Curriculum Flexibility and Autonomy

PROMOTING A THRIVING LEARNING ENVIRONMENT

OECD

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Foreword

"Flexibility and autonomy" as part of a broader reflection around future-oriented curriculum

This report, entitled "Curriculum Flexibility and Autonomy", produced by the OECD's Future of Education and Skills 2030 project, is one in a series of six reports presenting, for the first time, international analyses on curriculum with the aim of supporting countries in their curriculum reform efforts.

Curriculum reform is pivotal because it acts as a significant driver of student performance and well-being. A well-designed curriculum ensures consistent quality across different educational settings and age groups, contributing to equity in education. It provides a framework that supports teachers, facilitates parent-teacher interactions, and maintains educational continuity across various levels. Moreover, curriculum reform is essential for keeping the educational content relevant and responsive to societal changes and innovations. Without periodic updates, a curriculum risks stifling creativity and not aligning with the students' and society's evolving needs.

Curriculum reform has proved to be a real challenge for countries at each phase of its unfolding with unintended consequences been experienced from design to implementation to its evaluation. While remaining a domestic issue, policy makers have gradually come to the realisation that there is much to learn about how to successfully manage "curriculum change" from other countries' experiences. This realisation, coupled with the aspiration of governments to find some common language to articulate a broader vision of education to inform future curricula, are at the origin of the OECD Future of Education 2030 project.

The OECD Future of Education and Skills 2030 (E2030) project, which will evolve into Education 2040, was launched in 2015 to help countries adapt their education systems to better meet the demands of the 21st century. Specifically, the project aims to support countries in their efforts to respond to the following far-reaching questions:

- **"What" questions** - what kinds of knowledge, skills, attitudes and values are necessary for students and teachers to understand, engage with and shape a changing world towards a better future in 2030?
- **"How" questions** - how to design learning environments that can foster these competencies, i.e. how to design and implement future-oriented curricula?

The answer to the first question has developed into a comprehensive future-oriented learning framework, the OECD Learning Compass 2030, which sets out an aspirational vision for the future of education grounded on the notions of **student agency**, **co-agency**, and **well-being** as powerful means for positive transformation in education and in society. Specifically, student agency refers to the belief that one can shape one's own future rather than being shaped by it.

The OECD Learning Compass is neither an assessment framework nor a curriculum framework. To successfully foster the competencies it sets out, education systems need to design future-oriented curricula that are appropriate and relevant to their local context. This is part of the "how" question, which the E2030 project addresses by conducting rigorous international curriculum analysis (i.e. descriptive, rather than prescriptive, with the goal of supporting curriculum change processes that are more evidence-based). This has resulted in a series of six thematic reports exploring key policy challenges faced by governments related to curriculum reform. The present report focuses on "**curriculum flexibility and autonomy**", an important aspect of curriculum re-design and implementation. The other reports in the series are:

- What Students Learn Matters: Towards a 21st Century Curriculum: Managing time lag between today's curriculum and future needs.
- Curriculum Overload: A Way Forward: Addressing curriculum overload.
- Adapting Curriculum to Bridge Equity Gaps: Towards an Inclusive Curriculum: Ensuring equity through curriculum innovations.
- Embedding Values and Attitudes in Curriculum: Shaping a Better Future: Embedding values in the curriculum.
- Adopting an ecosystem approach to curriculum redesign and implementation (OECD, forthcoming).

The international curriculum analyses also includes subject-specific curriculum analyses, with a 2019 report on physical and health education and a forthcoming report on mathematics curriculum document analysis. For more detailed information on the project and the six reports outlined above, please refer to the Overview brochure of the series.

"Flexibility and autonomy": the link between curriculum design and implementation

The current report delves into the interconnected concepts of curriculum flexibility and autonomy, crucial for modernising educational systems to better respond to diverse student needs and societal demands. The extent to which governments expect teachers and school leaders to adapt school curriculum to local needs is an important policy issue with consequences for how curriculum is implemented. Different degrees of curriculum flexibility and autonomy given to teachers bear implications for students' learning and well-being outcomes as well as for teachers' own sense of professional identity and learning, thus representing an important aspect of a larger learning eco-system.

Curriculum flexibility is defined as the ability of schools and teachers to adapt the curriculum responsively to cater to individual student capabilities and requirements, assuming a degree of autonomy over the curriculum's design and implementation. Similarly, curriculum autonomy grants local authorities, schools, teachers, and even students the power to make decisions regarding the curriculum, thereby enhancing student agency and co-agency among students, teachers, parents, and the community.

The report is structured into four chapters. Chapter 1 explores the definitions and relationships between curriculum flexibility and autonomy. It provides a detailed analysis of how these concepts affect decision-making across different levels of the educational system and the autonomy afforded to various stakeholders in shaping the curriculum.

Chapter 2 examines the tensions and dilemmas involved in curriculum autonomy and flexibility, acknowledging that these decisions are susceptible to broader (and even sudden) shifts in policy concerns and priorities (swings between control and autonomy). It highlights the potential risks of inconsistent curriculum application across different educational settings, which can lead to fragmented learning experiences and impact the equity of educational outcomes.

Chapter 3 illustrates the practical experiences of implementing curriculum flexibility (both challenges and strategies) through international examples. It assesses how increased autonomy and flexibility can foster more creative and inclusive teaching environments while also acknowledging the need for strong guidelines and professional development to support teachers.

Chapter 4 concludes the report by outlining the conditions necessary to optimize the benefits of curriculum flexibility and autonomy. It underscores the importance of establishing clear goals, accountability measures, and a supportive educational infrastructure, along with fostering a culture of trust and self-evaluation among all stakeholders involved in the educational process.

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Executive summary

As educational systems worldwide seek to improve outcomes for diverse learners, and revise or reform curriculum policies to set out new and ambitious aspirations for learners, curriculum flexibility and autonomy are now more than ever critical considerations for policy makers, practitioners and learners themselves. This report:

- introduces "curriculum flexibility and autonomy" as part of a broader reflection around future-oriented curriculum (Chapter 1).
- takes a closer look at what is meant by flexibility and autonomy related to curriculum matters in different countries/policy environments by introducing definitions that provide a shared language used throughout the report (Chapter 2);
- takes stock of tensions and dilemmas countries/jurisdictions face when deciding on the extent of autonomy and flexibility given to local school actors in light of their policy goals (Chapter 3);
- introduces specific countries/jurisdictions challenges related to flexibility and autonomy over four dimensions of curriculum, i.e. goals and content, pedagogies, assessment and learning time (Chapter 4);
- concludes by describing system conditions that can optimise the benefits of curriculum flexibility and autonomy for student learning (Chapter 5, drawing on the findings from previous chapters).

Highlights of each chapter are presented in the sequence.

Following an introduction that situates the issue of flexibility and autonomy in curriculum as one important aspect of any curriculum reform (Chapter 1), Chapter 2 sets out definitions of curriculum flexibility (dimensions, degree, nature) and autonomy. The dimensions of **curriculum flexibility** include**:** flexibility of learning goals and learning content; flexibility of pedagogy; flexibility of assessment; flexibility of learning time.

The *degree* of flexibility on each of these dimensions can vary from low, medium to high, as can the *nature* of flexibility, the "space" available in the curriculum, to choose from, adapt, add to or remove/reduce content.

When considering these different *dimensions*, *degrees* and the *nature* of curriculum flexibility, the underlying question is "who is deciding the level flexibility allowed for whom?". Hence the need to understand **curriculum autonomy** by clarifying "who decides", "decision-making" power and empowerment. The underlying assumption of "who" mainly refers to "teachers", while "school leaders" and "learners" are also considered to some degree.

It is also important to distinguish between *structural autonomy* – the formal delegation of decision-making power to schools (i.e. the organisation of instruction; personnel management; and resource management) and *professional autonomy* – the capacity, confidence and trust granted to school leaders and teachers to use their decision-making power in ways in which their decisions will enhance students' learning and well-being.

In Chapter 3, research and the reported experiences in countries and jurisdictions reveal the **tensions and dilemmas** involved in curriculum flexibility and autonomy. These tensions and dilemmas include for example, shifts in the degree of flexibility and autonomy granted to local school actors reflecting sudden changes in policy concerns and priorities (pendulum swings between curriculum control and autonomy); potential misalignment between the intention of policy makers and the perceived autonomy of teachers and school leaders; as well as constrains to flexibility and autonomy in curriculum design and implementation resulting from rigid accountability measures and high-stakes assessment.

The interplay between flexibility over curriculum goals, content and pedagogy and flexibility on assessment and time allocations and how autonomy is granted and exercised at the local-level results in a range of possible approaches. This is discussed in Chapter 4, which also presents **challenges and strategies used by countries and jurisdictions** when making decisions about/facing consequences of different arrangements reflecting varying degrees of curriculum flexibility and autonomy.

One example is how to reconcile varying "visions" of the curriculum when responsibility for curriculum goals and content is shared between the central government, local government and/or schools or how to tackle lack of confidence and capacity among teachers and schools in designing locally-based curricula, in assessment literacy, and in being more flexible and innovative in their own practice. Defining principles or a vision at the national level that can guide local decision makers and providing professional learning opportunities for teachers and school leaders in locally-based curriculum development and assessment literacy are some of the strategies used in responding to these challenges.

Chapter 5 concludes the report by presenting **key system-level contexts that are likely to successfully influence curriculum flexibility and autonomy**. These include:

system goals	Having a shared vision, purpose and principles that go beyond the specific learning objectives and content prioritised in each subject area or learning area. Clearly setting out curricular goals and specifying the extent or degree of freedom granted to local authorities, school leaders, teachers and students in deciding the "what" and "how" of teaching and learning.
system accountability	Recognition that different factors (inclusive of the intended curriculum and the attained, taught/implemented, experienced, negotiated, perceived and expected curriculum) steer implementation between curriculum prescription and control from the centre; and professional and learner autonomy that enables curriculum flexibility and autonomy at the local level.
system capacity	Building capacity in and across the system to build human capacity and social capital. Supporting teachers' and students' well-being. Developing teachers' competency in curriculum design and assessment literacy.
political and economic context	The extent to which there is political leadership (to guide and support change); sufficient funding (proper budgeting for the resources required) and buy-in from stakeholders.

Key messages

- Curriculum flexibility and autonomy are crucial considerations for policy makers, practitioners and learners, as they enable targeted opportunities for **diverse learners** and for **new developments**. They also support a **growth mindset** in which stakeholders engage with each other to navigate vulnerabilities, uncertainties, complexities and ambiguities.
- Prescriptive or restrictive curricula are unlikely to nurture **transformative competencies** such as those emphasised in the OECD Learning Compass. Creating new value, resolving tensions and dilemmas, or taking responsibility for their own learning require students and teachers to reflect on their own actions and those of others as well as find a sense of purpose, intrinsic motivation and future aspirations. These kind of values and attitudes can be fostered through curriculum flexibility and autonomy.
- Policymakers and practitioners face **tensions and dilemmas** in the continuum between curriculum prescription and curriculum autonomy across different layers of a **learning ecosystem**. A particular concern is the discrepancy between perceived and actual autonomy that teachers and learners have, as well as parental expectations. This is an area where stakeholders need to build common ground and invest in mutual understanding. The degree of flexibility and autonomy granted can change over time and context, as public policy debates convene a wide range of perspectives on the benefits and risks.
- Students and teachers might be more or less encouraged to exercise agency over the content, pedagogy, assessment or time allocation, according to the extent of freedom they are granted. Curriculum flexibility and autonomy take different shapes according to the **interplays between natures, degrees and dimensions** considered. The approaches are not equally applied across primary and secondary education nor national or state administrations, as the supply and demand of resources adapt to **specific needs**.
- Curriculum flexibility and autonomy is a complex policy lever. It can influence students' learning and well-being, depending on how it is used, for what purpose, to what degree and by whom. When the **right balance** of flexibility and autonomy is found, it can also empower teachers and school leaders. That is why the conditions of the learning ecosystem play a key role to enable optimal results. **Stakeholder buy-in** and **partnerships** are important enabling mechanisms. Teachers are, of course, the key frontline actors in terms of **human and social capital**, who optimise curriculum flexibility and autonomy for students.
- Untapped opportunities in curriculum flexibility and autonomy lie with the students, and with EdTech industries, which remain largely disconnected from the learning ecosystem. The design of a **student-centred**, **concept-based** and **competency-driven** curriculum is a continuous effort in many countries, and its implementation still requires consistent pedagogies and assessment.
- As curriculum flexibility is a relatively **new and under-researched concept**, there is significant opportunity to conduct additional research to enhance the understanding and development of these concepts. Notably, the reasoning of current assessment measures would be enriched by evidence on how curriculum flexibility and autonomy affect outcomes for students and teachers. Similarly, exploring the connections between different dimensions of curriculum flexibility and autonomy would be useful to shed light on the **optimal mix**. More systematic research on the interactions between curriculum flexibility and teacher autonomy would be beneficial to support future curriculum reforms, including concepts such as connected autonomy, and teacher agency, co-agency and collective agency.

1 Defining curriculum flexibility and autonomy

This chapter suggests definitions of key terms to create a common language regarding curriculum flexibility and autonomy. Curriculum flexibility considers how adaptable a curriculum can be to changing educational contexts or different student needs. It is multi-faceted, it can be categorised in varying degrees, and expressed in different ways. This chapter discusses the interplay between these aspects of flexibility, which are fundamental to understanding why and how countries and jurisdictions decide to adapt local decision making. Curriculum autonomy suggests the extent to which different actors can exercise their control and decision-making over curriculum flexibility. The chapter describes who participates in decision-making across system-wide levels, and examines different interpretations and categorisations of autonomy.

Approaches to defining curriculum flexibility and autonomy

Educational systems worldwide are seeking to improve outcomes for diverse learners by reforming curricula to set out new and ambitious aspirations for students. The OECD Learning Compass emphasises learners creating new value, resolving tensions and dilemmas, and taking responsibility for their own learning, all of which require the student to reflect on their own actions, as well as those of others. These are referred to as Transformative Competencies in the Learning Compass and are key skills for learners to develop.

It is unlikely that aspirations for such transformative competencies will be met through curricula that are prescriptive or restrictive. They can, however, be achieved through curriculum that encourages flexibility and autonomy. This allows practitioners to design and implement curricula that engage each student in finding a sense of purpose, intrinsic motivation and future aspirations; support them to build a growth mindset, trusting themselves and others; and prepare them to be a self-directed lifelong learner capable of navigating uncertainty and complexity. However, while flexibility and autonomy empower educators to tailor learning experiences to individual needs, there is a risk that without careful oversight, disparities in educational quality and access may arise. Ensuring equity involves providing all students with fair opportunities to succeed, regardless of their background. Therefore, while promoting flexibility and autonomy, efforts must be made to establish guidelines and support systems that uphold equitable educational standards. This balance ensures that strong flexibility and autonomy do not come at the cost of diminished equity, making it a critical consideration for policymakers, practitioners, and learners.

The concepts of “curriculum flexibility” and “curriculum autonomy” are described differently in different contexts. This chapter uses a pragmatic approach to define these terms, with the aim of establishing a common language that enables global dialogue and peer learning.

- Curriculum flexibility considers how adaptable a curriculum can be to changing educational contexts or different student needs.
- Curriculum autonomy suggests the extent to which different actors can exercise their control and decision-making over curriculum flexibility.

Defining curriculum flexibility

Curriculum flexibility is a complex[1] concept, but it is broadly defined as how adaptable a curriculum can be to changing educational contexts or different student needs. Such flexibility or adaptability can occur in three main categories:

1. **dimensions of flexibility** (goals, content, pedagogy, assessment or instruction time);
2. **degrees of flexibility** (low, mid or high); and
3. **natures of flexibility** (to select, adapt, add, remove/reduce or design/co-design), as illustrated in Figure 1.1.

Figure 1.1. Dimensions, degrees and natures of curriculum flexibility

Source: OECD Future of Education and Skills 2030.

Dimensions of curriculum flexibility

This report acknowledged five dimensions of curriculum flexibility: 1) learning goals; 2) learning content; 3) pedagogy; 4) assessment; and 5) instruction time. This categorisation draws on divisions referenced in a range of curriculum literature and research (Tucker and Morris, 2011[1]; Jonker, März and Voogt, 2020[2]; Sinnema, 2015[3]). While these dimensions can be interpreted or understood differently by stakeholders in different countries and jurisdictions, they are all relevant to policy discussions in many OECD countries (Box 1.1). In practice, countries/jurisdictions often report on the level of autonomy/flexibility given to different school actors over goals and content (combined rather than separately) for the purposes of this report.

Box 1.1. Five dimensions of curriculum flexibility

1. Flexibility in learning goals: flexibility of the "why" of a curriculum, including aspirations, intentions, purposes, objectives and intended outcomes.
2. Flexibility in learning content: flexibility of the "what" of a curriculum, including the subjects, concepts, themes, topics and associated competencies/skills and contexts, and the priorities and relationships between them.
3. Flexibility in pedagogy: flexibility of the "how" of a curriculum, including instructional approaches, learning activities, grouping of students, and selection of materials and resources.
4. Flexibility in assessment: flexibility of the "what" and "how" of curriculum assessment, including assessment standards and guidelines, and how evaluations of learning, development and progression of learners toward learning goals are established.
5. Flexibility in instruction and learning time: flexibility of the "how much of" and "when" of learning, including the amount of learning time and the organisation of time for learning.

Degrees of curriculum flexibility

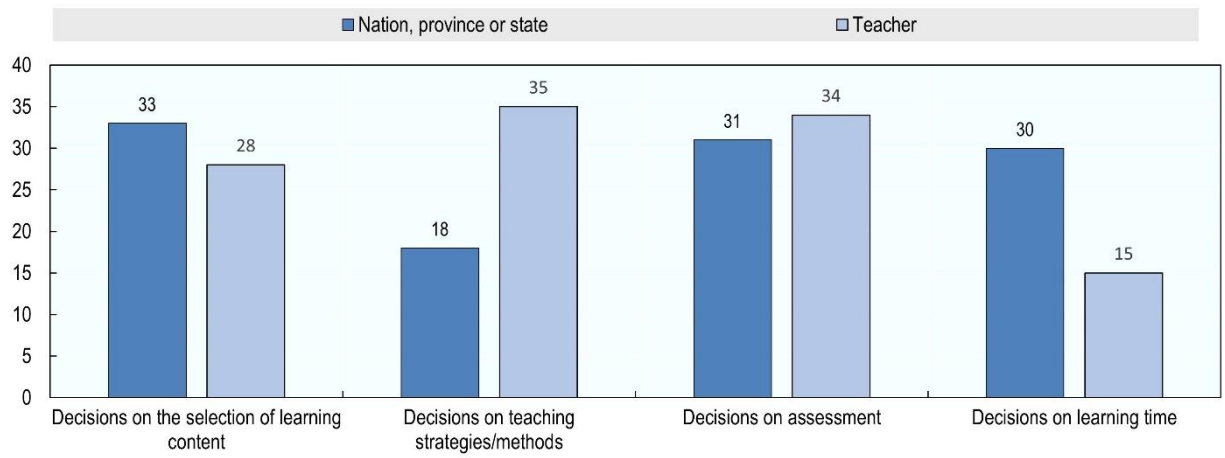
The degree of flexibility a curriculum has can be measured on a continuum: completely flexible at one end and completely fixed at the other end (Tucker and Morris, 2012[4]). Similarly, curricula can be categorised as having low, medium or high flexibility depending on the specific combination of where each of the dimensions listed above fall on the flexible/fixed continuum (Box 1.2).

Box 1.2. Degrees of curriculum flexibility

- **Low flexibility:** implies high prescription regarding curriculum dimensions, i.e. all general and specific expectations of goals, content, pedagogy, assessment and learning time.
- **Medium flexibility:** describes situations where some curriculum dimensions fluctuate between high and low level of prescription. For example, there might be low flexibility in terms of general and specific goals, content and learning time expectations, but high flexibility regarding pedagogy and assessment.
- **High flexibility:** implies low prescription for a range of curriculum dimensions, general and specific goals, content, pedagogy, assessment and learning time expectations.

Figure 1.2. Distribution of decision-making authority between nation, province or state actors and teachers (N=35)

Number of countries where decisions are taken by given actors



Notes: This is a simplified version of Figure 1.5 (at the end of this chapter), which presents the different actors (nation/state, school, teacher) involved in decision-making on the selection of learning content, learning time, teaching strategies/methods and assessment at ISCED 2 level, categorised in four levels of flexibility. Figure 1.5 also refers to region, municipality and students as decision-makers. In the following countries/jurisdictions, the learning content/goals are not set up at the national level: United States, Wales (United Kingdom), Hong Kong (China).
Source: Future of Education and Skills 2030, E2030 Policy Questionnaire on Curriculum Redesign (PQC, Item 0.4), see Box 1.3 for more information.

StatLink https://stat.link/zc6w1t

Figure 1.2 shows the aspects of curriculum flexibility that governments more frequently delegate to other stakeholders (see Figure 1.5 for a more detailed view on school system actors, including regions, municipalities and students). All 35 countries that responded to the questionnaire reported that teachers have flexibility for making their own decisions, indicating that higher flexibility is granted on decisions about teaching strategies and methods. Meanwhile, the amount of flexibility granted to different stakeholders about decisions on learning content, assessment and learning time varies due to the importance of curriculum entitlement (i.e. rights to education in a form of content).

Box 1.3. The Policy Questionnaire on Curriculum Redesign (PQC) Overview

The Policy Questionnaire on Curriculum Redesign (PQC) aimed to provide countries and jurisdictions with an opportunity to learn from each other's experiences in curriculum redesign and to engage in self-reflection regarding their curricular approaches, including visions, educational goals, and expected outcomes for students. This initiative emphasised the diversity of curriculum concepts and redesign strategies across different regions. Designed with an exploratory approach, the PQC featured open-ended questions to capture a wide range of responses without constraining them to predefined

categories, resulting in a rich qualitative dataset detailing various narratives of curriculum redesign experiences.

Targeting lower secondary education (ISCED 2), the questionnaire was organised into four thematic blocks, each delving into different aspects of the curriculum: 1) Contextual information, 2) Current curriculum, 3) Trends in curriculum redesign, and 4) The process of curriculum development, implementation, and monitoring. These sections collectively aimed to map current practices, identify recent trends, and explore the processes behind curriculum development and its ongoing evolution.

Between 2017 and 2019, national coordinators from 33 countries and jurisdictions, supported by academic experts from four jurisdictions, completed this iterative questionnaire. The qualitative responses were analysed through a multi-stage coding process, ensuring comparability while recognising the complexity of each national context. This process included initial coding to identify key themes, mapping responses to these themes, and a final country validation stage to ensure the accuracy and relevance of the data collected.

Unless otherwise specified, examples from countries and jurisdictions that are described in this report come from data collected through the OECD Future of Education and Skills 2030 Policy Questionnaire on Curriculum Redesign (E2030 PQC).

Source: OECD (2020[5]). *Technical Report: Curriculum Analysis of the OECD Future of Education and Skills 2030*, https://www.oecd.org/content/dam/oecd/en/about/projects/edu/education-2040/2-5-supporting-materials/Technical%20_Report_Curriculum_Analysis_of_the_OECD_Future_of_Education_and_Skills_2030.pdf (accessed on 17 July 2024)

Flexibility in learning goals and content

One of the dimensions which is less likely to be highly flexible is that of **learning goals** and the **content** used to achieve those goals. There is more often limited flexibility in this area, likely due to concern for ensuring learners' curriculum entitlement (i.e. rights to education in the form of learning time and content) and that there are no curriculum-based inequities in the goals and content students encounter throughout the curriculum.

For example, the national curriculum of **England (United Kingdom)** shows low overall flexibility relative to other jurisdictions. Similar to most jurisdictions, it prescribes *general* goals, such as goals for students to be fluent in the fundamentals of mathematics, be able to reason mathematically and solve problems. It also prescribes *specific* associated goals, such as to "recognise, find and name a half as one of two equal parts of an object, shape or quantity" (UK Department of Education, 2013[6]), as well as detailing the grade or year levels during which those specific goals must be addressed.

Even with a competency-based curriculum, knowledge (content, concepts) remains a fundamental component (for example, in Australia and British Columbia (Canada)), as certain skills are highlighted as drivers in understanding content and key concepts.

In some countries, while general national curricula remain high in flexibility, flexibility in learning goals and content could be described as medium. For example:

- In **Australia**, the learning content and achievement standards are specified in the curriculum, although jurisdictions, school sectors, school leaders and teachers are able to select their own themes or topics that reflect the local context and meet the learning needs of students attending the school.
- In **Costa Rica,** content is contextualised for schools located in Indigenous territories, and in educational programmes for young people and adults.

- In **Czechia**, the School Educational Programme is the responsibility of a head teacher, who compiles it with a team of school employees, including teachers. Schools and teachers are therefore autonomous to some extent in selecting learning content and structuring subjects.
- Teachers in **Poland** can widen the scope of goals and topics defined in the core curriculum, although they must adjust the curriculum to the needs and capacities of students.
- In **Argentina** there is some flexibility for selecting content, e.g. prioritising specific topics within the curriculum.

Despite high flexibility in learning goals and content being not particularly common, exceptions to this rule are emerging. A few jurisdictions have introduced a high level of flexibility in goals and content, valuing local ownership and decision making in local contexts. However, it is not without its challenges.

- The Curriculum for **Wales** (**United Kingdom**) shows high overall flexibility. General goals are prescribed, with flexibility for other goals to be added, but the curriculum is flexible in terms of the specific goals associated with these. For example, the general goal of students understanding that "the number system is used to represent and compare relationships between numbers and quantities" (HWB Government of Wales, 2020[7]) is prescribed, but there is flexibility for those working with the curriculum to determine the specific goals relevant to the overarching one. This flexibility is in line with Wales's principle of subsidiarity for curriculum design, which proposes that the curriculum command "the confidence of all, while encouraging appropriate ownership and decision making by those closest to the teaching and learning process" (Donaldson, 2015[8]).
- In other contexts, curriculum flexibility changes over time or in relation to parts of the curriculum. In **New Zealand**, the 2007 National Curriculum introduced a highly flexible framework within which teachers and leaders are able to make decisions about content and context. The national curriculum requires schools to design local curricula which reflect the needs, interests and priorities of their students, families and the community, in line with the larger national curriculum. Recent calls from a Curriculum, Progress and Achievement Advisory Group in New Zealand recognise the need for increased clarity alongside that flexibility. As that report sets out: "flexibility for local responsiveness is necessary in a system that strives to be inclusive and value diversity. However, flexible curriculum frameworks require those implementing them to be clear about the learning outcomes that cannot be left to chance to avoid local decisions leading to inequitable learning opportunities" (Ministerial Advisory Group, 2019, p. 7[9]). One response is the development of an Aotearoa New Zealand Histories curriculum that is more prescriptive than other elements of the national curriculum had been, while remaining flexible for schools to embed locally-relevant content. This move reduces flexibility and increases prescription to ensure that all learners develop their understanding of New Zealand Histories and the diverse perspectives and experiences involved.

Flexibility in pedagogies

Most jurisdictions report that their curriculum is flexible in terms of the teaching methods, approaches, techniques or strategies those working in schools can use. Therefore, it is closely linked to curriculum autonomy at the teacher level, which is discussed in further detail later in this chapter. Often, that flexibility is tempered with reminders that the methods should serve curriculum policy goals either at a national, jurisdiction or school level.

- In **British Columbia (Canada)**, teachers develop and assess required learning standards, including competencies and content, but have autonomy over the methods of instruction in their classroom.

- **Portugal** provides flexibility for teachers to select pedagogical strategies according to the context of the school in line with the *Students' Profile, the National Strategy for Citizenship Education and Learning Essentials*, although still using an inclusive approach.
- **Türkiye** allows teachers to determine methods and techniques they will use during the course, under the condition of remaining coherent and consistent with the achievements indicated in the national curriculum.
- There is high flexibility in **Argentina** to select teaching strategies, in accordance with school-level policies.

Typically, such flexibility in pedagogy is driven by the opportunity it allows curriculum users to meet the particular needs of their students: addressing strengths and weaknesses in their progress and achievement, connecting with their interests, using resource materials relevant to them, and considering local conditions, resources and opportunities, and the expertise of teachers.

The role of textbooks in pedagogy

Flexibility in content often involves flexibility in the selection of textbooks, which are often considered part of pedagogies as they can play a key role in driving those pedagogies (Schmidt, 2008[10]). Thus, textbooks also raise important recent policy issues, such as *quality assurance and accreditation*, *digitalisation*, and *content overload*.

In many countries, and especially OECD partner countries, governments are involved, at least to a certain extent, in the development and approval of textbooks and/or learning materials (Table 1.1). This includes providing technical guidelines or obligatory requirements (e.g. Chile, Estonia, Portugal), providing advice and consultations (e.g. New Zealand), issuing accreditations and licences (e.g. Czechia), or providing financial support (e.g. Norway).

Table 1.1. Level of government involvement in the development, approval and selection of textbooks (incl. digital textbooks) and learning materials

	Development of textbooks/learning materials[2]		Approval of textbooks/learning materials		Selection of textbooks/learning materials	
	Textbooks	Learning materials	Textbooks	Learning materials	Textbooks	Learning materials
OECD						
Australia	No involvement	Yes, public education authorities develop some learning materials. Curriculum and school authorities may also provide some advice about the development of learning materials.	No involvement	If education authorities commission the development of learning materials, they are also approving and publishing the materials schools can access. These resources are usually free to teachers.	Yes, some states publish prescribed text lists for senior study.	To some extent. Curriculum and school authorities may provide some advice about the selection of learning materials. They often refer teachers to government sponsored resources, for example the Mental Health and Online Safety Commissions.

British Columbia (Canada)	No involvement	Yes, the ministry produces some provincial learning materials related to priority topics.	Textbooks are reviewed and approved locally by school districts	Learning materials are developed or reviewed and approved locally by school districts	Textbooks are selected (with teacher input) and purchased locally by school districts	Learning materials are developed or selected (with teacher input) and purchased locally by school districts
Ontario (Canada)	To some extent. The Ministry of Education defines criteria that English- and French-language learning materials must meet in order to be considered for approval as textbooks.	To some extent. The Ministry of Education develops or may fund development of some learning materials that support implementation of curriculum.	Yes, the ministry approves textbooks, which are added to a formal list. Where no textbook for the course of study is included in the ministry list, a local school board may approve a suitable textbook.	To some extent, insofar as some learning materials are developed by the Ministry of Education, or the ministry may fund their development.	To some extent. Local school boards must select from the ministry-approved list of textbooks, and once the ministry determines a textbook is outdated, it must be phased out and no longer used as a textbook.	No involvement; however, the Ministry of Education may occasionally provide targeted funding and criteria for local purchase of learning materials that address ministry priorities.
Québec (Canada)	To some extent. The government may exceptionally supply guidelines to facilitate publishers' work.	No involvement	Yes, the ministry draws up a list of textbooks used in schools.	No involvement	To some extent. Teachers choose from the list of materials approved by the ministry.	No involvement
Chile	Yes, the Ministry of Education defines technical guidelines and pedagogical specifications for the development of textbooks by the private sector.	Yes, the Ministry of Education defines technical requirements for learning materials, except those of the school libraries.	Yes, the government evaluates proposals for textbooks, from the first to the last stage of the process.	Yes, the Ministry of Education approves buying learning materials for school libraries.	Yes, textbooks are selected through a public bid according to the requirements and the technical and pedagogical specifications defined by the Ministry of Education.	Yes, the ministry is involved in the selection of learning materials for school libraries.
Costa Rica	No involvement	Yes, the government designs specific supporting materials.	No involvement	Yes, supporting materials need government approval	No involvement	Yes, supporting materials need government approval
Czechia	Yes, the state gives accreditation or license to those actors who may develop teaching and learning textbooks.	To some extent. The government is involved only to a lesser extent.	Yes, the Ministry of Education shall grant or withdraw an approval clause for textbooks for basic and secondary education.	Yes, the Ministry of Education shall grant or withdraw an approval clause.	To some extent. Involvement is rather financial – schools cannot spend public finance for textbook without state approval.	To some extent. The government is involved only to a lesser extent.
Denmark	No involvement	No involvement	No involvement	No involvement	No involvement	No involvement
Estonia	To some extent. The government is involved only through putting in place the obligatory requirements.	To some extent. The government is involved only through putting in place the obligatory requirements.	No Involvement	No involvement	No involvement	No involvement
Finland	To some extent. The national agency for	a	a	a	a	a

	education publishes textbooks for subjects in which circulation is very limited.					
Hungary	Yes, the development of textbooks is primarily a public task	Yes, the development of teaching materials is primarily a public task.	Yes, the government designates official textbooks.	Yes, the government designates official textbooks.	Yes, a state institution (EKE OFI) carries out the selection.	Yes, a state institution (EKE OFI) carries out the selection.
Ireland	a	Yes, the Department of Education produces a range of support material for the system.	a	Yes, all learning materials created by the DES Support Services (such as Professional Development Service for Teachers [PDST]) and the Junior Cycle for Teachers (JCT) are subject to a design and quality assurance process.	To some extent. None directly, but textbooks should be influenced by the specifications.	Yes, all learning materials created by the DES Support Services are subject to a design and quality assurance process
Japan	No involvement	Yes, casual elaboration of supporting materials (i.e. supplementary teaching materials)	Yes, all textbooks (except for a few books which are written by government and produced by a private publisher) written and produced by private publishers should be authorised by the Ministry of Education	No involvement	For Public schools, the boards of education in local government select textbooks from a list of authorised textbooks while private schools select textbook independently.	To some extent. Schools should notify the boards of education in local government for the use of some educational materials
Korea	Yes, the government establishes a master plan of textbook development and provides guidelines to private publishers.	Yes, the government contributes to the development of instructional materials through financial support.	Yes, the government appoints an authorisation committee.	No involvement	No, the government does not take part in the textbook selection at the school level.	No involvement
Lithuania	No involvement	No involvement	To some extent. Expert review is required.	No involvement	No involvement	No involvement
Mexico	Yes, the Secretary of Public Education is responsible for the elaboration, update and edition of the textbooks for Primary Education.	Yes, the Secretary of Public Education is responsible for the elaboration, update and edition of educational materials for Primary Education and of some addressed to	Yes, textbooks go through a process of verification of compliance for the elaboration of a list of authorised books.	m	To some extent, schools can choose from a list of authorised books.	m

		Secondary Education.				
Netherlands	No involvement	No involvement	No involvement	No involvement	No involvement	No involvement
New Zealand	To some extent. The government provides advice to third-party providers.	To some extent. The government provides advice to private publishers and casual elaboration of supporting materials	No involvement	To some extent. Only for government-developed materials.	No involvement	To some extent. Only for government-developed materials.
Norway	No involvement	To some extent, through financial support for key materials (i.e. resources for students with disability)	No involvement	No involvement	No involvement	No involvement
Poland	Yes, the Ministry of Education may commission the development of textbooks.	Yes, an entity of the Ministry of Education develops supporting materials (i.e. teacher support materials)	a	a	a	a
Portugal	To some extent. The government defines the textbook certification criteria and would only develop textbooks in the absence of initiative from private publishers	To some extent. The Ministry of Education may produce support material for some subjects/areas of the curriculum	Yes, the ministry of education is responsible for defining, implementing and monitoring the approval process of school textbooks.	No involvement	To some extent. Schools select from a list of textbooks offered by the Ministry of Education.	No involvement
Sweden	No involvement	To some extent. The National Agency for Education has produced some digital learning material, for example addressing national minority languages.	No involvement	No involvement	No involvement	No involvement
Türkiye	Yes, the Ministry of National Education is actively involved in the preparation of textbooks.	Yes, the government contributes to the development of instructional materials.	a	a	Yes, textbooks are selected through boards of education under the supervision of the Ministry of National Education.	M
Northern Ireland (United Kingdom)*	No involvement	To some extent, through financial support.	No involvement	To some extent, for some materials endorsed by the curriculum authority.	No involvement	m
Scotland (United Kingdom)	a	a	a	a	No involvement	No involvement

Wales (United Kingdom)	a	a	a	a	a	a
United States*	No involvement	No involvement	No involvement	m	No involvement	m
			PARTNER			
Argentina	To some extent. The government meets with printing houses to discuss pedagogic and content trends in specific areas.	To some extent. Provision of teaching material where private printing houses have no commercial offer.	To some extent. Involvement only for public purchases.	No involvement	No involvement	No involvement
Brazil*	Yes, the Ministry of Education prepares guidelines through Terms of Reference	Yes, there are many government-developed materials that are made available to schools.	Yes, the Ministry of Education nominates a committee to evaluate the textbook submissions.	To some extent. Only for public purchases.	To some extent. Schools select from a list of textbooks created by the Ministry of Education.	m
China (People's Republic of)	Yes, the Ministry of Education is responsible for developing the content of textbooks in key subjects (i.e. Chinese, History, Morality and Rule of Law)	m	Yes, textbooks of primary and secondary schools must be approved by the government before they can be used.	m	Yes, the Ministry of Education sets up rules and methods of teaching materials selection.	m
Hong Kong (China)	Yes, the Education Bureau provides guidelines and counseling to private publishers	To some extent. It provides casual supporting materials (e.g. teaching guides)	Yes, textbooks need to be approved by the Textbook Review Panels that also comprise subject officers from the Education Bureau (along with teaching staff and academics)	No involvement	To some extent. It provides a list of recommended textbooks, but teachers may opt for different ones.	No involvement
India*	Yes, both central and state governments are actively involved in developing textbooks.	Yes, government institutions develop teaching-learning material	Yes, but responsible agencies vary by State	To some extent, only those developed by government institutions.	Yes, through a syllabus committee.	To some extent, only those developed by government institutions.
Kazakhstan	Yes, the Ministry of Education develops the rules for the preparation, review, assessment, monitoring and publication of textbooks.	Yes, the Ministry of Education develops the rules for the preparation, review, assessment, monitoring and publication of textbooks.	Yes, the Ministry of Education develops the rules for the preparation, review, assessment, monitoring and publication of textbooks.	Yes, the Ministry of Education develops the rules for the preparation, review, assessment, monitoring and publication of textbooks.	Yes, it provides a list of basic textbooks	Yes, it provides a list of basic textbooks
Singapore	Yes, close collaboration with private publishers	Yes, close collaboration with private publishers	No involvement	No involvement	No involvement	No involvement
South Africa	Yes, provision of comprehensive guidelines to private publishers	Yes, in partnership with social partners	Yes, government approves the final catalogue.	Yes	Yes, the government screens the suitability of textbooks to be	Yes

					included in the national catalogue.	
Viet Nam	Yes, the Ministry of Education provides guidance for textbook authors.	Yes, the Ministry of Education and of Culture propose guidance on copyright and quality assurance	Yes, textbooks are subject to the licensing made by the Ministry of Education and the Ministry of Culture and Information.	Yes, these are subject to the licensing made by the Ministry of Education and the Ministry of Culture and Information.	Yes, the Ministry of Education issues the only textbooks for compulsory subjects.	Yes, the selection of reference books is authorised to the local education authorities, schools, teachers

*: Data submitted by researcher not governmental institution.
Notes:
m: Data are not available.
a: The category does not apply in the country concerned or economy.
Source: Future of Education and Skills 2030, E2030 Policy Questionnaire on Curriculum Redesign (PQC).

In many countries, responsibility for quality assurance is shared between government, schools and municipalities, while very few countries engage in external evaluations in the quality assurance process (e.g. the Focused Education Resources in British Columbia (Canada); an external evaluation agency in Ontario (Canada) and an external evaluation committee in Brazil).

However, when it comes to the selection of textbooks and learning materials for the school and classroom, the government is less involved, paving the way for school and teacher autonomy. In general, government involvement is slightly stronger in textbooks than learning materials; and is more significant for OECD partner countries. The extent of involvement varies from providing suggestions (e.g. Australia providing optional learning materials), to issuing lists of authorised textbooks (e.g. Japan, Mexico, Portugal, Québec (Canada), Brazil, Kazakhstan), to approval of public spending on textbooks (e.g. Czechia).

Digital textbooks

The OECD Education 2030 project (E2030) analysis on digital curricula found that several countries and jurisdictions encourage the development and use of digital textbooks; some have put initiatives in place to develop digital learning materials. There are many different reasons for this, such as exploring new opportunities to close equity gaps (especially for students with special needs), promoting more personalised learning, ensuring effective learning progression across different grades, and supporting digital learning where content, pedagogies and assessment are more integrated (OECD, 2020[11]). Despite these benefits, the cost, accessibility, and lack of social interaction of digital textbooks should be taken into account, to continue promoting students learning and development.

Some countries, including **Estonia**, have reported that the use of digital textbooks accelerated during the COVID-19 pandemic. However, their introduction required careful planning and piloting to ensure these textbooks are successfully integrated whilst addressing key issues such as accessibility, equity, affordability and relevance. Typically, when changing from print to digital resources, both versions are made available for a certain period of time to help ease the transition.

Moreover, quality assurance and accreditation of digital textbooks requires a more complex process than that of paper textbooks. For instance, **Lithuania** reported that there is a national approval process currently in place for digital textbooks. This is due to a number of reasons, including the widened scope of content, which is made available through interactive features often linked to other types of content; the use of multi-media formats including music and videos; and the blurred distinction between content, pedagogy and assessment, which are all combined in digital textbooks. (OECD, 2020[11]).

This could easily lead to curriculum overload. The E2030 analysis found that textbooks can often cause content overload or contribute to teachers' perception that they do, in the case of particularly large

textbooks (OECD, 2020[12]). When given autonomy in the choice of textbooks, it is therefore critical for schools and teachers to be able to choose the right resources to avoid curriculum overload.

These research findings suggest that textbooks play an important role in defining pedagogies closely related to content and assessment. Therefore, it is critically important for governments to ensure that flexibility in pedagogies is used as an opportunity to address different student needs, e.g. by developing relevant resources and tapping into the potential of digital textbooks in particular.

Flexibility in assessment

When it comes to **assessment** with regards to curriculum implementation**,** decisions are predominantly made at the school level by teachers and school leaders, but with a strong lead from the government at the national level (Figure 1.5). School-based, classroom and formative assessments are often relatively flexible, particularly in terms of assessing curriculum-related achievement and progress. Conversely, national standardised assessments or other high-stakes examinations outside schools are, by nature, less flexible.

In many jurisdictions, there is a combination of flexibility at a local level, with less flexibility at the system level.

- Teachers in **Denmark** have the flexibility to choose assessment strategies and methods. Assessments can adapt pedagogies to suit students' needs, however, some assessments are mandatory. For example, 9th-grade students take a school leaving examination and a range of mandatory national tests are used to evaluate students' learning outcomes from 2nd to 8th grade. The tests take place in the beginning of the school year so as to track the learning outcome of the individual students and the class as a whole and to follow the learning progress on both levels. This means that the education process can be better placed in preparing future lessons in accordance with their strengths, weaknesses and potential at that point[3]. The test results provide only a snapshot of the learning outcome and teachers are urged to combine the test results with other tools used for evaluation.
- In **Estonia**, the Schools Act sets out the knowledge, skills and experience of students to be assessed on a five-point scale. At stages I-II[4], students can be assessed using verbal descriptive feedback, without the use of a grade scale. By the end of stage II, a grade scale is introduced, and verbal assessment is no longer used. Alongside this scale, formative assessment is obligatory to provide feedback on results, and to encourage and guide further studies and future objectives. Schools are free to use any assessment scale at this level and in later school years, but it must support the development of the student. The marks must be transformed to the five-point scale by the end of schooling or when the students leave school.
- The curriculum guidelines of **Korea** outline assessment methods and considerations, but these provide broad guidelines rather than specific regulations. For example, the curriculum documents outline the purpose and direction of assessment by emphasising that assessments are meant to gauge student achievement levels. The results from these assessments should then be utilised to enhance the quality of both teaching and learning. Moreover, it's advised that the chosen assessment method should take into account the subject's nature and characteristics. A diverse range of methods, including multiple choice, descriptive and essay types, interviews, and portfolios, is recommended over relying solely on one type of assessment.
- **Brazil** has standardised national assessments such as the *Sistema de Avaliação da Educação Básica* (SAEB), which is administered biannually and provides indicators of the quality of Brazilian education and offers subsidies for the elaboration, monitoring and improvement of educational policies based on evidence. SAEB can generate results on a national, state, municipal and school level, but not on a class or student level. Nevertheless, local governments and schools can implement new formative and summative assessments.

Flexibility in learning time

Regarding **learning time**, decisions are taken by governments at the national level, but also by schools (Figure 1.5). Compared to the three other categories, teachers and students have the least autonomy in this regard, with most countries prescribing learning time within specific constraints.

- Curriculum documents in **Australia** provide an outline of indicative hours of instruction time for learning areas and/or subjects. Jurisdictions, school sectors, school leaders and teachers have the flexibility to vary the allocation to meet the learning needs of students attending the school and to include activities such as peer support, sporting events, and school assemblies. States and territories may set policies that specify minimum time allocations for specific subjects.
- The Ministry of Education in **British Columbia (Canada)** requires yearly instructional time but does not mandate how that time is divided among subject areas.
- **Korea** allows schools to adjust instructional hours within 20% of the respective subject (cluster) – or up to 35% in the case of autonomous schools and designated high schools. Thus, schools can strengthen a well-rounded education by increasing hours for music, art and physical education, or decide to increase the number of hours allocated to certain subjects in the case of low-achieving students.

Nature of curriculum flexibility

To ensure optimal learning experiences and outcomes for students, a curriculum is often less prescribed, leaving "space" for it to be contextualised and customised to suit individual student needs.

Such "space" in a curriculum can be used by school leaders and teachers to choose/select, adapt, add, remove/reduce or design/co-design curriculum elements. (Box 1.4).

Box 1.4. Nature of curriculum flexibility

- **Choose/select:** flexibility to select from suggestions, alternatives or options set out in the curriculum.
- **Adapt:** flexibility to adjust, contextualise or customise aspects set out in the curriculum to suit the needs, interests or preferences of learners or of the context or setting.
- **Add:** flexibility to include goals, content, pedagogical or assessment approaches beyond what is required, and/or time above minimum allocations.
- **Remove/reduce:** flexibility to include less when a curriculum standard is set as aspirational rather than a required minimum, especially when student well-being is at risk due to curriculum overload.
- **Design/co-design:** flexibility to create/co-create or "make" curricula to ensure relevance and instil a sense of ownership and responsibility for implementation.

Choosing/selecting or adapting

Some curricula enable choice and selection by educators. In **British Columbia (Canada)**, the high-level concepts and competencies of study are set by the provincial curriculum, but teachers have a significant amount of flexibility regarding the contexts used to teach these topics. For example, a Social Studies learning standard might require that students learn about revolutions during the 18th and 19th centuries, but teachers can choose *which* revolutions to study, and the amount of *time* spent on each. Teachers are

encouraged to consider their students' and community context to personalise learning of larger concepts and competencies.

Other curricula support the adaptation of goals, content, pedagogies, assessment and instruction time. **Ireland**'s ISCED 2[5] gives scope for schools and teachers to adapt to the needs of the learners within parameters of the centrally devised curriculum, alongside the expectations it sets out for what schools will teach, their pedagogy and their assessment. Box 1.5 shows more examples of how learners appreciate teachers adapting pedagogies through playful learning; Box 1.6 offers an example of how students welcome an opportunity to choose a topic for self-assessment.

Box 1.5. Playful learning as an example of adapting pedagogies

Sophia, a 17-year-old student from Denmark, believes that playful learning can create a needed sense of purpose and achievement in the classroom. Sophia shares how incorporating games specifically at the end of lessons can significantly improve student engagement: "If you know that what you do in the class becomes part of a game or competition at the end of the class, you have an immediate reason to follow along. When all the knowledge you are learning right now, can also be put to use right now, that is when you feel like the class has a clear purpose. In that way, games can create immediate gratification from learning. You should not have to wait until the end of the year when you do good on an exam to feel gratification from your learning." Sophia believes that small games and playful exercises can give a small sense of achievement that students need to stay motivated. She also stresses how games teach her to use her knowledge in different contexts and thereby help her become a more agile thinker. For instance, in her German class, they often play "quiz and swap" where the students each get a card with a question. When two people meet they must answer the other's question before they can swap cards and move on to a new partner. The first to answer every card wins. In this game, Sophia finds that she learns how to use the new phrases and vocabulary she has learned in a real conversation. At the same time, focusing on helping each other out to answer the questions as fast as possible encourages the students to negotiate meaning between them, which is key to learning a new language. For a game to be engaging, she thinks that it needs to make everyone feel like they are participating. On the contrary, she thinks that a bad game allows students to hide themselves away at the corner of the room. Moreover, she emphasises teacher engagement and how teachers can motivate students by being engaged themselves: "a playful teacher is contagious," she says.

Manuel, an 18-year-old student from Portugal, believes that playful learning can be used to bridge generations and build relationships. At his school, he joined the chess club, where he was taught how to play by the older students until the 7th grade, at which point he started teaching younger students. Not only did he learn how to play chess, but he found the experience of transitioning from a mentee to a mentor formative. He talks about how using play as a peer-learning tool has the potential to build communities. Through the game, students develop relationships not just across grades, but also across schools by participating in inter-municipal and national tournaments. Manuel expresses how peer learning combined with chess helped him develop social and relational skills, which he believes all students should learn. Games can also be the starting point for engaging the entire community in learning. Manuel gives the example of how a project in his community collected traditional outdoor games that children's parents and grandparents played when they were little. The initiative was run by the school in partnership with the municipal youth department. Over a weekend, a historian led a tour, explaining the history of their city with stops where the old-time games were set up. Manuel still remembers the experience clearly: "it culminated in a day of play between people of different generations and the learning turned out to be much more than just the games". By using games as a starting point, the whole community was engaged in the school's history lesson.

Source: OECD Future of Education and Skills 2030 Student Narratives on Playful Learning.

Box 1.6. Student reflection on assessment

Kelly, a 17-year-old student in Ireland, focuses on the importance of flexibility when it comes to assessment. He finds that he learns better when given a topic to learn about: if the teacher pinpoints what students should learn but gives flexibility in assessing whether they learned it, each student has the chance to learn in their own way and meet the end goal, which is to understand the learning material.

As a final year student, Kelly is particularly fond of the idea of a continuous assessment: projects to build up to a final grade instead of one determinant final examination. He thinks that, with this more flexible approach to assessment, students would be happier and their results as a group would be better.

Source: OECD Future of Education and Skills 2030 Student Voices on Curriculum (Re)design /campaign, https://www.oecd.org/education/2030-project/educationwewant/.

Adding or removing/reducing

Curricula that set out requirements but allow users to supplement them are slightly more permissive. This can be to respond to new demands, such as adding new units or creating subjects (e.g. privacy and data security, as well as consent education in Australia, and entrepreneurship in Poland; health and well-being in Hungary and Ireland; coding/programming in British Columbia (Canada) and Estonia; global citizenship in Mexico and India; environmental literacy in Korea and Norway; media literacy in Hungary and Quebec (Canada), etc. (OECD, 2020[12])), or adding more instruction time to accommodate such demands. In this approach, minimum requirements are set with more freedom to add to the goals, content, and pedagogical or assessment approaches.

However, this approach needs to be carefully considered. While recognising its needs and benefits, policy makers increasingly share concerns that, without careful attention, this approach can invite curriculum overload. Oates (2011[13]) and Rawling (2020[14]) raise the concern that curricula could become a space for competing policy interests on what to include, not purely to exercise professional autonomy, but due to schools and teachers facing pressures from interest groups. For example, Finland reports that overload was observed to be heavier in local curricula than the National Core Curriculum for Basic Education 2004, which had the target of reducing curriculum overload (OECD, 2020[12]). Therefore, curriculum flexibility and autonomy could inadvertently produce curriculum overload if used simply to add more content or instruction time.

This suggests that we must carefully consider the approach of removing/reducing (OECD, 2020[12]) As in Finland, curriculum overload tends to be heavier at the local level when schools and teachers lack guidance on what to remove or prioritise. This requires reflection, given that curriculum overload is likely to remain

a major policy concern, particularly given student well-being issues associated with the COVID-19 pandemic at the time of writing, while recognising the need to recover learning opportunities which were lost during the lockdowns.

