowledge and skills with a streamlined curriculum. The Research Activist Attachment Scheme was also a hallmark of the initiative. It allowed teachers to acquire know-how in curriculum design and research to give their ideas more rigour and depth. After this phase, the Ignite! phase included 327 schools that began their own school-based curriculum innovations in 2011.

Making curriculum documents more accessible by involving teachers in the development process

As discussed earlier in this chapter, teachers' feelings of overload can result from the sheer volume of curriculum documents to review and digest. Lack of clarity in subject-specific goals, as well as the types of language used to describe the curriculum content, can also contribute to teachers being overwhelmed or misunderstanding the curriculum guidelines. To address these issues, countries/jurisdictions such as Norway are carefully reviewing the text of curriculum documents to clarify meaning and reduce size.

- **Norway** has paid careful attention to content and clear language in revising the curriculum. Teachers have been involved in the process of revising curricula in order to make priorities clearer and to reduce the content. Teachers have also been involved in making the language in the curricula clearer to enable better understanding and a common interpretation.

Defining core content at the national level and giving autonomy to schools and local government to make content adaptations

Some countries/jurisdictions, such as the Czech Republic, Poland, and Wales (United Kingdom), define national minimum requirements or core learning to be covered and offer schools the possibility of adding additional content, should they wish to. Giving schools flexibility on curriculum design helps reduce overload by allowing schools to customise the curriculum to the specific needs of their students and by reducing the pressure of covering the full breadth of the national curriculum.

- The **Czech Republic** has used an approach where the curriculum is essentially at two levels. Obligatory requirements are specified at the national level and then interpreted into school-based curricula at the local level, enabling teachers to meet the requirements based on local needs and circumstances. At the national level, the Framework Education Programme for Basic Education (FEP BE) specifies the concrete objectives, form, length, and basic curricular content of education, as well as general conditions for their implementation. At the school level, school education programmes (SEPs) provide the framework for implementing education in individual schools. Each school head devises a SEP in accordance with the FEP BE that is adapted to the school's individual context.
- In **Poland**, the core curriculum defines the minimum scope of teaching content. The actual scope of teaching content is indicated by the teacher. The task of the subject teacher is to specify the teaching content of the core curriculum, with the prerequisite that the teacher will adapt the scope and method of teaching to the students' abilities. In the Polish education system, teachers are guaranteed autonomy in creation of the curriculum.
- In **Wales (United Kingdom)**, a key strategy employed in the 2020 curriculum reform is to provide guidance rather than specification, to enable greater flexibility for teachers and schools. The content of the curriculum's six Areas of Learning and Experiences and the related Progression Reference Points are not specified in legislation. Instead, the Curriculum for Wales guidance (2020) sets out: 1) the proposed curriculum requirements set out in legislation for all learners to ensure that all schools cover some core learning; 2) guidelines for schools in developing their curricula across all areas of learning and experience; and 3) expectations around assessment arrangements to support learner progression. The intention is that this will allow greater flexibility in adapting the curriculum over time and, in light of evidence about its implementation, making it more sustainable. The new curriculum will be used throughout Wales from 2022.

- In **Hong Kong (China)**, the curriculum recommended by the Curriculum Development Council (CDC) is open and flexible for school-based adaptation to suit a wide range of school contexts. The Education Bureau also provides continuous professional development programmes all year round for teachers, in order to build their capacities in curriculum planning, learning, teaching, and assessment of their subjects. Such professional development programmes serve to ensure that teachers are kept up-to-date on the latest curriculum developments and learning and teaching strategies on the CDC curriculum for their own school-based adoption/adaptation.

Developing schools' capacity to design their own content

In-school capacity for curriculum design is of critical importance to managing curriculum overload. In Ireland, the school self-evaluation process is used to promote evidence-driven curriculum design and implementation at the school level, as well as to cultivate a culture of collaboration and reflective review. New Zealand, Scotland (United Kingdom), and Viet Nam encourage collaboration among schools and peers to develop local capacity for curriculum design. Argentina focuses on professional development of school leaders, including curriculum management.

- **Ireland** introduced school self-evaluation (SSE) in 2011 and made it mandatory from 2012, providing an effective tool to assist schools to engage in a collaborative, reflective process of internal school review. The process requires schools to gather evidence about teaching and learning practices, analyse the evidence and set targets in curriculum areas. SSE enables in-depth analyses of curriculum implementation in schools. It is promoted and supported by the Department of Education and Skills Inspectorate and by the Professional Development Service for Teachers.
- Following the introduction of the 2007 Curriculum, **New Zealand** has focused on supporting schools to develop their curriculum design capability. This has involved encouraging schools to develop cycles of inquiry and improvement, as well as supporting collaboration between schools and between schools and communities.
- In **Scotland (United Kingdom)**, Education Scotland's Chief Inspector published a Statement for Practitioners (2016) which provides clear advice on how teachers should approach planning for learning and assessment, avoiding overly bureaucratic approaches. Local authorities and empowered head teachers are to provide strong leadership at the local level to ensure that curriculum development and delivery are manageable for teachers (Education Scotland, 2016_[3]).
- **Argentina** designed a one-year course specifically to train principals on issues related to school management, leadership, curriculum, innovation and related themes. Provinces and schools adapt and contextualise curriculum to their realities, needs and circumstances. Contextualisation is intended to help identify key issues that are relevant for that particular community, reducing curriculum overload without disregarding common learning goals that need to be achieved by all students.
- **Viet Nam** reports that it is working to increase the autonomy of teachers in rearranging curriculum content and structure to better meet the needs of learners, reduce the requirement to memorise data and learn content, and innovate on examinations and assessments to enhance requirements for application of knowledge.

CURRICULUM PITCH AND WORKLOAD: OVERVIEW OF CHALLENGES AND STRATEGIES

A curriculum that is not pitched correctly will have negative impacts on students, as well as workload implications for both students and teachers. A number of countries/jurisdictions reported challenges related to this issue as well as strategies employed to address them (Table 11).

Table 11 **Challenges and strategies related to curriculum pitch and workload**

	Challenge/strategy	Countries/jurisdictions reporting the challenge/strategy
Challenges	Trade-offs between aiming higher and focusing on essentials	Japan, Hong Kong (China)
	Mismatch between the instruction time allocated to a given subject and the amount of curriculum content to be covered	Norway, Québec (Canada)
	Homework overload	Chile, Poland, Kazakhstan
	Teacher overburden as a threat to teacher well-being	Scotland (United Kingdom)
Strategies	Regulating the learning time at school or home	Czech Republic, Finland, Kazakhstan
	Using digitalisation to address teacher overload	Australia

Source: Data from the PQC, findings from the research section.

Curriculum pitch and workload: Challenges

Countries/jurisdictions can struggle to find the right pitch for curriculum. A curriculum without high aspirations or challenging content may cause disengagement among higher-achieving students. But a curriculum with overly ambitious aspirations and a high level of content may cause disengagement among low-performing students, who then risk falling further behind. A number of countries/jurisdictions face challenges relating to **trade-offs between aiming higher and focusing on essentials**. International competitiveness and performance on international assessments can lead countries/jurisdictions to set overly ambitious curricular goals or have unrealistic expectations (see “What does research say?”).

A **mismatch between the instruction time allocated to a subject and the amount of curriculum content** to be covered can have a negative impact on students’ learning and well-being. Teachers in some countries/jurisdictions feel that they do not have time to cover key topics in depth and, in their attempt to touch on all content, they may not have the time to adapt their teaching to students’ learning needs. This content-driven approach to teaching can lead to many students progressing through the education system without acquiring the necessary knowledge and skills (see “What does research say?”).

Teachers may also feel the need to compensate for limited instruction time by assigning more homework, which can lead to **homework overload**. While some homework may have benefits for students’ learning attitudes and motivation (Bempchat, 2004^[41]), excessive assignment of homework interferes with students’ lives outside of school, including time with friends or family, time for extra-curricular activities and time to rest and sleep. This, in turn, can have a negative impact on students’ mental and physical health and overall life satisfaction (Marhefka, 2011^[5]).