Designing/co-designing

Less common are decisions that allow educators and students to design/co-design their own curriculum. This relates to "negotiated curricula"; (OECD, 2020, p. 17[15]) the design process involves teachers and students before the curriculum is implemented. It is therefore no longer necessary to raise awareness of the new curriculum once it is introduced. Indeed, "engaging stakeholders to develop shared understanding and ownership of curriculum change" was reported as a successful experience by British Columbia (Canada), the Netherlands and Ontario (Canada) in the OECD E2030 curriculum analysis of 21st century curricula, especially to address the issue of time lag (in (OECD, 2020, pp. 103-104[11])).

Flexibility to design/co-design goes beyond recognising that teachers will make their own plan from a curriculum, also encouraging teachers and schools to be curriculum makers who shape a curriculum that is "owned" by them, that is centred around working in their contexts, and that is driven by their priorities, worldviews and perspectives about what matters to their learners. Box 1.7 illustrates how students can become co-designers of curricula and learning environments.

While acknowledging many benefits, some countries report that this approach can put teachers and learners – and often parents – in conflict regarding expectations. An "expected curriculum", defined as part of an education ecosystem (OECD, 2020, p. 17[15]), can vary between teachers, students and parents, as well as amongst teachers themselves.

This is the case when it comes to teaching attitudes and values. For example, India reports "dissonance between teachers' own values and beliefs and those in the curriculum" when exercising curriculum flexibility and autonomy at a local level (OECD, 2021[16]).

Research also shows that, while parental involvement correlates to better psychological adjustment, life satisfaction and improved general physical health among grown children, parents with unrealistic expectations for their children's success (often referred to "helicopter parents") and excessive protection can put harmful emotional and mental pressure on children (Burns and Gottschalk, 2019[17]; Fingerman et al., 2012[18]).

When the nature of flexibility is to design/co-design, schools must be equipped to reconcile tensions and dilemmas, while valuing input from an array of stakeholders, including educators, learners, families and the community. Otherwise, "too many cooks spoil the broth"[6]. In this approach, curriculum design demands high levels of complex interactions, with the "agency" of different stakeholders reaching "co-agency" and "collective agency". It also demands curriculum design expertise and accountability.

Box 1.7. Involving students in shaping curricula: Complex Instructions Programmes in Hungary

A defining concept of modern pedagogical thinking is “student agency”, in which learners are not passive receivers of teaching but active and conscious shapers of their own learning and environment. Student agency, in the context of the OECD Learning Compass 2030, is defined as the capacity to set a goal, reflect and act responsibly to affect change (OECD, 2019[19]).

The practice of the Molnár School in Hungary illustrates that the involvement of students in educational innovation processes is not only possible but necessary. The Molnár School uses the knowledge and experience of students when thinking about pedagogical processes. This is reinforced by the practice of Complex Instructions Programmes (*Komplex Instrukciós Program*, KIP) lessons, the defining element of which is assessment by the students in group learning.

Night of Researchers

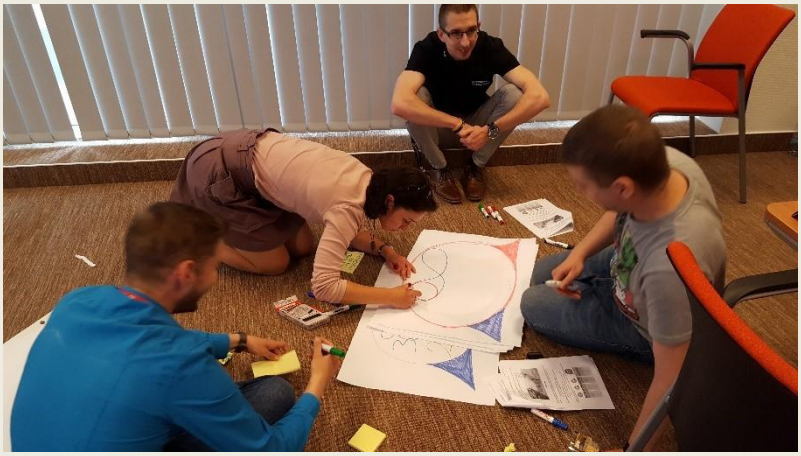
Pupils teach board games to university students and lecturers at University of Miskolc

KIP is an alternative and reflexive teaching method created in response to the lack of student motivation perceived by Hungarian teachers. KIP is the result of three years of research to adapt the existing method of Complex Instruction, developed in the 1970’s by Stanford University’s Elizabeth G. Cohen and Rachel Lotan, to the Hungarian context and contemporary curriculum competencies (Hunya, 2016[20]).

At the end of KIP lessons, students evaluate what happened earlier in their group in an analytical way in front of their peers. This means giving feedback on whether their work was successful and enjoyable, and engaging in dialogue with each other and their teacher about the learning processes in their group and the specifics of their work. All students analyse and evaluate the learning process that has taken place, point out which factors helped, and which factors hindered it, and recall moments of communication in the groups.

Educators often use tasks or puzzles created by students in KIP lessons, and the tasks they compile have been used in final evaluations. There is even a KIP lesson where one group of children prepares tasks for the other. Applying tasks invented by children also appears in places like physical education classes. For example, most jumping exercises are invented by the students themselves.

KIP training for Vodafone instructors/trainers to increase retention of new hires



Molnár also uses a form of pedagogical dialogue with children known as “reverse day”, in which children are placed in the role of educators. The experience of reverse days shows that children are able to plan lessons (“the way a class is structured, like a real teacher”) using complex methods such as teamwork. In another example of lesson planning, educators consulted with students on professional issues.

Note: Images by Emese K. Nagy.
Source: Fazekas and Halász, (2019[21]), "A gyakorlatunk a legnagyobb munníciónk", Innovációs folyamatok a ferencvárosi Molnár Ferenc iskolában Innova esettanulmány, *[Our practice is our greatest ammunition" - Innovative processes at Molnár Ferenc School in Ferencváros, Innova case study.]*

Defining curriculum autonomy

We can better understand the interplay between curriculum flexibility and autonomy by asking underlying questions. For example, who can make autonomous decisions on curriculum flexibility, when taking into account the various aspects of flexibility discussed previously in this chapter? Curriculum autonomy suggests the extent to which different actors (such as boards of education, school leaders, teachers and students) can exercise control and decision-making over curriculum flexibility.

The following section takes a pragmatic, rather than a conceptual, political or ideological, approach to autonomy regarding curricular decisions, answering “who decides” by clarifying decision-making power and empowerment. It first contextualises the question by analysing who makes curricular decisions specifically, in comparison with general decision-making in education. It then illustrates the interpretations and categorisations used when defining autonomy regarding curricular decisions in different countries, across disciplines and by various stakeholders.

Who makes decisions specific to curricula?

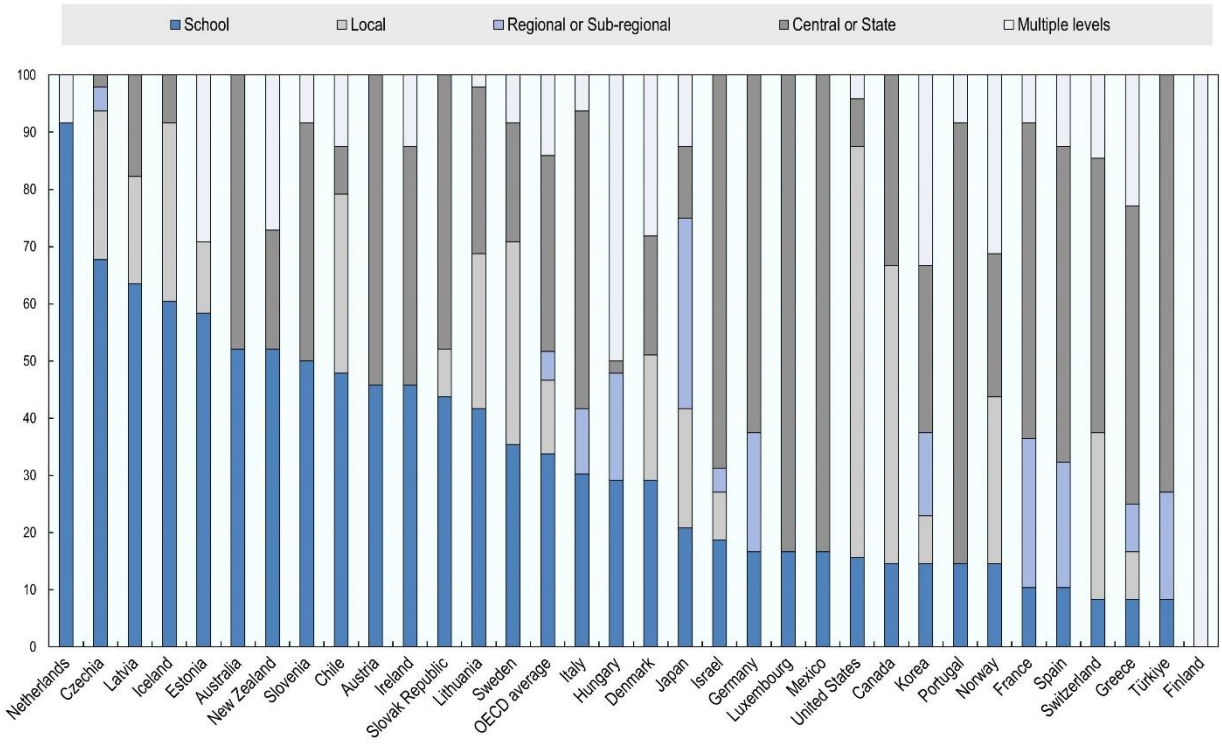
When clarifying the nature of curriculum flexibility above (Nature of curriculum flexibility), the underlying assumption of *who* (chooses, adapts, adds, removes/reduces, designs/co-designs) was mainly teachers, although school leaders and learners also play a role.

National or state governments delegate decision-making authority for curriculum flexibility to **local authorities, schools, teachers** and, more recently, **students** themselves (Erss, 2018[22]; Wermke, Olason Rick and Salokangas, 2018[23]; Voogt et al., 2018[24]; OECD, 2019[25]; Suggett, 2015[26]).

This aligns with the ecosystem approach to curriculum change (OECD, 2020[15]) and the OECD Learning Compass, which places student agency at the centre of the learning framework. Students can be empowered and supported to understand the meaning of autonomy and make informed decisions with regards to where, what and how to learn (e.g. goals, content, pedagogies, assessment and learning time). Fostering competencies such as self-directed learning, a sense of ownership of their learning, and a growth mindset can support learners to thrive and reach their potential.

Compared to the broader context of autonomy in education (Figure 1.3), decision-making about a curriculum paints a slightly different picture (Figure 1.4).

Figure 1.3. Share of decisions taken at each level of government in lower-secondary public education (2017)

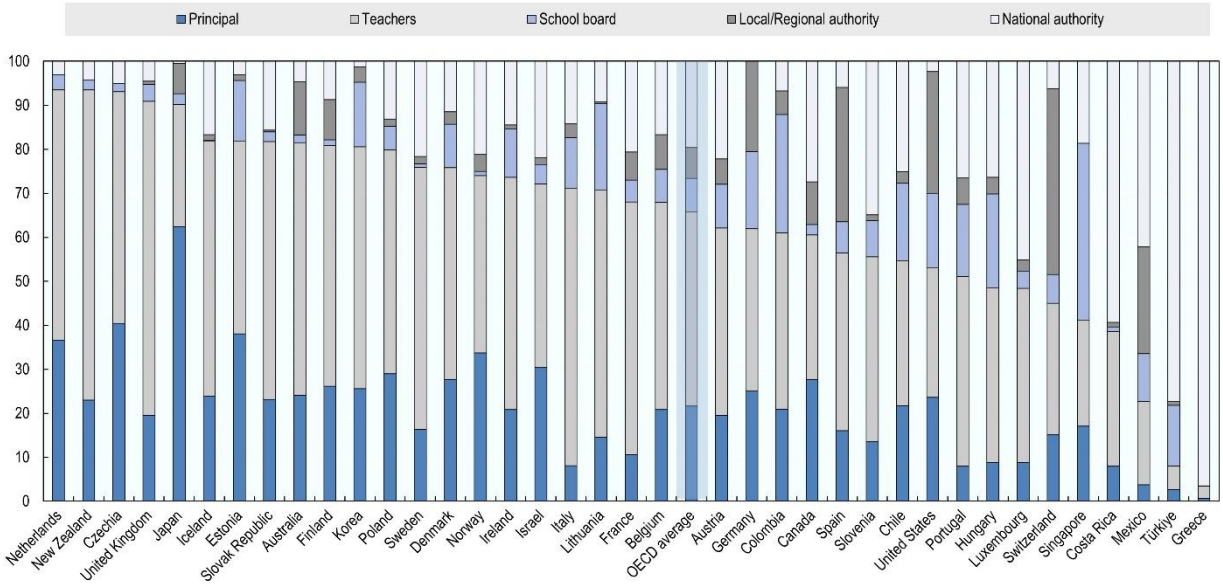


Notes: In Estonia, there are only three levels of decision-making: school, local and state. Instead of "multiple levels", it should be "central or state". The kinds of decisions considered in this data include items compiled in four broad domains, namely:

- The organisation of instruction: bodies determining the school attended, decisions affecting school careers, instruction time, choice of textbooks, choice of software/"learningware", grouping pupils, assistance to pupils, teaching methods, assessment of pupils' regular work.
- Personnel management: hiring and dismissal of staff, duties and conditions of staff service, fixing of staff, influence over the career of staff.
- Planning and structures: creation or closure of a school, creation or abolition of a grade level, designing programmes of study, selection of subjects taught in a particular school, selection of programmes of study offered in a particular school, setting of qualifying examinations for a certificate or diploma, credentialing.
- Resource allocation and use.

Source: OECD (2018[27]), *Education at a Glance 2018: OECD Indicators*, https://doi.org/10.1787/eag-2018-en.

Figure 1.4. Share of responsibility for school curricula



Notes: The tasks include responsibility for the curriculum and instructional assessment within the school (establishing student-assessment policies, choosing textbooks, and determining which courses are offered and the content of those courses). The calculation is based on the tasks included in the school questionnaire. Countries and economies are ranked in descending order of the responsibility held by school principals and teachers.

Source: OECD (2016[28]), *PISA 2015 Results (Volume II): Policies and Practices for Successful Schools*, https://doi.org/10.1787/9789264267510-en.

Several OECD countries grant high school autonomy (from 90% to 50%), with a particularly strong lead taken by **the Netherlands**, followed by **Czechia, Latvia, Iceland, Estonia, Australia, New Zealand** and **Slovenia** (Figure 1.3). These findings correspond at least in part to school autonomy over curriculum (represented by principals and teachers), for instance in **the Netherlands, New Zealand, Czechia, Iceland, Estonia and Australia** (Figure 1.4).

Overall, countries where larger shares of education decisions are made at the school level (such as organisation of instruction, personnel management, planning and structures, and resource management)[7] are also those where most responsibility for the school curriculum rests with principals or teachers:

- **The Netherlands, New Zealand,** and **Czechia** show the highest share of responsibility for curricula assumed **by principals and teachers** (over 93%). At the other end of the spectrum, **Türkiye** and **Greece** grant the lowest levels of autonomy regarding curricular decisions at school level (8% and 3%, respectively), while central governments play a bigger role in decision-making in these two countries (at 80% and 95% respectively).
- Similarly, **Iceland, Estonia and Australia** show a high share of responsibility for curriculum taken up by principals and teachers (at around 80%), corresponding to the generally high share of school autonomy granted (from 60% to 55%).
- However, some countries with a lot of autonomy over curriculum may only be minimally involved in other decisions about broader educational planning. This is the case for **Japan** (90% vs. 41% respectively)**, Korea** (80% vs. 23%)**, Denmark** (76% vs. 51%)**, Norway** (74% vs. 44%)**, Israel** (72% vs. 27%)**, Italy** (71% vs. 42%) **and France** (69% vs. 37%)**.**
- In some countries **local or regional authorities** have high shares of responsibility for curricula, such as in in **Switzerland,** where 42% of responsibility rests at the local or regional level, followed by **Spain** (30%)[8], the **United States** (28%) **and Mexico** (20%).

- In other countries and economies, **school boards** play a prominent role, as in **Singapore**, where 40% of responsibility for decision-making rests at school board level, as it does in **Colombia** (almost 27%).

It is important to note that not all decisions are made at the same level in a country or jurisdiction. Further, governance is in flux along with ongoing reforms. This said, a general picture can be captured at the time of data collection (Box 1.3):

- In 11 out of 33 countries and jurisdictions with available data, **the central or state authority** oversees most decisions (Figure 1.3).
- However, the largest share of decisions is made **at the school level**. For example, the share in **the Netherlands** is particularly high, with over 90% of decisions taken at the school level. In eight countries, including **Australia**, **Czechia** and **Estonia**, 50% or more of decisions are made at the school level. This is in line with existing research, which shows that countries and jurisdictions increasingly offer curriculum flexibility to schools with a degree of autonomy in certain areas (Kuiper, Nieveen and Berkvens, 2013[29]).
- In other countries, the share of decisions made at the school level is low but **local authorities** have a prominent role. For example, in **the United States,** being a federal country, decisions are made mainly at the local level (72%), while responsibility rests with schools for only around 16% of decisions. On average, however, regional/sub-regional and local levels have a less prominent position (13% of decisions).
- There are differences among federal countries. In **Canada**, for example, most curriculum, pedagogy and resource decisions are made at the provincial and local level (33% and 52% respectively); the responsibility rests with schools for only around 15% of decisions. There is no federal authority for education in Canada, except for some First Nations schools, and the Council of Ministers of Education, Canada (CMEC) serves as an intergovernmental body to represent the educational interests of the provinces and territories internationally. On the contrary, in the **United States**, a national authority (the Department of Education) exists, however, in many states of the United States, boards of education only oversee a city or local area and make decisions regarding curriculum, pedagogy and funding locally.
- Decisions involving **multiple levels of government** are the prevailing pattern in **Finland** (100%), **Hungary** (50%) and other countries to a lesser extent, such as **Korea** (33%), **Norway** (30%) **Estonia** (29%) and **Denmark** (28%).
- When it comes to regional/sub-regional level decision-making, it is rather exceptional, with only ten countries granting any autonomy to that level. The list is led by **Japan** (at 32%), followed by **France** (26%), **Germany**, **Spain** (both at 22%), **Türkiye** (20%) and **Hungary** (18%). **Korea, Italy, Greece and Czechia** are the only other countries that give autonomy to regions/sub-regions, their shares ranging from 16% to 2%.
- It should be noted that some decisions are made **in consultation with other bodies**, or flexibility is left to **adjust a national framework to local student needs**. In Korea, for example, the central level establishes minimum instruction time for a set of grades, and schools have autonomy to allocate instruction time per grade as they consider appropriate (OECD, 2018[30]).

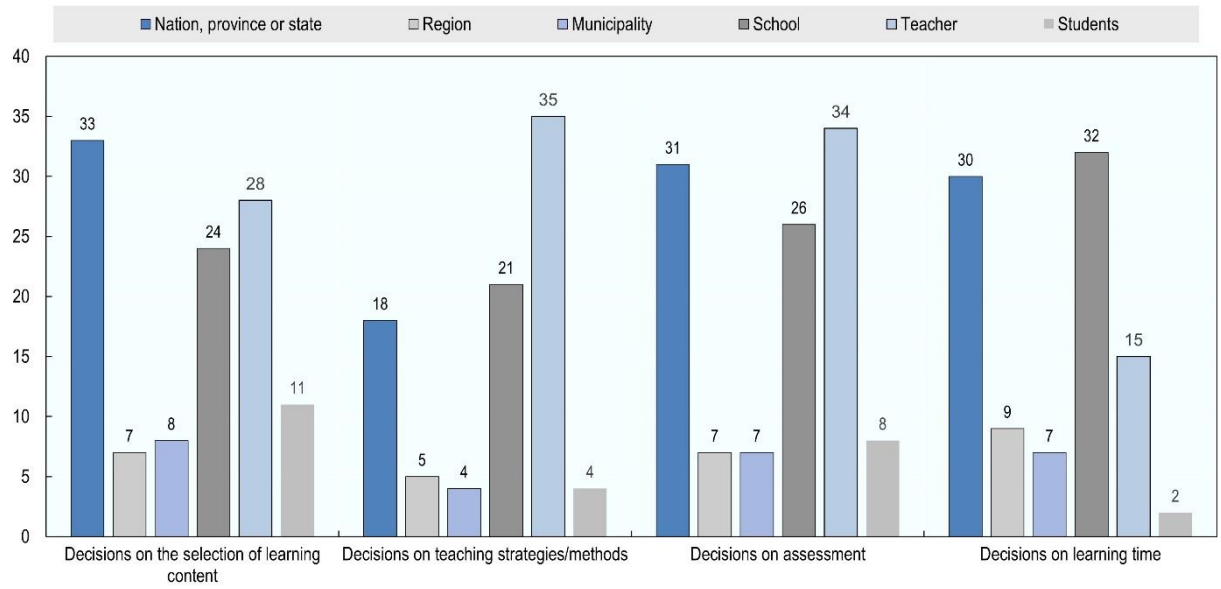
In all education systems an increasing number of stakeholders are involved in designing, delivering and monitoring education. This complexity challenges decision-makers at every governance level to navigate a dynamic policy environment effectively. Generally, it's recognised that five key elements are crucial for the efficacy of modern complex governance systems: 1) prioritise processes over structures; 2) maintain flexibility and adaptability to change; 3) enhance capacity through stakeholder engagement and dialogue; 4) adopt a holistic system approach; and 5) use evidence and research to guide policy and reforms (Burns and Köster, 2016[31]).

The E2030 curriculum data from 35 participating countries and jurisdictions (Figure 1.5) further specify who makes curricular decisions, i.e. with regards to “learning content”, “teaching strategies/methods”, “assessment” and “learning time” in lower secondary education.

National or state governments retain the decision on content, understandably, for curriculum entitlements (i.e. rights to education in a form of content), so as to ensure equitable Opportunities to Learn (OTL). Chapter 2 addresses such considerations.

Figure 1.5. Decision-making across school system actors (N=35)

Number of countries where decisions are taken by given actors



Notes: These graphs present the different actors involved in decision-making on the selection of learning content, learning time, teaching strategies/methods and assessment at ISCED 2 level categorised in four levels of flexibility. In the following countries/jurisdictions, the learning content/goals are not set up at the national level: United States, Wales (United Kingdom), Hong Kong (China). Please refer to Tables 1.2 and 1.3 for country/jurisdiction details.
Source: Future of Education and Skills 2030, E2030 Policy Questionnaire on Curriculum Redesign (PQC, Item 0.4)

StatLink https://stat.link/4vcdrx

Table 1.2 and Table 1.3 suggest some general patterns with country-specific data:

- In all 35 participating countries and jurisdictions with available data, teachers are the predominant decision-makers regarding teaching strategies and instructional methods (Figure 1.5; Table 1.2).
- Decisions on assessment are also predominantly made at the school level by teachers (except in Argentina) but with a strong lead from the government at the national level (Table 1.3) in the majority of participating countries and jurisdictions, the government (national or province/state level) also takes part in the decision on assessment (except in New Zealand, Poland and Hong Kong [China]).
- In only 11 countries and jurisdictions do students take part in deciding on learning content, and in most of these, they also have a say in forms of assessment.

Few opportunities are created for students to participate in decision-making. The data shows that in only a few countries students are invited to make decisions on important aspects of their learning:

- Only 2 countries make room for students to participate in decisions on learning time, which tends to be regulated by the government and the schools (Japan and Scotland).
- Only 4 countries report involving students on decisions regarding teaching strategies/methods, which affects their learning directly (Hungary, Ireland, Norway and Scotland).
- In a slightly greater share of these countries, students take part in decision-making regarding learning content (11) and assessment (8). This leaves a lot of room for many countries to consider how to get students more involved in these key aspects of their learning process.

Table 1.2. School and teacher autonomy to decide on teaching strategies/methods and assessment

Country/ jurisdiction	Decisions taken on the selection of learning content						Decisions taken on teaching strategies/methods					
	Nation, province or state	Region	Municipality	School	Teacher	Students	Nation, province or state	Region	Municipality	School	Teacher	Students
Total	33	7	8	24	28	11	17	6	4	21	35	4
OECD												
Australia	Yes	No	No	Yes	Yes	No	No	No	No	Yes	Yes	No
British Columbia (Canada)	Yes	No	No	No	Yes	Yes	Yes	Yes	No	No	Yes	No
Ontario (Canada)	Yes	No	No	Yes	Yes	No	No	No	No	Yes	Yes	No
Québec (Canada)	Yes	No	No	Yes	Yes	No	Yes	No	No	No	Yes	No
Chile	Yes	m	m	No	No	m	Yes	m	m	No	Yes	m
Costa Rica	Yes	No	No	No	No	No	Yes	Yes	No	Yes	Yes	No
Czechia	Yes	m	m	Yes	Yes	m	Yes	m	m	Yes	Yes	m
Denmark	Yes	m	m	Yes	Yes	m	No	m	m	Yes	Yes	m
Estonia	Yes	a	a	Yes	Yes	No	No	No	No	No	Yes	No
Finland	Yes	m	Yes	Yes	Yes	m	m	m	m	No	Yes	m
Hungary	Yes	No	No	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes
Ireland	Yes	No	No	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes
Japan	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Korea	Yes	Yes	m	Yes	Yes	No	Yes	Yes	m	Yes	Yes	No
Lithuania	Yes	No	No	Yes	Yes	No	No	No	No	Yes	Yes	No
Mexico	Yes	No	No	Yes	Yes	No	No	No	No	Yes	Yes	No
Netherlands	Yes	No	No	Yes	Yes	No	No	No	No	Yes	Yes	No
New Zealand	Yes	m	m	Yes	Yes	m	Yes	m	m	Yes	Yes	m
Norway	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes
Poland	Yes	No	No	No	Yes	No	Yes	No	No	No	Yes	No
Portugal	Yes	No	No	Yes	Yes	m	Yes	No	No	Yes	Yes	m
Sweden	Yes	No	No	Yes	Yes	Yes	No	No	No	No	Yes	No
Türkiye	Yes	m	m	Yes	Yes	Yes	Yes	m	m	No	Yes	m
Northern Ireland (United Kingdom)[1]	Yes	No	No	No	Yes	Yes	No	No	No	No	Yes	No
Scotland (United Kingdom)	Yes	Yes	a	No	No	No	No	Yes	a	Yes	Yes	Yes

Wales (United Kingdom)	m	m	m	m	m	m	m	m	m	m	m	m
United States[1]	m	m	Yes	No	No	Yes	m	m	m	No	Yes	m
PARTNER												
Argentina	Yes	m	m	Yes	Yes	m	m	m	m	Yes	Yes	m
Brazil[1]	Yes	m	Yes	No	No	m	m	m	m	No	Yes	m
China (People's Republic of)	Yes	Yes	Yes	Yes	Yes	Yes	m	m	m	Yes	Yes	m
Hong Kong (China)[2]	a	Yes	a	Yes	Yes	No	a	No	a	Yes	Yes	No
India[1]	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes	Yes	Yes	No
Kazakhstan	Yes	No	No	No	No	No	Yes	No	No	No	Yes	No
Singapore	Yes	a	a	Yes	Yes	Yes	Yes	a	a	Yes	Yes	No
South Africa	Yes	No	No	No	No	No	No	No	No	No	Yes	No
Viet Nam	Yes	a	Yes	Yes	Yes	No	Yes	a	Yes	Yes	Yes	No

1. Data were submitted by researchers and not by a governmental institution.
2. Hong Kong is a Special Administrative Region of the People's Republic of China. As decisions are being made at the "region" level, answers to the column "nation/state" are not applicable.
Notes: This table presents the different actors involved in decision-making on the selection of learning content and teaching strategies/methods at ISCED 2 level.
m: Data are not available.
a: The category does not apply in the country concerned or economy.
Source: Future of Education and Skills 2030, E2030 Policy Questionnaire on Curriculum Redesign (PQC, Item 0.4)

Table 1.3. School and teacher autonomy to decide on assessment and learning time

Country/ jurisdiction	Decisions taken on assessment						Decisions taken on learning time					
	Nation, province or state	Region	Municipality	School	Teacher	Students	Nation, province or state	Region	Municipality	School	Teacher	Students
Total	**31**	**7**	**7**	**26**	**34**	**8**	**30**	**9**	**7**	**31**	**15**	**2**
OECD												
Australia	Yes	No	No	Yes	Yes	No	Yes	No	No	Yes	Yes	No
British Columbia (Canada)	Yes	No	No	No	Yes	Yes	Yes	Yes	No	No	Yes	No
Ontario (Canada)	Yes	No	No	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No
Québec (Canada)	Yes	No	No	Yes	Yes	No	Yes	No	No	Yes	No	No
Chile	Yes	m	m	Yes	Yes	m	Yes	m	m	Yes	No	m
Costa Rica	Yes	No	No	Yes	Yes	No	Yes	Yes	No	Yes	No	No
Czechia	Yes	m	m	Yes	Yes	m	Yes	m	m	Yes	No	m
Denmark	Yes	m	m	Yes	Yes	m	Yes	m	m	Yes	Yes	m
Estonia	Yes	No	No	Yes	Yes	m	Yes	No	No	Yes	Yes	No
Finland	Yes	m	m	No	Yes	m	Yes	m	Yes	Yes	Yes	m
Hungary	Yes	No	No	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No
Ireland	Yes	No	No	Yes	Yes	Yes	Yes	No	No	Yes	No	No
Japan	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
Korea	Yes	Yes	m	Yes	Yes	No	Yes	Yes	m	Yes	Yes	No
Lithuania	Yes	No	Yes	Yes	Yes	No	Yes	No	No	Yes	No	No
Mexico	Yes	No	No	Yes	Yes	No	Yes	No	No	Yes	Yes	No
Netherlands	Yes	No	No	Yes	Yes	No	Yes	No	No	Yes	No	No

New Zealand	No	m	m	Yes	Yes	m	No	m	m	Yes	Yes	m
Norway	Yes	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Poland	No	No	No	Yes	Yes	No	Yes	No	No	Yes	No	No
Portugal	Yes	m	m	Yes	Yes	m	Yes	m	m	Yes	No	m
Sweden	Yes	No	No	No	Yes	No	Yes	No	No	Yes	No	No
Türkiye	Yes	m	m	No	Yes	m	Yes	m	m	Yes	No	m
Northern Ireland (United Kingdom)	Yes	Yes	No	No	Yes	Yes	No	No	No	Yes	No	No
Scotland (United Kingdom)	Yes	Yes	a	Yes	Yes	Yes	No	No	a	Yes	Yes	Yes
Wales (United Kingdom)	m	m	m	m	m	m	m	m	m	m	m	m
United States[1]	Yes	m	m	No	Yes	m	Yes	m	Yes	Yes	No	m
Partner												
Argentina	m	m	m	Yes	No	m	m	Yes	m	No	No	m
Brazil	Yes	m	Yes	Yes	Yes	m	Yes	m	m	Yes	No	m
China (People's Republic of)	Yes	Yes	Yes	Yes	Yes	m	Yes	Yes	Yes	Yes	m	m
Hong Kong (China)[2]	a	No	a	Yes	Yes	No	a	Yes	a	Yes	Yes	No
India	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No	No
Kazakhstan	Yes	No	No	No	Yes	No	Yes	No	No	No	No	No
Singapore	Yes	a	a	Yes	Yes	No	Yes	a	a	Yes	Yes	No
South Africa	Yes	Yes	No	No	Yes	No	Yes	No	No	No	No	No
Viet Nam	Yes	a	Yes	Yes	Yes	No	Yes	a	Yes	Yes	Yes	No

1. Data were submitted by researchers and not by a governmental institution.
2. Hong Kong is a Special Administrative Region of the People's Republic of China. As decisions are being made at the "region" level, answers to the column "nation/state" are not applicable.
Notes: This table presents the different actors involved in decision-making on the selection of assessment and learning time at ISCED 2 level.
m: Data are not available.
a: The category does not apply in the country concerned or economy.
Source: Future of Education and Skills 2030, E2030 Policy Questionnaire on Curriculum Redesign (PQC, Item 0.4)

Different interpretations and categorisations of autonomy

Recent literature on autonomy regarding curricular decisions often uses different terminology and taxonomies:

- Greany and Waterhouse (2016[32]) proposed to distinguish two concepts of **structural autonomy** and **professional autonomy** (Voogt et al., 2018[24]).
- More recently, research attempts to make a distinction between **student autonomy**, **choice**, **voice** and **agency**, as well as a distinction between **individualistic autonomy** and **connected autonomy.**

This section examines the terminology and categorisations used in different countries, across disciplines and among varied stakeholders, which will be further elaborated and explained in subsequent chapters of this report.

Structural autonomy and professional autonomy

Greany and Waterhouse (Greany and Waterhouse, 2016[32]) define structural autonomy as the formal delegation of decision-making power to schools with respect to the organisation of instruction, personnel management, planning and structures, and resource management. Professional autonomy refers to the capacity, confidence and trust granted to school leaders and teachers to use the decision-making power in ways that enhance their students' learning and well-being.

Professional autonomy suggests teachers, as competent human capital with rich social capital, can optimise structural autonomy. Optimal use of curriculum autonomy relies on both the *perceptions* held by school leaders and teachers (e.g. views of the power, control, authority and permission they have regarding the curriculum dimensions) and the *actions* that arise from those views. It also relies on the *expectations* society holds for school leaders and teachers (e.g. societal views of the role of teachers, societal views of the importance and prestige of teacher education programmes in post-secondary institutions, societal views of teacher evaluation and/or large-scale assessments such as evaluating teacher efficacy vs. student learning).

Autonomy regarding curricular decisions connects to issues of professionalism, with an assumption that less flexible, more prescriptive curricula put teachers' autonomy at risk, and in turn de-professionalise them (Briant and Doherty, 2012[33]). With more autonomy on curricular decisions, educators are perceived as capable professionals with high levels of competency, while less autonomy can become associated with a technician-oriented view of educators.

Autonomy and agency

Voogt, et al. (2018[24]) find that, while autonomy and agency both refer to empowerment, research distinguishes between the two:

- **Autonomy** emphasises freedom from control, while **agency** relates to taking the initiative to transform current practice (Engeström Yrjö, 2005[34]). Erss et al. (2016[35]) highlight a distinction between *freedom to do something* (agency) and *freedom from constraints* (autonomy), or the notions of positive and negative liberty as the freedom to do something versus freedom from constraints. **Agency** implies that "actors always act by means of their environment rather than simply in their environment [so that] the achievement of agency will always result from the interplay of individual efforts, available resources and contextual and structural factors as they come together in particular and, in a sense, always unique situations" (Biesta and Tedder, 2007, p. 137[36]). Agency is informed by prior experience, future-oriented and enacted in (the limitations and potential of) current practice (Priestley et al., 2016[37]).
- **Learner autonomy and agency** are seen both as a means and an end in education. As an educational end, some countries and jurisdictions set out the characteristics of an autonomous learner (e.g. self-directed, self-motivated, confident, curious, responsible, reflective, or self-aware) as part of future student profiles and outcomes expected by the end of schooling, so that the student can continue to be a lifelong learner after graduation. Partly accelerated by the COVID-19 pandemic, a growing number of countries articulate the importance of self-directed learning, so that learners can understand the meaning of "learner autonomy". Learner autonomy suggests making informed decisions regarding where, what and how one learns, and taking responsibility for and ownership of one's learning. It is supported by the concept of every child's equal right to education, in particular opportunities to learn through an inclusive and equitable, quality curriculum that can address learners' current as well as their future potential needs (OECD, 2021[38]; UN, 1989[39]; UN, 2015[40]). (See Chapter 4 for the distinction between learner autonomy, agency, voice and choice.)

- **Teacher autonomy and agency**. Both autonomy and agency are necessary concepts in understanding teacher professionalism and teaching practices. For instance, teachers may be able to design their activities autonomously, but their creativity may be limited by centralised control and time pressure caused by the content of the curriculum, which can be overwhelming. For example, curriculum flexibility might be high for goals but low for content, leading to the issue Erss highlights: flexibility in one dimension with teacher agency might be constrained by lesser flexibility and autonomy in another dimension.

Individualistic autonomy and connected autonomy

Professional autonomy relates to the space and freedom from regulation teachers and school leaders have. However, autonomy does not exist in isolation. Professional autonomy implies being one's own person and making one's own professional judgements and decisions, while it also requires connection and learning from, for example, peers, parents, communities and sometimes students (illustrated as "**co-agency**" in the OECD Learning Compass); otherwise, autonomy would not get stronger or be empowering. Professional autonomy implies multi-dimensional aspects, i.e. contributing to and learning from the group and making responsible decisions about the curriculum – be that a school curriculum or a teacher's own classes – as an act of "**collective agency**".

Munby and Fullan refer to such "joined-up" effort to achieve system-wide impact as "**connected autonomy**" (Munby and Fullan, 2016, p. 10[41]). A balance needs to be achieved between complete freedom from any regulations and complete incorporation into a group. Mutual respect, trust and confidence-building with others and in oneself are critical in exercising professional autonomy.

Autonomy regarding curricular decisions relies on the *capacity, confidence and trust* to make informed decisions that can enhance students' learning and well-being, as defined above. To better understand different dimensions of professional autonomy, it can be helpful to compare the concepts of *autonomy*, *agency*, and *connected autonomy* (see Chapter 4*)*.

References

Biesta, G. and M. Tedder (2007), "Agency and learning in the lifecourse: Towards an ecological perspective", *Studies in the Education of Adults*, Vol. 39/2, pp. 132-149, https://doi.org/10.1080/02660830.2007.11661545. [36]

Briant, E. and C. Doherty (2012), "Teacher educators mediating curricular reform: anticipating the Australian curriculum", *Teaching Education*, Vol. 23/1, pp. 51-69, https://doi.org/10.1080/10476210.2011.620605. [33]

Burns, T. and F. Gottschalk (eds.) (2019), *Educating 21st Century Children: Emotional Well-being in the Digital Age*, Educational Research and Innovation, OECD Publishing, Paris, https://doi.org/10.1787/b7f33425-en. [17]

Burns, T. and F. Köster (eds.) (2016), *Governing Education in a Complex World*, Educational Research and Innovation, OECD Publishing, Paris, https://doi.org/10.1787/9789264255364-en. [31]

Donaldson, G. (2015), *Successful futures: Independent review of curriculum and assessment arrangements in Wales*, Welsh Government., Cardiff. [8]

Erss, M. (2018), "'Complete freedom to choose within limits' – teachers' views of curricular autonomy, agency and control in Estonia, Finland and Germany", *The Curriculum Journal*, Vol. 29/2, pp. 238-256, https://doi.org/10.1080/09585176.2018.1445514. [22]

Erss, M., V. Kalmus and T. Autio (2016), "'Walking a fine line': Teachers' perception of curricular autonomy in Estonia, Finland and Germany", *Journal of Curriculum Studies*, Vol. 48/5, pp. 589-609, https://doi.org/10.1080/00220272.2016.1167960. [35]

Fazekas Ágnes and Halász Gábor (2019), ""A gyakorlatunk a legnagyobb munícióink", Innovációs folyamatok a ferencvárosi Molnár Ferenc iskolában Innova esettanulmány, [Our practice is our greatest ammunition" - Innovative processes at Molnár Ferenc School in Ferencváros, Innova case study.]", https://nevtud.ppk.elte.hu/dstore/document/1897/A%20Moln%C3%A1r%20%28Mester%29%20-%20Esettanulm%C3%A1ny%20%282018.10.05%29.pdf (accessed on 11 April 2022). [21]

Fingerman, K. et al. (2012), "Helicopter Parents and Landing Pad Kids: Intense Parental Support of Grown Children", *Journal of Marriage and Family*, Vol. 74/4, pp. 880-896, https://doi.org/10.1111/J.1741-3737.2012.00987.X/ABSTRACT. [18]

Greany, T. and J. Waterhouse (2016), "Rebels against the system: Leadership agency and curriculum innovation in the context of school autonomy and accountability in England", *International Journal of Educational Management*, Vol. 30/7, pp. 1188-1206, https://doi.org/10.1108/IJEM-11-2015-0148. [32]

Hunya, M. (2016), "NORTH-HUNGARY CASE STUDY", *PPMI*. [20]

HWB Government of Wales (2020), *Mathematics and Numeracy*, https://hwb.gov.wales/curriculum-for-wales/mathematics-and-numeracy/. [7]

Jonker, H., V. März and J. Voogt (2020), "Curriculum flexibility in a blended curriculum", *Australasian Journal of Educational Technology*, https://doi.org/10.14742/ajet.4926. [2]

Kuiper, W., N. Nieveen and J. Berkvens (2013), *Curriculum regulation and freedom in the Netherlands - A puzzling paradox*, CIDREE yearbook. [29]

Ministerial Advisory Group (2019), "Strengthening curriculum, progress, and achievement in a system that learns A report by the Curriculum, Progress, and Achievement Ministerial Advisory Group". [9]

Munby, S. and M. Fullan (2016), "Inside-out and downside-up", *Reading: Education Development Trust.*. [41]

Oates, T. (2011), "Could do better: using international comparisons to refine the National Curriculum in England", *The Curriculum Journal*, Vol. 22/2, pp. 121-150, https://doi.org/10.1080/09585176.2011.578908. [13]

OECD (2021), *Adapting Curriculum to Bridge Equity Gaps: Towards an Inclusive Curriculum*, OECD Publishing, Paris, https://doi.org/10.1787/6b49e118-en. [38]

OECD (2021), *Embedding Values and Attitudes in Curriculum: Shaping a Better Future*, OECD Publishing, Paris, https://doi.org/10.1787/aee2adcd-en. [16]

OECD (2020), "Curriculum (re)design A series of thematic reports from the OECD Education 2030 project OVERVIEW BROCHURE". [15]

OECD (2020), *Curriculum Overload: A Way Forward*, OECD Publishing, Paris, https://doi.org/10.1787/3081ceca-en. [12]

OECD (2020), *Technical report: Curriculum Analysis of the OECD Future of Education and Skills 2030*, https://www.oecd.org/content/dam/oecd/en/about/projects/edu/education-2040/2-5-supporting-materials/Technical%20_Report_Curriculum_Analysis_of_the_OECD_Future_of_Education_and_Skills_2030.pdf (accessed on 17 July 2024). [5]

OECD (2020), *What Students Learn Matters: Towards a 21st Century Curriculum*, OECD Publishing, Paris, https://doi.org/10.1787/d86d4d9a-en. [11]

OECD (2019), , https://www.oecd.org/education/2030-project/teaching-and-learning/learning/student-agency/Student_Agency_for_2030_concept_note.pdf. [19]

OECD (2019), "Well-being 2030 Action OECD FUTURE OF EDUCATION AND SKILLS 2030 A SERIES OF CONCEPT NOTES", http://www.oecd.org. (accessed on 26 April 2022). [25]

OECD (2018), *Education at a Glance 2018: OECD Indicators*, OECD Publishing, Paris, https://doi.org/10.1787/eag-2018-en. [30]

OECD (2018), "Sources, Methods and Technical Notes", in *Education at a Glance 2018: OECD Indicators*, OECD Publishing, Paris, https://doi.org/10.1787/eag-2018-36-en. [27]

OECD (2016), *PISA 2015 Results (Volume II): Policies and Practices for Successful Schools*, PISA, OECD Publishing, Paris, https://doi.org/10.1787/9789264267510-en. [28]

Priestley, M. et al. (2016), "The teacher and the curriculum: exploring teacher agency.". [37]

Rawling, E. (2020), "Curriculum change and examination reform for geography 14–19", *Geography*, Vol. 100/3, pp. 164-168, https://doi.org/10.1080/00167487.2015.12093972. [14]

Rückriem Georg (ed.) (2005), *Developmental work research: expanding activity theory in practice — University of Helsinki*, Lehmanns Media, Berlin, https://researchportal.helsinki.fi/en/publications/developmental-work-research-expanding-activity-theory-in-practice (accessed on 3 May 2022). [34]

Schmidt, W. (2008), "TIMSS International Curriculum Analysis and Measuring Educational Opportunities". [10]

Sinnema, C. (2015), "The ebb and flow of curricular autonomy: Balance between local freedom and national prescription in curricula", in Wyse, D., L. Hayward and Pandaya Jessica (eds.), *The SAGE Handbook of Curriculum, Pedagogy and Assessment*, Sage, London. [3]

Suggett, D. (2015), "School autonomy: Necessary but not sufficient", *Evidence Base: A journal of evidence reviews in key policy areas*, Vol. 2015/1, pp. 1-33. [26]

Tucker, R. and G. Morris (2012), "By design: negotiating flexible learning in the built environment discipline", *Research in Learning Technology*, Vol. 20/0, https://doi.org/10.3402/rlt.v20i0.14404. [4]

Tucker, R. and G. Morris (2011), "Anytime, anywhere, anyplace: Articulating the meaning of flexible delivery in built environment education", *British Journal of Educational Technology*, Vol. 42/6, pp. 904-915, https://doi.org/10.1111/j.1467-8535.2010.01138.x. [1]

UK Department of Education (2013), *Mathematics programmes of study: key stages 1 and 2*. [6]

UN (2015), *SGD4*, United Nations. [40]

UN (1989), *Convention on the rights of the child (1989) Treaty no. 27531*, United Nations, https://treaties.un.org/doc/Treaties/1990/09/19900902%2003-14%20AM/Ch_IV_11p.pdf. [39]

Voogt, J. et al. (2018), "Education and Skills 2030 : Curriculum analysis", *8th Informal Working Group Meeting (IWG)*. [24]

Wermke, W., S. Olason Rick and M. Salokangas (2018), "Decision-making and control: perceived autonomy of teachers in Germany and Sweden", *Journal of Curriculum Studies*, Vol. 51/3, pp. 306-325, https://doi.org/10.1080/00220272.2018.1482960. [23]

Notes

[1] Different countries use the term "curriculum" differently. Thus, it needs to consider different terms that may be interpreted as "curriculum". This is important particularly in understanding curriculum flexibility because different actors at different levels make different curricular decisions, e.g. course of study, programme, syllabus, timetable or schedule.

[2] Learning materials are resources that a teacher may use in teaching and learning situations to help achieve desired learning objectives and to facilitate the teaching and learning process. These include lectures, readings, multimedia components, and other resources– the list of these varies depending on the country.

[3] Students must complete tests in: Danish with a focus on reading in the 2nd, 3rd, 4th, 6th and 8th grade; Mathematics in the 3rd, 4th, 6th, 7th, and 8th grade.

[4] Stages I-II correspond to approximate age of 7-12 years old https://eurydice.eacea.ec.europa.eu/national-education-systems/estonia/organisation-single-structure-education.

[5] ISCED is the international classification for organising education programmes and related qualifications by levels and fields. ISCED Level 2 refers to Lower Secondary Education. https://datatopics.worldbank.org/education/wRsc/classification.

[6] OECD E2030 participants from Asia shared that "too many captains will steer the ship up a mountain".

[7] The OECD (2018[30]) defines four domains as key to decision-making in education: 1) **organisation of instruction** (student admissions, instruction time and grouping of students); 2) **personnel management** (hiring and dismissal of teaching staff and principals, duties and conditions of service of teaching staff and principals, and salary scales of teaching staff and principals); 3) **planning and structures** (design of programmes of study, selection of programmes of study taught in a particular school, choice of subjects taught in a particular school and definition of course content); and 4) **resource management** (allocation and use of resources for teaching staff and principals).

[8] This has changed with the new educational law that was passed in December 2020 in Spain. Regional authorities are responsible for 50% of the curriculum in areas with two official co-languages and 40% in the rest of the regions.

2 Tensions and dilemmas around curriculum flexibility and autonomy

This chapter identifies the tensions and dilemmas policymakers and practitioners face on the continuum between curriculum prescription and curriculum autonomy across different layers of a learning ecosystem. Even though curriculum flexibility presents exciting new opportunities, optimal outcomes depend on its perception within the political environment. Differing perspectives on the benefits and risks of curricular flexibility and autonomy shape public policy debates and influence changes in the degree to which they are granted. The delegation of responsibilities among system actors influences how students acquire relevant knowledge, skills, attitudes and values. The extent to which curriculum flexibility and autonomy is granted can risk a misalignment between teachers' and learners' autonomy, considering possible overlaps in their agency. The chapter also considers tensions around professional autonomy and parental involvement, high-stakes assessment culture, and dilemmas about scales of implementation.

Tensions and dilemmas around curriculum flexibility and autonomy

Curriculum flexibility and autonomy are not imperative for better student outcomes. While these concepts are important, promising and worth encouraging, more is not necessarily better. Optimal flexibility and autonomy is most desirable: favourable to a given situation in a particular classroom or school and coherent with the broader context to best support learning.

The use of autonomy at the school level depends on local circumstances. The interplay between curriculum flexibility and autonomy can affect teachers' practices differently depending on factors such as the extent to which a culture of teacher autonomy exists; the pedagogical leadership capabilities of school principals; the preparedness of teachers in adapting the curriculum to the needs of their students; and their individual and collective views on how prescriptive the curriculum should be.

Drawing on both research and country examples, this chapter summarises the tensions and dilemmas policymakers and curriculum designers face when striking a balance of curriculum flexibility and autonomy. These include 1) curriculum control and autonomy, 2) perception and reality, 3) professional autonomy and learner autonomy, 4) professional autonomy and parental expectations, 5) professional autonomy and high-stake examinations, and 6) small- and large-scale implementation.

Pendulum swings between curriculum control and autonomy

Shifts in the political environment or concerns over education quality in schools can result in sudden changes to the curriculum flexibility accorded to local authorities, schools and teachers (Nieveen and Kuiper, 2012[1]; Lundgren, 2013[2]). According to Nieveen and Kuiper, there are significant fluctuations between government control and school autonomy, often resulting in abrupt and intense changes. (Nieveen and Kuiper, 2012[1]). As Sinnema puts it:

> *Curricula are constantly changing, and their balance between prescription and autonomy is a source of much debate in policy and public contexts. That debate draws on divergent perspectives about the benefits and risks of curricular autonomy and often leads to changes in the degree of prescription in national curricula – similar to the ebb and flow of the tide, there are constant fluctuations in curricular autonomy over time and it is high in some places whilst low in others. (Sinnema, 2015[3])*

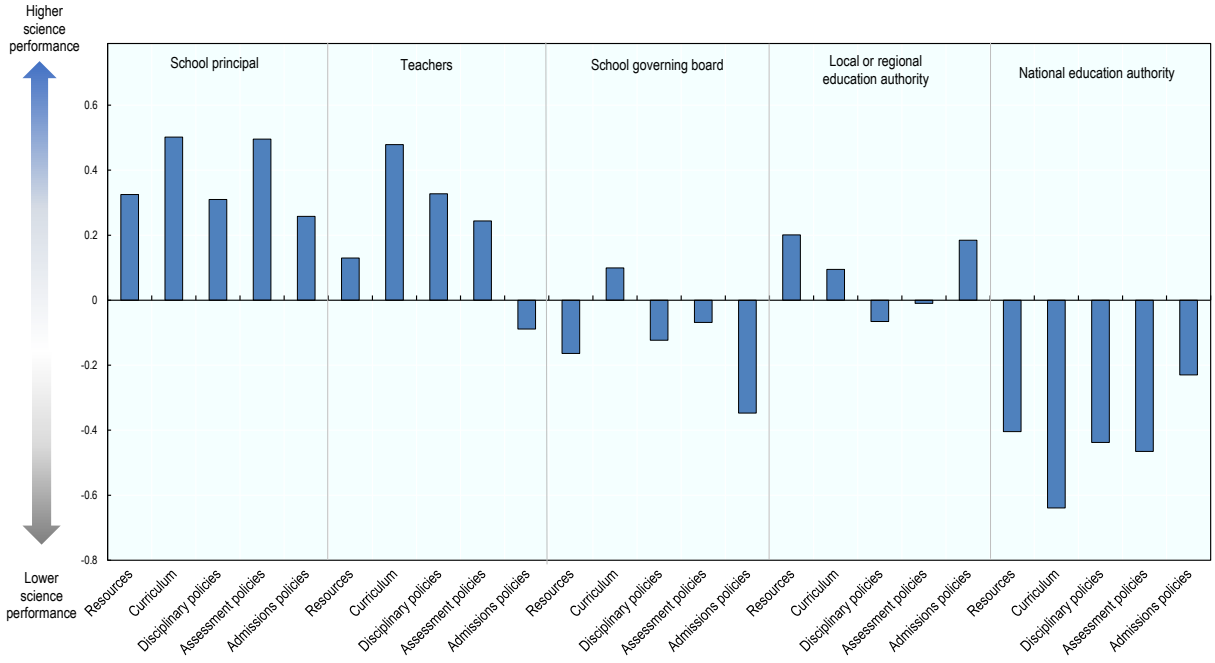
Sudden shifts between more autonomous and more prescriptive curricula affect teachers' efficiency. The limited time allowed for shifts in and adaptation to curricula does not allow teachers to work efficiently, which impacts their well-being. The consequent lack of efficacy negatively impacts parental perception of teachers' professionalism.

This implies that the context in which schools and teachers operate can affect the level of autonomy they experience (Priestley et al., 2015[4]) and that such autonomy can be reduced through adjustments in policy or new accountability requirements, such as through school evaluation measures (i.e., external inspection or internal self-evaluation) or a culture of high-stakes assessment (Hong and Youngs, 2016[5]).

There is considerable variation between countries and jurisdictions in the delegation of responsibilities among different levels of their education systems (Figure 1.3 and Figure 1.4). Delegation of decisions includes the curriculum dimensions discussed in Chapter 1, including flexibility in learning goals, content, pedagogy, assessment and learning time.

Figure 2.1 illustrates the correlation between student performance and the autonomy afforded to schools and teachers. When school principals and teachers have greater autonomy over curriculum and assessment policies, students perform better than when decisions are made centrally (OECD, 2016[6]).

Figure 2.1. Correlation between decentralised school governance and science performance



Notes: Results based on 70 education systems.
1. The responsibilities for school governance are measured by the share distribution of responsibilities for school governance in Table II.4.2.
Source: (OECD, 2016[6]), *PISA 2015 Results (Volume II): Policies and Practices for Successful Schools*, https://doi.org/10.1787/19963777.

Indeed, in **the Netherlands**, the call for curriculum flexibility and autonomy for schools and teachers came from the failure of large-scale, top-down curriculum reforms in the early 2000s. Schools and teachers were not sufficiently consulted about the desirability and feasibility of these reforms, which they felt acted as a straitjacket restricting their capacity to make adjustments as needed (Nieveen and Kuiper, 2012[1]).

However, such data from Figure 2.1 must be interpreted carefully. Literature from different countries suggests a more complex picture of governance issues that should be understood in its **time-specific context**. **Sweden** appears to be on a pendulum swing between curriculum centralisation and decentralisation, affected by shifting political pressures. Research suggests that Sweden reconsidered granting curriculum flexibility and autonomy to schools due to two driving forces, among others: 1) PISA and other international assessment results, and 2) policy favouring efficiency in centralised curricula over complex localised practices (Lundgren, 2013[2]; Haugsbakk, 2013[7]).

At the same time, there is a form of "soft governance" in curriculum requirements and expectations (Wermke, Olason Rick and Salokangas, 2019[8]). Moreover, there are different forms of control within schools that limit teachers' autonomy, such as the way student performance is monitored by administrators and parents. While teachers can offer ideas on certain aspects of the school, the autonomy teachers perceive manifests more at the classroom level and in relation to minor matters (Frostenson, 2015[9]) rather than at levels where they can influence policy, resourcing and support.

Research also indicates that teachers face limitations on curriculum flexibility and autonomy due to accountability measures. The extent of flexibility available to teachers in **New South Wales (Australia)** was deemed limited by the level of specification in syllabuses and accountability measures for teachers (Creese, Gonzalez and Isaacs, 2016[10]). This lack of flexibility was seen as prohibiting teachers from accommodating students' varying attainment and needs, including targeted stretch challenges to ensure

ongoing progress for each student (Masters, 2020[11]). In **Estonia**, teachers also cite a lack of structural autonomy, leaving them with insufficient guidelines to fulfil curriculum expectations that are seen as idealistic (Erss, 2016[12]). This is based on policy rhetoric that appears to suggest autonomy for teachers but, in practice, holds them accountable for students' progress without meaningfully involving them in decision-making.

Research also shows how curriculum flexibility and autonomy can be hindered by high-stakes assessment culture. In **Korea,** teachers report their structural autonomy being constrained under the prevalent culture of credentials, with many teachers neither welcoming nor believing that the autonomy granted would diversify school curricula (Hong and Youngs, 2016[5]). While curriculum reform was introduced to increase programmatic flexibility for local authorities, schools and teachers, a mismatch between desired and granted autonomy soon became visible.

Discrepancy between "perceived" and "intended" flexibility and autonomy

Tension can exist between what schools and teachers perceive as the flexibility and autonomy they have versus what is intended by the policy. It is therefore worth examining how teachers view their level of autonomy in determining learning content. Indeed, when curriculum flexibility is granted in different areas, studies from **Israel** as well as **England** and **Scotland (United Kingdom)** point to discrepancies between flexibility in curriculum content/goals and/or pedagogy, and the lack of flexibility actually exercised (Greany and Waterhouse, 2016[13]; Leat, Livingston and Priestley, 2013[14]; Nir et al., 2016[15]).

Figure 2.2 and Figure 2.3 show the discrepancies between structural autonomy granted over education policies in general and those specifically concerning curricula. Figure 2.2 indicates teachers' perceived sense of autonomy specific to course content. Overall, perception of autonomy is high – on average, 84% of teachers across the OECD feel they have control over determining course content – but this varies by country.

- Over 95% of teachers feel they have control over determining course content in **Iceland, Korea, Norway** and **Sweden** compared to only 47% in **Portugal**.

However, when looking at Figure 2.3, it becomes apparent that the actual autonomy granted to teachers is significantly lower than their perceived autonomy; on average, teachers have less than 50% of responsibility over the curriculum in OECD countries.

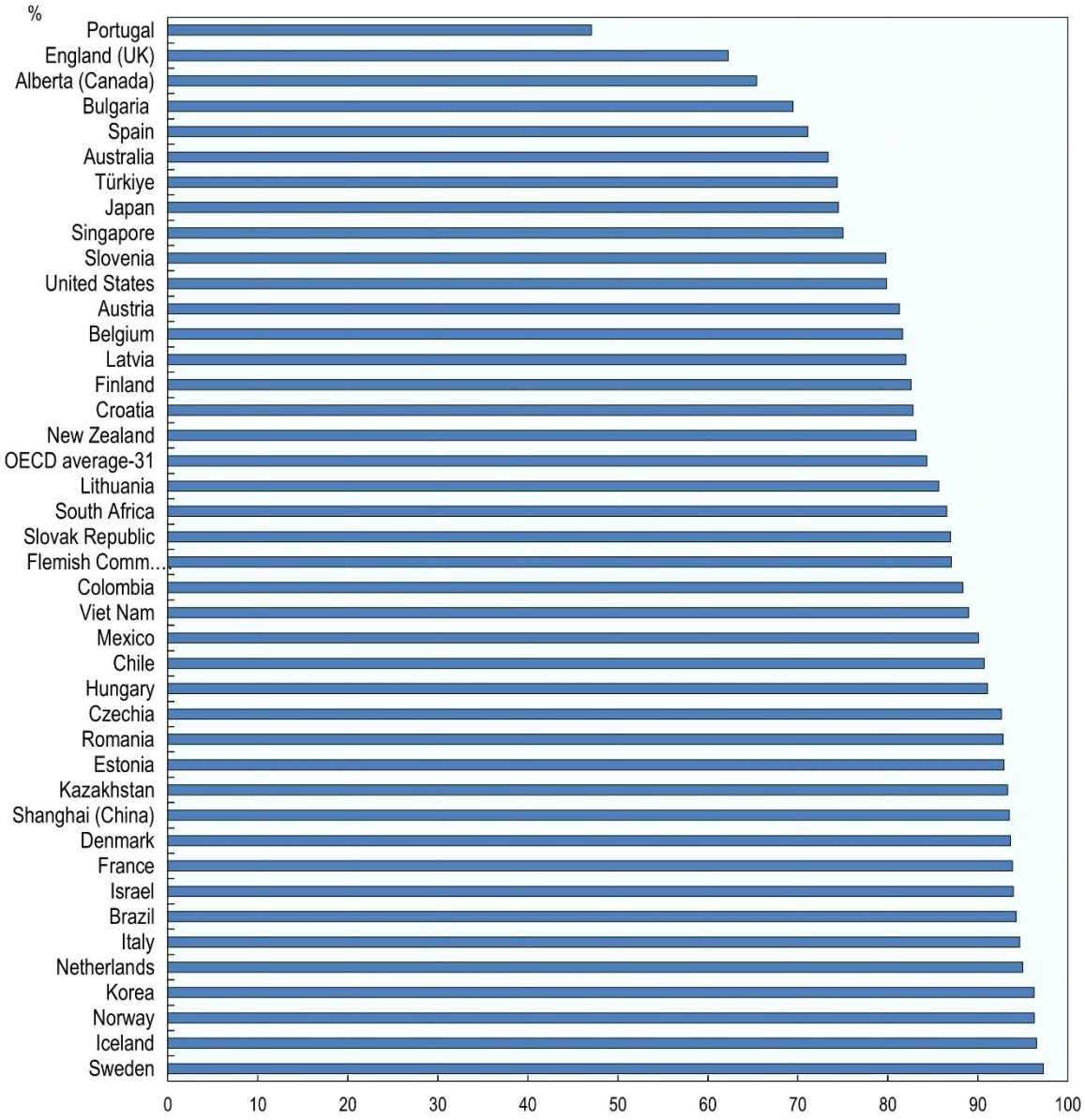
- The countries/jurisdictions that grant the highest level of autonomy to teachers are **New Zealand, the United Kingdom** and **Chinese Taipei**, with teachers having over 70% of responsibility over the curriculum, whereas on the opposite end of the spectrum, **Greece** grants less than 3% of responsibility to teachers over the curriculum.

Teachers' and principals' autonomy together can be regarded as the schools' autonomy, i.e. to what extent schools have a saying over the content of the curriculum.

- Six countries/jurisdictions – **Czechia, Japan, the Netherlands, New Zealand, the United Kingdom** and **Hong Kong** – grant over 90% of responsibility for the curriculum to schools. On the other hand, schools' autonomy is lowest in **Greece**, where the schools only have 3.4% of responsibility over their curriculum. The only two countries where principals have more autonomy over the curriculum than teachers are **Japan** and **Viet Nam**.

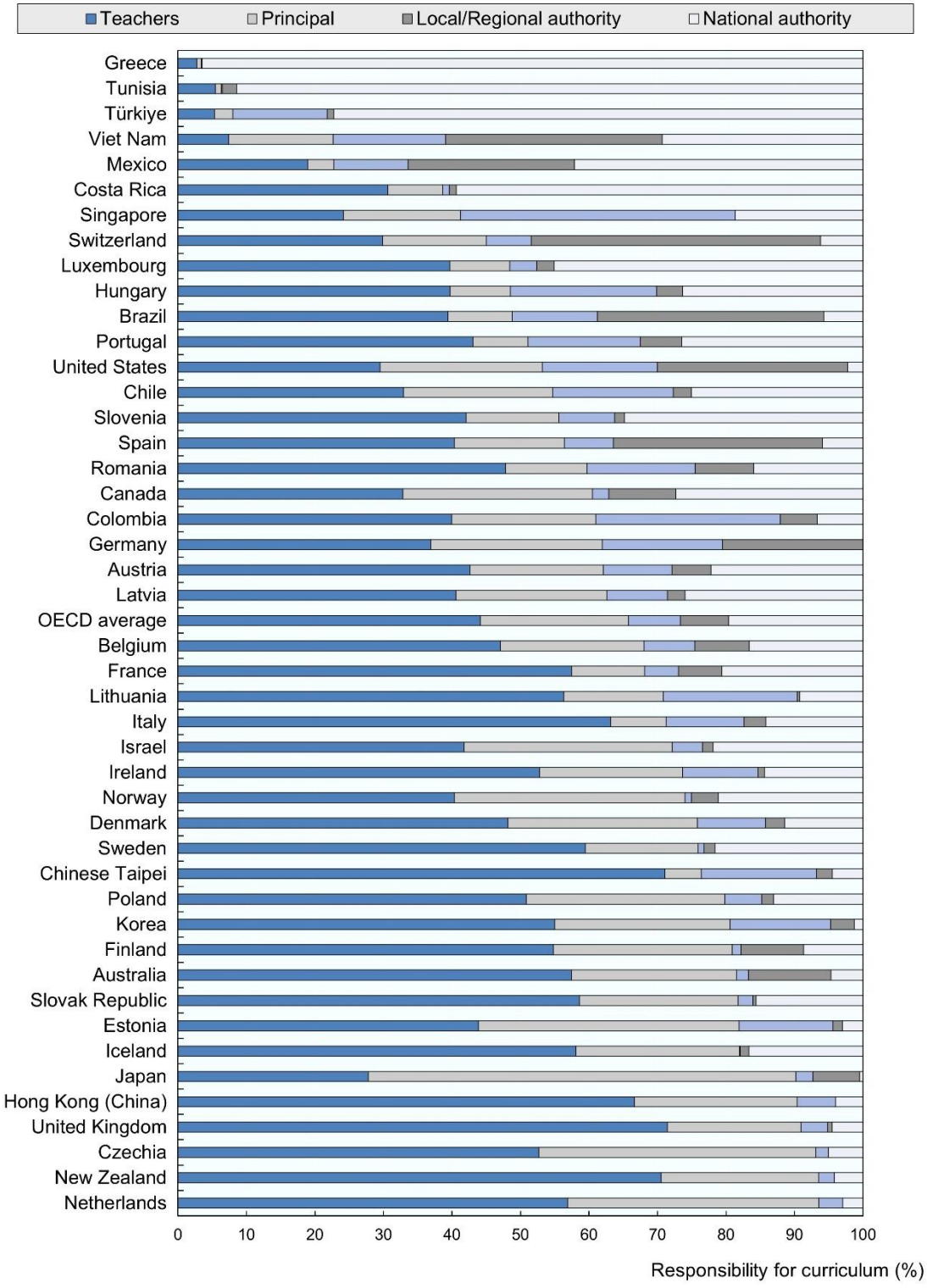
Figure 2.2. Teachers' perceived autonomy in determining course content

Percentage of decisions taken at each level of government in public lower secondary education (2017)



Note: Results of TALIS based on responses of lower-secondary teachers.
Source: OECD (2020[16]), *TALIS 2018 Results (Volume II): Teachers and School Leaders as Valued Professionals*, http://dx.doi.org/10.1787/888934084190.

Figure 2.3. Teachers' "intended" autonomy in determining course content



Notes: The tasks include responsibility for the curriculum and instructional assessment within the school (establishing student-assessment policies, choosing textbooks, and determining which courses are offered and the content of those courses). The calculation is based on the tasks included in the school questionnaire.

Source: OECD (2016[6]), *PISA 2015 Results (Volume II): Policies and Practices for Successful Schools*, https://doi.org/10.1787/9789264267510-en.

Tensions around professional autonomy and learner autonomy

Teacher and student autonomy to use and access a curriculum can be affected by conditions that either limit their scope of action in practice or that they perceive as limiting when planning and organising learning experiences (Mausethagen and Mølstad, 2015[17]; Frostenson, 2015[9]; Elo and Nygren-Landgärds, 2020[18]; Wermke and Höstfält, 2014[19]).

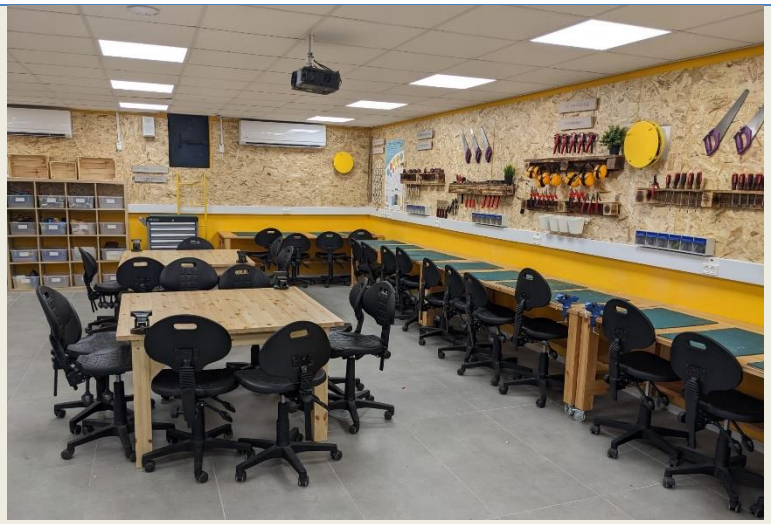
As mentioned earlier, research suggests that teachers and schools do not always exercise their autonomy over the curriculum (Leat, Livingston and Priestley, 2013[14]; Kuiper, 2017[20]). This is often associated with the extent to which professional autonomy is overtly encouraged, articulated and authorised; how decision-making regarding curriculum design, development and planning is delegated to the regional/local district or school level; and the degree of preparation provided through teacher training programmes and how closely these are monitored by the governing body.

It can also be associated with tension between teachers exercising curriculum flexibility and students self-directing their individual learning journeys, when these directions and aspirations are not aligned. There is a need to monitor student learning progress and achievement through a variety of assessment measures to help teachers and school leaders gauge how their professional autonomy supports their students in achieving their goals and making informed decisions on what to continue and what to change.

Box 2.1. AI-Enhanced Mentoring at N. Yadlin Interdisciplinary Campus

The N. Yadlin Interdisciplinary Campus in Rishon-Le-Zion, Israel, uses a new approach to teaching that combines mentoring and competency-based learning, especially with the help of Artificial Intelligence (AI) technology. Recognising that education is changing, the campus has shifted teachers' roles from simply providing information to being mentors, by using a unique mentoring professional development program for the active teachers. This change allows for personalised guidance, with AI helping to customise learning experiences and resources via data analysis, making it easier for teachers to support their students.

Mentor teachers on campus play an important role in promoting socio-emotional development and critical thinking skills. Curriculum flexibility enables mentor teachers to adapt their teaching as well as students' learning and assessment methods to meet the specific needs of small student groups, fostering a student-centred approach rather than a traditional exam-focused model. Emphasising critical thinking, presentation skills, and practical application of knowledge, the curriculum includes assessments such as debates, presentations and interactive discussions.



To achieve an optimal synergy between human mentors and AI digital teachers, the N. Yadlin Campus implements a multifaceted learning approach. Lessons are designed to incorporate whole-class instruction, small group activities, and independent work utilising digital technologies, including AI. This personalised approach facilitates academic acceleration for some, while providing additional support for other students. The campus's physical design - open spaces, classrooms without doors and without walls - supports its pedagogical model, encouraging creativity, collaboration and engagement.

The N. Yadlin Interdisciplinary Campus demonstrates the effective integration of curriculum flexibility via a combined approach of mentoring and the use of AI tools. By adopting the mentor-teacher model and leveraging AI technology, the campus supports students' personal leadership, choice, independence and achievement. This approach can serve as a practical policy model for other educational institutions seeking to modernise and enhance their teaching practices.

Source: The OECD Future of Education and Skills 2030 School Networks, The N. Yadlin Interdisciplinary Campus (Michal Solomonovich).

Structural autonomy, professional autonomy and school leadership

In **the Netherlands**, curriculum standards for primary and lower secondary education offer considerable flexibility for schools and teachers to exercise their autonomy. However, both schools and teachers report that the curriculum standards lack clarity. They thus seek clarity through textbooks, seeing this as a safe way to comply with curriculum requirements, but thereby making textbooks a self-imposed form of prescribed curriculum. Hence, while they have structural autonomy, they do not feel that they have the professional autonomy to use the flexibility that the curriculum offers (Kuiper, 2017[21]).

Findings in **New Zealand** report that teachers display a lack of confidence in mobilising their professional autonomy to use curriculum flexibly. New Zealand underwent various curriculum revisions to enhance programmatic and pedagogical flexibility, and grant schools and teachers autonomy over the curriculum. Despite this, Sinnema (2015[3]) observes that teachers hesitate to accept the responsibility associated with using professional autonomy to enact curriculum flexibility. Some features of the reforms have also revealed that while broad curriculum guidelines give school leaders and teachers a lot of autonomy in designing curriculum that is most relevant to their students, it can also inadvertently produce some challenges, e.g. in the absence of sufficiently detailed guidance, widely diverse approaches to implementation may lead to unequal learning outcomes. While maintaining a competency-based curriculum, teachers also need a knowledge-rich curriculum with critical subject-specific content made explicit to counter some declining trends in student performance; teachers may also lack the training to be

curriculum designers. While more recent policy efforts are trying to fill in the gaps of previous reforms, there is an acknowledgment that a different sequencing of reforms (starting with shared goals and curriculum reform rather than reforms in assessment and teacher education) could have made implementation easier. It has also become clear that teacher professional autonomy needs to come hand in hand with structured guidance and support to teachers (OECD, 2024[22]).

Professional autonomy cannot be implemented without support and solid structures. A study in **Australia** notes the importance of distributed school leadership, as well as building professional capacity to have an impact on student achievement. It requires principal and other school leaders' autonomy to build professional capacity through staff selection, professional development and appraisal; setting priorities on the basis of data about performance; and communication of purpose, process and performance (Caldwell, 2016[23]).

Greany and Waterhouse (2016[13]) studied the relationship between school autonomy, school leadership and curriculum innovation in **England (United Kingdom)** for over 40 years. They found no correlation between autonomy and the level of curriculum innovation. While their study shows that extensive accountability in terms of high-stakes testing and rigorous inspection constrains the autonomy of most schools, only school leaders with capacity, confidence and a willingness to take risks use their autonomy to develop innovative curricula.

Studies in **the Netherlands** (Leest and Wierda-Boer, 2014[24]) and **Finland** (Saarivirta and Kumpulainen, 2016[25]) also emphasise the importance of professional autonomy for school leaders. These findings indicate that school autonomy in and of itself contributes less to the implementation of innovative pedagogy and curriculum, than does the professional leadership of teachers.

The importance of professional autonomy for both teachers and school leaders was made visible during the COVID-19 pandemic, when teachers and school leaders needed to use their autonomy and flexibility to its fullest potential to meet the differing needs of each student. The OECD E2030 students' group shared that mathematics was one of the most challenging subjects to learn online. Box 2.2 provides an example of how a school and teachers explored curriculum flexibility for online mathematics lessons.

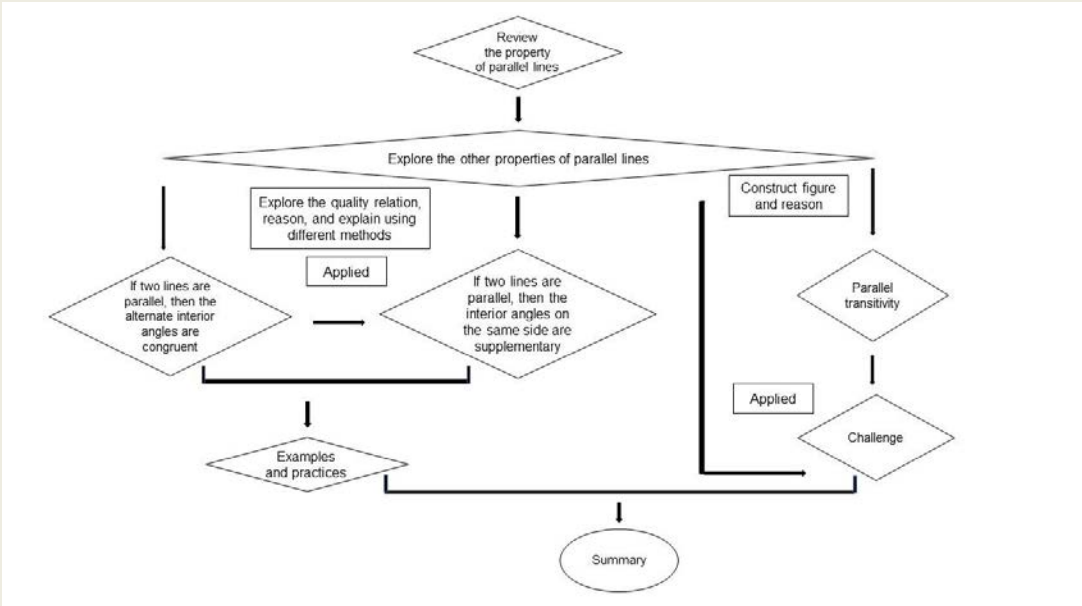
Box 2.2. Decision-making about time allocation at the school level

Online lessons became increasingly important during the COVID-19 pandemic and challenged parts of the implemented curricula. Proper allocation of time to activities is vital to making online lessons as efficient as offline lessons. In Pudong, Shanghai (China), a public school specified time distribution when teaching the "property of parallel lines", required curriculum content, online. The allocation of time to different activities was decided at the school level, advised by the Teaching Research Group.

The school made a "30+10" rule for 40-minute lessons, with teachers leading activities for no more than 30 minutes, leaving no less than 10 minutes for discussion and questions, following the "art of the blank" theory. The 30 minutes are allocated to help students understand the fundamental knowledge and literacy of mathematics, including the connection between mathematical knowledge, the exploring and reasoning process, rational spirit, etc.

A mathematics lesson usually consists of several components: a warm-up or introduction, lecture demonstration, examples, student practice and summing up. In teaching the "property of parallel lines", the teacher began with a review of the relationship between corresponding angles using the example of parallel lines (Figure 2.4). Lasting less than 1.5 minutes, the intent is to review and systematise what students already learned. Consequently, it accounts for a low percentage of class time in most situations.

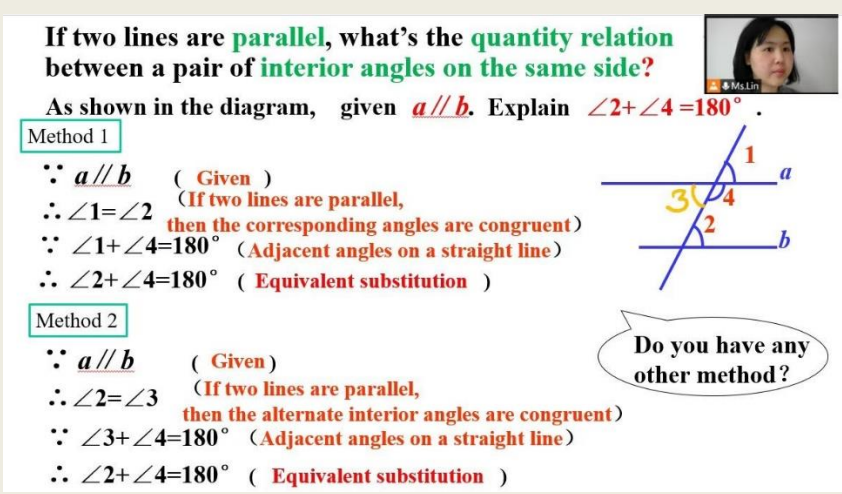
Figure 2.4. Flowchart of the lesson on the "property of parallel lines"



Source: Lianghuo Fan and Xumai Ling, China.

Earlier research suggests that, compared to classrooms in Hong Kong (China) and London, more time in mathematics classrooms on the Chinese mainland was allocated to teaching and learning academic content. In this lesson, the teacher designed a series of exploration activities and encouraged students to explain them using a variety of methods. Students were involved in thinking and answering questions in the form of whole-class teaching. In total, the class spent about 11 minutes on questions and answers, with the average question being 15 seconds and the shortest and the longest blocks of time being 2 seconds and 43 seconds, respectively.

Figure 2.5. Illustration of how online teaching activities are implemented



Source: Lianghuo Fan and Xumai Ling, China (OECD Future of Education and Skills 2030 stakeholders).

Examples and practices with variations took up most of the time. It is suggested that too many small steps with a poorly designed structure might cause loss of students' interest (Zhang, 2005[26]). Starting with basic questions and offering variations might better keep students engaged. During the lesson, the teacher provided two simple examples and practices to help students understand the topic, and a challenge was given to arouse high-level thinking.

Nevertheless, the Chinese adage that "there is no fixed method for teaching" implies that a variety of teaching methods, including allocation of in-class time for different activities, is often needed to teach different students and topics.

Source: The OECD Future of Education and Skills 2030, School Networks. Lianghuo Fan and Xumai Ling (China).

Distinctions between learner autonomy, choice and voice

Autonomy granted to both the teacher and the learner should be used to obtain maximum benefit from content flexibility. In other words, curriculum autonomy, combined with content flexibility, is intended to encourage teachers to support student agency, respond to their needs and interests, and take local circumstances and contexts into account. Student agency should not be narrowly interpreted as student choice restricted to already defined elective courses or preferred types of schools. Rather, it relates to the opportunities available for students to exercise greater influence in curriculum content selection in and across subject areas. Having a say in what and how one learns, and being listened to and respected by teachers enhances the individual and collective well-being of students (Anderson and Graham, 2016[27]).

Three terms – *student choice*, *student voice* and *student agency* – represent three forms of student engagement, involving differing degrees of learner autonomy. They are used interchangeably at times, leading to misunderstandings, false assumptions and expectations about the level of autonomy granted to learners. But each of these terms have a distinct meaning in the literature (Box 2.3) (also see "Learners" in Chapter 4).

Box 2.3. Distinguishing between student choice, student voice and student agency

Student choice	A provision within the overall structure of the curriculum or within the organisation of subject area options from which students may choose. While exercising choice is a component of decision-making, it might simply involve the possibility of choosing from a limited set of options
Student voice	A students' involvement in dialogue, discussion and consultation on issues that concern them in relation to their education and their experiences of schooling, whether offered to a student cohort, grade or class group, or within a forum such as a student representative council.
Student agency	Rooted in the belief that students have the ability and the will to positively influence their own lives and the world around them. It is defined as the capacity to set a goal, reflect and act responsibly to affect change. In essence, student agency is exercised at the individual level and empowers the student to make use of autonomy to determine and influence the learning content, pedagogy, assessment and reporting processes they experience at school.

While these opportunities for students to have their say and be engaged might be encouraged in concert with reforms related to increased teacher autonomy, their implementation is not without risk. When learners express wishes, beliefs and perceptions about what they should and want to learn, teachers and school leaders can face moral, professional and pedagogical dilemmas if they rely on their own beliefs and perceptions, without objective measures of students' needs.

Dilemmas between student agency and equity

When students can exert agency through choices and decisions about their curriculum, their motivation to learn is likely to be enhanced and their selection of content likely to be developmentally appropriate (Eccles, 1997[28]), and they might find the curriculum more agreeable and helpful to their well-being (Green et al., 2014[29]). Conversely, when agency and efficacy are limited, there is increased potential for demotivation and a loss interest in learning (Eccles, 1998[30]; Eccles et al., 1993[31]).

The increasing importance of student agency is clear to stakeholders, and countries and schools take different approaches to learner autonomy. **Ireland** offers an example of students participating in curriculum decision-making (Box 2.4).

It is important to point out, however, that choice as part of content flexibility is not itself conducive to students' well-being. While it may be welcome, the added responsibility requires students to exercise informed judgment and competency to ensure that their choices enhance their learning rather than detract from it. For example, the OECD E2030 literature review on equity showed that choices are often made for social reasons e.g., the same choice as their friends, in particular for girls and immigrant students (Voogt, Nieveen and Thijs, 2018[32]) The E2030 curriculum analysis on attitudes and values raised concerns about peer pressures such as "FOMO" (fear of missing out), which can negatively affect student well-being when students make choices driven by external rather than their intrinsic values or motivation (OECD, 2021[33]) (also see "Learners themselves" in Chapter 4).

Indeed, the literature on reforms that involve increasing student agency through curriculum flexibility presents tensions and dilemmas:

- Higher-ability students benefit more from curriculum flexibility than lower-ability students (Volman and Stikkelman, 2016[34])
- Immigrant students might have constrained choices in curriculum content owing to prioritisation of their language needs (Voogt, Nieveen and Thijs, 2018[32]), potentially widening equity gaps with other students in terms of content choice and interest.
- Undesirable differences have been found between curriculum offerings made by different schools because of curriculum flexibility, resulting in increased achievement gaps between students from different socio-economic backgrounds (Cornelisz and van Harlem, 2016[35]).

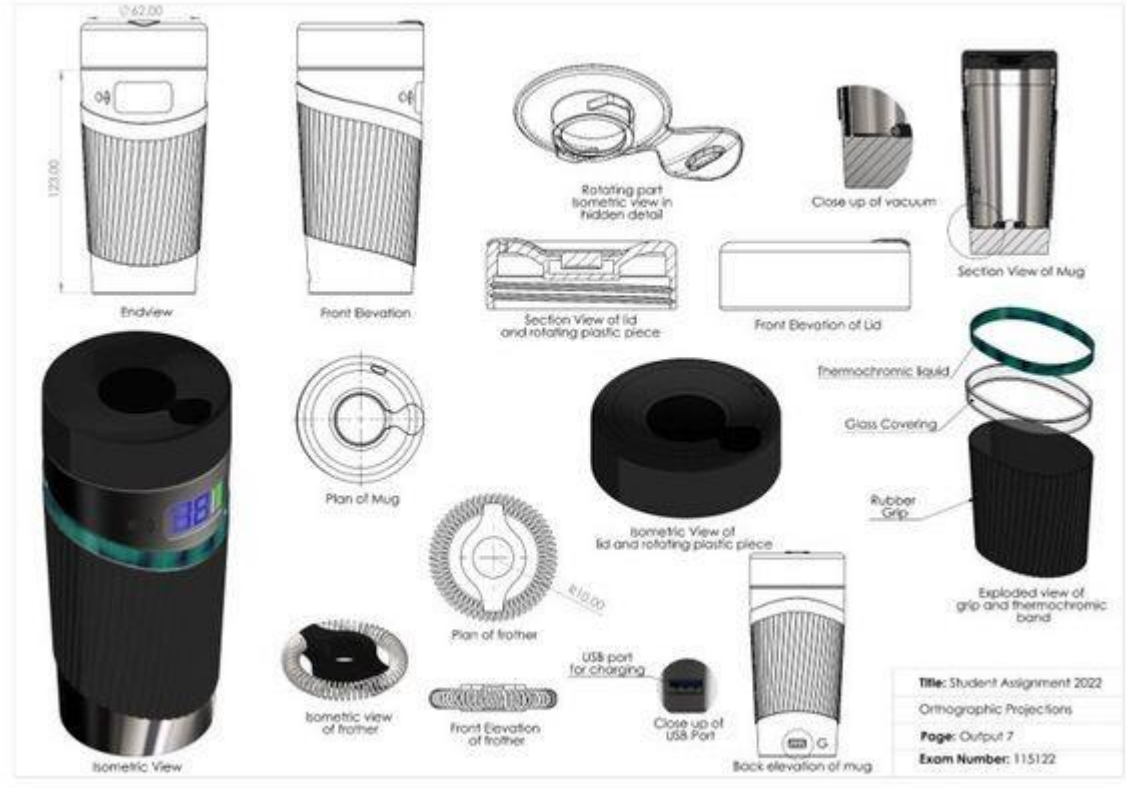
When students take responsibility for their own learning, teachers must be ready to support and guide them. However, this might not be a straightforward task, and the challenges involved might not be obvious to teachers, even when teachers make their best effort to help students identify their interests as well as to help them to make well-informed decisions about themselves, exploring their full potential and talents – and not jumping to conclusions based on their immediate gratification (Voogt, Nieveen and Thijs, 2018[32]); (OECD, 2021[33]).

Box 2.4. Student agency in curriculum decision making

Julia, an 18-year-old student in Ireland, had to design a travel mug for her Architecture and Computer Design class. The project, which accounted for 40% of her grade, comprised a different object each year and encouraged students to be as innovative and personal as possible. For three months, every Architecture and Computer Design class was dedicated to finishing the project.

Julia's mug was inspired by a futuristic design and had a thermochromic band that changed colour based on the liquid's temperature. Moreover, there was a milk frother inside that could reheat the drink and prevent people from throwing out lukewarm coffee. One of Julia's classmates loves canoeing and designed a travel mug that would keep steady at the bottom of a canoe. Julia explains how the teacher would help spark students' ideas, and make sure all required elements were there and that they were on the right track.

However, no timeline was set by the teacher and students were granted creative license. This gave them considerable autonomy over their designs, process and time. Julia highlights that the project gave her valuable experience in project organisation and planning. As each student created a unique design, the teacher could often only help one person at a time. Julia found that this forced the students to collaborate and utilise each other's strengths.



Students who were good with computers helped others with technical difficulties in the design applications. Students who were good at writing gave others feedback on the written portfolio to explain the travel mug design. For research, one student created a survey about how students use travel mugs, which everyone in the class answered, then shared the results to improve their designs.

Julia believes that no one worried about someone copying their designs because the examiner was going to grade the entire class at once, making it obvious if anyone had plagiarised. She felt this made the students see each other not as competitors but as mutual support.

Source: Interview with Julia, New Bridge College, Ireland, July 2022.

Learner agency in digital space

Technology and the Internet can enhance students' ability to explore ideas and perspectives and enable them to shape their understanding of the world and their place in it. However, extensive exposure to virtual spaces and online communities can also undermine broader learning and diverse perspectives.

The online workings of filtering, data selection, aggregation and matching algorithms create virtual spaces that are personalised to individual choices, thus sometimes creating information silos and communities of narrowly defined interests. While student choice and agency can enhance and provide opportunities for learning, the exercise of such autonomy can also lead to an artificial reduction in choices as opportunities are mediated by technology.

The potential for individuals to develop a biased and distorted view of the world as a result is quite real. Psychologists warn of the pervasive risk of individuals developing confirmation biases, a phenomenon by which new information is misperceived or distorted to support prior beliefs or attitudes on a subject, rather than challenge them (Knobloch-Westerwick, Johnson and Westerwick, 2015[36]; Del Vicario et al., 2016[37]).

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Experts also warn that people can become isolated through these filters in “information bubbles only partly of their own choosing”. Inaccurate beliefs that they can form as a result may be difficult to correct (Resnick et al., 2013[38]; Geschke, Lorenz and Holtz, 2018[39]; Pariser, 2011[40]). Chamorro-Premuzic (2014[41]) contends that the proliferation of search engines, news aggregators and feed-ranking algorithms is “more likely to perpetuate ignorance than knowledge”.

Furthermore, as mentioned earlier, there is some concern about student well-being, in particular in digital spaces, for example, peer pressure associated with “FOMO” (fear of missing out) (OECD, 2021[33]; Gupta and Sharma, 2021[42]; Alt and Boniel-Nissim, 2018[43]; Abel, Buff and Burr, 2016[44]; Haggis, 2003[45]).

Where teachers play an active role in supporting students, it is important to guide student agency and build their digital literacy along with other core foundations, i.e., literacy, numeracy, data literacy, socio-emotional and health foundations. This is suggested in the OECD Learning Compass along with other frameworks, such as the European Commission’s DigiComp (Box 2.5).

Box 2.5. Examples of European Commission digital competency frameworks

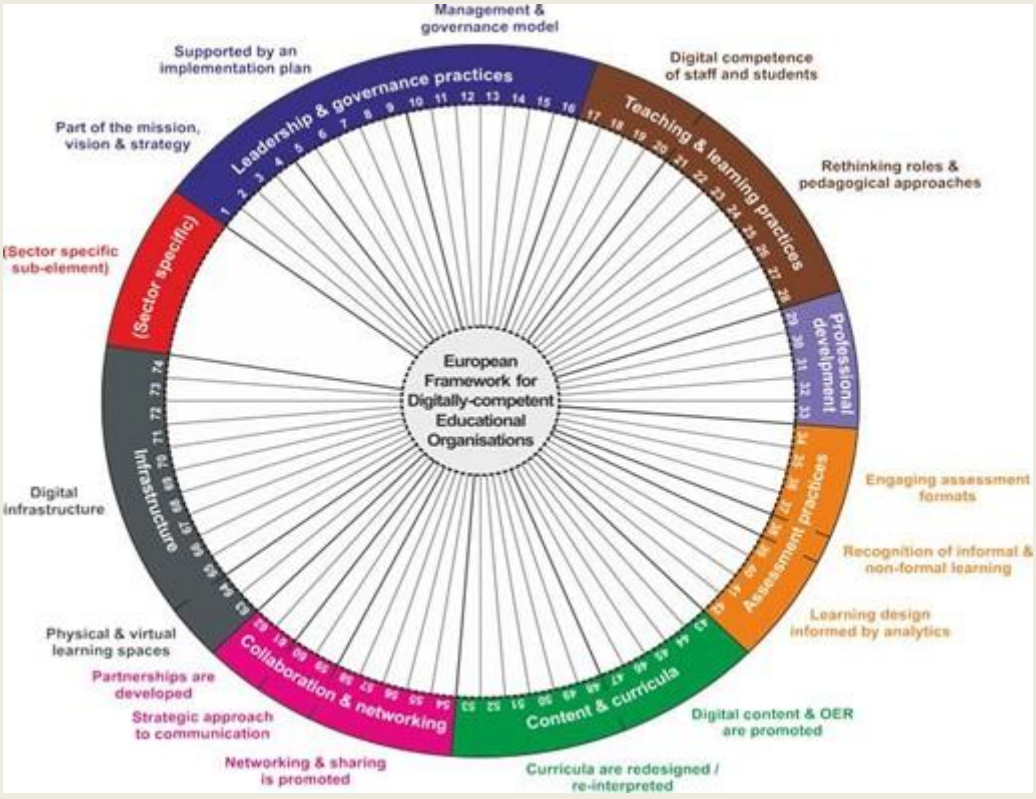
European Framework for Digitally Competent Educational Organisations (DigCompOrg)

Digital technologies – highlighted in the OECD Learning Compass 2030 as a common language across competency frameworks – increasingly affect the education system, including formal and informal learning, and teaching and learning approaches. Further, integration of digital technologies in education involves the practices of individuals (e.g., teachers, students, school leaders) as well as organisations.

As such, the European Commission’s DigCompOrg Framework, adopting a holistic approach, helps organisations from all education sectors integrate digital technologies into their practice by focusing on pedagogical, technological and organisational aspects. Specifically, DigCompOrg is structured along seven themes common to all education sectors, namely: (1) leadership and governance; (2) teaching and learning; (3) professional development; (4) assessment; (5) content and curricula; (6) collaboration and networking; and (7) infrastructure. Beyond these cross-sector themes, DigCompOrg is open to the addition of sector-specific elements. This approach can add value by promoting transparency, comparability and peer learning.

DigCompOrg has been the basis for the creation of SELFIE (Self-reflection on Effective Learning by Fostering the use of Innovative Educational) technologies, designed to help schools reflect on how they use digital technologies. Aggregated data from SELFIE are used to support policymaking.

Figure 2.6. DigiCompOrg thematic structure and elements



Source: European Commission (https://ec.europa.eu/jrc/en/digcomporg/framework).

The Digital Competence Framework for Citizens

Furthermore, the European Commission identified components of digital competence in five areas in its Digital Competence Framework for Citizens (which outlines 21 competencies):

1. Information and data literacy: to articulate information needs; locate and retrieve digital data, information and content; to judge the relevance of the source and its content; to store, manage, and organise digital data, information and content.
2. Communication and collaboration: to interact, communicate and collaborate through digital technologies while being aware of cultural and generational diversity; to participate in society through public and private digital services and participatory citizenship; to manage one's digital identity and reputation.
3. Digital content creation: to create and edit digital content; to improve and integrate information and content into an existing body of knowledge while understanding how copyright and licences are applied; to know how to give understandable instructions for a computer system.
4. Safety: to protect devices, content, personal data and privacy in digital environments; to protect physical and psychological health and be aware of digital technologies for social well-being and social inclusion; to be aware of the environmental impact of digital technologies and their use.
5. Problem-solving: to identify needs and problems and resolve conceptual problems and situations in digital environments; to use digital tools to innovate processes and products; to keep up to date with the digital evolution.

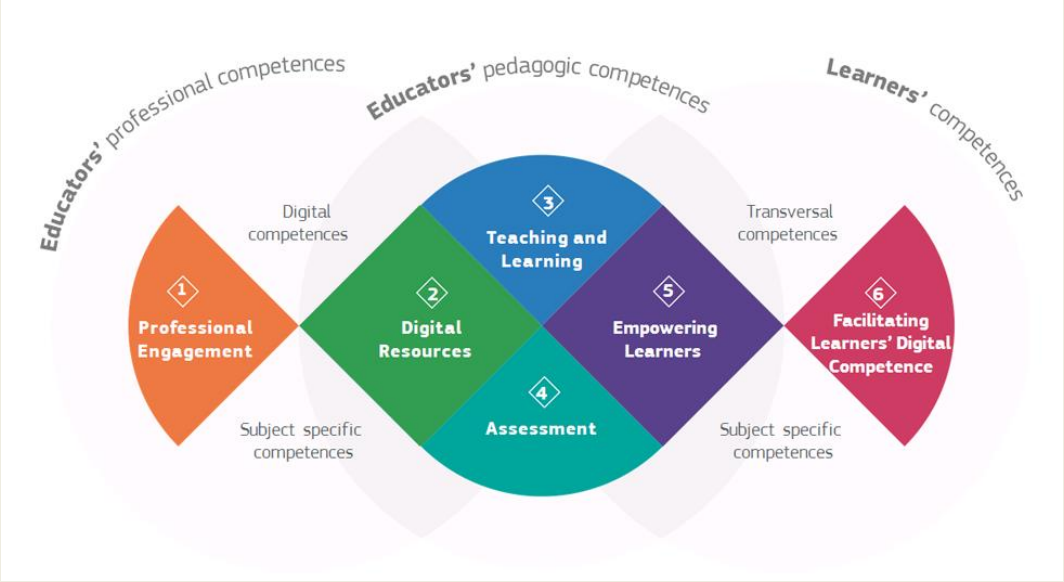
The framework is being used from policy orientation to curriculum development, career guidance and promotion using learning outcomes.

European Framework for the Digital Competence of Educators (DigCompEdu)

Building on the previous work carried out to define citizens' digital competence in general, as well as that of education organisations, the European Framework for the Digital Competence of Educators is a framework describing what it means for educators to be digitally competent. It provides a general reference frame to support the development of educator-specific digital competences in Europe. DigCompEdu is directed towards educators at all levels of education, from early childhood to higher and adult education, including general and vocational education and training, special needs education, and non-formal learning contexts.

DigCompEdu details 22 competences organised in six areas. The focus is not on technical skills. Rather, the framework aims to detail how digital technologies can be used to enhance and innovate education and training.

Figure 2.7. European Framework for the Digital Competence of Educators



Source: European Commission, https://joint-research-centre.ec.europa.eu/digcompedu_en.

Tensions around professional autonomy and parental expectations

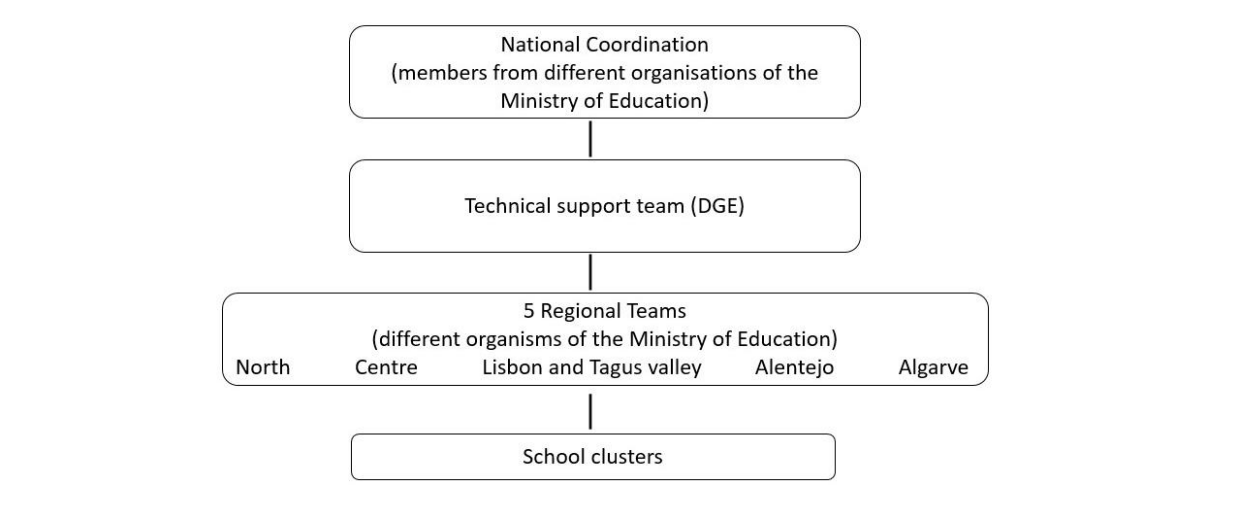
Tension may arise from strong views among parents about the content, teaching methods and assessment strategies that students should experience in schools. Lubienski (2009[46]) did not find a correlation between school autonomy and the implementation of innovative curricula and pedagogies, and he argues that parents tend to prefer schools with traditional curricula and proven pedagogical practices instead of schools that focus on innovation.

Recent curriculum reforms undertaken in **Portugal** initially were faced with parents' preference for traditional curricula and proven pedagogical practices over innovative approaches (OECD, 2018[47]). Lubienski (2009[46]) suggests that schools should use their autonomy to organise parts of the curriculum according to their own vision and interests, to manage the expectations of parents who are suspicious of schools. Box 2.6 provides insight into how this issue was met, addressed and resolved.

Box 2.6. Stakeholder engagement in curriculum redesign in Portugal

The engagement of stakeholders in curriculum renewal is an asset that fosters better results. The ongoing process of curriculum redesign in Portugal started in 2016 with the involvement of teachers in a questionnaire at the national level, then with the Students' Voice national conference, where children and young people from pre-school to higher education had the opportunity to share their opinion and suggestions on pedagogy, strategies and education in general. After the conception of the Students' Profile by the End of Compulsory Schooling (2017), a rationale was developed for a quality education for all.

Figure 2.8. Types of structure to support and monitor schools



Source: Portuguese Ministry of Education, 2022.

Curriculum flexibility and autonomy was introduced as a pilot in the 2017/18 school year. Schools applied to take part, resulting in more than 200 school clusters managing up to 25% of their curriculum framework, focused on collaborative work and a cross-curriculum approach. The pilot was supported and monitored by regional teams, with members from different parts of the Ministry of Education, and external evaluation (OECD, 2018[47]). Following suggestions from the external evaluation, support and monitoring continued based on close contact between regional teams and schools, fostering awareness and practice-sharing among teachers, involving experts, parents and other stakeholders in commitment to a flexible curriculum adapted to the schools' context and promoting meaningful learning.

Source: OECD (2018[47]) Curriculum Flexibility and Autonomy in Portugal.

Tensions around professional autonomy and high-stakes external examinations

High-stakes assessment culture describes high school leaving examinations, university admission examinations or national standardised examinations that can be considered part of the selection criteria for a school or a university, among others. Teachers are unable to part from the tremendous impact it has on their professional autonomy.

Most countries and jurisdictions report that decisions on student assessment are granted to teachers (and students, in some cases). However, examinations administered by a body outside curriculum

administration can influence teachers' and school leaders' beliefs and behaviours and can impose constraints on how they use their professional autonomy over curriculum flexibility. For example, research from **Scotland (United Kingdom)** suggests that, while the *Curriculum for Excellence* offers flexibility to schools and teachers regarding the way curriculum content and goals are implemented, the assessment system hampers schools in making use of the autonomy accorded them (Leat, Livingston and Priestley, 2013[14]). Similarly, schools in **Israel** report that, while they were encouraged to use their autonomy to design a contemporary curriculum, implementation of the curriculum was externally monitored through high-stakes testing, thereby limiting the willingness of schools and teachers to explore innovative, future-focussed learning experiences (Nir et al., 2016[48]) . In **Korea**, university entrance exams are high-stakes assessments that restrict the ability of schools and teachers to adopt more flexible approaches to education.

In countries with high-stakes standardised tests and examinations, teachers often feel the need to focus on teaching content traditionally to prepare students for these tests and examinations (Boardman and Woodruff, 2004[49]). Schools and teachers report feeling that they have limited choices regarding the curriculum, with a "washback" from external examinations influencing what teachers focus on, how they teach, and how they assess student learning for both formative and summative purposes (Hutchinson and Hayward, 2005[50]; Yin and Buck, 2019[51]; Göloğlu Demir, 2021[52]). Accordingly, teachers tend to default to practices focused on content directly associated with examinations. These factors can be seen as reflective of an educational culture that favours traditional content-centred pedagogy rather than competency-based methodologies or student-centred forms of assessment. Therefore, students might not benefit from opportunities for deeper learning and understanding.