In addition to these negative impacts on student learning and well-being, increasing curricular demands and content overload also result in a heavy workload for teachers (see “How do countries compare?”). Countries and jurisdictions thus face the challenge of **overburden as a threat to teacher well-being** (see “What does research say?”)

Trade-offs between aiming higher and focusing on essentials

Given that the curricula for some countries/jurisdictions are written to cater for the whole ability spectrum of students, they can find it challenging to persuade schools and parents not to aim over-ambitiously for some students. Aiming to teach the whole curriculum to all students in the spectrum may be overly ambitious, and may disadvantage low-performing students, as reported by Hong Kong (China). Reducing curriculum content, on the other hand, can be perceived by stakeholders as lowering educational standards, as was the case in Japan.

- In **Japan**, the Ministry of Education (MEXT) reduced the content of the curriculum in 1998, following a trend towards curriculum reduction since 1977. This was in response to increasing worries among students and parents about curriculum overload, intensified competition for university entrance and growing numbers of students being left behind. The reform decreased both curriculum content and instruction time by selecting and decreasing the content of subjects to create more time to enhance the quality of learning. However, it did not implement sufficient measures to achieve this important objective. The information was not widely publicised, and there were not enough hours of instruction per subject to reinforce the related knowledge and skills. This 1998 curriculum reform was criticised by various stakeholders, including experts, parents and media, and led citizens to be concerned about a decline in academic standards. This criticism was fuelled by Japan’s performance in PISA 2003, which critics felt was unsatisfactory. As a result, the 2008 reform of national curriculum standards led to an expansion of curriculum content compared to the 1998 reform. The issue of curriculum overload has since become intertwined with debates about educational standards and performance, making it an ever more politically sensitive issue. To allow more time for students to repeat lessons, conduct observations and experiments and write reports, Japan’s 2008 curriculum reform increased both content related to knowledge and skills and instruction time. The 2017 reform, to be implemented in elementary schools starting in 2020, will further expand the curriculum to cover content related to foreign languages and computer programming and will further increase instruction time.
- Some parents in **Hong Kong (China)** strongly believe that academic success is of paramount importance and should be the prime consideration in education, rather than letting their children follow their own interests and abilities. This exerts a lot of pressure on children. While the senior secondary curriculum is designed to cater to the full spectrum of students’ interests and abilities, some schools and parents may not be used to such an idea and still encourage all students to study all content. For weaker students, studying all of the curriculum content may be too onerous.

Mismatch between formal instruction time and the amount of content

In several countries/jurisdictions, including Norway, policy makers report that, given insufficient instruction time, some teachers feel compelled to cover the breadth of the curriculum without ensuring that students have actually acquired the targeted learning goals. In some cases, policy makers’ capacity to modify instruction time may also be constrained by policies, regulations or collective bargaining, as in Québec (Canada).

- An evaluation of the 2006 curriculum reform in **Norway** revealed that subjects had a content overload of detailed themes and topics. However, subject-specific aims are still vague. The 2015 Ludvigsen Report, School of the Future, found that the 2006 reform was broad in content, making deep learning challenging. As part of the new curriculum of 2020 (LK20), Norway is looking to enable in-depth learning through a focus on core elements in subject areas. Teachers have complained that it is difficult to get through the curriculum within designated times. This has meant that there has often been insufficient time for students to focus long enough on each topic to acquire good understanding. This is one of the key matters being addressed through Norway's current curriculum reform process.
- In **Québec (Canada)**, teaching time is set out in collective agreements for teachers that are negotiated at the provincial level. Thus, new subjects or new content have to be added within the teaching time set out in the agreements. When the curriculum was reformed in 2001, new subjects or content had to be integrated within the set teaching time, and it was difficult to add new content to a timetable that was already full. With the intention of focusing learning on core topics, more teaching was allocated to French, mathematics and history. This led to some other courses being dropped or regrouped (e.g. biology, ecology and introduction to technology and physics were grouped under "Science and Technology"), and few elective courses were offered.