Under such circumstances, any increase in curriculum flexibility and autonomy to provide enriched, differentiated, adjusted and holistic learning is likely to strike them as contradictory to the way student achievement is assessed – and in some countries and jurisdictions how they or their schools are held accountable through student results. In the absence of revisions to assessment policies and practices, teachers and students might not benefit from increased flexibility in the curriculum, creating a noticeable gap through the assessment system between desired and granted autonomy (Hong and Youngs, 2014[53]).

High-stakes assessment culture can also impact learner mindsets and decisions they make on curriculum choice, when allowed. This is particularly true in countries where national or central admissions exams weigh heavily on one's pursuit of higher education, and it can impact students' learning and well-being (see "Interplay between assessments, students' learning and well-being" in Chapter 4).

Additionally, since providing greater autonomy to teachers can resolve problems associated with job satisfaction and burnout (Davis and Wilson, 2000[54]; Pearson and Hall, 1993[55]; Skaalvik and Skaalvik, 2014[56]), narrowing their role (along with a false presumption of increased local autonomy) can aggravate their feelings of resentment and reduce job satisfaction (Walker and Graham, 2019[57]).

In summary, national standardised assessments were found to somewhat erode teachers' autonomy (Runté and Runte, 1998[58]; Elo and Nygren-Landgärds, 2020[18]). Regardless of what might be stated about teachers having the autonomy to implement the curriculum in flexible ways, adherence to what is familiar and known related to external assessment regimes is more likely to be the result in practice. The influence that high-stakes assessments have is significant and will hold initiatives in areas such as curriculum and pedagogy "hostage" if not aligned to policy shifts (Muskin, 2015[59]). Recognising the challenge, **British Columbia (Canada)**, for example, has made efforts to align provincial assessments with the curriculum so that both assess progress towards the same goal.

Tensions around flexibility in small-scale and large-scale implementation

When introducing or strengthening curriculum flexibility and autonomy, countries and jurisdictions often face challenges in how to support and/or scale individual cases or models that are found to be effective in specific contexts.

Several schooling approaches and programmes are either proclaimed or recognised as flexible compared to the dominant practice within a country or jurisdiction. These can be viewed as alternative models in some countries and jurisdictions, or as levels of flexibility in others. They can also embed structural elements that assure compliance with national or state curriculum requirements, while maintaining their philosophical underpinnings and respecting parental choice. Box 2.7 provides examples of such models of schooling, where autonomy and flexibility are fundamental to the teaching and learning culture.

Box 2.7. Tensions in alternative education models

Flexibility vs. structural requirements in the International Baccalaureate

The International Baccalaureate (IB) programme is firmly established in education worldwide, with over 5 000 schools offering it, including schools that offer the IB as an alternative to other curricula and credentials. The IB promotes individual learning and a flexible framework that enables schools to incorporate government requirements where relevant, and for schools, teachers and students to localise the learning context.

However, there are structural limitations to this flexibility. Even though the Primary and Middle Years programmes are more flexible, the Diploma programme prescribes content and assessment. The programme's emphasis on breadth and rigour, which requires students to select from subject areas across six groups and with an inflexible workload, leads to higher levels of stress than among students following a general education programme (Suldo et al., 2018[60]). Moreover, compared to curriculum models that promote specialisation and discontinuation of whole learning areas, the IB offers less flexibility for learners (Dawborn-Gundlach, 2017[61]).

Flexibility vs. teacher authority in Steiner Education

Steiner (also known as Waldorf) Education, founded by Austrian educator Rudolph Steiner, aims to provide students with a holistic education. There are more than 1,100 Steiner schools worldwide, with significant concentrations in Europe. Specifically, Europe hosts 802 Steiner schools, accommodating around 190,000 students and employing approximately 18,400 teachers.

The Steiner approach forgoes several traditional practices and curriculum constructs that feature in schooling and teaching in other systems. For example, while some systems prioritise standardised testing, the ranking of students and Steiner schools emphasise individual development and artistic expression. Moreover, they prefer storytelling over the use of textbooks. There is also a strong emphasis on teachers more than other levels of authority as decision-makers in Steiner schools.

While this suggests that the Steiner approach is flexible compared with other approaches and highly regulated schooling systems, a rigidity rooted in the philosophical beliefs of its founder underpins teaching and learning in Steiner schools. Foremost, are the division of childhood into three distinct stages, set blocks of time to learn subject matter that is often revisited, skill development in specific artistic and technical areas (such as playing a musical instrument and knitting), a strict approach to the teaching of reading, and the high status given to teachers as decision-makers with decisions governed by training in Steiner philosophy and methodology. Hence, a degree of structural rigidity has been maintained in Steiner Education for over a century.

Flexibility vs. individualistic emphasis in Montessori Education

Montessori education worldwide is conducted based on the philosophical beliefs of its founder, Italian physician and educator Maria Montessori.

While most Montessori schools operate in a similar way, there are some variations (Daoust and Suzuki, 2014[62]). Montessori schools focus on independence, the uniqueness of each child, the joy of learning and the self-construction of knowledge through interaction with one's environment. Hence, Montessori education eschews the ranking and assessment of students against set norms and standards using traditional student performance monitoring systems.

At the same time, solid structural foundations guide practice, and teachers are expected to adhere to training in Montessori methods and requirements. These include the use of specific equipment (and how and when these are used), a focus on real life (as opposed to fantasy or abstraction), intrinsic motivation rather than rewards, and little to no emphasis on socially constructed knowledge. There is also a strong emphasis on the "prepared environment" of surroundings and resources organised to stimulate students' interest and engagement in learning, with displays of students' work and other artefacts seen as distracting from the students' self-directed learning and independence.

Flexibility vs. independence in the Jenaplan School

The Jenaplan School, in Germany, was established in 1991 by teachers and parents committed to reforming the schooling process. Initially a primary school, the Jenaplan School developed through the senior secondary-school grades, enabling students to undertake their entire schooling at one school. The school is organised around self-regulated learning by students.

Students learn in mixed-aged groups, with older students assisting teachers in guiding younger students and with each child planning and controlling their own learning programme. Student learning portfolios are key to the self-regulated process and assessment of progress and achievement. Learning is based around three phases: (1) an introductory phase to new concepts and skills; (2) a working phase, where students undertake tasks relevant to areas and topics they selected; and (3) a presentation/appraisal phase, where students demonstrate what they have learnt. Teachers at the Jenaplan School work in teams where mutual respect is practised, and they are seen as mentors and learning partners of students in a co-agency approach, rather than decision-makers in the curriculum each student follows.

Flexibility vs. lack of assessment in Sudbury schools

Sudbury Schools in different parts of the world are independent of each other but share the same characteristics. These include democratic decision-making, where students and staff have equal say (including in the hiring and dismissal of staff), parents have no or limited involvement, there is no predetermined curriculum, student learning is not organised into groups but students are free to undertake learning tasks with others and mixed-age interactions are encouraged, and teachers are not required to use specific pedagogical methods.

The Sudbury Schools model developed from an initial school's approach in 1968 based on several beliefs and convictions, foremost of which is that learning is self-initiated and self-motivated, not a process that students have no influence over. Unless a student asks for a specific learning format, each one is free to design what and how they will learn. There are no tests and there is no ranking of students.

Sources: International Forum for Steiner/Waldorf Education. "Waldorf World List 2024." Waldorf International, 2024, www.waldorf-international.org/en/waldorf-world-list-2024/., European Council for Steiner Waldorf Education. "Steiner Waldorf Education in Europe." ECSWE, 2024, www.ecswe.eu/steiner-waldorf-education-in-europe/.

Independent and small-scale schooling models exist at either end of the curriculum flexibility and autonomy continuum. Over time, some have expanded and multiplied, others have remained intentionally small, while others were discontinued. The extent to which approaches are sustainable depends on several factors, including funding sources; the commitment of founding members, their governing bodies, staff, parents and former students; the legacy and culture established over years of operation; and how government authorities and legislation regulate (or do not) their operation.

While these approaches provide insights into implementing curriculum flexibility and autonomy to varying degrees, scaling up innovative models in large schooling systems or across a nation is another matter. As observed (Levin, 2013[63]), scaling innovation is challenging not only in education; it is a problem and complex undertaking in any field, be it public or private.

Dillenbourg (2017[64]) makes a similar point, explaining that education is stratified into layers (class, school, district, state, country) that differ in magnitude. Citing technological innovation, Dillenbourg (2017[64]) remarks that segmentation in education and analysis of different aspects and drivers of policy and practice makes it difficult to "join the dots" that scaling up requires.

References

Abel, J., C. Buff and S. Burr (2016), "Social Media and the Fear of Missing Out: Scale Development and Assessment", *Journal of Business & Economics Research*, Vol. 14/1, pp. 33-43, https://core.ac.uk/download/pdf/268112726.pdf. [44]

Alt, D. and M. Boniel-Nissim (2018), "Links between Adolescents' Deep and Surface Learning Approaches, Problematic Internet Use, and Fear of Missing Out (FoMO)", *Internet Interventions*, Vol. 13, pp. 30-39, https://doi.org/10.1016/j.invent.2018.05.002. [43]

Anderson, D. and A. Graham (2016), "Improving student wellbeing: Having a say at school", *School effectiveness and school improvement*, Vol. 27/3, pp. 348-366. [27]

Boardman, A. and A. Woodruff (2004), "Teacher change and "high-stakes" assessment: what happens to professional development?", *Teaching and Teacher Education*, Vol. 20/6, pp. 545-557, https://doi.org/10.1016/j.tate.2004.06.001. [49]

Caldwell, B. (2016), "Impact of school autonomy on student achievement: cases from Australia", *International Journal of Educational Management*, Vol. 30/7, pp. 1171-1187, https://doi.org/10.1108/ijem-10-2015-0144. [23]

Chamorro-Premuzic, T. (2014), *How the web distorts reality and impairs our judgement skills*, https://www.theguardian.com/media-network/media-network-blog/2014/may/13/internet-confirmation-bias. [41]

Cornelisz, I. and N. van Harlem (2016), *Een analyse van leerling-centraal onderwijs in relatie tot onderwijsuitkomsten en beleidsinstrumenten. [An analysis of student-centered education in relation to educational outcomes and policy instruments.]*, https://www.onderwijsraad.nl/publicaties/2017/startnotitie-de-leerling-centraal-7572/item7572. [35]

Creese, B., A. Gonzalez and T. Isaacs (2016), "Comparing international curriculum systems: the international instructional systems study", *The Curriculum Journal*, Vol. 27/1, pp. 5-23, https://doi.org/10.1080/09585176.2015.1128346. [10]

Daoust, C. and S. Suzuki (2014), *Public Montessori elementary: Three models of implementation*, https://amshq.org/Research/Resources-for-Research. [62]

Davis, J. and S. Wilson (2000), "Principals' Efforts to Empower Teachers: Effects on Teacher Motivation and Job Satisfaction and Stress", *The Clearing House: A Journal of Educational Strategies, Issues and Ideas*, Vol. 73/6, pp. 349-353, https://doi.org/10.1080/00098650009599442. [54]

Dawborn-Gundlach, L. (2017), "Lessons to learn from the International Baccalaureate", *Pursuit*. [61]

Del Vicario, M. et al. (2016), *The spreading of misinformation online*, https://doi.org/10.1073/pnas.1517441113. [37]

Dillenbourg, P. (2017), "The Challenges of Scaling-up. Findings From Education Research", *Meaningful Education in Times of Uncertainty*, p. 102, https://nepc.colorado.edu/publication/scaling-up-innovations. [64]

Eccles, J. (1998), "Perceived control and the development of academic motivation.", *Monographs of the Society for Research in Child Development*, Vol. 63/2-3, pp. 221-231. [30]

Eccles, J. et al. (1993), "Development during adolescence: The impact of stage-environment fit on young adolescents' experiences in schools and in families.", *American Psychologist*, Vol. 48/2, pp. 90-101, https://doi.org/10.1037/0003-066x.48.2.90. [31]

Eccles, P. (1997), *An Introduction to Mathematical Reasoning*, Cambridge University Press, https://doi.org/10.1017/cbo9780511801136. [28]

Elo, J. and C. Nygren-Landgärds (2020), "Teachers' perceptions of autonomy in the tensions between a subject focus and a cross-curricular school profile: A case study of a Finnish upper secondary school", *Journal of Educational Change*, Vol. 22/3, pp. 423-445, https://doi.org/10.1007/s10833-020-09412-0. [18]

Erss, M. (2016), "Walking a fine line': teachers' perception of curricular autonomy in Estonia, Finland and Germany", *Journal of Curriculum Studies*, https://doi.org/10.1080/00220272.2016.1167960. [12]

Folmer, E., A. Koopmans-van Noorel and W. Kuiper (eds.) (2017), *Ruimte, richting en ruggensteun'*, SLO. [20]

Frostenson, M. (2015), "Three forms of professional autonomy: de-professionalisation of teachers in a new light", *Nordic Journal of Studies in Educational Policy*, Vol. 2015/2, p. 28464, https://doi.org/10.3402/nstep.v1.28464. [9]

Geschke, D., J. Lorenz and P. Holtz (2018), "The triple-filter bubble: Using agent-based modelling to test a meta-theoretical framework for the emergence of filter bubbles and echo chambers", *British Journal of Social Psychology*, Vol. 58/1, pp. 129-149, https://doi.org/10.1111/bjso.12286. [39]

Göloğlu Demir, C. (2021), "The impact of high-stakes testing on the teaching and learning processes of mathematics", *Journal of Pedagogical Research*, Vol. 5/2, pp. 119-137, https://doi.org/10.33902/jpr.2021269677. [52]

Greany, T. and J. Waterhouse (2016), "Rebels against the system: Leadership agency and curriculum innovation in the context of school autonomy and accountability in England", *International Journal of Educational Management*, Vol. 30/7, pp. 1188-1206, https://doi.org/10.1108/IJEM-11-2015-0148. [13]

Green, C. et al. (2014), "School choice and student wellbeing", *Economics of Education Review*, Vol. 38, pp. 139-150, https://doi.org/10.1016/j.econedurev.2013.11.007. [29]

Gupta, M. and A. Sharma (2021), "Fear of missing out: A brief overview of origin, theoretical underpinnings and relationship with mental health", *World Journal of Clinical Cases*, Vol. 9/19, pp. 4881-4889, https://doi.org/10.12998/wjcc.v9.i19.4881. [42]

Haggis, T. (2003), "Constructing Images of Ourselves? A Critical Investigation into 'Approaches to Learning' Research in Higher Education", *British Educational Research Journal*, Vol. 29/1, pp. 89-104, http://www.jstor.org/stable/1501542. [45]

Haugsbakk, G. (2013), "From Sputnik to PISA shock–New technology and educational reform in Norway and Sweden.", *Education Inquiry*, Vol. 4, https://doi.org/10.3402/edui.v4i4.23222. [7]

Hong, W. and P. Youngs (2016), "Why are teachers afraid of curricular autonomy? Contradictory effects of the new national curriculum in South Korea", *Asia Pacific Journal of Education*, Vol. 36/sup1, pp. 20-33, https://doi.org/10.1080/02188791.2014.959471. [5]

Hong, W. and P. Youngs (2014), "Why are teachers afraid of curricular autonomy? Contradictory effects of the new national curriculum in South Korea", *Asia Pacific Journal of Education*, Vol. 36/sup1, pp. 20-33, https://doi.org/10.1080/02188791.2014.959471. [53]

Hutchinson, C. and L. Hayward (2005), "The journey so far: assessment for learning in Scotland", *The Curriculum Journal*, Vol. 16/2, pp. 225-248, https://doi.org/10.1080/09585170500136184. [50]

Knobloch-Westerwick, S., B. Johnson and A. Westerwick (2015), "Confirmation Bias in Online Searches: Impacts of Selective Exposure Before an Election on Political Attitude Strength and Shifts", *Journal of Computer-Mediated Communication*, Vol. 20/2, pp. 171-187, https://doi.org/10.1111/jcc4.12105. [36]

Kuiper, W. (2017), "Ruimte, richting en ruggensteun - SLO", in Folmer, E., Koopmans-van Noorel A. and W. Kuiper (eds.), *Curriculumspiegel 2017*, https://www.slo.nl/@4553/ruimte-richting/ (accessed on 3 May 2022). [21]

Leat, D., K. Livingston and M. Priestley (2013), "Curriculum deregulation in England and Scotland - Different directions of travel?", in Kuiper, W. and J. Berkvens (eds.), *Balancing curriculum regulation and freedom across Europe*, CIDREE. [14]

Leest, B. and H. Wierda-Boer (2014), *Talen in het hoger onderwijs*, https://staatvanhetnederlands.nl/wp-content/uploads/2017/05/Leest-en-Wierda-Boer-2011.pdf. [24]

Levin, B. (2013), *What Does It Take to Scale Up Innovations? An Examination of Teach for America, The Harlem Children's Zone, and The Knowledge is Power Program*, https://nepc.colorado.edu/publication/scaling-up-innovations. [63]

Lubienski, C. (2009), "Do Quasi-markets Foster Innovation in Education?: A Comparative Perspective", *OECD Education Working Papers*, No. 25, OECD Publishing, Paris, https://doi.org/10.1787/221583463325. [46]

Lundgren, U. (2013), *sweden—from governing with curricula to steering with outcomes*, CIDREE: Consortium of Institutions for Development and Research in Education in Europe, http://www.cidree.org/fileadmin/files/pdf/publications/YB_13_Balancing_Curriculum_Regulation_and_Freedom.pdf#page=270. [2]

Masters, G. (2020), *Nurturing Wonder and Igniting Passion, designs for a new school curriculum: NSW Curriculum Review*, https://research.acer.edu.au/nswcurriculumreview/6. [11]

Mausethagen, S. and C. Mølstad (2015), "Shifts in curriculum control: contesting ideas of teacher autonomy", *Nordic Journal of Studies in Educational Policy*, Vol. 2015/2, p. 28520, https://doi.org/10.3402/nstep.v1.28520. [17]

Muskin, J. (2015), *Student Learning Assessment and the Curriculum: issues and implications*, http://www.ibe.unesco.org/sites/default/files/resources/ipr1-muskin-assessmentcurriculum_eng.pdf. [59]

Nieveen, N. and W. Kuiper (2012), "Balancing Curriculum Freedom and Regulation in the Netherlands", *European Educational Research Journal*, Vol. 11/3, pp. 357-368, https://doi.org/10.2304/eerj.2012.11.3.357. [1]

Nir, A. et al. (2016), "School autonomy and 21st century skills in the Israeli educational system", *International Journal of Educational Management*, Vol. 30/7, pp. 1231-1246, https://doi.org/10.1108/IJEM-11-2015-0149. [15]

Nir, A. et al. (2016), "School autonomy and 21st century skills in the Israeli educational system", *International Journal of Educational Management*, Vol. 30/7, pp. 1231-1246, https://doi.org/10.1108/ijem-11-2015-0149. [48]

OECD (2024), *OECD Economic Surveys: New Zealand 2024*, OECD Publishing, Paris, https://doi.org/10.1787/603809f2-en. [22]

OECD (2021), *Embedding Values and Attitudes in Curriculum: Shaping a Better Future*, OECD Publishing, Paris, https://doi.org/10.1787/aee2adcd-en. [33]

OECD (2020), *TALIS 2018 Results (Volume II): Teachers and School Leaders as Valued Professionals*, TALIS, OECD Publishing, Paris, https://doi.org/10.1787/888934084190. [16]

OECD (2018), *Curriculum Flexibility and Autonomy in Portugal - an OECD Review*, https://www.oecd.org/education/2030-project/about/documents/Curriculum-Flexibility-and-Autonomy-in-Portugal-an-OECD-Review.pdf. [47]

OECD (2016), *PISA 2015 Results (Volume II): Policies and Practices for Successful Schools*, PISA, OECD Publishing, Paris, https://doi.org/10.1787/9789264267510-en. [6]

Pariser, E. (2011), *The filter bubble: What the Internet is hiding from you*, Penguin. [40]

Pearson, L. and B. Hall (1993), "Initial Construct Validation of the Teaching Autonomy Scale", *The Journal of Educational Research*, Vol. 86/3, pp. 172-178, https://doi.org/10.1080/00220671.1993.9941155. [55]

Priestley, M. et al. (2015), *The teacher and the curriculum: Exploring teacher agency*, SAGE Publications Ltd. [4]

Resnick, P. et al. (2013), "Bursting your (filter) bubble", *Proceedings of the 2013 conference on Computer supported cooperative work companion - CSCW '13*, https://doi.org/10.1145/2441955.2441981. [38]

Runté, R. and R. Runte (1998), "The Impact of Centralized Examinations on Teacher Professionalism", *Canadian Journal of Education / Revue canadienne de l'éducation*, Vol. 23/2, p. 166, https://doi.org/10.2307/1585978. [58]

Saarivirta, T. and K. Kumpulainen (2016), "School autonomy, leadership and student achievement: reflections from Finland", *International Journal of Educational Management*, Vol. 30/7, pp. 1268-1278, https://doi.org/10.1108/ijem-10-2015-0146. [25]

Skaalvik, E. and S. Skaalvik (2014), "Teacher Self-Efficacy and Perceived Autonomy: Relations with Teacher Engagement, Job Satisfaction, and Emotional Exhaustion", *Psychological Reports*, Vol. 114/1, pp. 68-77, https://doi.org/10.2466/14.02.pr0.114k14w0. [56]

Suldo, S. et al. (2018), "Predictors of Success Among High School Students in Advanced Placement and International Baccalaureate Programs", *Gifted Child Quarterly*, Vol. 62/4, pp. 350-373, https://doi.org/10.1177/0016986218758443. [60]

Volman, M. and R. Stikkelman (2016), *Startnotitie: de leerling centraal, Literatuurstudie naar effecten van pedagogische en didactische argumenten voor leerling- en studentgericht onderwijs*, https://hdl.handle.net/11245.1/aaffa205-77ab-4f56-9a8d-69e94732ebbd. [34]

Voogt, J., N. Nieveen and A. Thijs (2018), *Ensuring equity and opportunities to learn in curriculum reform*, https://www.oecd.org/education/2030-project/contact/EDU-EDPC(2018)14.pdf. [32]

Walker, S. and L. Graham (2019), "At risk students and teacher-student relationships: student characteristics, attitudes to school and classroom climate", *International Journal of Inclusive Education*, Vol. 25/8, pp. 896-913, https://doi.org/10.1080/13603116.2019.1588925. [57]

Wermke, W. and G. Höstfält (2014), "Silent and explicit borrowing of international policy discourses. The case of the Swedish teacher education reforms of 2001 and 2011", *Education Inquiry*, Vol. 5/4, p. 23417, https://doi.org/10.3402/edui.v5.23417. [19]

Wermke, W., S. Olason Rick and M. Salokangas (2019), "Decision-making and control: perceived autonomy of teachers in Germany and Sweden", *Journal of Curriculum Studies*, Vol. 51/3, pp. 306-325, https://doi.org/10.1080/00220272.2018.1482960. [8]

Wytse, D., L. Hayward and J. Pandya (eds.) (2015), *The ebb and flow of curricular autonomy on local curricula: Balance between local freedm and national prescription of curriculum*. [3]

Yin, X. and G. Buck (2019), "Using a collaborative action research approach to negotiate an understanding of formative assessment in an era of accountability testing", *Teaching and Teacher Education*, Vol. 80, pp. 27-38, https://doi.org/10.1016/j.tate.2018.12.018. [51]

Zhang, D. (2005), "Educational mathematics: the educational state of mathematics", *Journal of Mathematics Education*, Vol. 14/3, pp. 1-4. [26]

3 Country experiences with curriculum flexibility and autonomy

This chapter draws on examples collected from countries/jurisdictions to illustrate how different degrees of curriculum flexibility and autonomy impact the effectiveness of teaching and learning, as well as the inclusivity of learning environments. While increased flexibility and autonomy can foster creative teaching methods and better address student needs, it also presents challenges such as the need for clear guidelines and targeted teacher training. Outcomes can differ significantly at national, regional and local levels, and are influenced by the educational, cultural and social contexts. This chapter then outlines strategies to navigate these challenges, emphasising the importance of professional development and collaborative policymaking. It concludes that carefully balanced curriculum flexibility and autonomy, underpinned by supportive educational policies, can lead to more dynamic and responsive education.

Challenges and strategies related to curriculum flexibility and autonomy

This chapter presents examples of challenges that countries/jurisdictions face with curriculum flexibility and autonomy, and the strategies they use to address them[1]. The challenges and strategies will be presented according to the dimensions of curriculum flexibility, as defined in Chapter 1 (Box 1.1): goals and learning content; pedagogy; assessment; instruction and learning time.

Challenges and strategies related to flexibility in goals and learning content

Learning goals are typically set at the national level with an aim to ensure equity and consistency across different regions or schools; all students should be able to access quality learning opportunities regardless of where they are born or their socio-economic background. At the same time, a certain degree of curriculum flexibility is necessary for equity and iwerrnnovation, through the adaptation of the goals and content to the local context or to the individual student's needs. Flexibility is often greater in secondary education than in primary, where emphasis on foundational competencies tends to take priority.

Providing flexibility in goals and learning content enables schools and local authorities to adapt and personalise the curriculum, fostering a closer connection between the learner and the learning experience. Moreover, flexibility can be a powerful tool that allows teachers to respond to the specific learning needs of students. Indeed, among those who participated in the E2030 Policy Questionnaire on Curriculum Redesign, schools in 24 out of 35 countries/jurisdictions, and teachers in 28 out of 35[2] countries/jurisdictions, reported that they make decisions on the selection of learning content, typically drawn from an authorised curriculum (see Figure 1.2 in Chapter 1).

However, countries/jurisdictions reported numerous challenges when giving decisions on flexibility over goals, learning content and curriculum design to teachers, schools and local authorities, as summarised in Table 3.1.

Challenges

Table 3.1. Challenges related to flexibility in goals and learning content

Challenge	Example countries/jurisdictions
Lack of a common vision for the curriculum	India
Unclear or insufficient communication about content flexibility	Ireland
Limited confidence and capacity among teachers and schools to design their own curriculum	New Zealand, Scotland (United Kingdom)
Lack of support and professional learning to develop teachers' expertise in content adaptation	Australia, Korea, Poland, Portugal
Flexibility in content constrained by national- or state-level examinations	Brazil
Complexity in managing flexibility in upper secondary compared to primary education	Hungary

Lack of a common vision for the curriculum

It can be challenging for countries/jurisdictions to ensure a common vision when responsibility for curriculum content is shared between or among the central and local governments, and schools. Moreover, it can be difficult to reconcile varying visions of the curriculum in such circumstances. In some cases, curriculum goals and visions defined at a national level might not be sufficiently embedded in curricula designed at the local authority or school level, causing variations in how students are prepared for the future.

In **India,** national and state governments both have the power to influence the education agenda. In such circumstances, developing a shared vision of future curriculum is particularly challenging. For example, a state might consider it important to address the socio-economic, linguistic and political diversity of the population and preserve local knowledge, while also ensuring that the vision defined at the national level is maintained.

Unclear or insufficient communication about content flexibility

The way learning content is described in curriculum documents can lead to multiple interpretations, often causing confusion (Marope, 2017[1]); content might be understood as intended by curriculum designers, or interpreted in unexpected ways (Ben-Peretz, 1975[2]). Curriculum design requires expertise in the systematic organisation of content, as well as its implementation and evaluation. It requires a bird's eye view to look at the big picture to ensure all parts of the curriculum work well together and match the overall goals and learning trajectories within and across different subject areas (Schmidt, Wang and McKnight, 2005[3]).

Structural flexibility, such as the choice between academic programmes, subject areas, tracks, or mandatory and elective courses is more likely to be obvious to students. Some countries implement curriculum flexibility by giving students different choices with regard to different types, levels or pace of learning: e.g. different subjects within a learning area; different topics within a subject area; or different tracks; different pace of learning within course of study or within a classroom, especially after the COVID-19 pandemic (OECD, 2020[4]; Whalley et al., 2021[5]; Vincent-Lancrin, Cobo Romaní and Reimers, 2022[6]). If content flexibility is not systematically communicated, both teachers and students might be unaware of the opportunity to customise the curriculum at the classroom level. This lack of awareness could also contribute to inequities, particularly problematic among girls and migrant children (Vincent-Lancrin, Cobo Romaní and Reimers, 2022[6]; OECD, 2023[7]).

Furthermore, frequent changes to the curriculum requiring fast response and adaptation from teachers can hamper teachers' ability to exercise autonomy over curriculum content (Dilkes, Cunningham and Gray, 2014[8]). Unless increased levels of flexibility in a curriculum are clearly communicated and discussed with school leaders and teachers, they might fail to benefit from the autonomy and miss the opportunity to tailor the curriculum to fit their students.

The language employed to frame goals, content, and guidelines or direction for the use of the curriculum can either clarify expectations and degrees of autonomy accorded to teachers and students, or result in diverging interpretations, therefore impacting student learning outcomes.

In **Ireland**, The Junior Cycle Framework 2015 introduced more flexibility for the teacher and the learner. Subject specifications are written in the form of learning outcomes. These must be translated into learning intentions for the learner. As a result, both the role of the teacher and the learner are changing; by removing the prescriptive nature from the curriculum, they both have more of a say in what is learned. This allows students to engage in independent study to complete a task and has the potential to be very rewarding for both the teacher and the learner. For these changes to be effective, the government recognises that the teachers will need to be more engaged in facilitation and guidance to ensure the potential of the new framework for the learner and their learning experience.

Limited confidence and capacity among teachers and schools to design their own curriculum

As countries devolve more responsibilities over curriculum design to schools, some teachers and school leaders might not realise the extent of their autonomy and flexibility over curriculum design. In the absence of such awareness, teachers and school leaders might continue to follow national guidelines, rather than recognising them as frameworks for consideration that are not mandated. This can lead to overloading the

curriculum when schools seek to cover more than required and, as a consequence, limit teachers' capacity to personalise the content in response to the needs of their students.

In addition, several countries/jurisdictions reported that teachers and school leaders might lack the confidence to exercise their role as "curriculum designers". This might stem from their limited access to training and professional development on curriculum design, or from them not being aware of such opportunities.

One of the challenges faced by teachers and school leaders is that they may lack the confidence to design curriculum content that addresses specific aspects of national standards. **New Zealand** reports that some schools have difficulty with curriculum principles defined at a national level. These were developed to assist schools in designing their own curriculum content. However, schools' capacity to use these principles as guiding mechanisms varies. The principles of "learning to learn" and "future focus" prove especially difficult for schools to grasp and translate into locally designed curricula.

It might take time for central or local governments to design and implement adequate training, as was the case with the Curriculum for Excellence, the most recent curriculum reform in **Scotland (United Kingdom)**. The Curriculum for Excellence is a framework that allows practitioners decision-making power and flexibility to deliver relevant learning opportunities through quality teaching, which can include giving prominence to student voice. The challenge Scotland experienced through this reform is ensuring that practitioners are skilled and confident enough to undertake the task. As Scotland transitioned from a prescriptive curriculum covering ages 5-14 to the more flexible Curriculum for Excellence, the challenge of delivering practitioner autonomy and empowerment was expected. Career-long learning opportunities are required for all education practitioners, emphasising the need for ongoing central and local support to maintain and sustain teachers' confidence and capabilities.

For effective curriculum flexibility and autonomy, principles in curriculum design should apply not only at the national or jurisdictional level but also at the local, district or school level (see the Overview Brochure on Curriculum Redesign report; (OECD, 2020[9]).

Lack of support and professional learning to develop teachers' expertise in content adaptation

Curriculum flexibility and autonomy is not a cure-all but is considered as a strong policy lever for change in education. However, in countries where curriculum reform prioritises local flexibility and autonomy, school practice often lags behind in the absence of proper teacher training and targeted continuous professional development. Adapting content – whether to different groups of students, to individual learners' needs or to meet emerging demands in society – is not an obvious skill even for experienced teachers who may be used to sticking to the "script" by following traditional textbooks and guidelines (OECD, 2019[10]; OECD, 2021[11]).

Research suggests that while strong government steering decreases schools' and teachers' sense of ownership of and commitment to curriculum reform, a lack of steering often results in uncertainty and confusion. This is particularly true when the state is regarded as the guarantor of educational quality and equity (Ko, Cheng and Lee, 2016[12]; Nieveen and Kuiper, 2012[13]; Earl et al., 2003[14]).

Local authorities, schools and teachers need the capacity to design school-specific aspects of the curriculum if they are to use the curriculum flexibility granted to them (Leat, Livingston and Priestley, 2013[15]; Caldwell, 2016[16]; Halinen and Holappa, 2013[17]; Saarivirta and Kumpulainen, 2016[18]). However, teachers typically have little to no training in curriculum design, especially regarding content selection, prioritisation and adaptation. Thus, they might view curriculum flexibility as an unwelcome and added cognitive burden, work task, and responsibility that is a by-product of professional autonomy (Shawer, 2010[19]; Sinnema, 2015[20]).

In **Australia**, a country where states and territories enjoy a considerable amount of curriculum flexibility and autonomy, some recurrent issues emerge as part of the monitoring of the Australian Curriculum's implementation. For instance, concerns exist about local capacity to contextualise and adapt the curriculum for diverse student populations (e.g. students with special needs, those whose first language is not English, gifted students, Aboriginal and Torres Strait Islander students); for diverse contexts (urban, rural, remote) or interests (e.g. new literacies, STEM, coding, ICT); and for diverse school systems (e.g. faith-based, secular).

In **Korea**, while the demand for curriculum autonomy is very high, as a policy measure it often receives little empathetic acceptance, as there seems to be a gap between expectations and the reality within schools. Teachers have highlighted several issues, including concerns related to the policy that allows schools to modify classroom hours by up to 20% for specific subjects, credit transfers, evaluation (regarding the intensive course programmes), as well as subject selection and time allocation. Furthermore, the perception that autonomy policies tend to result in conflicts between teachers, additional workload and increased teaching burden still persists.

Poland reports that many teachers are not prepared to make use of the flexibility in pedagogy that they have or the methods from which they might otherwise choose. This limits schools' capacity to promote the collaborative teaching approach intended by Poland's curriculum. Some teachers appear convinced that the textbook is the best solution to achieving obligatory learning outcomes, and have difficulty accepting contemporary educational practice, with many retaining traditional methods and scenarios that do not align with new content and related pedagogical practices. Longer-serving teachers often find it challenging to adapt to the introduction of new technologies and the subsequent changes in teaching and learning requirements. Finally, teachers do not always document the curricula they deliver, which is frequently based on their own understanding of the teaching and the learning process. When it comes to the selection and focus by teachers and/or students of curriculum content in a subject area, the degree of flexibility can vary from highly specified expectations that leave little scope for professional or learner agency, to broad content descriptions and goals that enable curriculum development at district and school levels.

The case of **Portugal** illustrates this complexity well. Under the Project for Autonomy and Curriculum Flexibility (PACF), Portuguese schools are allowed to use up to 25% of their curriculum time for innovative projects or additional subjects of their choice. This flexibility is intended to help tailor the curriculum to local needs and student interests. However, many teachers in Portugal lack the necessary training in curriculum design, which can lead to varied outcomes across different schools. The disparity in resources between schools also results in inconsistencies in educational quality. Managing this flexibility effectively requires substantial support and targeted professional development for educators to ensure that all students benefit equitably from the autonomy provided (OECD, 2018[21]).

When granted autonomy, teachers respond in distinct ways. Shawer (2010[19]) portrays three types of teachers:

- *curriculum senders,* who faithfully implement the curriculum using textbooks;
- *curriculum adapters,* who use textbooks and other sources to adapt the curriculum;
- *curriculum developers*, who design their own curriculum using various source materials.

Curriculum senders likely feel they do not have the professional autonomy to use the curriculum flexibly and, therefore, use textbooks as a form of assurance to meet curriculum requirements. Such teachers have an increased likelihood of over-relying on textbooks even when granted considerable autonomy. This is observed as textbook overload (the need to complete all exercises in the textbook), often resulting in homework overload for students and teachers, even when the curriculum is revised to focus on essential learning rather than all that might be covered in textbooks.

Curriculum adapters and *curriculum developers* use their autonomy to adjust or adapt the curriculum to the needs of students. If textbooks are used, they function as a source and not a substitute for the

curriculum. With such teachers, greater opportunities for curriculum innovation are possible while maintaining focus on equitable outcomes for students.

Flexibility in content constrained by national- or state-level examinations

Countries/jurisdictions report that, while local governments or schools might be granted flexibility over curriculum content, they might not be able to exercise it fully as they are conscious of the influence of high-stakes examinations. Hence, teachers and schools might see the content items covered by examinations as a form of prescribed curriculum. This is amplified in upper-secondary education, as students prepare for tertiary entrance examinations, and the expectations of both students and parents are heightened.

In **Brazil**, experts agree that the learning experience tends to become more rigid and disconnected from students' needs as they progress towards the final years of schooling. This is notable as students prepare for college entrance examinations and to enter the workforce, culminating in higher dropout rates by the end of upper secondary education.

Complexity in managing flexibility in upper secondary compared to primary education

Most countries typically offer little flexibility in primary schools, where students' acquisition of foundational competencies tends to be the priority. Many countries/jurisdictions offer increasing levels of flexibility as students transition through middle schooling and lower secondary education, where there tends to be a mix of mandatory subject areas and elective areas from which students can choose. This can mean broader subject area or course options, fewer mandatory subject area requirements and, in some contexts, specialisation in one or more disciplines as students transition through the senior years of secondary education.

The case of **Hungary** illustrates this issue. Compulsory subjects in the junior years of primary education are Hungarian Language and Literature, Mathematics, Ethics, Environmental Studies, Visual Culture, Music, Physical Education and Sports as well as Lifestyle. Studies of a foreign language start in Grade 4, based on the foreign language determined by the school. At this level, 10% of the compulsory number of lessons set forth in the framework curriculum can be freely used by the school, which means that it can supplement the hours of compulsory subjects with any subject. In the upper years of secondary education (Grades 11-12), the range of compulsory subjects increases (e.g. choice of a second foreign language by student, Humanity and Society, Humanity and Nature, Biology and Physics, Arts, and Information Technology), but so does the freedom offered to schools around the subjects selected to meet the required compulsory hours. At this stage, the National Core Curriculum defines only a minimum percentage of the distribution of time by literacy areas; specifically, the school may freely use approximately 10-20% of the compulsory hours with subjects of their choice. The free use of a certain number of lessons gives each school more opportunities to fulfil student needs in the two years before the school's exit exam.

Strategies

Table 3.2. Strategies related to flexibility in goals and learning content

Strategy	Example countries/jurisdictions
Defining a vision or principles at the national level for curriculum design at local and school levels	British Columbia (Canada), New Zealand, Singapore
Specifying a framework or learning outcomes for local authorities and schools to design their own curriculum	British Columbia (Canada), Ireland, New Zealand, United States
Training and empowering teachers and school leaders as curriculum designers	Ireland, Scotland (United Kingdom), Hong Kong (China)
Promoting peer-learning to enhance teachers' professional autonomy	British Columbia (Canada) Portugal, Singapore
Giving schools access to examples of good curriculum content	Chile, Hungary, Singapore
Holding schools accountable for the quality of their curriculum	Costa Rica, Netherlands, United States

Defining a vision or principles at the national level for curriculum design at local and school levels

Several countries/jurisdictions have national principles, goals or a vision that guide and support curriculum design across localities and schools. They help ensure that locally based or school-developed curricula meet minimum quality standards and align with the national goals or vision of education (Box 3.1 and Box 3.2).

British Columbia (Canada) sets out a vision of the Educated Citizen as a literate and numerate learner who can demonstrate the core competencies of Thinking, Communication, and Personal and Social Responsibility. The curriculum is flexible and personalised such that teachers develop conceptual understandings through Big Ideas, and competencies through the Curricular Competencies, while content elaborations provide options for developing knowledge.

New Zealand's eight principles embody beliefs about what is important and desirable in the school curriculum nationally and locally:

1. High expectations: The curriculum supports and empowers all students to learn and achieve personal excellence, regardless of their individual circumstances.
2. Treaty of Waitangi: The curriculum acknowledges the principles of the Treaty of Waitangi[3], and the bicultural foundations of Aotearoa New Zealand. All students have the opportunity to acquire knowledge of *te reo Māori me ōna tikanga*[4].
3. Cultural diversity: The curriculum reflects New Zealand's cultural diversity and values the histories and traditions of all its people.
4. Inclusion: The curriculum is non-sexist, non-racist and non-discriminatory; it ensures that students' identities, languages, abilities and talents are recognised and affirmed and that their learning needs are addressed.
5. Learning to learn: The curriculum encourages all students to reflect on their own learning processes and to learn how to learn.
6. Community engagement: The curriculum has meaning for students, connects with their wider lives, and engages the support of their families, *whānau*[5], and communities.
7. Coherence: The curriculum offers all students a broad education that makes links within and across learning areas, provides for coherent transitions, and opens up pathways to further learning.
8. Future focus: The curriculum encourages students to look to the future by exploring such significant future-focused issues as sustainability, citizenship, enterprise and globalisation.

The expectation is that these principles underpin all school decision-making. The principles put students at the centre of teaching and learning, with a curriculum that engages and challenges them, is forward-looking and inclusive, and affirms New Zealand's identity.

Singapore states core beliefs about learning in its Singapore Curriculum Philosophy (MOES, 2021[22]) that can be summarised as follows:

- a belief in holistic education, centred on values, social and emotional well-being and character development;
- a belief that every child wants to and can learn; focus on children's learning needs when designing learning experiences;
- a belief that learning flourishes in caring and safe learning environments; when children construct knowledge actively; through the development of thinking skills and dispositions; when assessment is used to address children's learning gaps.

This philosophy asks Singaporean teachers to place every student at the heart of educational decisions. In guiding local decision-making on the curriculum, the philosophy envisages that students develop their capacity to reflect on learning, to monitor, assess and improve their learning, and that learning is undertaken collaboratively.

Box 3.1. Decision-making at a district level to deliver on national priorities in South Korea

Gyeonggi Provincial Office of Education is the largest Education Office in **South Korea**, including approximately 22% of the nation's schools. Since 2019, it has been preparing and promoting the establishment of Gyeonggi Future School to expand the model of Future Schools. In line with the Green Smart Future School Project by the Ministry of Education, Gyeonggi Provincial Office of Education Future School models focus on a futuristic curriculum, based on ecological transformation education to respond to the climate crisis.

To make this more visible, the Gyeonggi Provincial Office of Education selected schools that develop and implement a curriculum with ecological transformation education as its priority, or pilot schools that want to make ecological transformation education an important direction of education. These schools are supported in a variety of ways: providing a budget so that schools can autonomously and creatively develop their own curriculum; supporting the creation and enhancement of physical learning spaces where education is possible; allocating time to prioritise the development of the curriculum; and supporting the professional community of teachers. The trial aims to strengthen on-site customised support.

Ecological Forest Future School, a type of Gyeonggi Future School, teaches and tests ecological transformation with a focus on response to the climate crisis. Songnae High School in Buchen City was

selected as an Ecological Forest Future School in 2019. The ecological space created in the school is called the Participatory Forest Space, where students cultivate and manage trees and flowers planted in a multi-layered structure to examine the diversity of life. At the same time, Songnae High School was encouraged to open courses that promote ecological transformation education. Environment and Information classes were designated as core subjects, contemporary subjects (Artificial Intelligence Basics, Data Programming, Data Science, and Machine Learning) were offered, and non-examination subjects, such as Eco-leader camp, were established. The local Office of Education encourages the Autonomous Curriculum to become more common and supports teachers to develop a “learning community” by organising necessary education and training.

Although the Autonomous Curriculum policy was established as an important recommendation at the national level, the degree of implementation in schools is insufficient. That said, the Gyeonggi Provincial Office of Education’s active Future School policy can raise the visibility and operation of the Autonomous Curriculum. Ecological transformation education is expected to become an indispensable part of civic education to make South Korean students global citizens of the 21st century who will lead the future. Therefore, the Gyeonggi Provincial Office of Education is trying to spread ecological transformation education throughout the province by activating pilot schools to help it become firmly established.

Source: The OECD Future of Education and Skills 2030 School Networks – nest4Next. Suhyang Kim (CIO).

Box 3.2. Decision-making at a district level to deliver on national priorities in Japan

Ozu Middle School is located in Izumiotsu-City in Osaka Prefecture, **Japan**, and serves about 450 students. In 2022, students and teachers began discussing the need for a shared vision to guide their collaborative efforts. The elaboration of this shared vision, the "School Compass”, became their primary goal.

Through a whole-of-school approach to participatory dialogue, students who wish to contribute to this vision are called "Compass Designers." These students undertook various activities to create their

School Compass, including planning and organising meetings, gathering opinions from students and teachers, analysing their school and future societal trends, and creating a new vision based on this analysis. Teachers supported the activities of students, sometimes interacting with them on an equal footing, without intervening too much.

The resulting “School Compass” vision comprises three key elements: "having self-worth," "respecting each other," and "be flexiible to create something from zero." Ozu Middle School considers the School Compass as its most important guide for its curriculum, aiming to enhance students' sense of ownership, responsibility and independence for curriculum.

Building on the School Compass, Ozu Middle School has introduced a new form of project-based learning called the "Co-creation Project." This curriculum embodies students’ suggestions emphasising "we can learn what we want to do" and "the project I choose becomes my class." In these classes, the main goal is to implement the projects suggested by students. Individual students in turn select the projects they wish to participate in.

For example, in the latter half of 2023, 65 projects were implemented, including "delivering Japanese curry to the people of Ukraine" and "creating an original game on SDGs." Teachers say that this initiative has increased students' sense of ownership over their school and society as well as their self-efficacy.

In 2023, Ozu Middle School was designated an experimental school by the Ministry of Education, Culture, Sports, Science and Technology (MEXT). This designation, a “*Kenkyu Kaihatsu*” school, allows the school to implement a unique curriculum exempt from national curriculum standards. As an experimental school, Ozu Middle School aims to foster student agency through its unique Co-creation Project, promoting interdisciplinary learning and encouraging students to pursue diverse and individualised projects.

Source: The OECD Future of Education and Skills 2030 School Networks – nest4Next. Suhyang Kim (CIO).

Specifying a framework or learning outcomes for local authorities and schools to design their own curriculum

Countries/jurisdictions use national curriculum frameworks or learning standards to ensure that minimum quality standards are met across schools. Many national governments define the learning outcomes expected for each grade, stage or for a given cycle of learning. These can come in the form of legal frameworks (Box 3.3). Such guidelines orient local authorities and schools in their curriculum design, provide a form of accountability for quality learning, and assist in achieving equitable outcomes across different states and schools.

British Columbia (Canada) redesigned Performance Standards that define what proficient student development looks like in terms of critical thinking and communication in literacy and numeracy. The Performance Standards apply to all learning areas and are the foundation for subject-specific skills. Teachers personalise the descriptions of overarching thinking and communication skills to their context and task.

Ireland’s recent reforms introduced greater flexibility for teachers and learners. At the same time, subject-area specifications were written in the form of learning outcomes that must be translated into learning intentions at the local level (Department of Education and Skills, 2015[23]).

In **New Zealand**, National Standards in reading, writing and mathematics were introduced in Grades 1-8 (ages 5-12) to manage risks related to a lack of shared expectations for achievement across the country’s schools. While these were later revoked, expectations for progress and achievement across the curriculum

were set, with online assessment materials to assist schools in monitoring student learning against the standards.

In **the United States**, 41 states, the District of Columbia, four territories and the Department of Defence Education Activity district adopted common learning standards in 2009, called the Common Core State Standards. While states may add to or change these standards according to the needs of their students, they aim to ensure consistency across the country, with minimum standards as a touchstone for the different authorities.

Box 3.3. Local guidelines for authentic and innovative learning sequences in Denmark

Denmark has no national curriculum, but rather legal frameworks that establish compulsory subjects and the number of lessons assigned to each cohort, attainment targets and guidelines for municipalities and schools. Further efforts to widen the scope for local autonomy have been deployed recently. Several municipalities have set out overarching principles and strategies that include references to active pedagogies such as “Learning through Play”, the OECD “Learning Compass”, experiential and project-based learning.

The municipality of Høje Taastrup, for example, has enacted “School for the Future” – a political vision for the eight schools in its jurisdiction. In co-operation with the school principals, the municipality has developed six cornerstones of a framework: design model/project model; professional goals; 21st Century skills; authentic and innovative; technology; and organisation.This implies that schools apply project-based learning sequences, which are longer and more authentic. Teachers act on this principle by initiating projects and designing models of their own professional choice, aligning them with the national attainment targets and competency domains. It is essential that the projects are authentic and innovative. For instance, the students target an audience outside their class and connect the school-subjects to the solution of real-life and relevant issues. The duration of project-based work varies from one school to another and can take between 12-40 weeks yearly.

Attainment targets and organisation

Planning, implementation and evaluation of the learning sequences is carried out by interdisciplinary teams responsible for each cohort. Each team decides the attainment targets for each project. However, the school must ensure that they are providing the legally required number of lessons in each subject. Many projects are interdisciplinary, so each subject supports the work in the project and the targets when relevant. The school chooses weekly plans and timetables as they see fit. Some teams work on the project as a part of the school day, while other teams use the full school day for theirs. The students should have a comprehensive school day with opportunities for immersion in long-lasting activities.

The city council of Høje Taastrup is dedicated to realising this vision of a motivational government-funded school where students are able to acquire formative skills to enable them to cope with challenges in their daily life, as well as providing them with options for their future. Formative education for future society implies that, in addition to academic skills, students acquire overarching competencies like creativity, critical thinking, communication and co-operation. They develop these competencies holistically so they can act, make decisions and cope with complex issues. The city council considers that, while it is important to have a strong focus on children’s and society’s future, we must also be aware of the needs that children have here and now.

Source: The OECD Future of Education and Skills 2030 School Networks – Mads Sode (senior adviser, Municipality of Høje Taastrup).

Training and empowering teachers and school leaders as curriculum designers

Countries/jurisdictions are developing training programmes and technical support systems to help school leaders and teachers become curriculum designers. Some are emphasising the role of school leaders in ensuring the quality of the curriculum offered. Some countries/jurisdictions charter to define the role of teachers and school leaders as curriculum developers (Box 3.4).

In **Ireland**, the Department of Education and Skills provides professional support and resources, including time, curriculum and assessment materials, and dedicated continuing professional development (CPD), to ensure the successful implementation of the Junior Cycle. The Junior Cycle for Teachers (JCT) provides a national programme of CPD for school leaders and teachers. It employs a variety of delivery models, including school clustering, in-school visits, off-site workshops and online professional development, particularly webinars. JCT's CPD provision takes account of the needs identified by education partners. JCT also collaborates with other Department of Education and Skills school support services to design, deliver and review its work. School leaders are also empowered to lead curriculum change in their schools. These leaders play a role in improving educational outcomes in their schools by creating a positive environment and motivating and empowering educators and learners within their respective school communities. Recognising the implications that the Framework for Junior Cycle carried for school leaders, the Department of Education and Skills agreed to finance extra hours of teachers' pay, thus allowing schools to give teachers out of class time to help support delivery of the new curriculum. An essential feature of school leadership is flexibility in identifying and prioritising the leadership and management needs of the school and assigning/reassigning post holders to meet its evolving needs.

Scotland (United Kingdom) places an emphasis on the professional learning and leadership development of teachers (OECD, 2021[24]). A Head Teachers' Charter affirms that head teachers are empowered to work with their school communities to design and develop a curriculum that meets the needs of their learners and the school context. There is additional focus on teacher leadership and professionalism, professional learning opportunities, and arrangements for cross-regional improvement support.

Most countries/jurisdictions invest in training modules on curriculum design. This is exemplified in **Hong Kong (China)** where the Education Bureau provides CPD programmes in curriculum leadership for Key Learning Area Co-ordinators and subject-area panel heads. In addition, the Education Bureau designs and implements Collaborative Research and Development ("Seed") Projects in different subjects and learning areas, in collaboration with schools and experts from the tertiary education sector. These pilot novel strategies in curriculum implementation which build teachers' capacity as change agents and sustain the momentum of curriculum development in schools. Teachers can be seconded to the Education Bureau to work on "Seed" Projects or other curriculum development and bring that experience back to their schools.

Box 3.4. Teachers and students as curriculum designers in Estonia

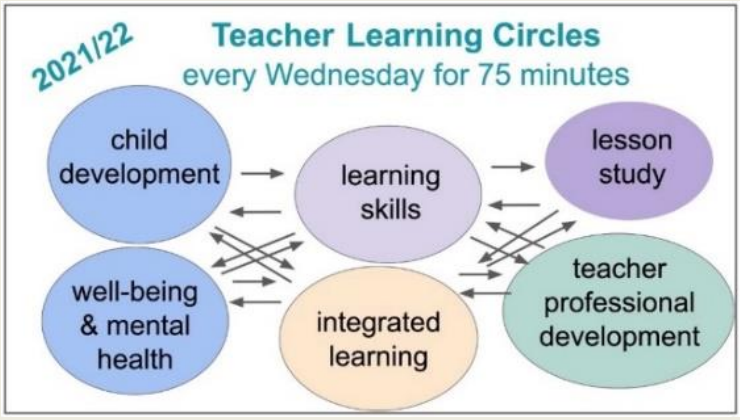
Pelgulinna Gümnaasium in Tallinn, **Estonia**, delivers a Grade 1-12 programme of studies and offers an enriched programme for those interested in art and ICT. From its perspective, both teachers and students are learners. Instead of concentrating on examination results, the school has chosen to focus on building learner autonomy, teacher co-operation and well-being for all.

Teacher autonomy: One key measure amongst others

During the academic year 2016/17, teachers were invited on a voluntary basis to create learning circles and focus on professional development topics of their choice. The school supported these teachers in accessing external professional development. In 2017/18, all teachers were required to join a learning circle, choosing their own topic of interest. They were timetabled out of teaching for 75 minutes per week and by 2018/19, the school's six learning circles appointed two teacher leaders per group.

Over the years, these groups also began to systematically share lessons learnt with each other. The image below shows the topics teachers chose to focus on during the academic year 2021/22. During the academic year 2022/23, teachers and school management decided that, for that year, all learning circles would focus on helping students build learning skills, and helping teachers conduct lesson study. Both are considered high-impact strategies for improving student learning.

Figure 3.1. Teacher Learning Circles



Source: The OECD Future of Education and Skills 2030, School Networks, Tiina Tiit (Vice-principal, Pelgulinna Gümnaasium) in co-operation with Peeter Mehisto (UCL Institute of Education).

Learner autonomy: One key measure

In Grades 5-11, during three of the five seven-week long terms per year, students have four in-person days at school and one day of independent learning. All students in a given grade are free on the same day. During the remaining two terms (the first and the last), students have one independent, weekly lesson per subject. At the start of each of the three terms when all students are working independently one day per week, students are provided all their independent assignments for the given term, which integrate 2-3 different subjects per term and sometimes require group work.

While students are working independently, teachers are at school. They are available to students for face-to-face or virtual meetings. As all students work on a common electronic platform, teachers can monitor progress and provide feedback/"feedforward" (i.e. prospective guidance given in anticipation of

upcoming performance). At a minimum of three times per term, teachers who have prepared the integrated assignments, provide joint feedback/feedforward to students on their work. Teacher co-operation in jointly building assignments, providing feedback/feedforward to students and assessment of results appears as a *de facto* exercise in professional development and the co-construction of collective efficacy.

The school has organised these independent days in order to help students build planning, group work, self-assessment and self-regulation skills. Integrated assignments are intended to help students make connections between disciplinary concepts, thereby making learning more meaningful. The school also gathers feedback and suggestions from students about independent learning assignments and related learning processes.

Source: The OECD Future of Education and Skills 2030, School Networks, Tiina Tiit (Vice-principal, Pelgulinna Gümnaasium) in co-operation with Peeter Mehisto (UCL Institute of Education).

Promoting peer-learning to enhance teachers' professional autonomy

Collaboration among teachers is recognised as one of the most effective ways to enhance competencies in the profession, as it fosters the sharing of best practices, mutual support and collective problem-solving, leading to continuous professional development, ultimately leading to improved teaching practices and educational results (OECD, 2020[25]; Vescio, Ross and Adams, 2008[26]). Engaging in professional collaboration has been found to correlate with higher levels of job satisfaction and self-efficacy among teachers. It promotes the use of cognitive activation practices that enhance instructional quality and innovation in the classroom (OECD, 2020[25]).

Countries/jurisdictions use different models of peer-learning and collaboration to support the implementation of flexible curricula.

British Columbia (Canada) presents a good example of the co-creation model in curriculum design, e.g. including the First Nations Education Steering Committee as an educational rights-holder when implementing a new graduation requirement for an Indigenous-focused course.

One example is teachers' learning communities in experimental innovation schools in **Korea**. These communities enable the school curriculum to be flexible, diversified and specialised, and act as a mechanism that develops the professionalism of teachers. Teachers in these communities develop, revise and update curricula according to their schools' visions and local circumstances. The importance of flexibility and autonomy is emphasised in the national curriculum and professional development programmes.

In **Portugal**, collaborative work among teachers is fostered by regional teams. These teams integrate members from different departments of the Ministry of Education, support teachers in the implementation and management of curriculum flexibility and autonomy, promote school networks with peer learning activities, and share practices to promote meaningful learning for all students.

In **Singapore**, the aim is to form networks to learn from one another. Teacher leaders (one of three career tracks[6]) model and demonstrate ways to customise and adapt the curriculum to help their peers become more skilful in responding to students' needs. These networks can be at the teacher-to-teacher level and provide ways to empower oneself and build learning communities within and across schools. At the in-service level are many opportunities for professional development, with the Ministry of Education emphasising the importance of in-service professional development (MOES, 2021[27]).

Giving schools access to examples of good curriculum content

Several countries/jurisdictions are conscious of the need to build capacity throughout the schooling system, and use guidance, training and technical support systems to help school leaders and teachers become effective curriculum designers.

To support the development of different curricula, **Chile** developed a bank of plans and programmes implemented in schools where the results conform with learning standards. This initiative urges schools to use such examples as an alternative to ministerial programmes to build their own programmes. The Curriculum and Evaluation Unit of the Ministry of Education is working to make the programme bank available to the education system. A digital platform to guide local curriculum development is another mechanism used to support curriculum development at school, grade and subject-area levels.

As part of a large-scale project (EFOP 3.2.15[7]), **Hungary** is creating a digital platform that provides support for curriculum planning at school, grade and subject-area level. Through this platform, Hungary aims to enhance sharing between schools of curriculum materials and information about curriculum development.

Singapore's teacher networks, described above, enable sharing of content and resource materials via different channels, including social media. The English Language Institute (ELIS)[8], launched in 2011, provides a good example. It is dedicated to the professional development of both English Language teachers and teachers who use English as the medium of instruction. ELIS curates a range of free, online, English learning resources for levels ranging from primary education to junior college. These are organised on its website by educational level and area of learning according to the key components of Singapore's English Language teaching. Teachers are provided with succinct guidance to these resources and how they can be used with class groups. ELIS also publishes videos to guide teaching, provides professional learning for teachers and prepares the English Language Classroom Inquiry Digest, which showcases successful classroom practices.

Holding schools accountable for the quality of their curriculum

Countries/jurisdictions that provide schools with flexibility over curriculum content often set up accountability mechanisms to ensure the quality of locally developed curricula, such as standardised assessments, regular inspections and mandatory reporting requirements, to ensure that all students meet consistent educational standards and achieve equitable outcomes (OECD, 2020[28]). Some also use school evaluation as a tool to monitor the quality of curricula designed at the school level, while others keep schools accountable by monitoring student learning outcomes through their national assessment programmes (OECD, 2020[28]).

In **Costa Rica**, curricula are customised according to the needs and local characteristics of the regions, but the country has an accountability system to verify and validate the outcomes. This process is conducted by education authorities who undertake technical visits to schools to ensure that locally developed curricula meet learning goals. They also provide support, follow-up guidance and coaching for teachers and students.

The Netherlands has an inspectorate that monitors whether each school's curriculum meets minimum standards. Curricula developed at the local school level in the Netherlands must be based on legal standards, which are described in broad terms. As part of the external accountability process, schools must develop and provide documentation that demonstrates how they incorporate the legal standards into their curricula. This might be done by verifying the time they spend on mandatory subject areas, as well as the textbooks and other resources they use that align with the standards.

In **the United States**, each state sets the standards, but local school districts are responsible for implementing them. Standardised assessments are used at the state level to monitor and evaluate implementation. While school inspection is not a feature of education in the United States, some states,

larger cities and districts started to consider school reviews as part of their response to the country's 2015 Every Student Succeeds Act, which focuses on accountability through quality and improvement measures.

Challenges and strategies related to flexibility in pedagogy

Giving schools and local authorities flexibility over how a curriculum is delivered is common practice across countries. Almost all countries (94%) contributing to the OECD Education 2030 policy questionnaire on curriculum report providing schools or teachers with some level of flexibility or autonomy over pedagogy. As with flexibility in curriculum content, flexibility in pedagogy enables teachers to address the needs of their students and foster pedagogical innovation. When done with adequate levels of support and guidance, flexibility in pedagogy can empower teachers and enhance their professionalism and sense of achievement.

However, implementation of flexibility in pedagogy also presents challenges. While they can reduce the overall impact of reforms aimed at increasing flexibility, strategies can be used to overcome or minimise these challenges.

Challenges

Table 3.3. Challenges related to flexibility in pedagogy

Challenge	Example countries/jurisdictions
Overloaded or prescriptive curriculum content	British Columbia (Canada), Netherlands
Lack of opportunities to support awareness-raising, mind-set change and pedagogical flexibility through teacher education, professional learning and collaboration	Portugal, China, Hong Kong (China)
Limited capacity to identify and share good practices among schools	New Zealand, Norway, Poland
Untapped opportunities for including students in decisions about how they are taught	British Columbia (Canada), Quebec (Canada), Chile, Costa Rica, Czechia, Hungary, Ireland, Japan, Korea, New Zealand, Norway, Poland, Portugal, Türkiye, Scotland (United Kingdom), India, Kazakhstan Singapore, and Viet Nam
Limited capacity of teachers and lack of guidance to support professional autonomy	Ireland, Singapore
Absence of role models and/or limited peer mentoring	Türkiye
Parents' perceptions of teacher and student roles, and concerns about "unknowns"	Singapore

Overloaded or overly prescriptive curriculum content

An overly prescriptive or overloaded curriculum can limit teachers' ability and motivation to exercise their agency in making the most of their pedagogical options for their students, as seen in flexibility on learning content (OECD, 2020[29])). When curriculum content is overloaded, teachers might feel the need to try to cover the full breadth of the curriculum with strategies and methods that they believe are time-efficient and favour coverage over depth. This limits their ability to use innovative pedagogical strategies and teaching practices, e.g. inquiry-based learning, project-based learning, that are believed to activate students' cognition while addressing their social and emotional foundational needs.

In **British Columbia (Canada)**, the previous provincial curriculum was seen as too detailed and prescriptive by teachers, particularly in areas where there was a provincial exam assessing content. As a result, teaching in these areas became very focused on content coverage 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.

Another factor that lessens teachers' pedagogical choices is over-reliance on textbooks. In **the Netherlands**, despite the wide flexibility schools have over pedagogy, some teachers rely on the textbook as a self-imposed form of prescribed curriculum, thereby countering the flexibility they have been granted.

Lack of opportunities to support awareness raising, mindset change and pedagogical flexibility through teacher education, professional learning and collaboration

While a country/jurisdiction or schooling authority might grant teachers professional autonomy, findings indicate that it is difficult for them to utilise their pedagogical flexibility. This appears to be because of minimal or no training in how to adapt to a range of circumstances where they might use different methods (OECD, 2020[25]).

Other factors such as weak communication between different system levels (national, regional, local district/municipalities and local school) or little collaboration between various school actors (policymakers, local governing boards, school leaders, teachers, parents, students, etc.) can also contribute to difficulties in implementing changes in teaching practices and mindsets (Fullan, 2018[30]; Van den Akker, 2018[31]; Van den Akker and Kuiper, 2008[32]).

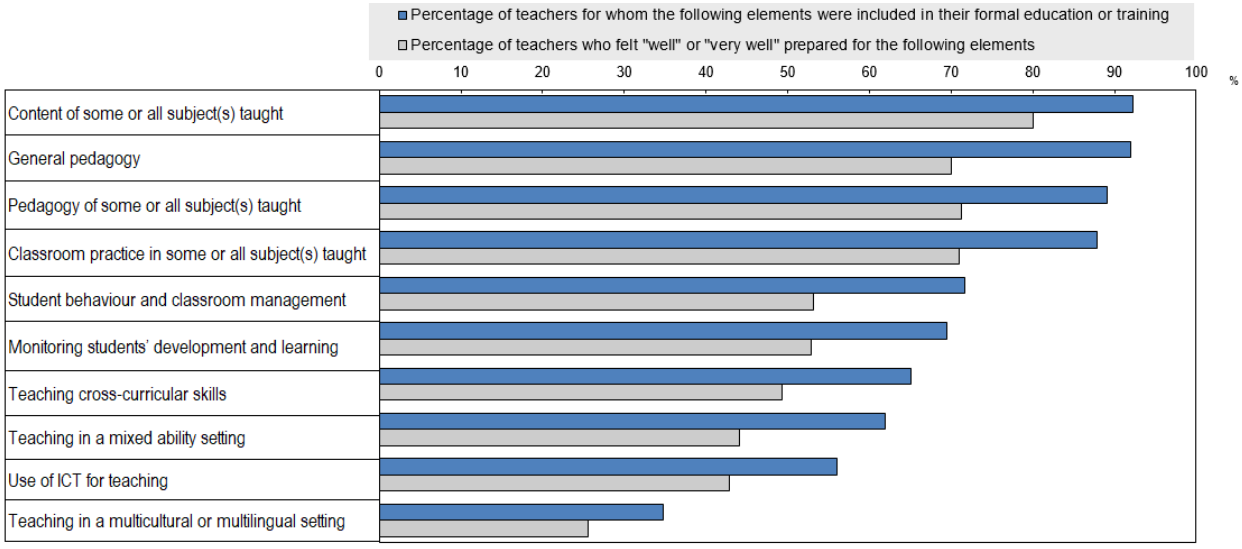
Portugal points to concerns regarding the difficulties in promoting a paradigm shift from teacher-centred to learner-centred pedagogies.

While considering the need for more learner autonomy, **China** recognises that it is difficult for teachers to adjust their habits of teaching and leave more time and space to students.

In **Hong Kong (China)**, the emphasis is traditionally put on collective interest rather than individualism and agency. Hence, it takes time and great effort to make such a paradigm shift. This applies not only to schools striving to maximise their flexibility and adjust the curriculum to cater to individual student needs, but also to students who need to assume more responsibility for their own learning. Moreover, since some teachers may still be adopting a more teacher-centred approach in their pedagogy, students in these classrooms may not have sufficient opportunities to develop or demonstrate more agency in their approach to learning.

Figure 3.2. Content of teacher education and sense of preparedness for teaching

Results based on responses of lower-secondary teachers



Notes: ICT: Information and communications technology. *Values are ranked in descending order of the percentage of lower secondary teachers for whom the indicated elements were included in their formal education or training.*
Source: (OECD, 2019[10]), *TALIS 2018 Results (Volume I): Teachers and School Leaders as Lifelong Learners*., Figure I.4.4.

As Figure 3.2 shows, teacher education tends to primarily focus on subject content (92.2%) over the teaching of cross-curricular skills (65.1%) and the use of ICT for teaching (56%). While the former is a fundamental element of their profession, the latter are increasingly becoming drivers of innovative practices. This finding suggests there is a time lag in training teachers to support their students to develop the types of skills they need in fast-changing, technology-driven societies.

Moreover, low levels of confidence to teach in a mixed-ability setting (44.1%), and to teach in a multicultural or multilingual setting (25.5%), indicate that teachers feel poorly prepared to adapt their teaching practices to changing demographics or to bring a more "student-centred" approach to teaching and learning. Shifting their mindset from "teacher-centred pedagogies" to "learner-centred pedagogies" may, therefore, seem intimidating even when granted pedagogical flexibility, given their lack of relevant training (Weimer, 2013[33]; Soysal and Radmard, 2016[34]).

Despite the best intentions of policymakers and curriculum designers, teachers might not be able to adapt their teaching unless they receive adequate training in both when and how to employ different and impactful pedagogical methods (Huizinga et al., 2015[35]; Nieveen and Kuiper, 2012[13]). This is an essential investment to help teachers build their sense of self-efficacy when adapting their practice to the evolving needs of their students. It is recognised that teachers with a high sense of self-efficacy are also more likely than their counterparts with lower self-efficacy to use teaching strategies for cognitive activation (Holzberger and Prestele, 2021[36]). Growing target areas for teachers' professional development include curriculum design and evaluation expertise, and collaborative and inquiry skills beyond subject matter and pedagogical expertise (Huizinga et al., 2015[35]; Nieveen, 2017[37]).

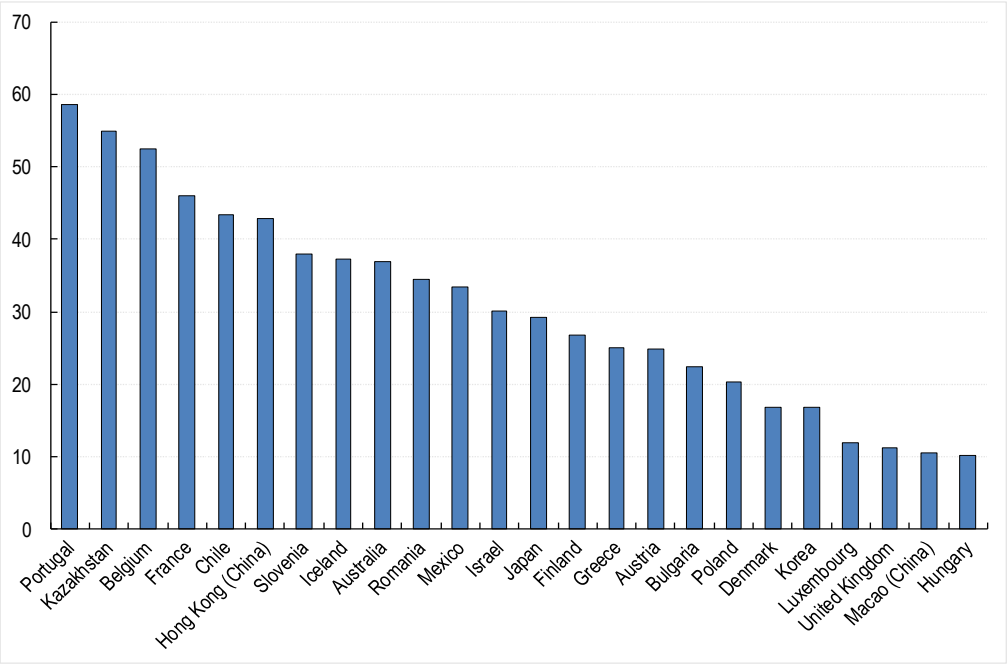
Additionally, teachers might be reluctant to try new approaches. Figure 3.3 reveals differences across countries in the extent to which staff may resist change. In Portugal, 59% of students are in schools where the principals reported that student learning is hindered by staff resisting change. In Hungary, only 10% of students are in such schools. Literature on organisational change suggests that individuals feel a sense of security from doing things in a familiar way, which is why disrupting well established professional patterns could result in a fear of the unknown. In the United States, for example, the federal legislation "No Child

Left Behind" (NCLB) required reforming institutional practices. These reforms were, however, met with resistance and led to disagreements regarding their implementation. Rewarding constructive behaviours and creating a sense of urgency could help in overcoming resistance to change (Zimmerman, 2006[38])). This can include recognising and rewarding faculty and staff for implementing changes and sharing information about potential problems, such as through positive feedback at faculty meetings or personal notes from the principal (Zimmerman, 2006[38]) (Marzano, Waters and McNulty, 2005[39]).

Furthermore, teachers might not have enough opportunities to re-think their own pedagogical practices or may not be encouraged to try out innovative approaches that help them shift from a teacher-oriented approach to more student-centred practices. The OECD Teaching and Learning International Survey (TALIS) data show that, while teachers still report that the most effective professional development activities are content-driven, the majority of them also recognise the importance of professional development opportunities that help them incorporate new ideas and knowledge, active learning, collaboration and innovation[9] into their practice (Figure 3.4). Also, on average across OECD countries, 74% of teachers agree or strongly agree that most teachers in their school are open to change and 78% of teachers report that "most teachers in the school provide practical support to each other for the application of new ideas" (OECD, 2019[10]). Teachers may benefit from more deliberate efforts from policy makers to help raise awareness of the opportunities for increased use of pedagogical flexibility and to encourage peer learning as well as teacher collaboration.

Figure 3.3. Staff resisting change

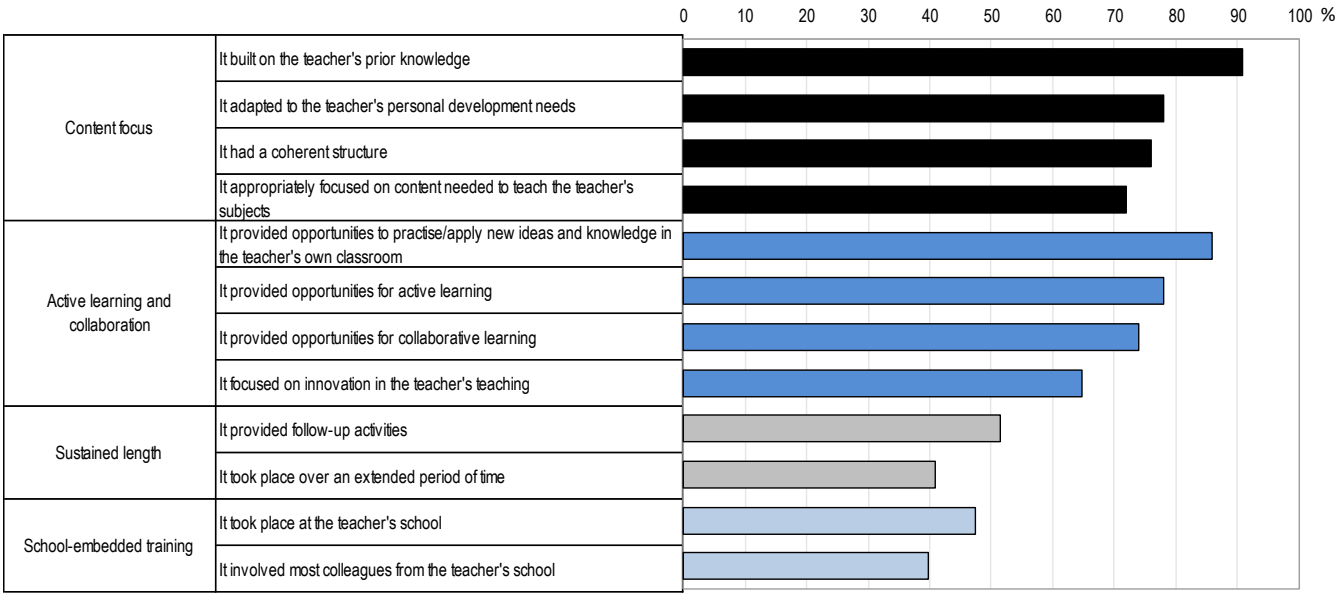
Percentage of students in schools whose principal reported that student learning is hindered to some extent or a lot by staff resisting change



Source: Adapted from (OECD, 2019[40]), *PISA 2018 Results (Volume III): What School Life Means for Students' Lives*, https://doi.org/10.1787/19963777.

Figure 3.4. Characteristics of effective professional development, according to teachers

Percentage of lower secondary teachers for whom the most effective professional development activities had the following characteristics (OECD average-31)



Notes: Includes teachers who report on the professional development activity that had the greatest positive impact on their teaching in the 12 months prior to the survey. Teachers declaring that none of the professional development taken in the 12 months prior to the survey had a positive impact in their teaching practice were filtered out and are not covered in the figure. Values are ranked in descending order of the characteristics of the most effective professional development activities as reported by teachers.
Source: (OECD, 2019[10]), *TALIS 2018 Results (Volume I): Teachers and School Leaders as Lifelong Learners*, Figure I.5.5.

Limited capacity to identify and share good practices among schools

Countries/jurisdictions consider sharing good practices between schools a particular challenge. As schools are provided with flexibility to innovate on pedagogy, it is incumbent on central or local authorities to identify the most promising practices and develop processes for sharing these across schools. This role as facilitator of peer learning or a knowledge broker can be challenging, given that it requires co-ordination across localities and schools.

In **New Zealand**, an independent monitoring body (the Education Review Office) is aware of schools delivering high-quality approaches, but these are not widely known or shared among the country's schools. Therefore, the school governance system, which encourages and supports local decision-making, has not been able to capitalise on what is shown to improve results and engage students in the different contexts in which schools operate across the system.

Norway provides another example of teacher autonomy over pedagogy. The trust given to practitioners in designing and implementing interventions adapted to their schools is seen as contributing to their high level of professionalism and innovation. Even in this context, building evidence-based policies and disseminating best practices selected for maximum impact is a challenge. Municipalities and cities do not always have systems to evaluate schools' interventions and disseminate best practices. Instead, sharing happens through networks of schools, though the quality of practices shared within these is unclear.

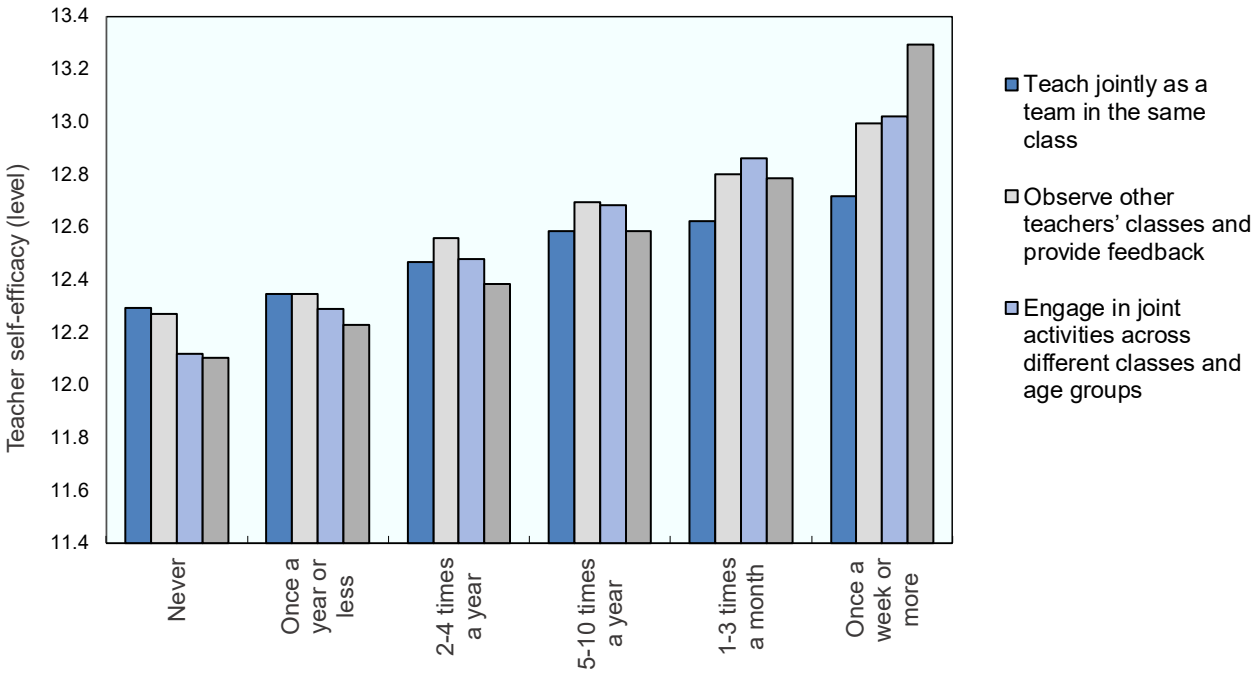
The nature of professional collaboration in schools can either facilitate professional learning within and across schools or offer little opportunity for teachers' professional growth. Unsurprisingly, professional

collaboration is positively related to greater levels of self-efficacy among teachers (Figure 3.5). Teachers might not have sufficient opportunities to learn about and observe innovative practices; indeed, only 9% of teachers report engagement in observation/feedback-based professional learning within one month (OECD, 2019[10]). Lower levels of collaboration also limit identification and sharing of teacher-designed classroom activities, which are a powerful form of learning for teachers (Kuiper, Nieveen and Berkvens, 2013) (Kuiper and Berkvens, 2013[41]).

Furthermore, evidence suggests that the effectiveness of collaborative professional learning significantly hinges on its frequency. Frequent, well-structured collaborative activities are shown to enhance teaching practices more effectively than sporadic or informal collaborations (Múñez et al., 2017[42]). The benefits of a more systematic and structured approach to teacher collaboration are also suggested by international data. TALIS results emphasize that teachers who engage in collaborative professional learning activities at least once a month report better teaching outcomes (OECD, 2020[25]). This regular interaction fosters knowledge mobilization, helps in the continuous development of teaching skills and supports the sharing of innovative practices (OECD, 2020[43]).

Figure 3.5. Teachers' professional collaboration and self-efficacy

Teachers' self-efficacy level according to the frequency of professional collaboration for the following items for lower secondary education teachers



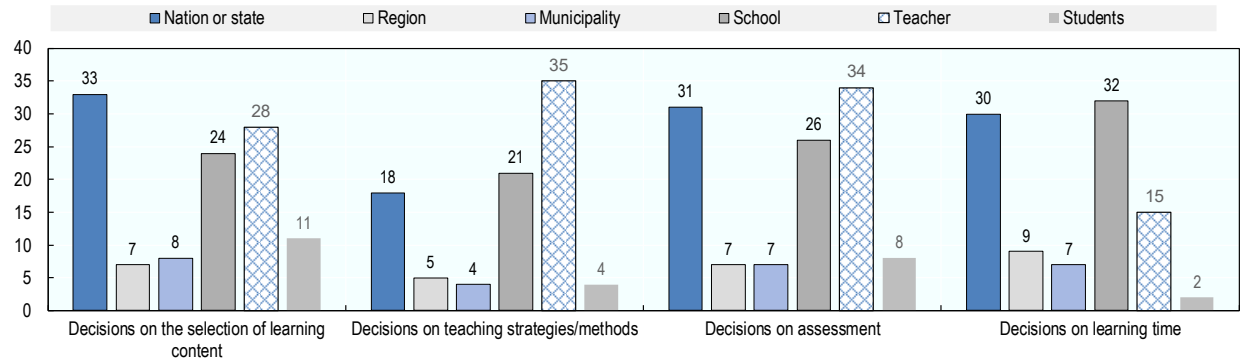
Source: OECD (2014[44]), *TALIS 2013 Results: An International Perspective on Teaching and Learning*.

Untapped opportunities to include students in decisions about how they are taught

Pedagogy is a domain where decision-making is consistently given to teachers, as shown in Figure 3.6.

Figure 3.6. Decision-making across school system actors (N=35)

Number of countries/jurisdictions where decisions are taken by given actors



Notes: These graphs present the different actors involved in decision-making on the selection of learning content, learning time, teaching strategies/methods and assessment at ISCED 2 level categorised in four levels of flexibility.
Source: Future of Education and Skills 2030, E2030 Policy Questionnaire on Curriculum Redesign (PQC, Item 0.4).

While countries/jurisdictions tend to avoid specifying preferred pedagogical styles or favouring one methodology over another in policy positions, there are examples where countries play a decision-making role in concert with teachers. As shown in Table 3.4, teachers take part in the decision-making about the strategies and methods they employ in all of the represented countries/jurisdictions. In some countries/jurisdictions, other actors participate in the pedagogical decision-making process as well. For example:

- Nation or state-level actors are partners with teachers in this type of decision-making in **British Columbia (Canada), Quebec (Canada), Chile, Costa Rica, Czechia, Hungary, Ireland, Japan, Korea, New Zealand, Norway, Poland, Portugal, Türkiye, India, Kazakhstan, Singapore** and **Viet Nam**; actors at the region level in **Costa Rica, Japan, Korea, Scotland (United Kingdom)** and **India** are part of the decision-making process.
- In **Japan, Norway, India and Viet Nam,** actors at the municipality level are part of this joint decision-making process**.**
- **Hungary**, **Ireland, Norway** and **Scotland (United Kingdom)** identify students as actors in pedagogical decision-making, with **Hungary, Norway** and **Scotland (United Kingdom)** also indicating schools as contributors in the pedagogical decision-making process.

These findings indicate the variety of arrangements possible in trying to increase participation in the decision-making processes involving pedagogy. In most countries/jurisdictions, teachers partner with government-level actors. That being said, in many countries the school level actors (school leaders and teachers) have full autonomy about decisions related to teaching strategies/methods, such as **Australia, Ontario (Canada), Denmark, Estonia, Finland, Lithuania, Mexico, the Netherlands, Sweden, Northern Ireland, Hong Kong (China),** and **South Africa**.

Only a few countries/jurisdictions report including students in their decision-making about teaching strategies/methods, which signal potentially untapped opportunities for more learner-centred pedagogies.

Involving students in the decision-making process could be a concrete way for countries to create a more learner-centred education system (see Chapter 1 for a comparison of school autonomy as a feature of an education system's governance structure vs. school autonomy that is specific to curriculum decisions; see also "Annex A. Student Narratives on Playful Learning" for ideas about one potential area where students could contribute to co-designing some lessons). However, there is still much to learn from a deeper analysis of these initiatives, especially those involving students as partners in decisions about teachers' pedagogical practices. Key areas to explore include:

- the context driving the decision to increase participation by different actors in the decision-making process;
- the role of school leaders in facilitating shared decision-making;
- teacher preparation for these practices;
- student perceptions, reactions and outcomes;
- the challenges encountered in developing participatory dynamics.

Table 3.4. Decision-making on teaching strategies/methods

Country/jurisdiction	Decisions taken on teaching strategies/methods					
	Nation or state	Region	Municipality	School	Teachers	Students
OECD						
Australia	No	No	No	No	Yes	No
British Columbia (Canada)	Yes	No	No	No	Yes	No
Ontario (Canada)	No	No	No	Yes	Yes	No
Quebec (Canada)	Yes	No	No	No	Yes	No
Chile	Yes	m	m	No	Yes	m
Costa Rica	Yes	Yes	No	Yes	Yes	No
Czechia	Yes	m	m	Yes	Yes	m
Denmark	No	m	m	Yes	Yes	m
Estonia	No	No	No	No	Yes	No
Finland	m	m	m	No	Yes	m
Hungary	Yes	No	No	Yes	Yes	Yes
Ireland	Yes	No	No	No	Yes	Yes
Japan	Yes	Yes	Yes	Yes	Yes	No
Korea	Yes	Yes	m	Yes	Yes	No
Lithuania	No	No	No	Yes	Yes	No
Mexico	No	No	No	Yes	Yes	No
Netherlands	No	No	No	Yes	Yes	No
New Zealand	Yes	m	m	Yes	Yes	m
Norway	Yes	No	Yes	Yes	Yes	Yes
Poland	Yes	No	No	No	Yes	No
Portugal	Yes	m	m	Yes	Yes	m
Sweden	No	No	No	No	Yes	No
Türkiye	Yes	m	m	No	Yes	m
Northern Ireland (United Kingdom)[1]	No	No	No	No	Yes	No
Scotland (United Kingdom)	No	Yes	a	Yes	Yes	Yes
Wales (United Kingdom)	m	m	m	m	m	m
United States[1]	m	m	m	No	Yes	m
Partner						
Argentina	m	m	m	Yes	Yes	m
Brazil[1]	m	m	m	No	Yes	m
China	m	m	m	Yes	Yes	m

Hong Kong (China)	No	No	a	Yes	Yes	No
India[1]	Yes	Yes	Yes	Yes	Yes	No
Kazakhstan	Yes	No	No	No	Yes	No
Singapore	Yes	a	a	Yes	Yes	No
South Africa	No	No	No	No	Yes	No
Viet Nam	Yes	a	Yes	Yes	Yes	No

[1]: Data submitted by researchers not governmental institution.
Notes: These graphs present the different actors involved in decision-making on the selection of teaching strategies/methods and assessment at ISCED 2 level.
m: Data are not available.
a: The category does not apply in the country concerned or economy.
Source: Future of Education and Skills 2030, E2030 Policy Questionnaire on Curriculum Redesign (PQC, Item 0.4)

StatLink https://stat.link/es7v2j

Limited capacity of teachers and lack of guidance to support professional autonomy

Limited pedagogical competency can be a barrier for teachers to make full use of the flexibility they have. This is particularly the case when the curriculum introduces new approaches to teaching and learning, such as student-centred pedagogies or competency-based learning. The challenge this presents is magnified when teachers have a high level of autonomy over pedagogy but limited guidance and support to make the most of such autonomy.

The need for equitable student learning outcomes is a driver in providing teachers with flexibility to draw on different pedagogical methods, since teachers can adapt their teaching strategies to better meet their students' needs, potentially enhancing their opportunities to learn. Such flexibility involves curriculum adjustments, accommodations and differentiated practice to ensure that students receive high-quality and relevant learning opportunities (El Khdar, Rguibi and Bouziane, 2019[45]; Tomlinson et al., 2003[46]; Valiandes, 2015[47]; OECD, 2021[48]).

Even with the best intentions, when policymakers and curriculum designers add flexibility to the curriculum and acknowledge the range of pedagogical methodologies available, teachers might not be able to draw on these or adapt their teaching unless they receive training in when and how to employ different and impactful pedagogical methods. The implications of granting such autonomy require that teachers be aware of the range of pedagogical methods and be capable of differentiating their practice to meet the needs of individual students.

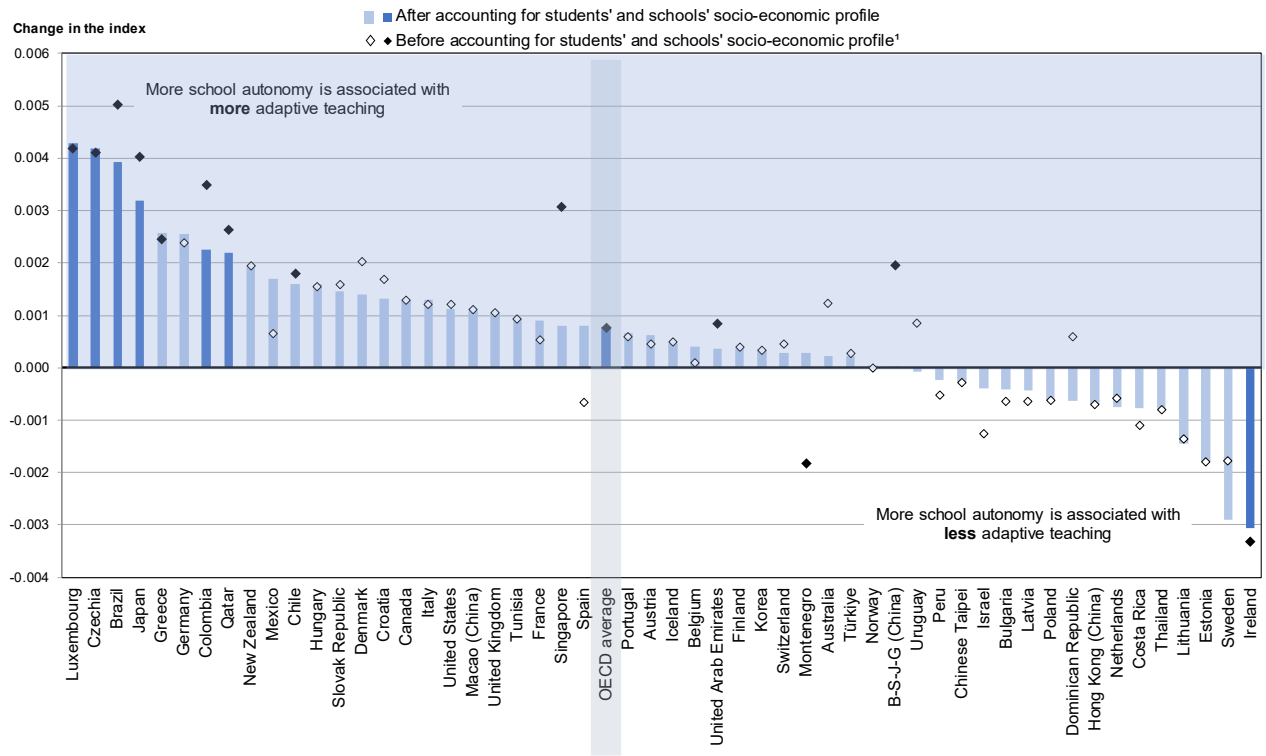
Upon introduction of the Junior Cycle Framework in **Ireland**, the government could already anticipate the need for skill development of the teachers. Changes in teaching methodologies would be required by teachers to ensure the successful execution of flexible education.

Singapore also understood the importance of school leaders and teacher training for successful educational change. In their experience, curriculum leadership and vision in school leaders, and deep professional knowledge in teachers is critical. The latter is important so that teachers can appropriately scope, sequence and scaffold the learning experience for students to bring about meaningful and deep learning. Hence, rather than teach by the sequence of chapters in the textbook, teachers need to be confident in re-ordering topics (when relevant) or to draw on teachable moments, such as a recent local or international event, to bring about purposeful learning. Given the emphasis on developing self-directed learners, teachers need to see themselves more as guides and facilitators than lecturers. To this end, they need to be able to skilfully use different pedagogy to scaffold and design learning, and to know when to gradually release the scaffolds when students are ready.

Indeed, Figure 3.7 shows that in only a handful of countries **(Brazil, Colombia, Czechia, Japan, Luxembourg and Qatar)** are greater levels of school autonomy positively significantly associated with

teachers' adaptive teaching practices in science. This includes adapting the lesson to students' needs and knowledge, providing individual help to students having difficulty understanding a topic or task and/or changing the structure of the lesson when most students are finding it difficult to understand (OECD, 2016[49]).

Figure 3.7. School autonomy and adaptive instruction in science lessons



Notes: The socio-economic profile is measured by the PISA index of economic, social and cultural status. Statistically significant differences are marked in a darker tone. *Countries and economies are ranked in descending order of the change in the index of adaptive teaching when the index of school autonomy increases by one unit, after accounting for students' and schools' socio-economic profile.*
Source: (OECD, 2016[49]) *OECD, PISA 2015 Database, Table II.2.25*, https://doi.org/10.1787/9789264267510-graph14-en.

These findings imply that various conditions need to be in place for teachers to make use of school autonomy for pedagogical flexibility. These can include:

- Training for teachers to utilise pedagogical flexibility when granted professional autonomy. This is particularly important as teachers must exercise professional judgement about the type of flexibility and autonomy given to students, too, about their own learning. For example, taking a "student-centred approach" to teaching does not mean giving full autonomy to students or encouraging self-directed learning indiscriminately. PISA data show that teaching practices relying heavily on students taking responsibility for their own learning (called "cognitive-activation strategies") are generally associated with higher mathematics scores, but this effect is more pronounced in schools with a higher socio-economic status (OECD, 2016[50]). Students from lower socio-economic backgrounds may need more direct support from teachers in order to set foundations for self-directed learning.
- In-school collaboration to enhance teachers' self-efficacy and access to different pedagogies.
- Support to manage parents' perceptions of the role of teachers and students.

Absence of role models and/or limited peer mentoring

Teachers are engaged in professional learning in a variety of forms – formally, non-formally and informally. Professional role models in schools broaden teachers' understanding and use of different pedagogical methods (Gutierez and Kim, 2018[51]; Hall and Simeral, 2008[52]). Reforms aimed at encouraging flexibility and innovation are successful in schools where peer mentoring is encouraged (Bergen, Engelen and Derksen, 2006[53]; Zwart et al., 2008[54]; Bolhuis, 2006[55]). However, international data show that peer mentoring in schools is far from a dominant practice. Across OECD countries, fewer than 10% of teachers (both experienced and novice) report having an assigned mentor as part of a formal arrangement at their school (Figure 3.8).

The absence of mentorship, along with a lack of preparation for curriculum reform through pre-service training, might represent a greater obstacle for novice teachers. This can result in, for example, an over-reliance on the use of textbooks by teachers who lack the benefit of peers to guide and support the use of alternative and novel methodologies.

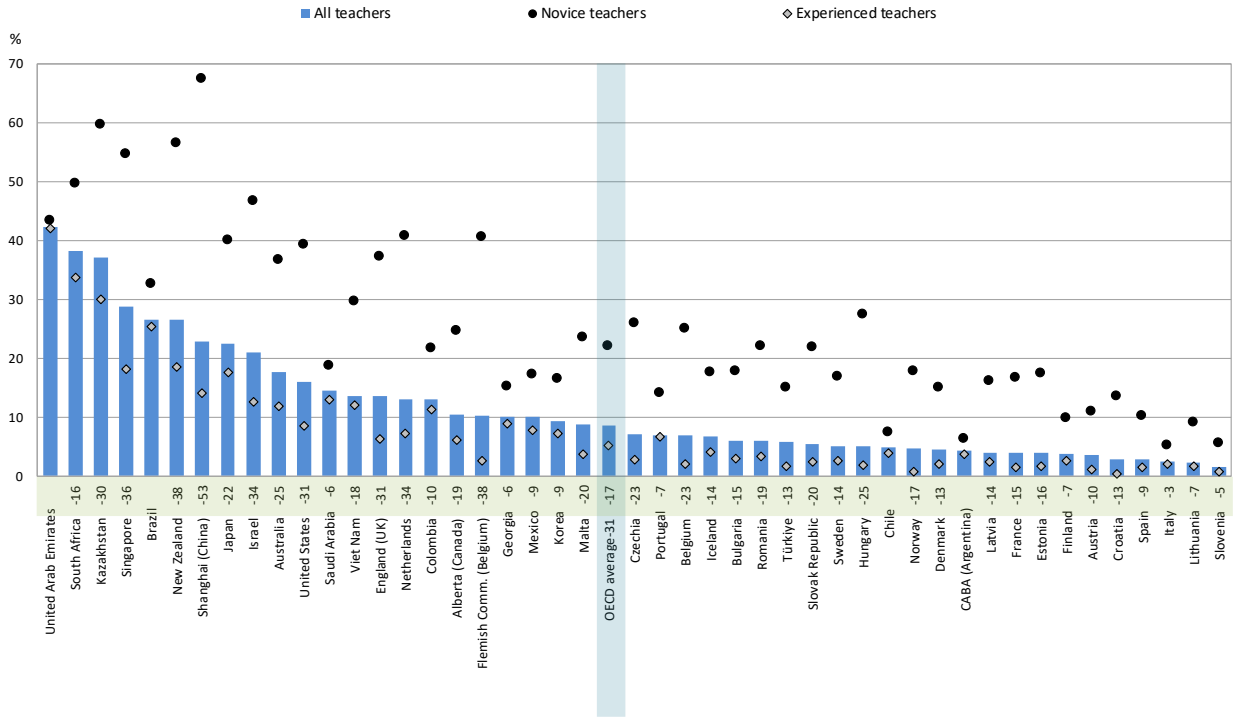
Where variation within and across schools occurs as an outcome of teachers' autonomy, students might receive significantly different learning opportunities. Such an outcome might be expected where flexible and novel pedagogical approaches are not modelled for teachers by peers and where schools lack resources to invest in training (OECD, 2020[25]).

From a policy perspective, it is important that teachers are motivated to explore flexible pedagogy not only for their students' benefit, but also for their own professional development incentives and their professional identity, using creativity as a teacher. Exploring new pedagogies, such as through action-research, to find the appropriate ones for their students should be understood as an opportunity to explore new ideas and knowledge in their teaching. This will help them to continue being a "lifelong learner/action researcher".

This is particularly critical for novice teachers in countries that are facing challenges in attracting and retaining a quality teacher workforce. TALIS 2018 results suggest some factors that are related to teachers' self-efficacy and job satisfaction; they include intrinsic motivation and attitudes to become lifelong learners, a strong focus on induction and mentoring throughout their career, meaningful opportunities for professional learning, and a sense of trust and respect mutually built among all actors of the education ecosystem (OECD, 2020[56]).

In **Türkiye**, the "Towards 2023 with Our Teachers" project aims to enhance teachers' professional abilities, update their knowledge and skills, and create a student-focused, dynamic learning environment. This project aims to develop teachers into role models who are adept at continuous learning, problem-solving, time management and classroom management. The goal is to make the curriculum more effective, ensure education is current and will meet future needs. As part of this project, about 700 000teachers will be trained to implement the new curricula. These trained teachers will also guide and support a specific group of other teachers in turn. Additionally, the project focuses on improving teachers' professional skills and includes sharing teaching materials online, tailored to specific subjects.

Figure 3.8. Peer mentoring, by teaching experience



Notes: 1. Mentoring is defined as a support structure in schools where more experienced teachers support less experienced teachers.
2. Countries and economies are ranked in descending order of the percentage of lower secondary teachers who have an assigned mentor.
Source: (OECD, 2019[10]), *TALIS 2018 Database, Table I.4.64,* https://doi.org/10.1787/888933932722.

Parents' perceptions of teacher and student roles, and concerns about "unknowns"

Parents in some countries and communities hold firm views on the purpose and operation of schools, and the role and practices of their teachers. These views, often based on traditional views of education can influence what they accept and anticipate happens, or should happen, in schools.

Teachers' use of flexible pedagogy might be seen as out of line with parents' and wider society's assumptions that teachers impart knowledge while standing at the front of a classroom. In their eyes, curriculum flexibility can seem at odds with required teaching to ensure that children perform well on standardised tests and high-stakes examinations.

From this perspective, parents could feel that there is an unacceptable risk that flexibility could have a negative effect on the education and performance of students. This was a challenge during the curriculum reform process in Portugal (OECD, 2018[21]; Lubienski, 2009[57]). Lubienski (2009[57]) suggests that parents generally prefer schools with proven curricula and pedagogical practices and are suspicious of schools that use autonomy to organise parts of the curriculum according to independent visions and interests. Given this perception, it is not surprising that schools and teachers can feel constrained in using non-traditional pedagogical approaches.

A further tension concerns the increased use of information and communications technology (ICT) in schools in alternative approaches to teaching and learning. The use of ICT to provide students with individualised learning opportunities is well-supported in research findings (Bottino, 2004[58]; Tearle, 2003[59]). Many countries/jurisdictions put digital transformation in education high on the policy agenda, especially since school closures during the COVID-19 pandemic (Box 3.5), while research into its impact on learning outcomes and student well-being (e.g. screen time and eye health, sedentary time and physical

health in general, digital addiction, etc.) is still being conducted (Zhao, Hwang and Shih, 2021[60]; Karakose, 2022[61]; Besalti and Satici, 2022[62]; Liu et al., 2021[63]).

Box 3.5. ICT or digital transformation in education as a policy priority in Lithuania

In **Lithuania**, the government has set a digital education action plan (2021-27) called "Adapting Education and Teaching to the Digital Age". It provides a vision on how to improve digital literacy, skills and abilities across all stages of education. Action axes include the promotion of an effective digital education ecosystem development (strategic priority 1) and the strengthening of digital skills and abilities necessary for the digital transformation (strategic priority 2). In this orientation, the project Digital Transformation of Education (EdTech), which started on September 2022, aims to combat the following challenges:

- The development of digital innovations in educational institutions is hindered by pedagogical staff members' insufficient involvement and lack of digital competences.
- Digitalisation of education shows a slow progress while educational institutions lack the necessary hardware and software elements, as well as high-quality digital tools.
- The use of data generated by the education system is not efficient. Education information systems have not been sufficiently co-ordinated across all levels.

In response, the EdTech project is developing the following activities:

- Preparation and approval of the necessary legal acts and methodological material that would define the minimum and/or achievable technological and digital content use standards.
- Implementation of the latest educational technologies in the education sector, creating conditions for the development and testing of digital education innovations (testing innovative technologies in the classrooms so that the innovators could receive feedback to create products that would suit the official programmes).
- Strengthening the digital competencies of pedagogical staff members; online training for teachers and IT studies for pedagogical staff members.
- Creation of technological solutions, necessary digital teaching and study resources in educational institutions in order to enable personalised distance learning beyond pandemic circumstances.
- Providing distance and hybrid teaching/training equipment for educational institutions.
- Fostering the culture of innovation.