Homework overload

Poland and Kazakhstan are among a number of countries/jurisdictions reporting that they face a challenge of homework overload. In some countries/jurisdictions, including Chile, teachers are unable to cover the entire curriculum within the school year (despite covering limited depth and using homework to compensate), and students move to the next grade without the necessary learning prerequisites to build upon. This in turn overloads the content of teaching and learning for the following grades.

- In **Chile**, the Ministry of Education conducted curriculum coverage studies in 2011 and 2013 to see how much of the curriculum content of five subjects is actually implemented by schools. These studies showed that none of the schools in the sample covered all the content items prescribed for each level. They found that 82% of classes in the sample did not fully cover the mandatory minimum content (Contenidos Mínimos Obligatorios, CMOs) prescribed in the mathematics curriculum, and 74% did not cover all the CMOs of the language curriculum. The average of schools' overall curriculum coverage is between 50% and 60% of the CMOs of the level. This means that students may not acquire the learning associated with non-covered content and implies that teachers could use homework to make up for missed content.
- In **Poland**, the introduction of the new core curriculum in 2017 was accompanied by the phenomenon of assigning too much homework to primary school students. Teachers also spend a lot of time outside of school time preparing lesson plans and learning materials, fearing that they will not be able to complete all the teaching content of the core curriculum.
- **Kazakhstan** identifies homework overload as a particular consequence arising from teachers and students having to deal with an overloaded curriculum. Students are required to spend considerable time doing homework assigned by teachers in different subject areas (particularly in the compulsory subject areas), and this is having an impact on both personal life (sleep and leisure) and family life (weekends, vacations and meal times). In the 2016 national survey on students' experience with homework, almost half of students (48%) reported not finishing all their homework on time due to the heavy load. Almost half of the surveyed students (47%) in Grades 8 to 12 also reported that they wish that the amount of written homework could be reduced (Ministry of Education and Science of the Republic of Kazakhstan, 2016_[6]).

Teacher overburden as a threat to teacher well-being

Curriculum overload is not synonymous with excessive workload for teachers, and many factors other than the curriculum have an impact on teacher workload. Nonetheless, when curriculum is overloaded and teachers feel pressure to cover all content, they may find themselves overburdened and spending time outside of working hours to meet expectations. Teachers who feel they have an unsustainable workload are more likely to experience burnout and more likely to leave the teaching profession (see "What does research say?"). In many countries and jurisdictions, ensuring that teacher well-being is not compromised as a result of teacher overburden is a key challenge for policy makers, as reported by Scotland (United Kingdom).

- Issues relating to teacher workload and perceptions of "bureaucracy in the curriculum" are a continuing challenge within **Scotland's (United Kingdom)** curriculum. The Scottish Government indicates that it continues to work with teaching unions to monitor workload and to consider how to address matters relating to workload in the system and that it is for local authorities and empowered head teachers to provide strong leadership at local level to ensure that curriculum development and delivery are manageable for teachers.

Curriculum pitch and workload: Strategies

As part of a comprehensive approach to curriculum redesign, many countries/jurisdictions are focusing not only on the structure of curriculum content, but also on regulating how the content should be delivered to students to meet their learning and well-being needs. This can be done by **regulating the learning time at school and at home** to allow for balance between learning activities and other activities that are equally essential for students' cognitive, social and emotional development.

Given that large paper-based curriculum documents can create a perception of overload, some countries/jurisdictions are **using digitalisation to address teacher overload**. Such an approach allows teachers to more easily navigate various through curriculum rubrics and interact with the curriculum in a more dynamic manner.

Regulating the learning time at school and at home

Countries/jurisdictions such as the Czech Republic, Finland and Kazakhstan, attempt to better align the instruction time in schools with the demands of curriculum. Such an approach aims to reduce pressure and overload on students by ensuring that sufficient time is given to acquire new competencies, while balancing this with requirements for students' well-being (e.g. resting and personal time, extra-curricular activities).