The EdTech project will also consolidate a platform for online learning, connecting students and teachers from different schools and widening their range of possibilities. Access to the education portal will be given to parents and caregivers, who will be given an open opportunity to familiarise themselves with the content of digital tools and their benefits. The EdTech Centre is planned to become acentre for direct communication and practical questions that may arise for anybody who would like to inquire about the practical processes of the digital transformation, including parents, providing them with individualised replies.

Source: The OECD Future of Education and Skills 2030. Focus Group 1 (Lithuania). Irene Raudienė (Ministry of Education and Science).

While views on the use of technology in schools are generally favourable, parents might not be equipped to understand and support pedagogical strategies that employ ICT in innovative and alternative learning

contexts (Kong, 2018[64]), such as blended learning approaches, flipped classrooms and immersive learning (Kazu and Demirkol, 2014[65]; Roehl, Reddy and Shannon, 2013[66]; Russell T. Osguthorpe and Charles R. Graham, 2003[67]; Baepler, Walker and Driessen, 2014[68]; Kassner, 2013[69]; Carnahan, 2010[70]; Di Serio, Ibáñez and Kloos, 2013[71])[10]. Parents' understanding of methods to integrate digital technologies and pedagogies may be limited, and schools might be required to educate parents about these technologies and selected methodologies to increase understanding and garner support (Kong, 2018[64]).

It is important that schools and teachers receive the support required to manage parental and societal expectations and concerns about these "unknowns", especially when using technology. Such concerns include personal data protection issues, cyber security, implications for health, and well-being concerns (OECD, 2020[72]).

Educators in **Singapore** face unique challenges, where parents might oppose the view of teachers as professionals and pedagogical experts, instead perceiving their role as transmitters of knowledge (Lambert, 2001[73]; Lambert, 2001[73]; Sliwka and Istance, 2006[74]). Some parents do not appreciate the spirit and intent of a more active student role in learning, such as self-assessment, taking ownership of learning, solving problems in new and novel contexts, and collaborating with and learning from peers. Parents concerned about this change in teaching might feel that schools are not adequately preparing their children for formal examinations. This lack of understanding and/or appreciation of the changing roles of teachers and students can lead them to question curriculum decisions and teaching strategies. Such views might constrain teachers' flexibility in adapting their pedagogy and limit their practice to a transmissional model.

Strategies

Table 3.5. Strategies related to flexibility in pedagogy

Strategy	Example countries/jurisdictions
Reducing prescriptive curriculum content and the frequency of examinations	British Columbia (Canada), Denmark
Trialing and piloting curriculum flexibility in pedagogy	Portugal
Providing technical support, professional learning and guidelines on pedagogy to teachers and school leaders	Poland, Sweden, Hong Kong (China)
Revising teacher education to strengthen pedagogical competencies	Poland, Singapore
Sharing good pedagogical practices across regional governments and schools	Australia, Ireland, Portugal, New Zealand, Scotland (United Kingdom),
Developing parental support for pedagogical flexibility	Singapore

Reducing prescriptive curriculum content and the frequency of examinations

Another factor that can support or stifle flexibility in pedagogy is the scope of prescribed curriculum. An overly prescriptive curriculum steers practice in specific ways and favours didactic methodologies to "get through" the content. Some countries/jurisdictions lessened the constraints imposed by their curricula and/or external examinations to give schools space to innovate and use pedagogical flexibility.

British Columbia (Canada) reduced the amount of specific and prescriptive content; created concept-based, competency-driven learning standards; and provides additional choice and flexibility in the curriculum for both students and teachers. In addition, the Ministry of Education reduced the number of required provincial subject-area examinations, allowing teachers to engage their students in deeper learning without the need to cover a wide range of content that might otherwise have been assessed

through provincial examinations. Rigour is maintained in the curriculum through assessment and reporting of curricular competencies, transferrable critical thinking, and communication skills, as demonstrated in specific learning areas.

Denmark made a decision in 2017 that reduced the prescriptive aspects of the curriculum and removed constraints on teachers' pedagogy. Prior to this, teachers had to plan and conduct learning experiences in keeping with binding objectives that specified what the students should be able to do, which included demonstrating mastery of competencies in the mandatory subject areas. The decision of 2017 was to deem the objectives as non-binding and increase teachers' freedom to plan their teaching. While the objectives remain, they offer non-compulsory guidance for consultation.

Trialling and piloting curriculum flexibility in pedagogy

Countries/jurisdictions without a tradition of school autonomy in pedagogy can trial giving schools more flexibility before a broader roll-out is initiated (Box 3.6). This informs countries/jurisdictions about the types of training given or needed, and the financial and technical support needed to ensure that schools are positioned for flexibility in pedagogy to be extended across the system.

In **Portugal**, curriculum flexibility and autonomy began as an experiment at the beginning of the 2017/18 school year, as part of Curricular Flexibility and Autonomy Project. The pilot project, implemented in more than 200 schools, is monitored by the Directorate General for Education and other central bodies to assess and manage its expansion. The project is also monitored by curriculum experts at the OECD. The new curriculum legislation was passed in 2018, considering the results of the evaluation of the pilot and feedback given by schools, teachers, students and parents. The Curricular Flexibility and Autonomy Law is implemented generally and encompasses upper-secondary education. Some schools decided to go further, managing more than 25% of the curriculum and designing an innovation plan monitored by the regional teams.

Box 3.6. Adaptive teaching practices in Israel

HaBustan, an educational institute in **Israel**, has developed a pedagogical concept referred to as "schools on the move". It combines existing educational methods with new and original inventions. Students are involved in all aspects of their learning process decision making, with the aim for it to be meaningful and effective.

Schools on the Move

Since its creation, the school has not had a permanent building. As a result, founding members have found creative "roaming" solutions between temporary hosting locations. The educational staff soon realised that the roaming nature of the school itself presents a catalyst for growth and development, enabling new and diverse learning opportunities. A roaming school by choice, students and teachers move every three to four months between various locations within a predetermined geographical radius.

The host sites provide a physical space as well as various specialised learning opportunities. So far, the school has been housed in museums, agricultural settlements and a sports complex.

Skills acquisition

Students learn to adapt to different situations and improve problem solving skills, cognitive flexibility, creativity and spatial orientation. The roaming system enables the educational staff to work with students who are anxious about change, flexibility or trying new things, helping them overcome these fears. An individual learning plan is tailored to each student and designed in co-ordination with staff, students and parents. The learning plan combines attainment and development of these skills, which are the basis of their choice of curriculum and other activities. For example, a student who sets a goal in his/her learning plan to learn how to ask for help, will set attainable and measurable targets to work on during math class, in adapting to a new location, preparing for moving to a new site, or while playing with friends.

Getting out of one's comfort zone

Roaming requires the entire school community to break out of its comfort zone and remain in a place of continuous growth. The need to adapt to changing environments with creative solutions is what strengthens the school community and prevents stagnation. Throughout this process, the staff must constantly develop and adapt to new circumstances. Teaching and evaluation methods undergo continuous review and revitalisation. Staff hold monthly meetings, sometimes together with students and parents, to gain insights and adjust the educational outlook, vision and working methods. In addition, one-on-one pedagogical meetings take place weekly between the school leadership and teaching staff in order to fine-tune their methods. Accordingly, lessons can be tailored to match the specific settings and to offer new courses suited to each environment.

Source: The OECD Future of Education and Skills 2030 School Networks – HaBustan "Schools on the Move" – Uri Kuflik (School principal).

Providing technical support, professional learning and guidelines on pedagogy to teachers and school leaders

Countries/jurisdictions use different strategies to broaden and develop teachers' pedagogical knowledge, understanding and skill. Several countries/jurisdictions enhance teachers' and school leaders' pedagogical competency by providing opportunities for professional development as well as guidelines and examples of good practice. The use of online platforms to simplify access and increase the take-up of these opportunities has also been initiated.

Poland enacted several measures enhancing teachers' capacity to use new technologies while highlighting their right to professional autonomy. The Centre for Educational Development, a state teacher-training institution, prepares paper and digital informative materials and aids, such as scenarios and guidance, and organises workshops and conferences on changes taking place in education. It also

manages a digital library offering resources on aspects of curricula, organisation of the schooling process, and information to improve teachers' knowledge and skills. It also includes training and educational resources to improve teacher's ICT skills; courses in the development of school infrastructure, and competencies of students and teachers in ICT in Active Blackboard; and training in the use of online tools and digital resources within the *Lesson: Enter* project.

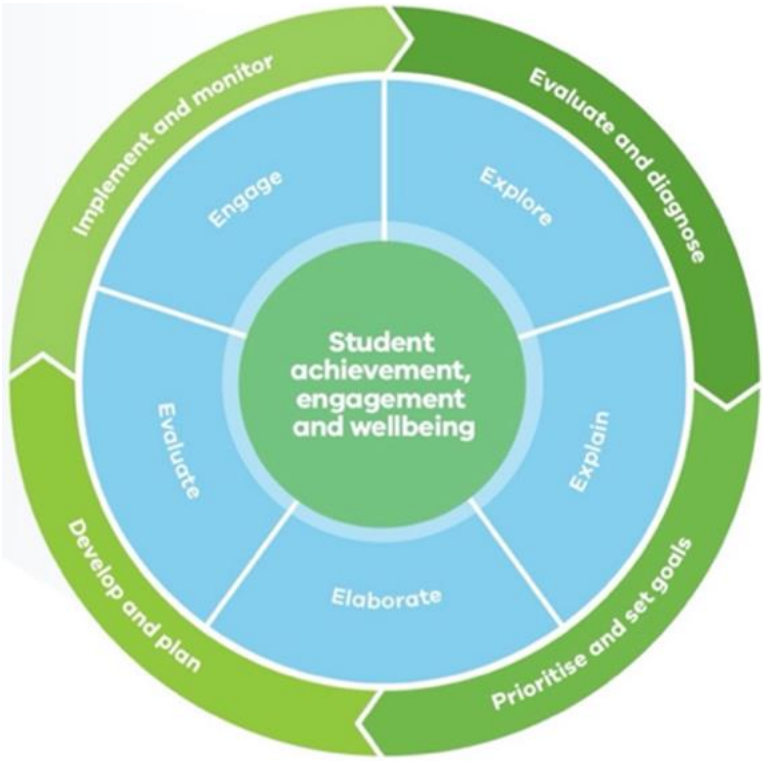
Sweden aims to increase quality and equality through its national school-development programmes. These initiatives provide in-service training for teachers and head teachers. The programmes consist of materials and online courses to support professional learning. They target different nationally identified development areas, and their use is based on locally-identified needs in schools.

In **Hong Kong (China)**, the Education Bureau notes that it takes time and effort to shift pedagogical practices and approaches to enable learner-centred teaching and student agency, and for schools to apply newly acquired flexibility in practice. As such, since the curriculum reform in 2001, the Education Bureau has been providing continuous professional development programmes. These include key learning and subject areas to build teachers' pedagogical repertoire at whole-school and subject-area levels, and help curriculum leaders and teachers adapt the central curriculum framework to their schools. Subsequently, in the ongoing curriculum renewal since 2014, self-directed learning was promoted for students to assume more responsibility over their own learning. In addition, learning and teaching resources were developed for teachers' use, and workshops were provided to disseminate good practices to support teachers in implementing the curriculum.

Referring to the guidelines, teachers may also make their own decisions on teaching methods and strategies. This is largely due to an acknowledgement of the professional capability of teachers and the related degree of autonomy granted.

In the **Australian State of Victoria**, the Department of Education and Training has introduced a flexible and evidence-based Pedagogical Model designed to enhance student learning by adapting to the diverse needs of each classroom. The model is structured around five interconnected domains: Engage, Explore, Explain, Elaborate and Evaluate (see Figure 3.9). These are not sequential steps but rather components that teachers can navigate fluidly, allowing them to respond effectively to the varying educational demands of their students. Teachers can engage students with relevant content, explore new ideas, explain concepts in-depth, apply these in elaborate projects, and continually evaluate student understanding. This fluid approach supports instructional adaptability and fosters an environment that is responsive to the specific needs of students, ensuring that education remains both relevant and impactful.

Figure 3.9. Pedagogical Model – Victoria, Australia



Source: Department of Education and Training Victoria, Australia.

Box 3.7. Flexible curriculum solutions for inclusive education in Colombia

Not every student is best served by standard curriculum and school resources. For those at the margins of or outside of the education system, technology may be used to create learning opportunities in more flexible ways. One such example is the AudioClass System (ACS), an innovative educational initiative designed to cater to the unique needs of Venezuelan refugees, migrants and host communities in Colombia. Utilising cutting-edge technology, ACS employs a chatbot to deliver supplementary education to children and youth aged 12-16 who are at risk of dropping out or currently out of school. The programme aims to address the lack of formal curriculum offerings for this vulnerable group, providing remote learning opportunities and support for both students and their teachers. To ensure greater equity, ACS specifically employs low-tech requirements, using audio as the primary medium to accommodate the technological limitations often faced by the target population.

Secondary school learning delivered remotely to students

ACS facilitates the remote delivery of secondary school learning to students facing challenging circumstances. The programme offers a flexible and accelerated 27-week curriculum, delivered via a chatbot interface, where learners can access diverse educational content, ensuring a comprehensive and enriching learning experience. This remote approach empowers students to learn at their own pace, overcoming geographical barriers and granting access to quality education. Additionally, ACS fosters a collaborative learning environment, encouraging students to support and collaborate with one another. The sense of community cultivated enhances their learning outcomes and instils valuable skills like teamwork and empathy, preparing them for success in an interconnected world.

Supplementary tool for teachers and learning facilitators in the classroom

ACS plays a dual role in empowering students and teachers. In the classroom, it serves as a valuable supplementary tool, providing support to educators as they work with students from diverse backgrounds and educational levels. Through it, teachers access resources, interactive aids and up-to-date content, enhancing their teaching methodologies and creating an inclusive learning environment.

Source: The OECD Future of Education and Skills 2030. Focus Group 2B - Atish Gonsalves and Sheila Burkhardt (International Rescue Committee).

Revising teacher education to strengthen pedagogical competencies

Several countries/jurisdictions have revised, or are in the process of revising, teacher education to strengthen their pedagogical competencies. This includes changes to learning modules to promote a student-centred approach to pedagogy and more practical training for pre-service teachers in school settings.

Poland is revising the teacher education programmes provided by its higher education institutions to prepare students with the pedagogical skills required for employment in schools. In the interest of preparing teaching graduates, only those higher education institutions that conduct and benefit from the latest research in the field of teacher and pupil education are granted the right to educate pre-service teachers. From October 2019, universities may start a cycle of teacher training for Kindergarten and Classes I-III of primary school within a specific field of study, known as “pre-school and early childhood pedagogy” within the framework of uniform master's studies.

Singapore uses a two-pronged approach to strengthen teachers’ capacity to be reflective and competent professionals who are able to customise curriculum to meet students’ needs. An enhanced teacher-education programme was introduced at the pre-service level with a teaching assistantship, where pre-service teachers learn in school, then discuss the practices they observed and contributed to, for a tighter theory-practice nexus. These in-school experiences supplement practical experience.

Sharing good pedagogical practices across regional governments and schools

Many countries/jurisdictions actively promote professional peer learning across localities and schools. To do so, some countries/jurisdictions have set up network schools, or share best practices using an online platform.

In **Australia**, where the states and territories are responsible for schools, collaboration and sharing of best practices are facilitated at the national level through the Education Ministers Meeting and jurisdictional representation on national advisory and reference groups. The Australian Education Research Organisation and the Australian Institute for Teaching and School Leadership provide support and dialogue to address common issues associated with the development and implementation of policy and practice.

In **Ireland,** teachers from different schools meet in clusters to receive continuous professional development. All teachers of a subject area who are involved in classroom-based assessments engage in subject-learning and assessment-review meetings where they discuss their assessments of student work and build understanding about the quality of student learning. Where there is a single teacher of a subject area in a school, the teacher can be supported to participate in a subject-learning and assessment-review meeting at another school to engage in the same peer-learning process.

In **New Zealand,** Communities of Learning enhance teaching practice and leadership by providing opportunities for collaborative enquiry, knowledge-sharing and extending career pathways for teachers. There are over 200 Communities of Learning to drive common expectations and improve outcomes for learners through the sharing of best practices across the nation.

Portugal provides an example of peer-learning support where teachers have opportunities to work collaboratively, share practices, use new methodologies, promote interdisciplinary work and incorporate extracurricular projects into the curriculum. Regional teams comprising representatives of different departments in the Ministry of Education support and monitor schools, promote regional and national meetings, and support school networks in sharing their practices and undertaking collaborative work. This work has been recognised by schools as effective for supporting them in peer learning. Additionally, an Autonomy and Flexibility website was created and is updated regularly to enable schools and teachers to access and share innovative experiences and practices in their schools.

In **Scotland (United Kingdom)**, Regional Improvement Collaboratives provide consistent arrangements across the country for professional improvement and collaboration, and to share expertise across local authority areas.

Developing parental support for pedagogical flexibility

The engagement of parents as key stakeholders is important when undertaking education policy reform. This is particularly the case when parents hold traditional views of teaching practice that might run counter to the intent and purpose of reforms aimed at granting schools pedagogical flexibility.

Schools in **Singapore** communicate with parents and other stakeholders regularly through various channels to support them in understanding the direction of education in the country. There are regular touchpoints between the Ministry of Education, parents, and the public to help them understand the innovations occurring in teaching. Regular features on how teachers and students interact during teaching and learning can be found in articles in the Ministry's *Schoolbag: The Education News Site*[11]. In addition, Community and Parents in Support of Schools[12] was established to strengthen school-home-community collaboration. Members of this online stakeholder community come from different sectors of society, including parents, academics, individuals from self-help groups, industry, the media and early childhood education. This confluence generates broad and diverse support for reforms associated with pedagogical flexibility.

Challenges and strategies related to flexibility in assessment

Flexibility in curriculum goals, content and/or pedagogy is often associated with some level of flexibility in assessment. This provides consistency in efforts to increase the autonomy of schools and teachers by aligning teachers' flexibility in the selection of goals, learning content and pedagogical methods with flexibility in the strategies and tools they use to monitor and assess learning. However, as countries/jurisdictions find, empowering teachers to develop their assessment competencies and make use of their professional autonomy can be challenging.

Challenges

Table 3.6. Challenges related to flexibility in assessment

Challenge	Example countries/jurisdictions
Centralised, high-stakes external examinations and/or school evaluations may constrain teacher autonomy in using flexible assessment practices	Japan, Singapore
Misalignment between professional autonomy and learner autonomy in the use of flexible assessment	Hong Kong (China)
Uneven capacity among teachers to use professional autonomy leads to variation in assessment practices	Quebec (Canada), Türkiye

Centralised, high-stakes external examinations and/or school evaluations may constrain teacher autonomy in using flexible assessment practices

Most countries/jurisdictions report that decisions on student assessment are granted to teachers (Figure 3.6). However, accountability measures to keep track of the quality of education as well as equity and fairness in the system can hamper the autonomy to adopt flexible assessment practices at the school and classroom levels.

When all students are assessed on a common set of standards, schools and teachers report feeling that they have limited choices regarding the curriculum, with a "washback" from external examinations influencing what teachers focus on, how they teach, and what and how they assess for formative and summative purposes (Hutchinson and Hayward, 2005[75]; Yin and Buck, 2019[76]; Keleş and Demir, 2021[77]). Often represented as "What gets tested, gets taught", the way students are assessed and the

content or learning objectives that are the focus of assessment often drive what is taught in classrooms (Earl, Hargreaves and Ryan, 2013[78]; Muskin, 2015[79]). Therefore, the balance between formative and summative assessments is often hard to maintain for teachers, in particular in countries where students need to take high-stake examinations, such as high school exit exams or university entrance exams.

According to Burgess and Kennedy (1998[80]), this can lead to the individual learning needs of students being overlooked in favour of content covered in examinations and, when combined with an over-reliance on testing in schools, can have negative consequences for students' well-being (Abeles and Rubenstein, 2015[81]; Cho and Chan, 2020[82]). These include anxiety associated with increased competition, strained relationships with parents, and sleep deprivation (Minarechová, 2012[83]; Mulvenon, Stegman and & Ritter, 2005[84]; Wren and Benson, 2004[85])

PISA data indicate that many students feel anxious about tests, but that this is not necessarily caused by the frequency of testing. Rather, it is the level of support from schools and teachers, and issues concerning how they will be graded that concern young people (OECD, 2023[86]).

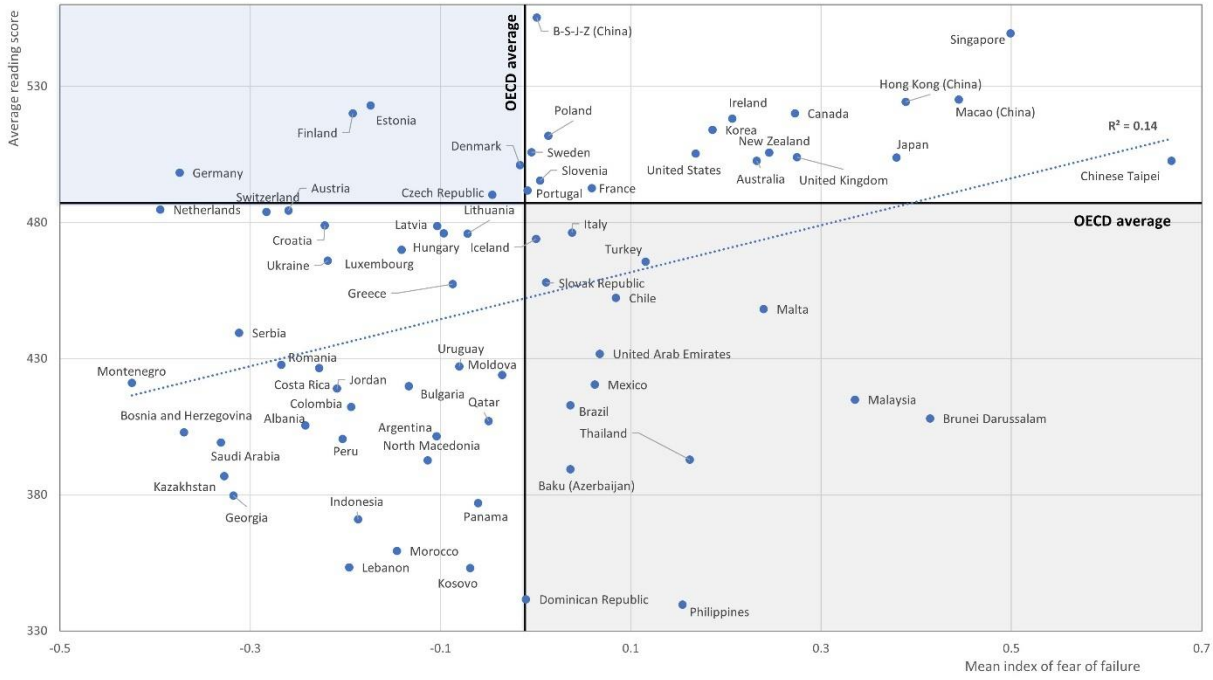
While acknowledging it is hard to find the optimal balance between formative and summative assessment, excessive focus on high-stakes testing can lessen teachers' and students' motivation to explore flexibility on assessment practices as new learning opportunities. Instead, this is likely to narrow teaching and learning to a focus on passing tests. Not surprisingly, in a number of countries/jurisdictions, reading achievement in PISA is highly associated with students' fear of failure (Figure 3.10). This is the case particularly in some Asian contexts, such as Chinese Taipei, Singapore, Macao (China), Hong Kong (China), and Japan (OECD, 2019[40]).

In many of these contexts, the long-lasting influence of the results of the centralised examinations on students' work and life in general can drive the practice at the school level. This can unintentionally lead teachers to not fully exercise their professional autonomy. Such countries are making efforts to reform high-stake centralised examinations; however, challenges remain.

In **Japan**, based on the National Curriculum Standards, which are the broadly prescribed standards for curriculum, each school formulates a proper curriculum. This includes consideration of students' stages of mental and physical development, their individual characteristics, and the circumstances of the school and its local community.

In **Singapore,** both formative and summative assessments are employed to assess the well-being of students from a holistic perspective. While teachers have the autonomy to design school-based assessments, students are required to sit for formal summative assessments throughout the academic year. National examinations are conducted at the end of each key stage, i.e. primary, secondary and pre-university levels.

Figure 3.10. Fear of failure and average reading performance



Source: OECD (2019), PISA 2018 Results (Volume III): What School Life Means for Students' Lives, PISA, OECD Publishing, Paris, https://doi.org/10.1787/acd78851-en.

Misalignment between the intent of professional autonomy and the actual use of flexible assessment

While reform efforts can encourage teachers to draw on a range of assessment methods, the use of innovative forms might be less than anticipated due to teachers' preparedness or their own interpretation of the curriculum reform (Clark and Peterson, 1986[87]; Hawthorne, 1990[88]; Smith and Lovat, 1995[89]; Mkandawire, 2010[90]). These can include:

- a lack of training in alternative assessment approaches, such as the compilation of student work portfolios, the construction of product or performance criteria, or rubrics and observation charts to assess individuals' capabilities and progress (Spencer and Hayward, 2016[91]);
- reluctance to replace or balance traditional forms of assessment with new, innovative or alternative methods (Gardner et al., 2010[92]; Kirkland and Sutch, 2009[93]; Looney, 2009[94]);
- devaluing students' self-assessment along with a selection of other assessment methods used by teachers – TALIS 2018 Results found that fewer than half of lower-secondary teachers involved their students in evaluating their own progress (OECD, 2019[10]).

Taken together, these factors reflect an educational culture that favours traditional content-centred, rather than competency-based or student-centred, forms of assessment. Any autonomy learners might be granted is of little consequence when they are assessed in limited ways.

In **Hong Kong (China)**, schools have the flexibility to develop their assessment policies and practices to suit the needs of their students and their own school context. Some schools are already exercising their autonomy in making school-based adaptations of the central school curriculum framework. However, other schools are still not very adept at taking a more active approach to tailor subject curricula, lesson time, or develop diversified modes of assessments to suit the needs of their own students. The main ideas and

principles of assessment as well as suggestions on how to conduct assessment in schools, including the development of a school's assessment policy to promote self-directed learning, are discussed in the *Secondary Education Curriculum Guide* (2017[95]). Schools are strongly encouraged to adopt "Assessment as Learning", in addition to "Assessment for Learning" and "Assessment of Learning", to foster students' independent learning capabilities. Promoting e-assessment also enables teachers to capitalise on the advantages brought about by technology in assessment, including the provision of immediate feedback to students and personalising assessment and instruction to meet their individual needs. Even in this favourable environment for school autonomy, however, some reform initiatives, for example Territory-wide System Assessment[13], were misinterpreted by some stakeholders as government monitoring and faced some resistance. Admittedly, the prevailing culture of examination orientation had turned efforts from promoting the intended 'assessment for learning' to what stakeholders perceive as an 'assessment of learning'.

Uneven capacity among teachers to use professional autonomy leads to variation in assessment practices

Teachers' assessment literacy and access to training causes variation in the quality and extent of assessment. This creates issues of fairness and equity, as the focus of students' performance, the validity and reliability of the data obtained, and the judgements made can differ markedly between schools (or in some cases within the same school). Countries/jurisdictions report that teachers experience difficulties incorporating assessment for learning strategies into their practice and in assessing 21st Century competencies.

In **Türkiye**, the number of written examinations to be made during the year and the number of project studies to be given are determined by the Ministry of National Education. Teachers are provided with the flexibility to identify their own assessment methods and techniques consistent with the curriculum achievements. However, the level of attainment of the objectives of the curricula is determined by achievement assessment examinations at the local and national levels. In addition, 8th and 12th Grade students are given central exams prepared in accordance with the curriculum. These exams also provide access to a higher education institution. An OECD review of student assessment policies in Türkiye (Kitchen et al., 2019[96]) showed that teachers' capacity to design and use methods that assess the breadth of students' learning varied. Findings indicate that teachers prefer short, knowledge-based assessments rather than long, narrative style forms of assessments or tasks where students apply what they learnt to unrehearsed contexts, such as solving real-world problems. Furthermore, teachers do not show consistent understanding of what assessment for learning means and how to use it in their teaching practice. The expected variation in teachers' forms of assessment is somewhat balanced out by the use of examinations at the local and national level.

In some contexts, variation may be expected by design, which gives teachers and school leaders the authority to make decisions about how to best evaluate the progress of students, along with support and guidance to improve their assessment competencies, thus coupling this anticipated challenge with concrete strategies.

In **Québec (Canada)**, Section 19 of their Education Act entitles the teacher to "select the means of evaluating the progress of students so as to examine and assess continually and periodically the needs and achievement of objectives of every student entrusted to [their]care". Section 96.15 of the Act states that the principal is responsible for approving "the standards and procedures for the evaluation of student achievement, in particular, how parents are to be informed of the academic progress of their children, in keeping with the prescriptions of the basic school regulation and subject to the examinations that may be imposed by the Minister or the school board". This flexibility, however, can pose a challenge in terms of consistency of evaluation. Through the Policy on the Evaluation of Learning, the government in Québec (Canada) provides guidance to the educational system on the evaluation of learning achievement.

Strategies

Table 3.7. Strategies related to flexibility in assessment

Strategy	Example countries/jurisdictions
Defining clear assessment criteria to address uneven assessment literacy among teachers	British Columbia and Québec (Canada), Finland, New Zealand
Providing professional learning to enhance assessment literacy	British Columbia and Québec (Canada), Portugal, Hong Kong (China)
Collecting and sharing examples of good assessment practices to inform schools and teachers	Australia, Ireland

Defining clear assessment criteria to address uneven assessment literacy among teachers

A flexible curriculum that offers opportunities for teachers to design and administer different forms of assessment that support learning rather than create excessive anxiety or sense of failure can counterbalance the undesired effects of rigid assessment policies. Indeed, while research suggests the reality of the underlying pressure for high achievement and how it can negatively impact students, data also show a number of countries where high student achievement is possible without the burden of fear of failure, such as in Germany, Finland and Estonia. Methods to improve the performance of students while mitigating stress, such as through curriculum flexibility, can indirectly improve student well-being (Cho and Chan, 2020[82]).

Educational assessment policies need to align with broader intentions to improve student learning and well-being. At the same time, they need to both encourage local innovations and ensure consistency and fairness of assessment practice across schools. Striking this balance is a continuous policy challenge for many participating countries.

Some countries/jurisdictions offer examples of their efforts, such as setting out how subjects should be assessed or criteria for marking, types of assessments (such as diagnostic, formative, summative and criterion-referenced), and assessment strategies and tools (such as portfolios, presentations, projects, observation checklists and tests).

British Columbia (Canada) is redeveloping Performance Standards that illustrate and describe proficient critical thinking and communication strategies employed by students in all learning areas. Co-creation with educators found that teachers revise and redevelop their classroom assessment tasks to focus on process and product, to allow students to demonstrate learning multi-modally, and to use the proficiency descriptors to provide meaningful feedback for improvement.

Québec (Canada) uses resource material to guide teachers in their assessment decisions in addition to providing them with training in the assessment of student learning. The province's Framework for the Evaluation of Learning sets guidelines for the evaluation of students' attainment in each subject area in the Québec Education Program (QEP). The framework defines the criteria on which the students' results must be based in each subject area, and the weightings of the competencies are specified to assist teachers in determining the relative performance of students in each subject area.

Finland renewed assessment guidelines and produced specific national assessment criteria for different subject areas. The new curriculum emphasises diversity in assessment methods as well as assessment that guides and promotes learning. The establishment of assessment criteria involved a thoughtful, collaborative process that supports both student learning and equitable outcomes. The assessment criteria are aligned with 21st Century competences (e.g. problem-solving, critical thinking, collaboration, communication, digital literacy) to ensure holistic development (Lavonen, 2020[97]). Besides traditional reports or certificates, feedback is conveyed through various other means on a regular basis, to both

students and their guardians. At the end of each school year, students receive a report that includes numerical grades representing their achievement levels in each subject based on predefined targets. To ensure fair assessment, national assessment criteria for the numerical Grade 8 ("good") have been defined in every subject for Years 6 and 9.

New Zealand offers schools guidance on the tools and approaches that may be used for assessment and the functions that different assessments serve, including guidance on effective assessment practice.[14]

Providing professional learning to enhance assessment literacy

Benefits arising from granting schools, teachers and students autonomy to decide how their learning is to be assessed include deeper and broader appreciation of the capabilities of individual students, increased student engagement and interest in learning, as well as reduced levels of anxiety.

Another implication of developing teachers' assessment practice is providing students with meaningful feedback on their performance, achievement and progress. The quality of teachers' feedback has a significant impact on students' learning, motivation and engagement (Clarke, 2001[98]; McCallum, Hargreaves and Gipps, 2000[99]; Hattie and Timperley, 2007[100]). In emphasising the importance of feedback as a key to teaching, Hattie and Timperley (2007[100]) observe that feedback has no effect in a vacuum and, rather than informing students about what is correct and what is not, meaningful feedback is about what happens next in terms of teaching and learning. Teachers constrained in their ability to provide meaningful feedback limit the effectiveness of their teaching and the learning potential of students (Muijs and Reynolds, 2001[101]). Initiatives to broaden teachers' capabilities in the selection and use of different assessment strategies and tools need to embed quality feedback as a component of professional learning and training programmes.

The benefits of flexible assessment are more likely to be realised when:

- sufficient training in assessment literacy is provided for school leaders, teachers and students (Engelsen and Smith, 2014[102]);
- there is alignment between policy intentions regarding flexibility in assessment and internal and external measures used to monitor and judge students' progress and achievement (Cabinet Secretary for Education and Skills, 2023[103]);
- testing is used as one of many assessment strategies to determine students' strengths and areas for development (Cabinet Secretary for Education and Skills, 2023[103]).

Increasing flexibility in the selection and use of assessment strategies and tools carries implications. Teachers and students need to be trained and guided in the fundamentals of assessment (Engelsen and Smith, 2014[102]; Koh, 2011[104]) , which involves increasing their assessment literacy to overcome common errors in the selection and application of assessment strategies and the analysis of data (Quilter and Gallini, 2000[105]; Smith et al., 2013[106]). Teachers also need broader technical capabilities regarding the design of assessment tools and resources, such as how to compile portfolios of student work samples and construct product or performance criteria or rubrics and observation charts to assess students' capabilities and learning progress (Spencer and Hayward, 2016[91]). This is becoming particularly important with the increasing use of advanced technologies for teaching and learning, such as digital and AI-powered tools for assessment of learning (Nguyen and Habók, 2023[107]; Minea-Pic, 2020[108]; Starkey, 2019[109]). The importance of assessment literacy cannot be underestimated. As observed by White (2009[110]), "assessment knowledge and competence can be so influential in (either) encouraging or undermining student learning".

Recognising the need for professional learning in assessment literacy and the importance of meaningful feedback as key to granting schools and teachers' autonomy in how student learning is assessed, several countries have made efforts to enhance teachers' assessment literacy, including providing training

opportunities in schools and external seminars (engaging the agencies responsible for conducting examinations and assessment programs), as well as by encouraging peer learning.

In **British Columbia (Canada)**, the assessment system was redesigned to align with the province's latest curriculum. This was to support a more flexible, personalised approach to learning and measure deeper, complex thinking as foregrounded in the curriculum. The assessment system has three programmes that work together to measure student learning and understanding of subject area content throughout their education: through classroom assessment and reporting; through provincial assessment, which reflects the cross-curricular principles of literacy and numeracy; and through reporting students' development of curricular competencies, and student self-assessment of the core competencies of thinking, communication, and personal and social interactions. The change ensures that classroom assessment has a higher profile in the province's schools and classrooms than before. A series of webinars that focus on assessment is included in the support provided for teachers in implementing the new curriculum.

Québec (Canada) provides teachers with specific training in the assessment of student learning. The province provides guidance in various ways. For example, it publishes an Administrative Guide for the Certification of Studies and Management of Ministerial Examinations. The Framework for the Evaluation of Learning provides guidelines for the evaluation of student achievement. For each subject, the framework defines the criteria on which the students' results must be based.

Portugal's Maia national research project, monitored by a core team of delegates from the Ministry of Education, higher education and schools, gives teachers (of general and vocational programmes from primary to upper-secondary education) access to quality training in assessment. The project began with the aim of improving teachers' assessment of student performance, and consequently improving student learning. A key aspect of the project is classroom assessment workshops where teachers have the opportunity to experiment with formative assessment tools and techniques. As part of this process, representatives of the teacher training centres at the school level build teacher capacity, so that each teacher can apply the featured tools and techniques when assessing the learning progress of their students.

Hong Kong (China) enhances teachers' assessment literacy through continuous professional development programmes organised by the Education Bureau as well as the Hong Kong Examinations and Assessment Authority, the administrator of public assessments in the territory.

Collecting and sharing examples of good assessment practices to inform schools and teachers

Demonstrating how various approaches work in practice using concrete examples can also be a valuable resource for teachers. This is in addition to providing professional training to teachers on a variety of assessment and evaluation methods, preparing guidance materials and setting up clear criteria to be considered when assessing student learning.

Australia has a bank of annotated student work samples published online for teachers. These examples, which include written, visual, voice-recorded and video outputs, are organised in each subject area and at differing levels of performance, include evaluation of the students' work in relation to achievement standards, and the tools used by the teachers when undertaking the assessment tasks.

Ireland uses peer learning, where teachers from different schools meet in clusters to receive continuous professional development. Through this initiative, all teachers involved in classroom-based assessments of a subject area engage in subject-learning and assessment-review meetings, where they share and discuss samples of their assessments of student work and build common understandings about the quality of student learning.

Challenges and strategies related to flexibility in learning time

Curriculum flexibility in learning time enables the pace, depth and organisation of teaching to meet the students' diverse individual learning needs. From an equity perspective, this can also help teachers allocate more instruction time to those students who may need additional time and attention, such as students from vulnerable populations (OECD, 2021[48]).

Across OECD countries, decisions related to instruction time are typically made at the national level, with specifications set out in regulatory and policy documents. This is to ensure equitable access to education for all students, with sufficient time spent in school (often expressed in terms of minimum time) representing opportunity-to-learn and equitable learning outcomes, regardless of the type or location of school or the socio-economic background or circumstances of students.

While countries vary in the range of time allocations recommended for schools, one of the more common forms of autonomy granted to districts, schools and/or teachers is the flexible allocation of instruction time within subject areas and across the curriculum. In fact, 32 out of 35 countries/jurisdictions that took part in the E2030 Policy Questionnaire on Curriculum Redesign, reported some level of flexibility allocated to schools for decisions regarding learning time, as indicated in Figure 3.6. Flexibility in learning time can be a feasible option through different arrangements. Compulsory flexible curriculum means that compulsory subjects and total instruction time are specified, but not the time to be allocated to each subject (OECD, 2023[111]).

As shown in Figure 3.11 and Figure 3.12 , in a handful of countries this is already practiced to a great extent: in **Poland, the Netherlands, Italy** and **Belgium** (both the French and Flemish Communities), most – if not all – of the compulsory instruction time benefits from a flexible timetable in primary education (see "compulsory flexible curriculum"). Among these, only the Netherlands, and the Flemish Community in Belgium maintain such flexibility through lower secondary education. In Poland and Italy, no instruction time is allocated to compulsory flexible curriculum at the lower secondary level, and only a small proportion of instruction time is kept flexible in the French Community of Belgium at this level.

In **the Netherlands**, instruction time for all subjects is allocated by the school (decided by the principal). In some schools, students can spend part of the allocated instruction time on a subject of their choice, according to their capabilities.

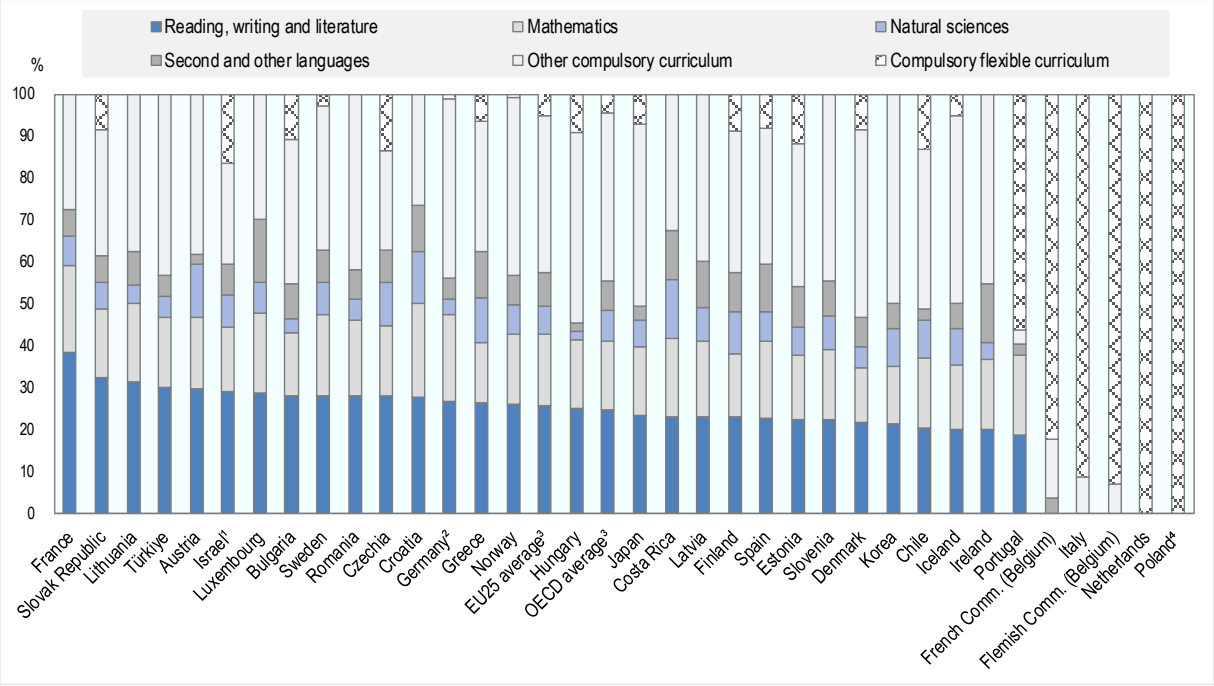
In **Poland**, the first eight years of the education system are structured into two main stages; the first stage, covering Grades I-III of primary education (ISCED 1), focuses on integrated early school education without assigning compulsory instruction time for subjects. On the other hand, in thesecond stage, which includes Grades IV-VIII, covering the 4th year of primary education (ISCED 1) and the 4 years of lower secondary education (ISCED 2), the focus shifts to subject-based education with allocated compulsory instruction time.

Another modality for added flexibility in instruction time becomes more evident in secondary education, namely "compulsory flexible subjects chosen by schools" and "by students", which is reported by only one country, **Iceland**, in primary education. This follows the likely emphasis on "basic" and "foundation" knowledge and skills in curriculum at early ages while more options are granted to older students. This allows them the opportunity to better match their own interests and talents while still meeting the requirements for mandatory learning time, following the same logic with the requirements for goals and learning content as discussed earlier.

These examples illustrate the type of choices countries make when considering options for adding flexibility to curriculum through allocation of instruction time.

Figure 3.11. Instruction time per subject in primary education (2023)

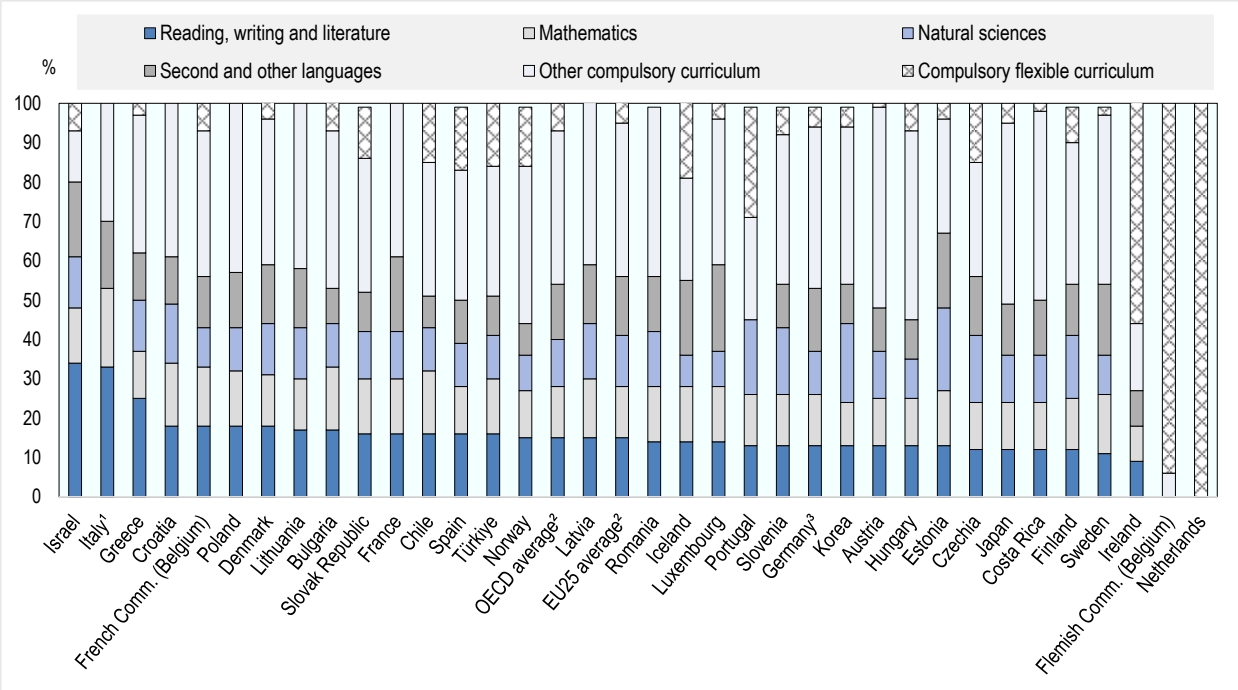
In percentage of total compulsory instruction time, in public institutions



Notes: Some subject categories include subjects in different categories. See source table for details.
1. Reading, writing and literature includes social studies and other languages. Mathematics includes natural sciences.
2. Year of reference 2022.
3. Excludes the Flemish Community (Belgium), the French Community (Belgium), Italy, the Netherlands, Poland and Portugal.
4. Excludes the last year of primary education (first four years of primary school) for which the instruction time is allocated to specific compulsory subjects.
Countries and other participants are ranked in descending order of the proportion of instruction hours devoted to reading, writing and literature.
Source: OECD (2023[111]), Education at a Glance 2023: OECD Indicators, OECD Publishing, Paris, https://doi.org/10.1787/e13bef63-en.

Figure 3.12. Instruction time per subject in general lower secondary education (2023)

In percentage of total compulsory instruction time, in public institutions



Notes: Some subject categories include subjects in different categories. See source table for details.
1. Reading, writing and literature includes social sciences. Mathematics includes natural sciences.
2. Excludes the Flemish Community (Belgium), the French Community (Belgium), Ireland and the Netherlands.
3. Year of reference 2022.
Countries and other participants are ranked in descending order of the proportion of instruction hours devoted to reading, writing and literature.
Source: OECD (2023), Education at a Glance 2023: OECD Indicators, OECD Publishing, Paris, https://doi.org/10.1787/e13bef63-en.

Challenges

Table 3.8. Challenges related to flexibility in learning time

Challenge	Example countries/jurisdictions
Flexibility risks adding more learning hours to meet specific student needs	Hungary, Ireland
Under-utilisation of flexibility in learning time due to accountability measures and high-stake assessments	Brazil, India
Making informed decisions about the prioritisation of subject/learning areas	Korea, Portugal

Flexibility risks adding more learning hours to meet specific students' needs

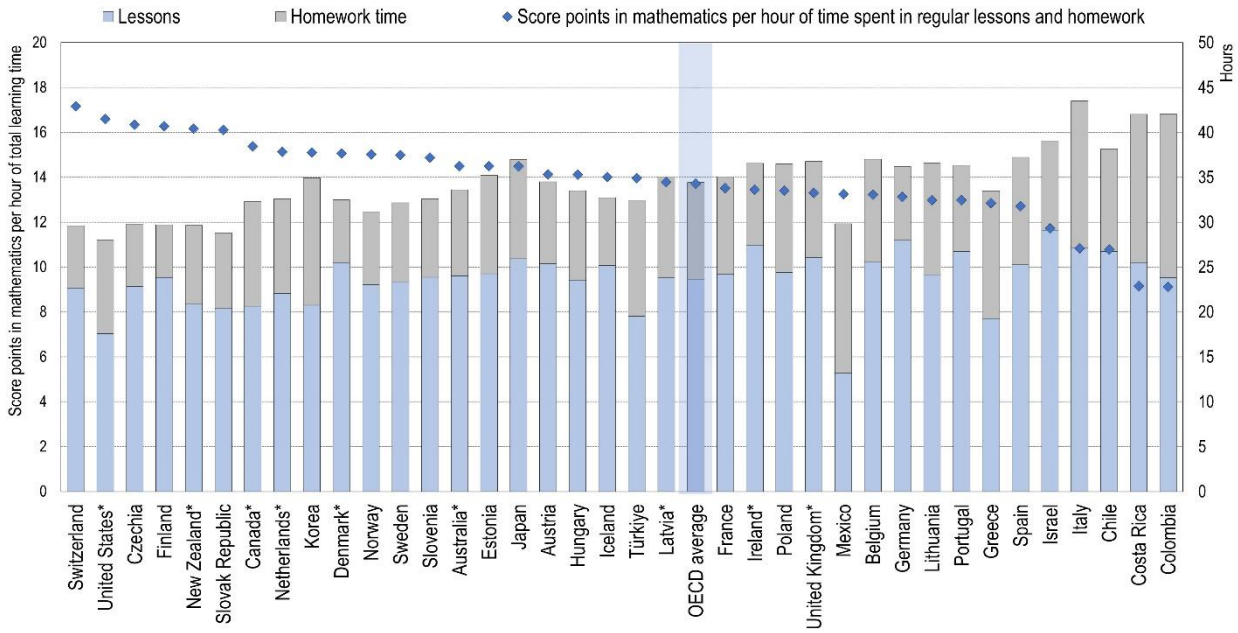
Different degrees of flexibility in learning time are often offered to schools as a way to compensate for the limited flexibility accorded over goals and learning content. This way, schools that might not be able to choose which subjects or content topics to teach, can instead be granted freedom to decide how much time they allocate to each subject or learning area according to the needs of students.

This flexibility could represent an opportunity for school leaders and teachers, as it allows them room to adapt the curriculum to their context and exercise their judgement and agency on what needs to be prioritised in the curriculum. This is relevant for schools that serve specific segments of the student population. For example, schools that have large proportions of immigrant students can spend more time on acquiring proficiency in the national language(s) as a fundamental capability needed to access the content and objectives in other learning areas.

However, an absence of structural oversight over time allocations can result in students having to "catch up" on curriculum content not covered during the regular school day. Examples of reported catch-up activities include teachers issuing additional or extended homework tasks, remedial studies, extra-curricular activities and private tutoring. These extra demands can overly extend the time students spend studying and reduce opportunities for other important activities, such as spending time with family and friends, engaging in free or organised play, and participating in physical activities. Research on student learning time reveals that having children and young people study for very long hours on a routine basis does not necessarily yield better learning outcomes. In fact, it can be harmful to their health and overall well-being by leading to fatigue, boredom and lack of motivation (Gromada and Shewbridge, 2016[112]). As PISA data reveal in Figure 3.13, quality of learning is more important than quantity (OECD, 2023[86]).

Figure 3.13. Mathematics performance and time spent on learning activities (in OECD countries)

Based on students' reports



Note: OECD countries are ranked in descending order of the score points in mathematics per hour of total learning time.
Source: OECD (2023[86]), PISA 2022 Database.

A recent literature review on the topic suggests that instruction time be optimised by looking at ways to make it more effective (rather than simply longer), which include how to best organise the available time. Some examples include capitalising on times of the day when children tend to be more alert, keeping realistic expectations about how much children can learn through the day, improving classroom management and adapting instruction to different students' needs (Gromada and Shewbridge, 2016[112]).

In **Hungary**, flexibility is achieved in two ways at the school level. First, schools have the freedom to choose which subjects to teach within a certain timeframe. Second, rules allow schools to slightly deviate from the main curriculum up to a certain percentage. An individualised learning pathway may also be achieved by way of class/subject differentiation and during thematic days/week. However, flexibility and free choice at an individual level mainly exists in secondary education. Here, students can choose schools and specialisations based on entrance exam performance, alongside the option to select specific subjects in the concluding two years of their secondary education (Grades 11 and 12). The new national curriculum further supports student agency by promoting differentiation and offering a variety of choices in tasks and projects, as well as content during thematic day/week, facilitated within student sub-groups. However, the realisation of these flexible educational strategies faces obstacles such as content overload, regulatory emphasis, and contextual challenges (e.g. under-utilisation of available digital resources, insufficient resource sharing, and traditional teaching mindsets).

Ireland also reports the risk of overcrowding the timetable given the number of changes coming to schools in a short period of time, such as the Framework for Junior Cycle and the Review of Senior Cycle as well as new subjects, for example, Politics and Society. Schools' capacity to cope with these changes is an area of concern in some instances.

Under-utilisation of flexibility in learning time due to accountability measures and high-stake assessments

While there might be provisions for districts, schools or teachers to vary learning time for a subject area, they are often expected to demonstrate that students meet particular learning outcomes. The "lived reality" referred to by Watson and Supovitz (2001[113]) of the apparent "trade-off" between autonomy granted to schools to make decisions while also being held accountable for meeting student achievement targets is that, by and large, teachers tend to keep uniform time allocations as a way of satisfying performance measures (see the section on "System accountability" in Chapter 4).

A similar tension exists in relation to high-stakes examinations, where subject matter that is not tested is given minimal focus in favour of content covered by examinations. Pedagogical flexibility is similarly affected: **Brazil**, for example, provides, four hours of class per day on average, of which three are used as instructional time. Given that national and state exams evaluate specific content knowledge and skills, teachers tend to use the instructional time to elaborate on content, sometimes to the detriment of helping students develop their socio-emotional skills.

In **India**, there is a tendency in classrooms to focus primarily on topics that are likely to be covered in examinations. As a result, subject areas and content that are not typically part of exams tend to be overlooked in the teaching process. The allocation of time and emphasis in classrooms is largely influenced by past examination papers, rather than guided by the official curriculum requirements and the stated educational objectives.

Where countries/jurisdictions specify time allocations for subject (or broader learning) areas, this tends to be indicative rather than prescriptive and assessment types are more likely to influence decisions on learning time, with a belief that more learning time leads to the intended outcomes. However, as the OECD E2030 curriculum analysis on curriculum overload suggests, what matters most for effective learning is the quality of learning time, not the quantity (OECD, 2020[29]).

Making informed decisions about the prioritisation of subject/learning areas

When teachers, schools or local authorities decide to increase learning time for some subject areas within the total hours available, there is an inevitable reduction in the time allocated to other areas.

While the standards (learning objectives or outcomes) might remain across curriculum areas, the time available for students to acquire the relevant competencies (skills, knowledge, attitudes and values) in

some areas is reduced. An example where this has impacted teaching and learning in primary schools are the social sciences, where increased time given to other learning areas has been observed to "undermine" the opportunity for students to learn, with social sciences receiving "short shrift" compared to other areas (Fitchett and Heafner, 2010[114]; Fitchett, Heafner and Lambert, 2012[115]).

Another implication relates to the extent to which timing allocation decisions are made according to student needs or local priorities, or other factors that can impact negatively on students' access to learning in some subject areas. Teachers' enjoyment of mathematics, for example, has explained the variance in instructional time allocated to this subject area and the consequent quality of learning in early primary-school years (Russo et al., 2020[116]). In the case of secondary schools, factors such as timetable constraints and the perceived importance of the subject area can restrict a student's learning potential (Prendergast and O'Meara, 2016[117]).

Schools in **Korea** may adjust the number of instructional hours by up to 20% in each subject area (or broad learning area) considering school conditions and the demands and needs of students, teachers and parents. However, the instructional hours given to physical education and the arts, including music and fine arts, are fixed. Outside of this, schools may implement intensive course offerings per semester or per year to enhance the efficiency of learning. While schools have flexibility to offer elective subjects, allocate times across the subject areas offered, and define assessment policies for the intensive course programmes, some teachers cite difficulties organising teaching and learning time.

In **Portugal**, misconceptions about reducing curriculum overload have been a concern as stakeholders may think that by reducing curriculum content, the quality of learning might be harmed. How to cope with a paradigm shift from curriculum overload to a core curriculum and from a more teacher-centred methodology to learner-centred approaches in line with increased autonomy at the school level has been a challenge. Establishing an alignment between increased autonomy with external assessment/national exams is similarly a challenge.

Strategies

Table 3.9. Strategies related to flexibility of learning time

Strategy	Example countries/jurisdictions
Retaining a national framework on learning time	Finland, Portugal
Providing flexibility in learning time by subject/learning areas	Australia, Canada, Chile, Czechia, Estonia, Iceland, Ireland, Norway, Spain
Providing flexibility in learning time across grades	Czechia, Estonia, Korea, Netherlands
Providing options for the flexible allocation of learning time	Italy, French and Flemish Communities of Belgium, England (United Kingdom), Netherlands, Estonia, Finland, Iceland, Lithuania, Sweden, Norway, Portugal, Greece, Latvia, Spain

Retaining a national framework on learning time

While some countries/jurisdictions devolve responsibility for organising learning time to local or school levels, many either have or are developing frameworks and/or guidelines to ensure that students meet minimum requirements across core subject areas.

While schools and teachers in **Finland** have flexibility through a curriculum structure that gives considerable scope for local adaptation, it is also recognised that consistency across all schools is needed concerning the time allocated for students' learning. This is ensured through legislation that defines the allocation of lesson hours between subject areas and classes, and total instruction time (in terms of weekly lessons per year and hours of instruction). Additionally, there are adjustments to total time allocations for

specific subject areas based on national policy decisions, such as the introduction of a second official language, increased allocations to core subject areas, and reductions in time for optional subject areas.

In **Portugal**, although the curriculum framework establishes instruction time references, schools can manage their cross-curriculum work in an integrated way, creating Domains of Curriculum Autonomy (DAC) allocating time from different subject areas.

This model of flexibility contrasts with "full flexibility" identified by the European Commission's Eurydice report, *Recommended Annual Instruction Time in Full-time Compulsory Education* (2021[118]). According to their definition for full flexibility, central education authorities do not set minimum instructional hours. Instead, regional authorities, local authorities, or schools have the autonomy to determine the time allocation for individual subjects and grades (2021[118]).

Providing flexibility in learning time by subject/learning areas

Many countries empower schools and local authorities with the discretion to allocate recommended times in and across subject areas and/or at the grade level. This form of autonomy allows educational institutions to tailor education to the needs of students, balancing mandatory and non-mandatory options with local priorities at different stages of schooling. Such flexibility ensures that schools can adapt learning experiences to better meet student needs while adhering to broader educational standards and requirements.

While schools and teachers might have flexibility in how they allocate time to subject areas, instruction time requirements are retained in many countries/jurisdictions. This ensures that quality provisions (i.e. opportunities to learn) are in place across schools and provides guidance on how to best organise learning time.

In **Chile** and **Czechia**, around 15% of compulsory instruction time in both primary and lower-secondary education is devoted to subject areas selected by schools (Figure 3.11 and Figure 3.12). **Ireland** reports that 57% of instruction time in lower-secondary education is devoted to subject areas selected by schools**. Iceland, Norway, the Slovak Republic, Spain** and **Türkiye** all show higher flexibility in the selection of subject areas by schools in lower-secondary education than in primary education (between 0-8% in primary education as opposed to between 13-20% in lower secondary education). In **Bulgaria**, **Denmark**, **Estonia**, **Greece, Hungary** and **Israel,** the opposite trend is observed, with around 7-16% of instruction time in primary education devoted to subject areas selected by schools and only around 3-7% in lower-secondary education (OECD, 2023[111]).

In the European Commission's framework, this type of flexibility can be referred to as either "horizontal flexibility" or "subject flexibility" (2021[118]). In the case of horizontal flexibility, central education authorities specify the total instructional hours for a group of subjects within a particular grade. Schools or local authorities have the freedom to decide the time allocation for each individual subject. On the other hand, subject flexibility refers to regional or local authorities, or schools, selecting their own subjects, sometimes from a list provided by central authorities, and distributing the instructional time as defined by the central authorities for this purpose (2021[118]).

Providing flexibility in learning time across grades

In some countries/jurisdictions, instruction time for a particular subject is set for several grades or even the whole of compulsory education, without specifically indicating how that time is to be distributed across grades. In essence, schools/local authorities are free to decide how much time is allocated to subject areas in each grade, provided the total instruction time is achieved across multiple grades. This model of flexibility is referred to as "vertical flexibility" in the European Commission's framework (2021[118]). According to their definition, central education authorities provide the overall instructional hours required for specific subjects across various grades, an entire education level, or the full span of compulsory education. However, they

do not dictate how these hours should be allocated within each grade. Instead, schools and/or local authorities have the discretion to determine the time distribution for each grade (2021[118]).

Flexible allocation of instruction time across multiple grades in primary and secondary education is reported by 10 out of 39 OECD countries/jurisdictions, as seen in Table 3.10, although most countries/jurisdictions indicate that this is not the case. Countries/jurisdictions have varying preferences of how to put this model into perspective.

For example **Korea** grants flexibility to schools in a measured way by introducing the concept of grade clusters and subject area clusters. The use of grade clusters, as proposed by school districts, allows schools to transition from allocating specified hours to subject areas by grade, to hours allocated by grade clusters. This increases the ways in which schools can vary the organisation of classes or groups, such as initiating non-graded or multi-graded systems.

In **the Netherlands**, children typically attend primary school (which includes Kindergarten) from age four. While attendance in pre-primary (K1, "group 1") for students under the age of five is not compulsory, enrolment is almost universal. As students transition from pre-primary to primary education (Grade 1, "group 3"), schools are given flexibility in how they arrange learning time. Some schools use their professional autonomy by experimenting with flexible approaches to organising the transition of students from pre-primary to primary grades. Examples include students spending part of the week in "group 1" (K1) and the remainder of the week in "group 2" (K2). Other schools combine "group 1" and "group 2" students in the same class, while in almost all schools, students can enter "group 1" at different points in the school year (Borgonovi, Ferrara and Maghnouj, 2018[119]).

While flexibility in learning time across grades might be available to schools and teachers in some countries as an aspect of broader policy reform related to professional autonomy, it might be the only kind of autonomy offered to schools and teachers in countries where less flexibility is encouraged or permitted in relation to the curriculum content and/or pedagogical choices.

There are important considerations to make concerning flexibility in learning time, including:

- the relationship between flexibility in learning times and equitable access to learning for students (opportunity to learn);
- differentiation of learning time in response to student learning needs;
- and options available for the flexible allocation of learning time.

Table 3.10. Organisation of compulsory general education[1]: Flexible allocation of instruction time across multiple grades (2023)

By level of education, in public institutions

	Primary	Lower secondary	Upper secondary
Australia	No	No	a
Austria	No	No	No
Flemish Comm. (Belgium)	No	No	No
French Comm. (Belgium)	No	No	No
Canada	No	No	a
Chile	No	No	No
Costa Rica	No	No	No
Czechia	No	No	No
Denmark	Yes	Yes	a
Estonia	No	No	a
Finland[2]	Yes	Yes	a

France	Yes	Yes	Yes
Germany[3,4]	No	No	No
Greece	No	No	a
Hungary	No	No	No
Iceland	Yes	Yes	a
Ireland	No	No	No
Israel	No	Yes	Yes
Italy	No	No	No
Japan	No	No	a
Korea	Yes	Yes	a
Latvia[5]	Yes	Yes	a
Lithuania	Yes	Yes	a
Luxembourg	No	No	No
Mexico	m	m	m
Netherlands[6]	Yes	Yes	Yes
New Zealand	m	m	m
Norway	Yes	Yes	a
Poland	No	No	a
Portugal	No	No	No
Slovak Republic	No	No	No
Slovenia	No	No	a
Spain	No	No	No
Sweden	Yes	Yes	a
Switzerland	No	No	a
Türkiye	No	No	No
United States	m	m	m
England (United Kingdom)	m	m	m
Scotland (United Kingdom)	m	m	m

Notes: Students go to school five days a week (six days in some schools in Israel and secondary education in Italy). In some countries, the statutory length of the school day varies within the school week.

1. Refers to full-time compulsory education and excludes pre-primary education, even if compulsory.
2. For some subjects, allocation of instruction time across multiple levels of education is flexible.
3. Year of reference 2022.
4. Excludes the last year of compulsory education, which can be classified at either the lower secondary or the upper secondary level.
5. Flexible allocation of instruction time across three consecutive grades is applicable for Grades 1, 4 and 7.
6. The number of grades in lower secondary education is three or four, depending on the track. The fourth year of pre-vocational secondary education was excluded from the calculation.

m: Data are not available.

a: The category does not apply in the country concerned or economy.

Source: OECD (2023), Education at a Glance 2023: OECD Indicators, OECD Publishing, Paris, https://doi.org/10.1787/e13bef63-en.

Reconceptualising learning time and adjusting schedules, driven by online learning

Students need sufficient instruction time to engage with the curriculum, their teachers and one another, and to gain skills, knowledge and competencies. However, there is no set way to allocate instructional time. Although school schedules are often set on a traditional agrarian calendar, a variety of models and schedules are implemented internationally.

With online and digital instruction, learning time can also be reconceptualised as learning undertaken outside of a traditional classroom setting. This can address issues of student well-being, such as when learning leaves little time for recreation or family.

Hong Kong (China) exemplifies the reconceptualisation of learning time through its Fourth Strategy on IT in Education (ITE4), which promotes personalised and self-directed learning via digital resources and online platforms. By adopting the flipped classroom model and ensuring robust IT infrastructure, students can learn at their own pace beyond the traditional classroom. Professional development for teachers enhances the effectiveness of this approach, creating a balanced educational environment that prioritises student well-being.

In **Singapore,** learning time is reconceptualised through the integration of online learning platforms. The Singapore Student Learning Space (SLS), launched in 2018, is a cornerstone of this approach, offering students curriculum-aligned resources that support self-directed learning and flexible scheduling. This platform allows students to learn at their own pace, enhancing engagement and catering to diverse learning needs. Coupled with continuous professional development for teachers and the emphasis on 21st Century Competencies, Singapore's education system ensures that students are prepared for future challenges while benefiting from a balanced, holistic education.

References

Abeles, V. and G. Rubenstein (2015), *Beyond measure: rescuing an overscheduled, overtested, underestimated generation*. [81]

Baepler, P., J. Walker and M. Driessen (2014), "It's not about seat time: Blending, flipping, and efficiency in active learning classrooms", *Computers & Education*, Vol. 78, pp. 227-236, https://doi.org/10.1016/j.compedu.2014.06.006. [68]

Ben-Peretz, M. (1975), "The Concept of Curriculum Potential", *Curriculum Theory Network*, Vol. 5/2, p. 151, https://doi.org/10.2307/1179278. [2]

Bergen, T., A. Engelen and K. Derksen (2006), "The Quality of Coaching in Relation to the Professional Development of Teachers", in *Competence Oriented Teacher Training*, BRILL, https://doi.org/10.1163/9789087903374_008. [53]

Besalti, M. and S. Satici (2022), "Online Learning Satisfaction and Internet Addiction During Covid-19 Pandemic: A Two-Wave Longitudinal Study", *TechTrends*, Vol. 66/5, pp. 876-882, https://doi.org/10.1007/s11528-022-00697-x. [62]

Bolhuis, S. (2006), "Professional Development between Teachers' Practical Knowledge and External Demands: Plea for a Broad Social-Constructivist and Critical Approach", in *Competence Oriented Teacher Training*, BRILL, https://doi.org/10.1163/9789087903374_015. [55]

Borgonovi, F., A. Ferrara and S. Maghnouj (2018), "The gender gap in educational outcomes in Norway", *OECD Education Working Papers*, No. 183, OECD Publishing, Paris, https://doi.org/10.1787/f8ef1489-en. [119]

Bottino, R. (2004), "The evolution of ICT-based learning environments: which perspectives for the school of the future?", *British Journal of Educational Technology*, Vol. 35/5, pp. 553-567, https://doi.org/10.1111/j.0007-1013.2004.00413.x. [58]

Burgess, P. and S. Kennedy (1998), *What Gets Tested, Gets Taught Who Gets Tested, Gets Taught*:, http://aww.ihdi.uky.edu/. [80]

Cabinet Secretary for Education and Skills (2023), *It's Our Future - Independent Review of Qualifications and Assessment: report*. [103]

Caldwell, B. (2016), "Impact of school autonomy on student achievement: cases from Australia", *International Journal of Educational Management*, Vol. 30/7, pp. 1171-1187, https://doi.org/10.1108/IJEM-10-2015-0144. [16]

Carnahan, C. (2010), "Immersive Learning in K-12 Schools: Success and Limitations", *Proceedings of SITE 2010--Society for Information Technology & Teacher Education International Conference*. [70]

Cho, E. and T. Chan (2020), "Children's wellbeing in a high-stakes testing environment: The case of Hong Kong", *Children and Youth Services Review*, Vol. 109, pp. 104-116. [82]

Clark, C. and P. Peterson (1986), "Teachers' Thought Processes.", *Handbook of Research on Teaching*, Vol. 3, pp. 255-296. [87]

Clarke, P. (2001), "Feeling compromised - the impact on teachers of the performance culture", *Improving Schools*, Vol. 4/3, pp. 23-32, https://doi.org/10.1177/136548020100400304. [98]

Department of Education and Skills (2015), *Framework for Junior Cycle*, https://ncca.ie/media/3249/framework-for-junior-cycle-2015-en.pdf. [23]

Di Serio, Á., M. Ibáñez and C. Kloos (2013), "Impact of an augmented reality system on students' motivation for a visual art course", *Computers & Education*, Vol. 68, pp. 586-596, https://doi.org/10.1016/j.compedu.2012.03.002. [71]

Dilkes, J., C. Cunningham and J. Gray (2014), "The New Australian Curriculum, Teachers and Change Fatigue", *Australian Journal of Teacher Education*, Vol. 39/11, https://doi.org/10.14221/ajte.2014v39n11.4. [8]

Earl, L., A. Hargreaves and J. Ryan (2013), *Schooling for Change, Reinventing Education for Early Adolescents*. [78]

Earl, L. et al. (2003), *Final Report of the External Evaluation of England's National Literacy and Numeracy Strategies. Executive Summary: Final Report. Watching & Learning 3.*, Ontario Institute for Studies in Education of the University of Toronto, https://files.eric.ed.gov/fulltext/ED472213.pdf. [14]

El Khdar, A., S. Rguibi and A. Bouziane (2019), "The Need for Educational Equity through Multimethodology and Differentiation in the Moroccan EFL Classroom", Vol. 16, pp. 33-47, https://doi.org/10.15584/sar.2019.16.3. [45]

Engelsen, K. and K. Smith (2014), "Assessment Literacy", in *The Enabling Power of Assessment, Designing Assessment for Quality Learning*, Springer Netherlands, Dordrecht, https://doi.org/10.1007/978-94-007-5902-2_6. [102]

European Commission/EACEA/Eurydice (2021), *Recommended Annual Instruction Time in Full-time Compulsory Education in Europe – 2020/21*, Publications Office of the European Union, https://op.europa.eu/en/publication-detail/-/publication/93721c2c-d7ba-11eb-895a-01aa75ed71a1/language-en. [118]

Fitchett, P. and T. Heafner (2010), "A National Perspective on the Effects of High-Stakes Testing and Standardization on Elementary Social Studies Marginalization", *Theory & Research in Social Education*, Vol. 38/1, pp. 114-130, https://doi.org/10.1080/00933104.2010.10473418. [114]

Fitchett, P., T. Heafner and R. Lambert (2012), "Examining Elementary Social Studies Marginalization", *Educational Policy*, Vol. 28/1, pp. 40-68, https://doi.org/10.1177/0895904812453998. [115]

Fullan, M. (2018), *Surreal Change: The Real Life of Transforming Public Education*, New York: Routledge. [30]

Gardner, J. et al. (2010), *Developing Teacher Assessment*. [92]

Gromada, A. and C. Shewbridge (2016), "Student Learning Time: A Literature Review", *OECD Education Working Papers*, No. 127, OECD Publishing, Paris, https://doi.org/10.1787/5jm409kqqkjh-en. [112]

Gutierez, S. and H. Kim (2018), "Peer Coaching in a Research-Based Teachers' Professional Learning Method for Lifelong Learning: A Perspective", *Alberta Journal of Educational Research*, Vol. 64/2, pp. 214-221. [51]

Hall, P. and A. Simeral (2008), *Building Teachers' Capacity for Success: A Collaborative Approach for Coaches and School Leaders*. [52]

Hattie, J. and H. Timperley (2007), "The Power of Feedback", *Review of Educational Research*, Vol. 77/1, pp. 81-112, https://doi.org/10.3102/003465430298487. [100]

Hawthorne, R. (1990), "Analyzing School-Based Collaborative Curriculum Decision Making", *Journal of Curriculum and Supervision*. [88]

Holzberger, D. and E. Prestele (2021), "Teacher self-efficacy and self-reported cognitive activation and classroom management: A multilevel perspective on the role of school characteristics", *Learning and Instruction*, Vol. 76, p. 101513, https://doi.org/10.1016/j.learninstruc.2021.101513. [36]

Hong Kong Education Bureau (2017), *Secondary Education Curriculum Guide - Assessment Literacy and School Assessment Policy - Booklet 4*, https://www.edb.gov.hk/attachment/en/curriculum-development/renewal/Guides/SECG%20booklet%204_en_20180831.pdf. [95]

Huizinga, T. et al. (2015), "Fostering teachers' design expertise in teacher design teams: conducive design and support activities", *The Curriculum Journal*, Vol. 26/1, pp. 137-163, https://doi.org/10.1080/09585176.2014.990395. [35]

Hutchinson, C. and L. Hayward (2005), "The journey so far: assessment for learning in Scotland", *The Curriculum Journal*, Vol. 16/2, pp. 225-248, https://doi.org/10.1080/09585170500136184. [75]

Karakose, T. (2022), "Assessing the Relationships between Internet Addiction, Depression, COVID-19-Related Fear, Anxiety, and Suspicion among Graduate Students in Educational Administration: A Structural Equation Modeling Analysis", *Sustainability*, Vol. 14/9, p. 5356, https://doi.org/10.3390/su14095356. [61]

Kassner, L. (2013), *A review of literature mix it up with blended learning in K-12 Schools*, https://files.eric.ed.gov/fulltext/ED548381.pdf (accessed on 20 October 2022). [69]

Kazu, İ. and M. Demirkol (2014), "Effect of blended learning environment model on high school students' academic achievement". [65]

Keleş, Ö. and C. Demir (2021), "The impact of high-stakes testing on the teaching and learning processes of mathematics", *Journal of Pedagogical Research*, Vol. 5/2, pp. 119-137, https://doi.org/10.33902/jpr.2021269677. [77]

Kirkland, K. and D. Sutch (2009), "Overcoming the barriers to educational innovation", *Bristol: Futurelab.*. [93]

Kitchen, H. et al. (2019), *OECD Reviews of Evaluation and Assessment in Education: Student Assessment in Turkey*, OECD Reviews of Evaluation and Assessment in Education, OECD Publishing, Paris, https://doi.org/10.1787/5edc0abe-en. [96]

Koh, K. (2011), "Improving teachers' assessment literacy through professional development", *Teaching Education*, Vol. 22/3, pp. 255-276, https://doi.org/10.1080/10476210.2011.593164. [104]

Ko, J., Y. Cheng and T. Lee (2016), "The development of school autonomy and accountability in Hong Kong", *International Journal of Educational Management*, Vol. 30/7, pp. 1207-1230, https://doi.org/10.1108/ijem-10-2015-0145. [12]

Kong, S. (2018), "Parents' perceptions of e-learning in school education: Implications for the partnership between schools and parents", *Technology, Pedagogy, and Education*, Vol. 27/1, pp. 15-31. [64]

Kuiper, W. and J. Berkvens (eds.) (2013), *Curricular balance based on dialogue, cooperation and trust – The case of Finland*, SLO. [17]

Kuiper, W. and J. Berkvens (2013), *Editorial introduction*, SLO. [41]

Lage, M., G. Platt and M. Treglia (2000), "Inverting the Classroom: A Gateway to Creating an Inclusive Learning Environment", *The Journal of Economic Education*, Vol. 31/1, pp. 30-43, https://doi.org/10.1080/00220480009596759. [122]

Lambert, P. (2001), *Policy steering in and out of schools*, University of Sydney. [73]

Lavonen, J. (2020), "Curriculum and Teacher Education Reforms in Finland That Support the Development of Competences for the Twenty-First Century", in *Audacious Education Purposes*, Springer International Publishing, Cham, https://doi.org/10.1007/978-3-030-41882-3_3. [97]

Leat, D., K. Livingston and M. Priestley (2013), "Curriculum deregulation in England and Scotland - Different directions of travel? | Request PDF", in Kuiper, W. and J. Berkvens (eds.), *Balancing Curriculum Regulation and Freedom across Europe*, SLO, https://www.researchgate.net/publication/263766435_Curriculum_deregulation_in_England_and_Scotland_-_Different_directions_of_travel (accessed on 8 April 2022). [15]

Liu, J. et al. (2021), "Student Health Implications of School Closures during the COVID-19 Pandemic: New Evidence on the Association of e-Learning, Outdoor Exercise, and Myopia", *Healthcare*, Vol. 9/5, p. 500, https://doi.org/10.3390/healthcare9050500. [63]

Looney, J. (2009), "Assessment and Innovation in Education", *OECD Education Working Papers*, No. 24, OECD Publishing, Paris, https://doi.org/10.1787/222814543073. [94]

Lubienski, C. (2009), "Do Quasi-markets Foster Innovation in Education?: A Comparative Perspective", *OECD Education Working Papers*, No. 25, OECD Publishing, Paris, https://doi.org/10.1787/221583463325. [57]

Marope, M. (2017), "Reconceptualizing and Repositioning Curriculum in the 21st Century A Global Paradigm Shift", *IBE-UNESCO.*. [1]

Marzano, R., T. Waters and B. McNulty (2005), *School leadership that works: From research to results*. [39]

McCallum, B., E. Hargreaves and C. Gipps (2000), "Learning: The pupil's voice", *Cambridge Journal of Education*, Vol. 30/2, pp. 275-289, https://doi.org/10.1080/713657145. [99]

Minarechová, M. (2012), "Negative impacts of high-stakes testing", *Journal of Pedagogy / Pedagogický casopis*, Vol. 3/1, pp. 82-100, https://doi.org/10.2478/v10159-012-0004-x. [83]

Minea-Pic, A. (2020), "Innovating teachers' professional learning through digital technologies", *OECD Education Working Papers*, No. 237, OECD Publishing, Paris, https://doi.org/10.1787/3329fae9-en. [108]

Mkandawire, S. (2010), "Impediments to curriculum implementation in learning institutions", *African Higher Education Review*, Vol. 8/2, pp. 1-15, http://dspace.unza.zm/handle/123456789/6958. [90]

MOES, M. (2021), *Our teachers*, https://www.moe.gov.sg/education-in-sg/our-teachers (accessed on 29 November 2022). [27]

MOES, M. (2021), *Singapore Curriculum Philosophy*, https://www.moe.gov.sg/education-in-sg/our-teachers/singapore-curriculum-philosophy. [22]

Muijs, D. and D. Reynolds (2001), *Effective teaching: Evidence and practice*, Paul Chapman Publishing, London. [101]

Mulvenon, S., C. Stegman and G. & Ritter (2005), "Test anxiety: A multifaceted study on the perceptions of teachers, principals, counselors, students, and parents", *International Journal of Testing*, Vol. 5/1, pp. 37-61, https://www.tandfonline.com/doi/abs/10.1207/s15327574ijt0501_4 (accessed on 21 October 2022). [84]

Múñez, D. et al. (2017), "Preschool Teachers' Engagement in Professional Development: Frequency, Perceived Usefulness, and Relationship with Self-Efficacy Beliefs", *Psychology, Society, & Education*, Vol. 9/2, p. 181, https://doi.org/10.25115/psye.v9i2.655. [42]

Muskin, J. (2015), "In-Progress Reflections No. 1 on Current and Critical Issues in the Curriculum and Learning: Student Learning Assessment and the Curriculum: Issues and Implications for Policy, Design and Implementation", *IBE-UNESCO*. [79]

Nguyen, L. and A. Habók (2023), "Tools for assessing teacher digital literacy: a review", *Journal of Computers in Education*, Vol. 11/1, pp. 305-346, https://doi.org/10.1007/s40692-022-00257-5. [107]

Nieveen, N. (2017), *Schooleigen curriculumontwikkeling en voorwaarden voor succes, [School-specific curriculum development and conditions for success]*, SLO, http://downloads.slo.nl/Documenten/gta-schooleigen-curriculumontwikkeling-en-voorwaarden-voor-succes.pdf. [37]

Nieveen, N. and W. Kuiper (2012), "Balancing Curriculum Freedom and Regulation in the Netherlands", *European Educational Research Journal*, Vol. 11/3, pp. 357-368, https://doi.org/10.2304/eerj.2012.11.3.357. [13]

Novak, G. (2011), "Just-in-time teaching", *New Directions for Teaching and Learning*, Vol. 2011/128, pp. 63-73, https://doi.org/10.1002/tl.469. [124]

OECD (2023), *Education at a Glance 2023: OECD Indicators*, OECD Publishing, Paris, https://doi.org/10.1787/e13bef63-en. [111]

OECD (2023), *Equity and Inclusion in Education: Finding Strength through Diversity*, OECD Publishing, Paris, https://doi.org/10.1787/e9072e21-en. [7]

OECD (2023), *PISA 2022 Results (Volume II): Learning During – and From – Disruption*, PISA, OECD Publishing, Paris, https://doi.org/10.1787/a97db61c-en. [86]

OECD (2021), *Adapting Curriculum to Bridge Equity Gaps: Towards an Inclusive Curriculum*, OECD Publishing, Paris, https://doi.org/10.1787/6b49e118-en. [48]

OECD (2021), *Positive, High-achieving Students?: What Schools and Teachers Can Do*, TALIS, OECD Publishing, Paris, https://doi.org/10.1787/3b9551db-en. [11]

OECD (2021), *Scotland's Curriculum for Excellence: Into the Future*, Implementing Education Policies, OECD Publishing, Paris, https://doi.org/10.1787/bf624417-en. [24]

OECD (2020), "Curriculum (re)design", *A series of thematic reports from the OECD Education 2030 project*, https://www.oecd.org/education/2030-project/contact/brochure-thematic-reports-on-curriculum-redesign.pdf (accessed on 21 May 2024). [9]

OECD (2020), *Curriculum Overload: A Way Forward*, OECD Publishing, Paris, https://doi.org/10.1787/3081ceca-en. [29]

OECD (2020), *Lessons for Education from COVID-19: A Policy Maker's Handbook for More Resilient Systems*, OECD Publishing, Paris, https://doi.org/10.1787/0a530888-en. [4]

OECD (2020), *PISA 2018 Results (Volume V): Effective Policies, Successful Schools*, PISA, OECD Publishing, Paris, https://doi.org/10.1787/ca768d40-en. [28]

OECD (2020), *Professional collaboration as a key support for teachers working in challenging environments*, OECD Publishing, Paris, https://doi.org/10.1787/c699389b-en. [43]

OECD (2020), *TALIS 2018 Results (Volume II): Teachers and School Leaders as Valued Professionals*, TALIS, OECD Publishing, Paris, https://doi.org/10.1787/19cf08df-en. [25]

OECD (2020), *TALIS 2018: Insights and Interpretations*, OECD, https://www.oecd.org/education/talis/TALIS2018_insights_and_interpretations.pdf. [56]

OECD (2020), *What Students Learn Matters: Towards a 21st Century Curriculum*, OECD Publishing, Paris, https://doi.org/10.1787/d86d4d9a-en. [72]

OECD (2019), *PISA 2018 Results (Volume III): What School Life Means for Students' Lives*, PISA, OECD Publishing, Paris, https://doi.org/10.1787/acd78851-en. [40]

OECD (2019), *TALIS 2018 Results (Volume I): Teachers and School Leaders as Lifelong Learners*, TALIS, OECD Publishing, Paris, https://doi.org/10.1787/1d0bc92a-en. [10]

OECD (2018), *Curriculum Flexibility and Autonomy in Portugal - an OECD Review*, https://www.oecd.org/education/2030-project/about/documents/Curriculum-Flexibility-and-Autonomy-in-Portugal-an-OECD-Review.pdf. [21]

OECD (2018), *Curriculum Flexibility and Autonomy in Portugal - an OECD Review*. [120]

OECD (2016), *Equations and Inequalities: Making Mathematics Accessible to All*, PISA, OECD Publishing, Paris, https://doi.org/10.1787/9789264258495-en. [50]

OECD (2016), *PISA 2015 Results (Volume II): Policies and Practices for Successful Schools*, PISA, OECD Publishing, Paris, https://doi.org/10.1787/9789264267510-en. [49]

OECD (2014), *TALIS 2013 Results: An International Perspective on Teaching and Learning*, TALIS, OECD Publishing, Paris, https://doi.org/10.1787/9789264196261-en. [44]

Paniagua, A. and D. Istance (2018), *Teachers as Designers of Learning Environments: The Importance of Innovative Pedagogies*, Educational Research and Innovation, OECD Publishing, Paris, https://doi.org/10.1787/9789264085374-en. [121]

Prendergast, M. and N. O'Meara (2016), "Assigning mathematics instruction time in secondary schools: what are the influential factors?", *International Journal of Mathematical Education in Science and Technology*, Vol. 47/8, pp. 1137-1155, https://doi.org/10.1080/0020739x.2016.1192231. [117]

Quilter, S. and J. Gallini (2000), "Inservice teachers' assessment literacy and attitudes toward assessment.", *The Teacher Educator*, Vol. 36/2, pp. 115-131. [105]

Roehl, A., S. Reddy and G. Shannon (2013), "The Flipped Classroom: An Opportunity To Engage Millennial Students Through Active Learning Strategies", *Journal of Family & Consumer Sciences*, Vol. 105/2, pp. 44-49, https://doi.org/10.14307/jfcs105.2.12. [66]

Russell T. Osguthorpe and Charles R. Graham (2003), "Blended Learning Environments: Definitions and Directions", *Quarterly Review of Distance Education*, Vol. 4/3. [67]

Russo, J. et al. (2020), "Exploring the relationship between teacher enjoyment of mathematics, their attitudes towards student struggle and instructional time amongst early years primary teachers", *Teaching and Teacher Education*, Vol. 88, p. 102983, https://doi.org/10.1016/j.tate.2019.102983. [116]

Saarivirta, T. and K. Kumpulainen (2016), "School autonomy, leadership and student achievement: reflections from Finland", *International Journal of Educational Management*, Vol. 30/7, pp. 1268-1278, https://doi.org/10.1108/IJEM-10-2015-0146. [18]

Schmidt, W., H. Wang and C. McKnight (2005), "Curriculum coherence: an examination of US mathematics and science content standards from an international perspective", *Journal of Curriculum Studies*, Vol. 37/5, pp. 525-559, https://doi.org/10.1080/0022027042000294682. [3]

Shawer, S. (2010), "Classroom-level curriculum development: EFL teachers as curriculum-developers, curriculum-makers and curriculum-transmitters", *Teaching and Teacher Education*, Vol. 26/2, pp. 173-184, https://doi.org/10.1016/J.TATE.2009.03.015. [19]

Sliwka, A. and D. Istance (2006), "Parental and Stakeholder 'Voice' in Schools and Systems", *European Journal of Education*, Vol. 41/1, pp. 29-43, https://doi.org/10.1111/j.1465-3435.2006.00244.x. [74]

Smith, C. et al. (2013), "Assessment literacy and student learning: the case for explicitly developing students 'assessment literacy'", *Assessment & Evaluation in Higher Education*, Vol. 38/1, pp. 44-60, https://doi.org/10.1080/02602938.2011.598636. [106]

Smith, D. and T. Lovat (1995), *Curriculum: Action on reflection revisited*. [89]

Soysal, Y. and S. Radmard (2016), "An exploration of Turkish teachers' attributions to barriers faced within learner-centred teaching", *Educational Studies*, Vol. 43/2, pp. 186-209, https://doi.org/10.1080/03055698.2016.1248903. [34]

Spencer, E. and L. Hayward (2016), "More Than Good Intentions: Policy and Assessment for Learning in Scotland", in *Assessment for Learning: Meeting the Challenge of Implementation, The Enabling Power of Assessment*, Springer International Publishing, Cham, https://doi.org/10.1007/978-3-319-39211-0_7. [91]

Starkey, L. (2019), "A review of research exploring teacher preparation for the digital age", *Cambridge Journal of Education*, Vol. 50/1, pp. 37-56, https://doi.org/10.1080/0305764x.2019.1625867. [109]

Strayer, J. (2012), "How learning in an inverted classroom influences cooperation, innovation and task orientation", *Learning Environments Research*, Vol. 15/2, pp. 171-193, https://doi.org/10.1007/s10984-012-9108-4. [123]

Tearle, P. (2003), "ICT implementation: what makes the difference?", *British Journal of Educational Technology*, Vol. 34/5, pp. 567-583, https://doi.org/10.1046/j.0007-1013.2003.00351.x. [59]

Tomlinson, C. et al. (2003), "Differentiating Instruction in Response to Student Readiness, Interest, and Learning Profile in Academically Diverse Classrooms: A Review of Literature", *Journal for the Education of the Gifted*, Vol. 27/2-3, pp. 119-145, https://doi.org/10.1177/016235320302700203. [46]

Valiandes, S. (2015), "Evaluating the impact of differentiated instruction on literacy and reading in mixed ability classrooms: Quality and equity dimensions of education effectiveness", *Studies in Educational Evaluation*, Vol. 45, pp. 17-26, https://doi.org/10.1016/j.stueduc.2015.02.005. [47]

Van den Akker (2018), *Developing curriculum frameworks: A comparative analysis.*, Dublin: NCCA. [31]

Van den Akker, J. and W. Kuiper (2008), *Research on models for instructional design*, Handbook of research for educational communications and technology. [32]

Vescio, V., D. Ross and A. Adams (2008), "A review of research on the impact of professional learning communities on teaching practice and student learning", *Teaching and Teacher Education*, Vol. 24/1, pp. 80-91, https://doi.org/10.1016/j.tate.2007.01.004. [26]

Vincent-Lancrin, S., C. Cobo Romaní and F. Reimers (eds.) (2022), *How Learning Continued during the COVID-19 Pandemic: Global Lessons from Initiatives to Support Learners and Teachers*, OECD Publishing, Paris, https://doi.org/10.1787/bbeca162-en. [6]

Watson, S. and J. Supovitz (2001), "Autonomy and Accountability in Standards-Based Reform", *Education Policy Analysis Archives*, Vol. 9, p. 32, https://doi.org/10.14507/epaa.v9n32.2001. [113]

Weimer, M. (2013), *Learner-centered teaching: Five key changes to practice*, John Wiley & Sons. [33]

Whalley, B. et al. (2021), "Towards flexible personalized learning and the future educational system in the fourth industrial revolution in the wake of Covid-19", *Higher Education Pedagogies*, Vol. 6/1, pp. 79-99, https://doi.org/10.1080/23752696.2021.1883458. [5]

White, E. (2009), "Are you assessment literate? Some fundamental questions regarding effective classroom-based assessment". [110]

Wren, D. and J. Benson (2004), "Measuring test anxiety in children: Scale development and internal construct validation", *Anxiety, Stress & Coping*, Vol. 17/3, pp. 227-240, https://doi.org/10.1080/10615800412331292606. [85]

Wytse, D., L. Hayward and J. Pandya (eds.) (2015), *The ebb and flow of curricular autonomy on local curricula: Balance between local freedm and national prescription of curriculum*. [20]

Yin, X. and G. Buck (2019), "Using a collaborative action research approach to negotiate an understanding of formative assessment in an era of accountability testing", *Teaching and Teacher Education*, Vol. 80, pp. 27-38, https://doi.org/10.1016/j.tate.2018.12.018. [76]

Zhao, L., W. Hwang and T. Shih (2021), "Investigation of the Physical Learning Environment of Distance Learning Under COVID-19 and Its Influence on Students' Health and Learning Satisfaction", *International Journal of Distance Education Technologies*, Vol. 19/2, pp. 77-98, https://doi.org/10.4018/ijdet.20210401.oa4. [60]

Zimmerman, J. (2006), "Why Some Teachers Resist Change and What Principals Can Do About It", *NASSP Bulletin*, Vol. 90/3, pp. 238-249, https://doi.org/10.1177/0192636506291521. [38]

Zwart, R. et al. (2008), "Teacher learning through reciprocal peer coaching: An analysis of activity sequences", *Teaching and Teacher Education*, Vol. 24/4, pp. 982-1002, https://doi.org/10.1016/j.tate.2007.11.003. [54]

Notes

[1] It is important to note that the strategies in this chapter are neither recommendations nor an exhaustive list. They rather build on available OECD data and data collected through the OECD Future of Education and Skills 2030 Policy Questionnaire on Curriculum Redesign (PQC) or were indicated in the research, as part of the OECD 2030 peer-learning process.

[2] At the ISCED 2 level.

[3] TMOA – Central to *Te Marautanga o Aotearoa* is the Treaty of Waitangi. Arising from the Treaty are the following overarching principles to guide school-based curricula. These principles are built on a belief that the learner is at the centre of all learning. The principles reflect and affirm the identity of the learner, and of Māori-medium schools. The principles also guide teaching and learning in schools. Schools should embed these principles into their teaching and learning programmes. These principles support the learner, school and *whānau* (extended family) to achieve their full educational potential: the learner is the centre of teaching and learning; the learner has a high level of personal awareness; the learner achieves their potential; school, *whānau* (extended family), *hapū* (subtribe or clan), *iwi* (tribe) and community will work together; environmental health is personal health.

[4] The Māori language and its customs.

[5] Whānau is often translated as 'family', but its meaning is more complex (including physical, emotional and spiritual dimensions). Whānau is based on a Māori and a tribal world view. It is through the whānau that values, histories and traditions from the ancestors are adapted for the contemporary world. (*The Encyclopedia of New Zealand*, TeAra.govt.nz)

[6] The three tracks on the teaching career ladder in Singapore are: Teacher Track; Leader Track and Specialist Track

[7] Measurement-evaluation and digital developments related to the public education framework, development and renewal of innovative educational organisation procedures (2021)

[8] Academy of Singapore Teachers, The English Language Institute, https://academyofsingaporeteachers.moe.edu.sg/elis

[9] TALIS (2019[10]) considers the following definition of innovation in teaching: a problem-solving process rooted in teachers' professionalism, a normal response to addressing the daily changes of constantly changing classrooms (Paniagua and Istance, 2018[121]).

[10] Alternative names for flipped classrooms include "inverted classrooms" (Lage, Platt and Treglia, 2000[122]), "inverted learning" (Strayer, 2012[123]) and "just-in-time teaching" (Novak, 2011[124]).

[11] www.schoolbag.sg/

[12] www.moe.gov.sg/compass/

[13] TSA (Territory-wide System Assessment): a low-stakes assessment for feedback to inform learning and teaching in Chinese, English, and Mathematics at the end of Key Stage 1 (Primary 3), Key Stage 2 (Primary 6), and Key Stage 3 (Secondary 3), resulting in territory-wide and school-level feedback.

[14] Available online at http://assessment.tki.org.nz/.

4 System conditions that enable optimal curriculum flexibility and autonomy

This chapter considers four conditions that have the potential to optimise the benefits of curriculum flexibility and autonomy: 1) system goals, which need to be fully understood by those who exercise curriculum flexibility and autonomy and which should be articulated as clearly as possible; 2) system accountability, which should be carefully implemented to avoid lessening teacher agency, well-being and innovation; 3) system capacity, which includes both human and social capital and which determines collective trust and efficacy; and 4) political and economic context, which shapes the way in which resources are allocated and how stakeholders engage. The chapter considers how these four conditions influence each other and how they help or hinder actors from striking the optimal balance at each layer of the learning ecosystem. Finally, it suggests some areas where additional research could close knowledge gaps.

Exploring system conditions that enable optimal curriculum flexibility and autonomy

Curriculum flexibility and autonomy is a complex policy lever. It can influence students' learning and well-being, depending on how it is used, for what purpose, to what degree and by whom. When the right balance of flexibility and autonomy is found, it can empower teachers and school leaders.

Chapter 1 introduced definitions that can serve as a common language surrounding curriculum flexibility and autonomy. Chapter 2 identified tensions and dilemmas that policymakers and practitioners face through the pendulum between curriculum prescription/control, and curriculum flexibility/autonomy across different aspects of a learning ecosystem. Chapter 3 set out the interplays between curriculum flexibility and autonomy, and introduced challenges and strategies specific to the four dimensions of curriculum flexibility (goals and content, pedagogies, assessment andasa learning time).

Drawing on findings from the previous chapters, this concluding chapter describes four system conditions that can optimise the benefits of curriculum flexibility and autonomy for student learning:

- system goals;
- system accountability;
- system capacity;
- political and economic context.

System goals

System goals in curricula are manifested as a shared vision of principles, a clear purpose of education, and a precise intention for the curriculum under consideration. To ensure optimal curriculum flexibility and autonomy, system goals need to be articulated as clearly as possible and be fully understood by those who will exercise that flexibility and autonomy. This section points to three lessons learned about system goals for achieving optimal curriculum flexibility and autonomy.

Broadening educational goals

Increasingly, OECD countries and jurisdictions are repurposing and articulating holistic educational goals such as **excellence, equity** and **well-being** more clearly when redesigning their curricula. International trends point to the need to revisit, redefine or reaffirm educational goals, stressing the importance of "**whole-child/whole-person development**" as articulated in the "Declaration on Building Equitable Societies Through Education" adopted on the occasion of the Ministerial meeting of the OECD Education Policy Committee in 2022 with more than 30 countries represented. The declaration calls for international collaboration that supports countries to *"Develop a whole-child/person and whole-of-society approach to reimagine education that is fit for the future"* (OECD, n.d.[1]).

In a previous curriculum analysis report, OECD E2030 participating countries shared examples of how they align and cascade goals from the macro- to micro-level (i.e., societal goals, educational goals, curricular goals and subject-specific goals), and how this whole-of-system alignment translates into the competencies students need to shape a future where they can achieve those goals. These competencies are presented as "student profiles" that correspond to whole-person development at a micro-level, and a holistic vision of a society at a macro-level (OECD, 2020[2]).

Co-creating a vision of learners for the future

For effective curriculum implementation, teachers and school leaders must be in agreement on the vision of student profiles that a curriculum strives to develop. In countries with a solid culture of teacher autonomy, setting out clear curricular goals enables teachers to exercise their freedom, adapt quickly and adjust their learning content to match. This seems to be the case in **Finland,** where teachers expect a certain degree of autonomy over content choices and enjoy the role of curriculum designers that such autonomy entails (Erss and Kalmus, 2018[3]).

In contexts that lack a tradition of local autonomy, investment in co-creating and sharing a vision of learners for the future can foster a new educational culture. This was the case in **Portugal**, which legislated increases in the curriculum flexibility and autonomy granted to schools. Cognisant that regulatory measures are not enough to change mindsets and beliefs about the roles of teachers, Portugal initiated its curriculum renewal with a long and extensive consultation among stakeholders to establish a profile of the learners it envisions for the future. The *Students' Profile by the End of Compulsory Schooling* describes the competencies and characteristics Portuguese students should have by graduation (Educação, 2017[4]), and functions as a guiding document for the entire country.

Such student profile guidelines can create synergies across different activities, which can be packaged together, such as teacher professional learning and support programmes. For example, the extent to which teachers are involved in the creation of such a vision and can benefit from curricular autonomy increases the extent to which they will embody it in their practice. They are more likely to adhere to the vision's intentions, adapt their practice in ways consistent with the curriculum goals, and enjoy a sense of ownership and empowerment due to the new flexibility. This aligns with international research that identifies positive correlations between teachers' perceived autonomy, self-efficacy and empowerment (Parker, 2015[5]; Usma Wilches, 2007[6]); and is also likely associated with teacher well-being (OECD, 2019[7]).

Accommodating unexpected needs with broader goals

It is important to remember that curriculum flexibility and autonomy is a means, not an imperative or a goal in itself; it should serve the purpose of achieving system goals, such as ensuring entitlements to education and well-being, and providing opportunities for students to reach their full potential.

From time to time, all countries experience events which place additional, often unexpected and competing demands on the educational system. Curriculum flexibility and autonomy can be used as a means to enhance the system's overall resilience by accommodating unexpected needs in an agile way to achieve the goals. An example at the time of writing is the recent urgent need to accommodate refugee students from Ukraine. In **Estonia,** existing curriculum flexibility and autonomy enabled the system to address acute student needs in an agile way (Box 4.1).

This particular circumstance also illustrates how broad educational system goals, such as allowing students to learn and develop in a stable environment, are shared across national borders. This goal also demonstrates international solidarity with UN Sustainable Development Goal 4: Quality Education as well as the UN Convention on The Rights of the Child Article 28: Right to Education (UN, 1989[8]).

Box 4.1. Adapting to the needs of Ukrainian students in Estonia

Tartu Annelinna Gymnasium is a bilingual school in Tartu, **Estonia**, offering education to students whose mother tongue is not Estonian. With their full and partial immersion in bilingual programmes, this school is an example of how curriculum flexibility and teacher autonomy effectively respond to emerging student needs.

162 Ukrainian students from different backgrounds have studied at Tartu Annelinna Gymnasium since 7 March 2022. Since then, the community has been working on providing education, as well as a sense of security and routine, to students, to help reduce stress levels caused by the war in their home country. In doing so, one of the main challenges faced by the city of Tartu has been to integrate students in the local system, while offering them age-appropriate education.

At Annelinna Gymnasium, programmes at every age level are organised to prioritise inclusive pedagogy. For example, at the Primary level, students can join full immersion classes, where subjects are taught only in Estonian and individual assignments are designed to meet students' needs and interests. For those whose native language is not Estonian, additional Estonian language lessons are available for students to catch up.

At the Secondary level, students can attend both partial and total immersion programmes, studying either in Estonian or Russian. In addition to a regular lessons plan, the school has a special programme, "Estonian Language and Mind" created by a team of six teachers. Estonian Language and Mind includes social studies, music and handicraft classes for non-native Estonian speakers. This programme aims to support the integration of foreign students, in particular Ukrainians, into the school culture and society in general. In the whole country, schools have come to realise that the best way to tackle the language barrier is through subjects that employ a universal language such as art, music and physical education.

Finally, for upper secondary level students, the school offers core subjects (maths, science, social studies) in Russian. Students are also supported by a certified teacher from Ukraine (who is also a refugee) and given access to Ukrainian language classes as well as foreign languages to promote their integration. Besides the formal curriculum, students have access to extracurricular activities inside and outside of school, like trips and sports.

Tartu Annelinna Gymnasium has been opening its doors since the beginning of the war and succeeded in creating a safe and inclusive learning environment thanks to the measures adopted in their programmes, which focused on student integration and well-being. The school ethos is rooted in its

core values of openness, courage and tolerance. These established values, together with teacher's autonomy and curriculum flexibility, allowed the school to tackle the unexpected challenges posed by the war, providing good practice in line with the change happening at the national level. For example, the country's latest adoption of a learner-centred focus, as well as of a flexible and decentralised education approach, emphasises the importance of student and teacher agency, in line with the E2030 project.

Source: The OECD Future of Education and Skills 2030. Thematic Working Group 3 (Estonia). Hiie Asser and Julia Klochkova, from Tartu Annelinna Gymnasium.

Summary of key actions to consider for system goals

1. Broaden curricular goals, e.g., excellence, equity and well-being, stressing the importance of "whole-child/whole-person development".
2. Engage practitioners and students themselves in co-creating a future vision of learners or learner/student profiles. Associate autonomy with empowerment, ownership and well-being, establishing communication channels between those to whom autonomy is granted, such as local authorities, school leaders, teachers and students; and building relationships, capacity and trust between these stakeholders.
3. Remember that curriculum flexibility and autonomy is a means, not an imperative or a goal in itself; it can be used as a means to enhance the resilience of the overall system by accommodating unexpected needs in an agile way to achieve these goals.

System accountability

Curriculum flexibility can sit at any point on the continuum between completely flexible and completely fixed (Tucker and Morris, 2010[9]). In practice, even the most flexible curriculum is not entirely free of requirements. By its nature, a formally endorsed curriculum has some degree of constraint or regulation set by the government (or other bodies) for accountability purposes.