- The **Czech Republic** has attempted to ensure quality learning time by requiring curriculum designers to distribute time for formal education effectively among subject areas, taking into account the particular needs of communities and students.
- In its most recent curriculum reform, undertaken between 2014 and 2017, **Finland** set minimum lesson hours for national goals and key content areas and delegated authority to schools to make decisions on whether extra hours were required. The government set reduction of content in subject areas as a main goal, resulting in new core curriculum subject areas, including broader content areas, and the provision for local school authorities to select the actual content to be taught in each grade. In the new national core curriculum, subjects include broader content areas in three grade units (Grades 1-2, Grades 3-6 and Grades 7-9), from which local authorities choose the specific content to be taught in each grade.
- To address the issue of homework overload, **Kazakhstan's** Ministry of Education and Science presented two recommendations for public discussion on the organisation and implementation of homework in mainstream schools. The projects were proposed by two working groups, Nazarbayev Intellectual Schools and the Information and Analytical Center¹ under the Ministry of Education. Both projects are aimed at minimising the amount of homework and limiting the time spent on it by students from Grade 2 to Grade 11.

Using digitalisation to address teacher overload

Having a digitalised curriculum means teachers can easily navigate to the elements most relevant to their teaching practices, as reported by Australia. Such an approach means teachers do not have to wade through extraneous or irrelevant material in paper documents to reach what they need. This can lighten the load on teachers and reduce their perception of overload.

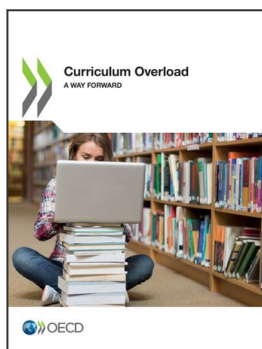
- The **Australian** Curriculum is published as an interactive digital curriculum. Teachers can access it from desktop computers, laptops, mobile devices or mobile phones in multiple views to best suit their needs. This strategy has also allowed teachers to filter the curriculum to customise the view for their particular purpose. For example, a school that wants to focus on developing the critical and creative thinking skills of its students can filter the curriculum by year/band, by subject and by the general capability of Critical and Creative Thinking.

Note

1. <http://iac.kz/en/about-center>.

References

- Bempchat, J.** (2004), "The motivational benefits of homework: A social-cognitive perspective", *Theory into Practice*, Vol. 43/3, pp. 189-196, [4]
http://dx.doi.org/10.1207/s15430421tip4303_4.
- Education Scotland** (2016), *Curriculum for Excellence: A Statement for Practitioners from HM Chief Inspector of Education*, [3]
<https://education.gov.scot/improvement/documents/cfestatement.pdf>.
- Kim, K. et al.** (2014), *문 이과 통합형 교육과정 총론 시안 개발 연구*[A study on the development of integrated curriculum of liberal arts and natural sciences: Initial draft.]. [2]
- Kim, K. et al.** (2015), *2015 개정 교육과정 총론 시안 [최종안] 개발 연구*[A study on the development of the national guidelines for the 2015 Revised Curriculum: Final draft.]. [1]
- Marhefka, J.** (2011), "Sleep deprivation: Consequences for students", *J Psychosoc Nurs Ment Health Serv.*, Vol. 49(9), pp. 20-25, <http://dx.doi.org/10.3928/02793695-20110802-02>. [5]
- Ministry of Education and Science of the Republic of Kazakhstan** (2016), *Organisation and Dosing of Homework of Kazakhstani students*, http://iac.kz/sites/default/files/proekt_1_-_prezentaciya-pdf. [6]



From:
Curriculum Overload
A Way Forward

Access the complete publication at:

<https://doi.org/10.1787/3081ceca-en>

Please cite this chapter as:

OECD (2020), “What types of challenges do countries/jurisdictions face in addressing curriculum overload, and what strategies do they use to address these challenges?”, in *Curriculum Overload: A Way Forward*, OECD Publishing, Paris.

DOI: <https://doi.org/10.1787/658a8197-en>

This work is published under the responsibility of the Secretary-General of the OECD. The opinions expressed and arguments employed herein do not necessarily reflect the official views of OECD member countries.

This document, as well as any data and map included herein, are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area. Extracts from publications may be subject to additional disclaimers, which are set out in the complete version of the publication, available at the link provided.

The use of this work, whether digital or print, is governed by the Terms and Conditions to be found at <http://www.oecd.org/termsandconditions>.