As was discussed in Chapter 2 (see Figures 2.3 and 2.4), there is significant variation between countries in terms of how responsibility for decision-making and curriculum design is shared across national and local authorities and school staff. Optimal curriculum flexibility and autonomy is dependent on the interactions of all three key elements: system goals, system accountability and system capacity. For example, devolving curriculum responsibility to schools demands curriculum design expertise (system capacity) and appropriate accountability measures (system accountability) to ensure that the curricular goals or a certain set of expected educational outcomes (system goals) are met. This section points to three lessons learned about system accountability for achieving optimal curriculum flexibility and autonomy.

Standard-setting and monitoring are key to achieving system goals

Different policy levers can ensure that curricular goals are met. Broadly speaking, there are two accountability approaches policymakers can consider for optimal curriculum flexibility and autonomy: standard-setting and monitoring.

Standard-setting

Countries can decide how prescriptive or flexible curriculum should be. The aspects that can be influenced by standard-setting of an intended curriculum include defining curricular goals and standards, content, learning time, pedagogies and assessment (See Chapter 3).

This approach is more likely to sit towards the prescriptive end of the spectrum (more so for learning time and content than pedagogies and assessment, as seen in Chapter 3), particularly where central government has taken more responsibility for ensuring curriculum entitlements and equity for all students by defining curricular dimensions and setting required performance metrics.

Monitoring

Countries put in place a monitoring system when delegating curriculum control from national government to other actors (e.g., local authorities, schools, teachers and learners), and holding them accountable for their curricular choices. In other words, the government sets the standards for schools (i.e., articulates curricular goals, specifies expected standards for processes, outputs and outcomes), and holds schools accountable for site-specific choices to meet the curricular goals, for which monitoring is indispensable.

Monitoring can take various forms by comparing national or state standards (i.e., *intended/written curriculum)* with the different curriculum aspects listed below (Kuiper and Berkvens (Eds.), 2013[10]):

- *taught/implemented curriculum* (e.g., external inspections as part of school evaluation);
- *attained/achieved curriculum* (e.g., qualifications, national exams and standardised tests to monitor student performance);
- *experienced curriculum* (e.g., student surveys to monitor student learning progression and well-being);
- *local/negotiated curriculum* (e.g., any local or school-level curriculum where the national/state-level curriculum has been adapted at the local level);
- *perceived curriculum* (e.g., teacher surveys to monitor teachers' understanding of new curriculum goals, the level of autonomy granted and pedagogical knowledge to use curriculum flexibility);
- *expected curriculum* (e.g., surveys of stakeholders such as parents and representatives from the business sector to take stock of their expectations and beliefs about what students should learn).

It is important to note the risks associated with monitoring the *attained/achieved* curriculum through qualifications, examinations or standardised student assessment. One example of such risks is unintended consequences when such examinations or assessments are used as high-stakes measures. Under such conditions, schools and teachers are more likely to aim towards "teaching to the test". This risk is particularly high in primary education, where it can limit students' exposure to a broader range of learning opportunities that are crucial for their healthy development and well-being. These aspects of learning are often less easily measured by standardised tests. Indeed, since 2020, Singaporean primary school teachers have been using qualitative descriptors rather than ranks based on standardised test scores to evaluate participation in discussions and homework (Richman-Abdou, 2019[11]).

Another risk is a potential misuse of the results of such assessment. When a purpose is not clearly communicated to or understood by teachers, they may use the results of such assessment simply to pass judgement on the performance of their students, rather than using the results to help their students to improve the quality of their learning. Teachers may need more support to be able to use the data that monitoring standardised student assessment provides to inform classroom teaching and learning (Brill et al., 2018[12]).

An example of policy efforts in this regard, can be found in **Japan**. The National Assessment of Academic Ability (NAAA) publishes all test items together with explanatory notes for those items, so as to articulate

the alignment between curriculum and assessment, i.e., how assessment is designed to measure the intended student outcomes set out in the national curriculum. A report published by the National Institute of Educational Policy Research details the results, together with explanatory notes for teachers to support their understanding of a student's learning status based on their raw responses to the test items. To improve educational support to each student, the Japanese national assessments are intended for all students to take part in. Furthermore, the government provided tablet computers for every student in Japan and developed online platform for learning (MEXCBT), enabling all students to learn and take assessments, including the national assessment, through the platform. With such a common platform and devices set up with specific technical specifications, teachers have access to materials as well as the standardised framework for analysing students' progress so as to enhance the quality of teaching and learning through the well-structured assessment scheme and a common scale. In 2023, the NAAA was conducted while using MEXCBT in English speaking assessment. More research and practice are needed on the effective use of assessment data in order to maximise the benefits of these innovations and ensure that they effectively support student learning and development.

The literature discusses a variety of impacts that educational assessment can have. For example, it is known that test designs affect students' learning strategy, motivation and achievement (Crooks, 1988[13]; Harkins, 2001[14]). Thus, large-scale assessments should be designed based not only on the measures of validity and reliability, but also on consideration of the social and ethical impact of how the results and instruments are interpreted and utilised (Frederiksen and Collins, 1989[15]; Messick, 1987[16]). At the international level, for example, OECD PISA 2013 Results (OECD, 2013[17]) suggested that students in schools with greater autonomy in resource allocation show better performance in countries where schools account for their results by posting achievement data publicly, but worse in countries where there are no such arrangements. However, other research indicates that the publication of school outcomes could contribute to creating school rankings, which have detrimental impacts on the behaviours of teachers and principals in schools, with consequent negative impact on the learning outcomes of students (Mausethagen, 2020[18]). When designing an assessment and evaluation system, it is of particular importance for policymakers to consider multi-directional consequences, including potential unintended consequences, on both students' learning and well-being.

Excessive focus on or blind use of accountability can risk lessening teacher agency, well-being and innovation

A common definition of school accountability is the one elaborated by Figlio and Loeb (2011[19]). They define school accountability as "the process of evaluating school performance on the basis of student performance measures". Many countries use data on student learning outcomes as system efficiency measures. But achieving an approach that has a positive impact on the teaching and learning experience whilst simultaneously meeting system accountability requirements is challenging. Accountability systems can produce perverse incentives, leading to unintended consequences if they are not carefully designed and monitored (Torres, 2021[20]).

The way students are assessed and the content or learning objectives that are the focus of assessment often drive what is taught in classrooms (Hargreaves, Earl and Ryan, 2013[21]; Muskin, 2015[22]; Hargreaves, Earl and Ryan, 2013[21]). As stated by Burgess and Kennedy (1998[23]), "what gets measured, gets treasured", and "what gets tested, gets taught". Individual learning needs can be overlooked in favour of content covered in examinations and, when combined with over-reliance on testing in schools, assessments can result in negative impacts on student well-being (Abeles and Rubenstein, 2015[24]; Cho and Chan, 2020[25]).

The importance of context and culture in relation to teacher agency is also illustrated in **Singapore.** Teachers teach critical thinking as a mere technical skill – following the curriculum and examination

requirements – but also see this way of teaching as limited in developing critical thinking skills relevant for life (Lim, 2014[26]).

Educational assessment policies and practices must align with broader intentions to improve student learning, as well as initiatives undertaken to emphasise the professional autonomy of teachers who can promote both the learning and well-being of all students. As discussed in Chapters 2 and 3, high-stakes testing environments impact student well-being. They can lessen student engagement in broader learning experiences and access to opportunities for deeper learning, and instead reduce teaching and learning to a prioritisation of passing tests. Furthermore, students are more likely to experience test anxiety associated with increased competition, strained relationships with parents and sleep deprivation (Minarechová, 2012[27]; Mulvenon, Stegman and Ritter, 2005[28]; Wren and Benson, 2004[29]).

However, curriculum flexibility can improve the performance of students while mitigating stress and improving student well-being (Cho and Chan, 2020[25]). More robust and varied research is needed on the types of methods that can simultaneously support learning outcomes and student well-being, while also meeting the accountability needs of the educational system.

Monitoring broader curricular goals will require a variety of assessments for different purposes, and students need meaningful feedback for better learning and well-being

A curriculum that offers flexibility for teachers to design and administer a variety of assessments that support learning can counterbalance the undesired effects of rigid assessment policies. Research implies that teachers can be better supported to provide more frequent and meaningful feedback on student work than grading, and to support students to become self-directed learners, including how to evaluate their own progress. Teachers who are constrained in their ability to provide feedback not only limit the effectiveness of their teaching but also the learning potential of their students (Muijs and Reynolds, 2005[30]).

Teachers exercise professional autonomy over curriculum flexibility when they use a variety of assessment types to monitor their students' progress. The assessment types (Box 4.2) are designed for different curricular purposes. In a well-balanced assessment system, the data produced by assessments can be used both to inform teachers' decision-making on strategies to improve student learning at the classroom level, and to inform policies at the system level for accountability purposes.

Box 4.2. Assessment types

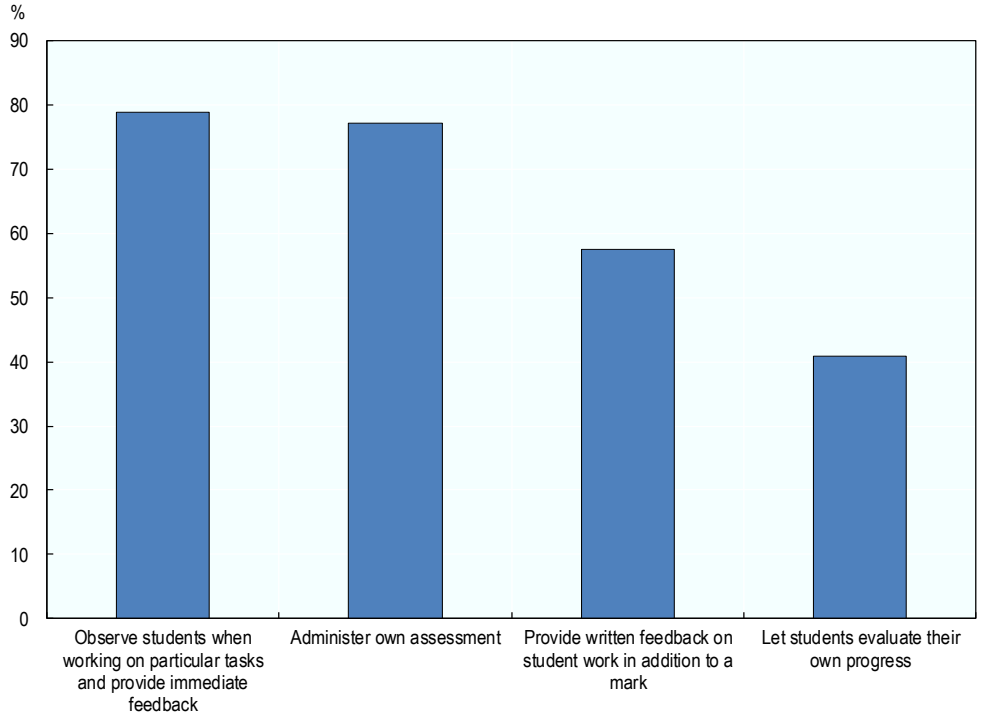
Assessment of learning (summative assessment): standardised testing to measure how well students have achieved intended curricular goals at the end of a unit or a year. This can be at a system level for accountability purposes or for research to inform curriculum change; at a school level, often as part of a school evaluation for curriculum implementation; or at an individual student level, often for selection criteria. Thus, this assessment type is considered high-stakes.

Assessment for learning (formative assessment): frequent and interactive feedback to encourage students to value their learning and aspire to aim higher, with a growth mindset and sense of well-being. This assessment type helps teachers adapt and differentiate their teaching to suit individual students' needs and feel a sense of agency and efficacy in their teaching. It can be applied at the system level; however, barriers to scaling exist, such as a lack of visibility of the results of this type of assessment, in comparison with summative assessment (OECD CERI, 2008[31]).

Assessment as learning (self-assessment): students assess their own learning outcomes or progression as part of self-directed learning towards curricular goals, exercising learner autonomy in curriculum design/implementation.

While Chapter 3 suggests that teachers have a high degree of autonomy to choose assessment approaches in many countries and jurisdictions, Figure 4.1 shows that the use of "assessment as learning" is much less frequent than that of other assessment types. Recognising the increasing relevance of self-directed learning and self-awareness about students' own progress, as well as their potential, as indicated in the OECD Learning Compass, it is critical that teachers engage their students in learning to learn. This would include monitoring their own learning with the use of different types of assessment practices themselves. Box 4.3 and Box 4.4 illustrate student experiences on self-directed learning.

Figure 4.1. Share of lower-secondary teachers who "frequently" or "always" use the selected assessment methods in class



Notes: These data refer to a randomly chosen class that teachers currently teach from their weekly timetable.
Values are ranked in descending order of the use of teachers' assessment practices.
Source: (OECD, 2019[7]),*TALIS 2018 Results (Volume I): Teachers and School Leaders as Lifelong Learners*, https://doi.org/10.1787/1d0bc92a-en.

Box 4.3. Engaging students in learning to learn

Eliana, a 13-year-old student in **Indonesia**, uses a variety of methods to revise class material and assess her own progress. Some of these are suggested by the teacher, and others are practices she comes up with herself. One of her teachers encourages her to actively reflect on her progress at the end of every class by asking herself what she learned that day, how she feels and how well she thinks she did in class.

Her teachers also provide physical handouts to help her revise class material. These papers condense 25-page PowerPoint presentations into 3 pages, and Eliana likes that she can physically annotate them.

She is conscious of how much time she spends in front of the computer, so she appreciates these handouts that reduce her screen time.

For each unit in her natural science classes, she practices questions from the textbooks and checks the answers with the teacher. However, if the teacher is not available, she checks the answers with her classmates or older students. She finds that older students offer great support as they have already studied relevant material and can help her by drawing on their own experiences with the course.

Before tests, Eliana does online quizzes on Kahoot! or Quizlet made by the teacher or makes mind maps. Mind maps are usually thought of in relation to essay writing, but Eliana uses them in natural sciences for memorisation. They help her to digest the textbook and assess which topics she has the most knowledge about and where she needs to study more.

On a day-to-day basis, she also checks her own understanding and progress in smaller and more subtle practices. She finds that when the teacher asks open questions to the entire class, they help her self-assess even if she is not the one answering. She will try to come up with the answer to the question in her mind and know whether she got it right, even if another student answers. She makes a mental note of questions she gets wrong and approximates how well she has understood the topic, as well as what she needs to review. She also points out how she uses everyday objects to reflect on things she has learned, for instance, for studying biology: “If I see a leaf, I try to identify it; if I see an animal, I will try and group it.”

Eliana places importance on the diversity of practices she uses to review and reflect on her learning. She underlines that she could not select one practice as the most helpful, explaining that it is as if there is an “invisible string” between all these practices and to build a solid understanding of her learning progress, she needs to consult a variety of formal and informal sources.

Source: Interview with Eliana, student, Santa Laurensia Junior High School, Indonesia, July 2022.

Box 4.4.Curriculum flexibility and autonomy for self-directed learning

Soo-a Kim, a 17-year-old **Korean** student thinks that the biggest goal of the curriculum should be to maximise students’ learning, and that the way to achieve it is to help students develop self-directed learning. She says learning is like pouring water into a bottomless jar: you have to pour water into it every day, otherwise your jar will empty out. According to her, some students fill up their jar water like a machine without thinking, as their teachers and parents tell them to do. Others actively find the

answers to problems and study on their own, pouring water on their own. This method is how Soo-a has pursued her education. "I can't say it's always a good thing. My way doesn't guarantee a better score than others. It also takes longer than others. And other students are always filled with some water because teachers and parents pour water instead of them, and the students also do what they say. However, if I'm a little lazy or do not control myself strictly, there's a risk that my jar will be empty." As she has taken initiatives to direct her own learning, some teachers have encouraged Soo-a to become more like other students, especially to ensure good scores on exams.

Soo-a notes that hardly any students worldwide are free from scores, and she once felt the anxiety that other students feel about scores. "Can I go to a good university? Somewhere like a Korean version of the Ivy League with my score?" In fact, she decided to go to university in a way that did not require a good exam score. She decided to major in violin because she had been playing since she was young and was talented at it. She practiced the violin for more than ten hours every day. One day, about ten months into studying her violin major in preparation for further studies at the university level, she had an important realisation: "There's nothing I cannot achieve if I do something just like I'm practicing the violin!" After that eye-opening moment, she heard from her violin teacher that her talent for musicality and technique meant she would be able to attend university. Everything for the violin major was set, yet Soo-a made a dramatic decision to quit playing the violin and go back to studying for the traditional university entrance exam. She had six months to prepare for the exam, which is very short considering that some students spend 12 years preparing for that one test.

For some students, it is nearly impossible to get back on track if they deviate even a little from their path or a particular curriculum. However, since Soo-a owned the knowledge she acquired through self-directed learning over the years, she was able to switch studies and keep moving forward on her path to attending university. Additionally, she found an appealing alternative to Korea's university entrance exam: the essay test. The purpose of the essay test is to identify unique and valuable students with creative thoughts, which are not revealed by a score from the traditional university entrance exam. At the time of writing, she was in the process of preparing for the essay test and was enjoying the process. While this test might not appeal to all students, she found it allowed her to apply the competencies she developed through self-directed learning, such as flexibility, adaptability, knowledge and confidence.

She says: "A person who has never fallen is a person who has never walked. Farmers who do not sow seeds cannot reap fruits in autumn. Pedagogy should help students stand up again and walk even if they fall and get hurt. Pedagogy should teach them to go out and sow seeds even if they shed tears." Soo-a believes that the flexibility and autonomy of the curriculum, which allows for innovative pedagogies such as self-directed learning, has the power to ensure that everyone can fill their own jar.

Source: The Voice: Newsletter of the OECD E2030 Student Sphere (2021), Issue 4, August 2021, https://heyzine.com/flip-book/8894b5255d.html; OECD Youth Week event "What Generation Z thinks about school, the curriculum and their future", 23 September 2021, https://oecdcomms-mediahub.keepeek.com/publicMedia?t=pmr6DIn3IC.

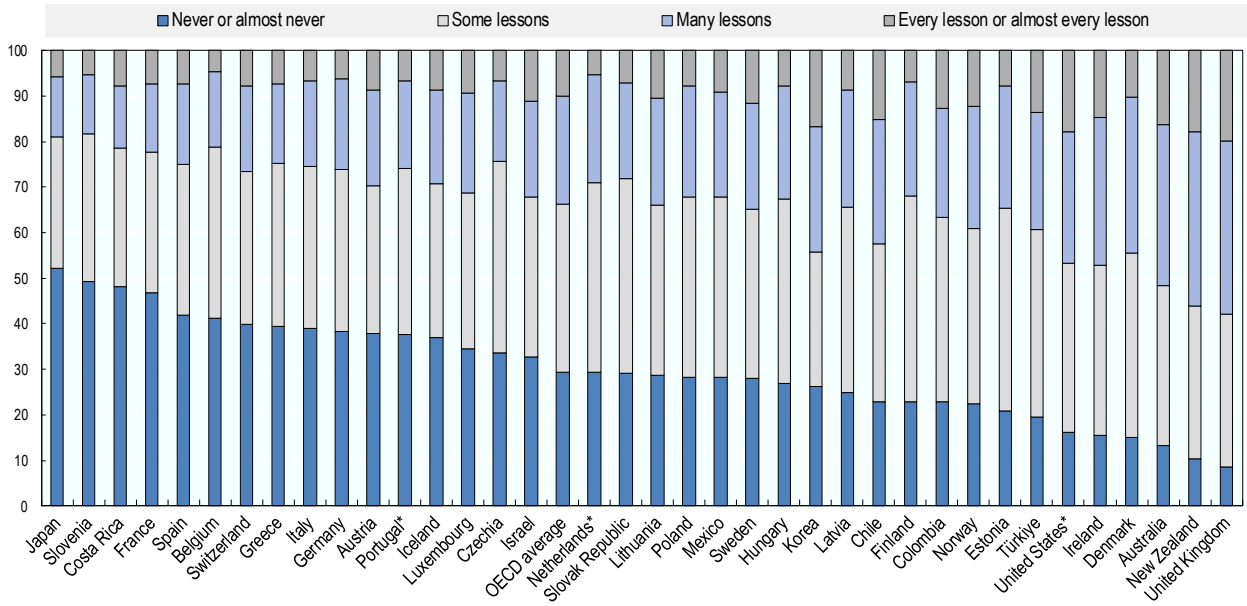
While recognising the broader goals of education, it is important to remember the potential risk that certain types of assessments can instil a fear of failure in students. This can threaten their social and emotional well-being (Elliot and Sheldon, 1997[32]), be associated with stress, anxiety, burnout and depression (Conroy, 2004[33]; Gustafsson, Sagar and Stenling, 2016[34]; Sagar, Lavallee and Spray, 2007[35]) and can also be associated with less satisfaction with life.

Furthermore, research indicates that teacher support significantly enhances students' well-being both in and outside of school. For example, Suldo et al. find that social support from teachers is associated with increased well-being (2009[36]) . They also show, along with Guess and McCane-Bowling, that supportive teachers contribute to happier students who report greater life satisfaction. (2009[36]; 2013[37]). (OECD, 2019[38]).

PISA 2018 data show that, in 35 countries and economies, less than 10% of students reported getting feedback on their strengths in every or almost every lesson (OECD, 2019[38]). Meaningful feedback is a cornerstone of learning. In this regard, teachers are encouraged to provide meaningful feedback so students can become aware of their own strengths (Figure 4.2) and avoid creating excessive anxiety, which can have negative effects on students' learning and well-being.

Figure 4.2. Frequency of teacher feedback on students' strengths

Percentage of students who reported that "teachers give me feedback on my strengths in this subject"



Note: *Data did not meet the PISA technical standards but were accepted as largely comparable.
Source: (OECD, 2019[38]), *PISA 2018 Results (Volume III): What School Life Means for Students' Lives*, https://doi.org/10.1787/acd78851-en.

Summary of key actions to consider for system accountability

1. Recognise the complex interactions between system accountability, system goals and system capacity.
2. Be mindful of an excessive focus on accountability inadvertently lessening student and teacher agency and well-being, and discouraging innovation.
3. Support teachers to design and administer a variety of assessments for different purposes that support learning. In doing so, teachers are encouraged to learn to provide meaningful feedback and avoid creating excessive anxiety.

System capacity

Chapter 3 highlights insufficient system capacity as a challenge to using curriculum autonomy across all dimensions of flexibility. This often results in variations in the quality of learning across different systems. For optimal curriculum flexibility and autonomy, policymakers should broaden the scope of system capacity considered, more specifically by including both human and social capital:

- **Human capital** in curriculum design includes actors with different levels of curriculum autonomy (local boards of education, school leaders, administrators, teachers and students), depending on who is granted flexibility to design or contribute to the making of a curriculum in a country/jurisdiction, as identified in Chapter 1.
- **Social capital** supports those actors in performing to the best of their ability; examples include relational ties, collaboration and trust.

When human and social capital are woven together, they contribute to individual and collective well-being at all layers (See OECD (2019, pp. 26-28[39])). Chapter 3 presents a range of strategies countries undertake to ensure the quality and equity of student learning. These raise standards and build capacity within the school and system (Hopkins, 2013[40]) by developing individual (including both intellectual and social) as well as organisational capital. This section points to three lessons learned about system capacity for achieving optimal curriculum flexibility and autonomy.

Human capital

Optimal curriculum flexibility and autonomy will require optimal engagement of human capital from various places across the education ecosystem: local authorities, school leaders, teachers and students.

School governing boards and local/regional authorities

Governance matters in terms of whom the responsibility for a curriculum is delegated to and to what extent. In OECD countries, the extent to which school governing boards and local/regional authorities (together) are granted responsibility for curricula varies considerably, ranging from federal states such as **Switzerland** (48.8%), the **United States** (44.6%) and **Germany** (38.1%), to **Czechia** (1.8%), **Iceland** (1.4%) and **Greece** (0.1%).

In Chapter 2, the OECD PISA results showed that students' performance correlates with decentralised curriculum autonomy (Figure 2.1; (OECD, 2011[41]). Performance correlates to some extent with curriculum autonomy afforded to school governing boards and local/regional authorities – more than to national education authority, although less than to teachers and principals.

Considering complex governance issues, it is important that those responsible for curriculum decisions in school boards and local/regional authorities have the knowledge and resources to support the professional autonomy of teachers and school leaders, while ensuring that students have equal access to quality curriculum experiences in their districts and regions.

School principals' leadership capacity, confidence and willingness to take risks

Greany and Waterhouse (2016[42]) studied the relationship between school autonomy, school leadership and curriculum innovation in England over a period of 40 years and found no correlation between increased autonomy and the level of curriculum innovation. Their study shows that extensive accountability in terms of high-stakes testing and rigorous school inspection constrains the autonomy of most schools in England. Only school leaders with the capacity, confidence and willingness to take risks use their autonomy to develop innovative curricula.

Suggett (2015[43]) suggests that school and teacher autonomy interact with other elements to improve school and student performance. These include particularly the nature and level of autonomy, the accountability context in which the school operates, and the readiness of school principals and teachers to enact the autonomy granted to them (Caldwell, 2016[44]; Ko, Cheng and Lee, 2016[45]; Suggett, 2015[43]; OECD, 2016[46]). This complex dynamic includes a direct relationship between school and teacher autonomy and student outcomes (Ko, Cheng and Lee, 2016[47]).

Teachers' agency, design capacity, resourcefulness, confidence and preparedness

It is important that teachers understand the intent of the curriculum, the reasons behind changes, and the principles and values it embodies in order for them to exercise autonomy over a flexible curriculum in a way that is coherent with its vision and goal, going beyond specific learning objectives and content prioritised in each subject or learning area (Erss, Kalmus and Autio, 2016[48]). This suggests that system capacity, especially teachers' deep and thorough understanding (rather than personal interpretation) of system goals, is critical.

While school-based or local curricula are considered relevant for preparing young people and providing them with opportunities to contribute to society (Leat and Thomas, 2018[49]), developing curricula at this level requires systems to provide capacity-building opportunities for teachers and the development of a culture that supports teachers as curriculum makers. Using levels of flexibility accorded by a curriculum is a contextual matter. In other words, teachers' practice is influenced by their experience, perspectives, beliefs and capabilities (skills, knowledge and understanding) regarding the curriculum and subject matter. Consequently, the same curriculum is likely to produce variations in teachers' practices and can result in different learning experiences for students in and across schools (Hattie, 2015[50]). As a result, the curriculum experienced by students might be rich, engaging and relevant for some, but narrow and disengaging for others. The resulting variation raises equity questions across regions, schools and classrooms (Van de Werfhorst and Mijs, 2010[51]; European Commission, 2020[52]), as discussed in Chapter 3.

Teachers who welcome the possibility of designing their own curriculum and are resourceful in doing so are likely to capitalise on the opportunity to offer high-quality learning to their students. Teacher agency depends on the interplay between teachers' experience, capacity and ambitions regarding the possibilities offered by an innovative curriculum (Priestley et al., 2016[53]). In the context of curriculum reforms in Scotland (United Kingdom) and Cyprus, Priestley et al. found that context matters to achieve agency.

However, teachers who feel intimidated by such demands or lack confidence or capability to use their agency effectively might rely on past practices or curriculum requirements or expectations that are no longer current. Teachers might not use prior experiences, capacity and ambitions if they perceive the innovation context as too difficult or risky. They might even use their agency to resist change. In relation to the implementation of the 2004 Curriculum for Excellence in Scotland (United Kingdom), Priestley and Minty explain:

> *Assumptions about the role of teachers as agents of change have been shown to be highly problematic; Scottish government policy has tended to focus on raising individual capacity, while not addressing the structural and cultural issues that might constrain or enable teacher agency (Priestley M and Minty S, 2013, p. 42[54]).*

Autonomy and responsibility for curriculum decision-making in the classroom can mainly be seen as contributing to the overall well-being of teachers (Liu, Song and Miao, 2018[55]) when they feel empowered rather than uncertain. In contrast, uncertainty and a feeling of unpreparedness can have a negative impact on teachers' well-being (Benevene, De Stasio and Fiorilli, 2020[56]).

Students as part of human capital to optimise curriculum flexibility and autonomy

The concept of student agency in the OECD Learning Compass for 2030, regards students not solely as the intended beneficiaries of an education system, but also as valuable human capital, contributors and co-constructors of a larger learning ecosystem (OECD Future of Education and Skills 2030, 2019[57]).

Students have the conviction, the will and the ability to positively influence their own lives and the world around them, and the capacity to set goals, reflect and act responsibly to effect change (OECD, 2019[39]). They also create social capital through their co-agency in an interactive, mutually supportive and enriching

relationship with their peers, teachers, parents and communities. Therefore, students should be considered an asset to enriching class culture and a resource that can contribute to making curriculum flexibility and autonomy optimal for all students.

Nonetheless, there are potential risks associated with school-based curriculum-making from a student perspective, such as the conscious or unconscious influence on students of their parents' or teachers' wishes or advice to them (see "Student voice" in the following section).

Social capital

As mentioned earlier, human capital will best contribute to individual and collective well-being when connected to, woven into and supported by social capital, such as relational ties, collaboration and trust. The following section aims to provide some examples of such connections.

Connected autonomy and collaboration for collective efficacy

To use curriculum flexibility in the best interest of each student, teachers should be able to use their autonomy to work in collaboration with others, rather than operating in isolation. This recognises the potential of leveraging social capital (Coleman, 1988[58]; Lin, 2001[59]). Fullan (2020[60]) explains a similar concept as "connected autonomy"; he explains it as "be your own person, work with your peers, and connect upwards to other levels". He adds that connected autonomy contributes to collective efficacy, but also fuels individual autonomy, and stresses the importance of building trust, collaboration and precision (i.e. being as specific as the context requires), over prescription.

Learning and practice are central to optimal curriculum autonomy, for which relational ties matter. Curriculum knowledge and expertise are resources to share among those in a system, influenced by the quantity and quality of relational ties across the system (Daly, 2012[61]). Such knowledge and expertise can be shared among individuals in ways that improve the curriculum, teaching and learning (Daly et al., 2014[62]; Penuel et al., 2010[63]; Spillane and Kim, 2012[64]). As Daly et al. (2014[62]) explain, "teachers who possess higher levels of structural social capital (exchange of resources through their social network position) may have greater opportunity to use and expand their human capital (accumulated knowledge and experience) in improving practice and student learning" (p. 9). Sinnema et al (2021[65]) also find that "individuals who were active advice seekers were more likely to report higher levels of new learning and improved practice".

A well-designed curriculum demands not only agency but also strong social capital and connected autonomy. Connectedness is vital – given the potential of individual teacher autonomy to create variability, inequities or consciously- or unconsciously-biased judgements – to prevent students from experiencing curriculum overload, or a disconnected or misaligned curriculum. According to Priestley, et al. (2015[66]), teacher autonomy does not simply result in teacher agency. Priestley, Edwards, Millar & Priestley (2012[67]) suggest that educational policy making in the context of curriculum reform needs to take teachers' engagement into account.

The complex relationship between teacher agency and curriculum reform is clear in a study investigating teachers' perceptions by Ramberg (2014[68]), which depicts the relationship between teaching practice and the 2006 national curriculum reform in Norway. It found that the overall influence of the reform on teachers' practices was moderate; however, it was the general orientation towards teacher collaboration and the way school leadership was enacted, which supported the change. It is important to recognise that teacher agency does not automatically translate to teacher autonomy: agency in a larger learning ecosystem can be empowered by autonomy and requires trust and a culture of collaboration penetrating multiple layers of connected autonomy.

Building trust for competency-driven curricula, pedagogies and assessments

While competency-driven curricula are not new, countries and jurisdictions participating in the OECD E2030 analysis frequently report a false dichotomy between *knowledge* and *competencies*, with misunderstanding of the concept of competency hindering their efforts to see change taking place in schools (OECD, 2020[2]) The concept covers more than the acquisition of skills, as some might presume. Acquiring competencies involves the fusion of knowledge, skills, attitudes and values to meet complex demands. Moreover, the focus on competencies is not a rejection of knowledge or a focus on skills, but a blending of these along with values and attitudes, as appropriate.

An unintended consequence experienced by some countries and jurisdictions is that school leaders and teachers who use their autonomy to elevate competency-based teaching and learning in their schools have been portrayed as lowering standards or "dumbing down" the curriculum in favour of less rigorous content. Despite efforts to develop and promote student agency, contemporary content and transferrable competencies across subject areas, stakeholders in some countries and jurisdictions insist upon established (but no longer relevant) subject matter and pedagogical methods and assessment practices.

Important lessons from these unintended consequences are the importance of:

- dispelling inaccurate notions concerning the nature and purpose of competencies;
- reiterating that disciplinary knowledge is and will continue to remain important;
- making clear the composite nature of competencies as the fusion of knowledge, skills and dispositions;
- demonstrating through early adopters, trials or pilot studies how teachers' practice is empowered and how students' learning is enhanced through autonomy and flexibility, as represented in the richness of assessment data obtained;
- illustrating how professional autonomy can be used to promote pedagogies and assessment, such as through inquiry-based learning, project-based learning and formative assessment, without compromising the integrity of subject areas.

Formative assessment is a case in point. While policy and reform efforts might encourage teachers to draw on a range of *formative and summative assessment strategies* and tools, the use of innovative forms of assessment by teachers might be less than anticipated or desired owing to teachers' preparedness (Clark and Peterson, 1986[69]; Hawthrone, 1990[70]; Mkandawire, 2010[71]) (See Chapter 3).

Another important aspect of the assessment process teachers undertake is providing feedback to students regarding their performance, achievement and progress. The quality of teachers' feedback has been identified as having a significant impact on student learning, motivation and engagement (AITSL, 2017[72]; McCallum, Hargreaves and Gipps, 2000[73]; Hattie and Timperley, 2007[74]).

Cultural and historical context of teacher perceptions, capacity and trust

Voogt et al. (2018[75]) identified complex interplays between teachers' perceptions, capacity and trust (Erss, 2018[76]; Erss, Kalmus and Autio, 2016[77]; Wermke, Olason Rick and Salokangas, 2019[78]). They argue that teachers differ in their perception of autonomy across countries, deeply rooted in the cultural and historical context of their education systems:

- In **Estonia**, teachers feel that their national curriculum is somewhat idealistic and lacks sufficient resources for effective implementation. This perception includes inadequate learning materials, insufficient time for preparation and implementation, and a need for professional development to meet curriculum demands. These issues might stem from the rapid transition to a more autonomous education framework without adequate infrastructure and resources to support such autonomy effectively. Teachers are accountable and feel responsible for students' achievement

(output regulation) and expect curriculum guidelines and specifications, while at the same time wanting greater autonomy.

- In **Finland**, within the context of the national core curriculum, teachers experience curricular autonomy to some degree. They endorse the curriculum and do not feel that it is too prescriptive. They feel that their professionalism is trusted by society and that they are granted autonomy over teaching and pedagogy. Halinen and Holappa (2013[79]) also mention the importance of trust as experienced by Finnish teachers, accepting that there are also issues beyond their control.
- In **Bavaria (Germany)**, teachers are limited in their curricular autonomy and expect guidelines and specifications about what is required from them (input regulation). They experience little output regulation. Collective approaches are at the heart of decision-making at the school level. Significant control at the school level nonetheless has few formal consequences, though teachers also perceive some control by parents.
- In **Korea**, teachers are granted autonomy but the substance of the curriculum does not change, leaving limited room to exercise this autonomy (Hong and Youngs, 2016[80]).
- In **the Netherlands**, teachers feel they lack control over their work, that their expertise is not taken seriously, and feel like executors instead of designers of education (Maes et al., 2012[81]). However, teachers also do not use the autonomy granted to them due to unclear standards with which they must comply (Kuiper, 2017[82]). Instead, they create clarity by using textbooks as a self-imposed form of prescription.
- In **New Zealand**, curriculum design left completely to teachers is considered highly complex and with a risk of cognitive overload. Teachers might lack the capacity to design the curriculum or do not welcome the extra burden of responsibilities that come with autonomy (Sinnema, 2015[83]).
- In **Sweden**, teachers feel restricted autonomy. They mention pressure and control regarding student achievement. Because of students' relatively low performance on international standards, this pressure comes not only from within the education system but also from parents, the media, and the research community. This situation is also explained by the marketisation of the school system in which students and parents are seen as customers.

Other studies report the constraints teachers perceive when they reflect on their autonomy, such as overregulation and bureaucracy:

- In a research study conducted by academics in **Hong Kong (China)**, it was suggested that autonomy is granted to teachers, but at the same time contested because of the centralised system of monitoring student achievement (Ko, Cheng and Lee, 2016[47]). In this context, teacher autonomy is vulnerable.

Summary of key actions to consider for system capacity

1. Recognise that teacher agency does not mean teacher autonomy. Agency in a larger learning ecosystem can be empowered by and requires trust and a culture of collaboration in multiple layers of connected autonomy.
2. Be aware of opportunities and challenges with structural, professional and learner autonomy.
3. Support professional autonomy to design a student-centred, concept-based and competency-driven curriculum, and implement it with appropriate pedagogies and assessment.

Political and economic context

To design optimal curriculum flexibility and autonomy, the political and economic context includes political leadership, funding and stakeholder buy-in. This section points to three lessons learned about managing political and economic context for achieving optimal curriculum flexibility and autonomy.

Political leadership

A curriculum is a powerful policy lever to support students in achieving their potential and ensure their well-being. A curriculum is also understood as "a political and social agreement that reflects a society's common vision while taking into account local, national and global needs and expectations" (UNESCO-IBE, 2016[84]). Previous OECD E2030 curriculum analyses – addressing curriculum overload, embedding values in curriculum, designing a 21st Century curriculum, bridging equity gaps through innovation in curricula – point to the challenges surrounding political leadership for sustaining curriculum change (OECD, 2020[85]) (OECD, 2021[86]; OECD, 2021[87]; OECD, 2020[2]).

Curricula often become a means for delivering social and political agendas. As a result, curriculum change is a politically charged and high-stakes undertaking, and the political economy of curriculum reform can come with high costs for action or inaction (OECD, 2020[85]). All aspects of curriculum flexibility – especially learning goals, content, time and assessments – are subject to political pressure on content (Rawling, 2015[88]; Oates, 2011[89]; OECD, 2020[90]; Australian Primary Principals Association, 2014[91]) or ideological debates over the nature of the curriculum (Moreno, 2007[92]). In the absence of care when delegating curriculum flexibility and autonomy to local authorities, schools and teachers, political pressures can cascade to schools and classrooms. Without awareness and deep understanding, national-level challenges to address political demands and pressures such as curriculum overload and competition among subjects will be reproduced at local and school levels. When introducing curriculum flexibility and autonomy, it is critical to highlight system goals of the curriculum serving the public good and not as a means for political or ideological debate.

Chapter 2 points out that the political environment or policy concerns about the quality of education in schools can often result in sudden changes to the curriculum flexibility and autonomy delegated to local authorities, schools and teachers (Nieveen and Kuiper, 2012[93]; Lundgren, 2013[94]). For sustainable change and stable implementation of curriculum flexibility and autonomy, it is important to remember that curriculum reform cycles are longer than election cycles: 9.5 years on average for regular curriculum reforms for secondary education (OECD, 2020[2]). Impact from optimal curriculum flexibility and autonomy requires time. Strong and stable political leadership is critical in effectuating a purposeful accountability system and building system capacity, including human and social capital. According to the OECD E2030 analysis of 21st Century curricula:

> *If reforms swing from one direction to another, research to measure the real impact of the selected curriculum reform is not possible. This can lead to a need for more research to make the curriculum design more systematic and also to gain trust and buy-in among key actors of the reform to help reduce the time lags in recognition, decision-making, implementation and therefore impact.*
>
> *OECD (2020[2]) What Students Learn Matters: Towards a 21st Century Curriculum, https://doi.org/10.1787/d86d4d9a-en.*

Collinson (2012[95]) suggests that politics and political leaders affect teacher attitudes and values, which are key to implementing curriculum change. Kyriacou (2011[96]) implies the need for proper support mechanisms, especially for teachers, to manage uncertainty and anxiety in the face of local political pressure. Solid and stable political leadership is an enabler for optimal curriculum flexibility and autonomy.

Local capacity and funding

It is important to budget resources before embarking on curriculum flexibility to build structural, professional and learner autonomy. When it comes to providing schools, teachers and students with curriculum autonomy and flexibility, there is a need to thoroughly assess and forecast the human and financial resources available that are required to implement reforms.

Reforms can be stifled or curtailed without appropriate budgeting processes and scenario planning. Some countries report that offering students a range of elective courses results in an insufficient supply of qualified teachers, transforming the well-intended goal of granting greater choice into a workforce issue of teacher availability and preparedness.

Unexpected demands or requirements to build capacity in schools can also arise from gaps in the professional capability and preparedness of teachers and school leaders to use professional autonomy and flexibility. Some countries and jurisdictions report that schools and teachers who were given agency showed a tendency to maintain existing practices and programmes rather than respond to local needs, explore innovative approaches and put greater focus on locally determined priority areas, as had been envisaged by policymakers. This was in part due to teachers' lack of confidence and capability in curriculum design, and a lack of quality leadership in schools for leading school-based curriculum development. It was also due to apparent concern about variations between schools in the quality of the curriculum provided and student learning outcomes, unless conventional programmes were retained.

There are several lessons from efforts to increase curriculum autonomy and flexibility in schools:

- Co-creation between the governing body and teachers/school leaders helps to create a wave of influence at the implementation level when system capacity exists.
- It is important to engage all stakeholders in at least broad consultation, communicate the extent of change proposed and ascertain the level of resourcing required to support the change (considering current resource levels and gaps, and projected needs).
- Engagement with teacher education providers helps ensure the supply of teacher graduates is sufficient to meet workforce demand commensurate with the reforms undertaken.
- Teachers and schools need support in how to design site-specific curricula through an appropriate balance of professional learning, provision of curriculum development support materials, guidance in organisational development, and collaboration between teachers and school leaders.
- Targeted training and professional learning in the construction and management of school-based curricula enable local and contemporary topics, issues and contexts to be addressed while also ensuring that students' access to essential learning (core concepts and skills) is guaranteed.
- Clarity is needed regarding minimum curriculum standards that all students must achieve alongside locally-designed curricula to ensure responsiveness to students' individual needs, interests and contexts.

A key component in planning the budgetary process of efforts to build structural, professional and learner autonomy is to consider and forecast the full resource implications of the intended reforms, including current and future workforce considerations, professional development and training, structural adjustments in and across schools, and resource acquisition and development needs.

Stakeholder buy-in

Stakeholder buy-in and partnerships are important enabling mechanisms. Teachers are of course the key frontline actors in terms of human and social capital, who optimise curriculum flexibility and autonomy for students. Untapped opportunities in curriculum flexibility and autonomy lie with the students, and with EdTech industries, which remain disconnected from the learning ecosystem.

Teachers

Ko et al. (2016[45]) in their research study in **Hong Kong (China)** found that the success of innovation aimed at realising student-centred pedagogical practices may not lie in school autonomy as such, but also in the extent to which autonomy is granted to teachers. After all, it is changes in teachers' practices that are needed to enact curricula that integrate such pedagogies. According to Ko et al. (2016[45]), literature shows stronger teacher effects than school effects of autonomy on student learning.

When teachers in **Singapore** taught critical thinking as required by detailed syllabi and assessment practices, lower-performing students showed lower motivation and higher resistance because they did not recognise themselves in the approach to teaching (Lim, 2014[26]). Paradis et al. (2017[97]) report that teachers' dissatisfaction with their perceived autonomy affects their motivation, commitment and the way they adapt their teaching to students. In Singapore, curriculum flexibility is built on a partnership between schools, universities and the government. In the context of a system of standards and accountability, the government creates an environment for experimentation that facilitates educational innovation through collaboration in partnerships.

It is more likely that different stakeholders would accept an aspirational vision for student learning aligned with education goals, which would serve to guide teachers and learners, empowering them to use their autonomy. To manage such complexities and tensions, a model of shared responsibility and partnership has emerged in some countries, built on professional autonomy with pedagogical flexibility.

Finland is often cited as a good example of balance between local autonomy and steering by the national government. Finnish teachers experience curriculum autonomy to some degree while endorsing a national curriculum they consider not overly prescriptive. Finnish teachers feel that society trusts them as professionals and that they have autonomy over their teaching and pedagogical choices. In other words, the curriculum has pedagogical flexibility while offering limited programmatic and organisational flexibility. However, it is accepted that teachers do not have full autonomy over the curriculum because the core is set at the national level.

The Finnish system relies on five concepts (Erss, Kalmus and Autio, 2016[48]; Halinen and Holappa, 2013[79]; Paradis et al., 2017[97]):

1. having a shared national core curriculum;
2. monitoring improvement of the system;
3. state and local funding for projects to tackle educational challenges (e.g. diversity and the impact of ICT);
4. a culture of self-evaluation throughout the education system;
5. trust in the quality and professionalism of teachers (Halinen and Holappa, 2013[79]; Pyhältö, Pietarinen and Soini, 2018[98]).

Finland achieved curriculum flexibility at the local level by ensuring that a process of shared sense-making between teachers, administrators and specialists exists with stakeholders, giving meaning to their understanding of the curriculum, the boundaries and room for choices to be made. This process of shared sense-making contributes to teachers' perception of professional autonomy within the boundaries of the curriculum.

In the state of **Bavaria (Germany),** there is a centralised education system with little flexibility in the curriculum, and teachers accept that they have limited autonomy over its content and goals. Teachers in Bavaria expect the state to set clear guidelines and specifications on what to teach, and they make use of pedagogical autonomy collectively. They feel that collective decision-making on pedagogy and the organisation of teaching and learning, and about student outcomes are important. Hence, they prioritise shared responsibility for student outcomes rather than individual autonomy over the curriculum. In this

respect, teachers in Bavaria view their autonomy as a collective responsibility of teachers at the school level (Erss, Kalmus and Autio, 2016[48]).

Learners

Three terms – *student choice*, *student voice* and *student agency* – are used interchangeably at times, leading to misunderstandings, false assumptions and expectations about the level of autonomy granted to learners. But each of these terms have a distinct meaning in research and this analysis. It is therefore not surprising that unintended consequences can result for schools and schooling systems without a clear distinction understood by the stakeholders involved. The definitions for each of these terms are shown in Box 2.3.

These three forms of student engagement involve differing degrees of learner autonomy. Each has unintended consequences reported by countries and jurisdictions, particularly when a clear distinction is not made between them.

Student choice

An unintended consequence of offering students choice when it comes to subject area selection is that students' selections, course module preferences or planning future patterns of study can be overridden at the school level due to internal structural impediments and/or cultural barriers that limit the options that are actually available (Voogt et al., 2018[75]). An example of when choice is subject to structural limitations is articulated by a student from Kazakhstan regarding her interest in learning a variety of languages, as explained in Box 4.5.

Box 4.5. More language options in the curriculum

Adiya is a 17-year-old student from **Kazakhstan** at Nazarbayev Intellectual School (NIS). Her school has a trilingual policy, which aims to raise the value of Kazakh as national language and to teach Russian and English, as those languages are recognised internationally. However, fluency in fourth language is still required.

Adiya finds that learning a new language allows her to perceive the world from a variety of perspectives, as new knowledge sharpens the mind, promotes critical thinking, and improves decision-making. She notes a few roadblocks to this idea: it would be ideal if students had a variety of languages to choose from, e.g., 4-5 different language courses such as Japanese, Chinese, French and Spanish, which might spark student's curiosity, but that could be a challenge for the school to offer. Additionally, it might be more exciting for students to learn if their teacher is well-versed in the literature, context and history of the language. Adiya believes that foreign language advancement will give her competitive job options and allow her to participate more freely in a multicultural world. She believes that graduates will be empowered with better knowledge and skills that will enable them to excel in their future fields.

Source: OECD Future of Education and Skills 2030 Student Voices on Curriculum (Re)design campaign, https://www.oecd.org/education/2030-project/educationwewant/.

The intention of offering student choice might be to accord students a certain degree of decision-making within set parameters, such as when considering elective subject areas within a course structure (e.g., choosing either biology, physics or chemistry as a science course) or modules to study within a suite of offerings. However, countries and jurisdictions find that the student choices can be influenced by factors beyond their individual interests or relevant and purposeful areas of study. These include choices based on examination requirements, subject areas selected by their friends or subject areas perceived to be less difficult (Voogt et al., 2018[75]).

To enable optimal student choice, it is important that steps are taken at both systemic and school levels to ensure:

- equity of access for all students by removing barriers that limit or eliminate learning opportunities (OECD, 2021[87]);
- that assessment strategies and tools used within and across subject areas are appropriately varied and challenging, and do not have an undue influence on the subject areas or courses favoured by students;
- that students receive clear information about the value each subject area has in terms of the competencies acquired by learners and why it is important to choose subject areas of interest to and relevance for them.

Student voice

It is important to engage students and listen to their declared interests and perspectives. Student voice is a way of enabling learners to exercise their opinions or views on issues on decision-making regarding school programmes and operations, inaction from teachers or schools, and on the matters raised or perspectives offered by students.

However, several issues need consideration:

- Despite the opportunity this provides in terms of enhanced learner engagement, it is often reported that a lack of follow-through from teachers or schools can result in student voice being perceived as tokenistic and insincere.
- Student voice can be misunderstood as "negative" and mistreated as "irresponsible opinion" regarding the value students place on their school experience and the world around them.
- In some cultural settings, students might consciously or subconsciously express what they think teachers or parents wish to hear and corresponds to social desirability.

Therefore, it should not be assumed that students' judgements are based on informed, independent and authentic thought regarding the options available to them. At the heart of this, while a student might genuinely believe their position on a matter is authentic and objective, they can be unaware of how biases in the media, the manipulation of data or polarised views in society influence what they understand to be important and relevant.

When initiating policies and practices that promote student voice it is important that:

- structural support is in place to assist students in both identifying and presenting their individual and collective views, concerns and ideas;
- there is strong commitment in and across schools to not only provide a platform, but also to respond to issues and matters raised and prioritised by students;
- due emphasis is given to engaging students in inquiry-based activities and the acquisition of competencies essential for accessing and analysing different perspectives and claims, such as digital literacy, critical thinking and reflection.

Box 4.6 presents the case of how student voice is included in legislation in Portugal. An example of policy and practice on student/teacher co-creation is also provided by Finnian, a student from Ireland (Box 4.7). Nakai from Ireland shares her views on student engagement in learning (Box 4.8).

Box 4.6. Student voice in Portuguese legislation

Within a process of national consultation, **Portuguese** students were given the opportunity to have a voice in their education system at the Students' Voice Conference, held in Leiria in November 2016. At this national event, children and youth from pre-school to higher education had the opportunity to discuss education and provide the Minister of Education with some suggestions to foster transformation in the system.

Students' Voice thus proved to be a useful means of reflection for future decisions regarding education, and it was presented and replicated with national and international students during the Education 2030 5th Informal Working Group Meeting that took place in Lisbon from 16–18 May 2017. During this international event, it was decided to continue the active involvement of students in their own educational path, through the creation of a Student Agency in Portugal.

In 2018, after a pilot school year on Curriculum Autonomy and Flexibility involving more than 200 school clusters, the Decree-law 55/2018 was issued. This set out the curriculum for primary and secondary

education, the guiding principles for the design, implementation and evaluation of the learning process to ensure that every student acquires knowledge and develops the skills and attitudes which contribute to the achievement of the competences outlined in the Students' Profile by the end of compulsory schooling.

In this legislative document, Article 19 on priorities and core curriculum options states that "schools must foster students' involvement by defining procedures catering for their ongoing consultation and participation in the design of curriculum options and in the evaluation of their effectiveness in the students' learning" (DL 55/2018, 6th July, Article 19, Point 16).

As a follow-up to this, schools have created several student networks at the regional level to foster student voices and action on their education (either in a formal or informal approach). There have also been several webinars and meetings at a national level involving students in school decisions and in their educational process.

Currently, there is a Portuguese Schools Network composed of seven anchor schools regarding student agency. This network is comprised of students, teachers and school leaders, in a co-agency approach, with regular meetings and webinars, also in co-operation with the Ministry of Education. This aims to build a vision for innovation in school organisation and management; share experiences and innovative practices within the scope of inclusion, autonomy and curricular flexibility; and promote collaborative work between teachers and among students for transformation and innovation in education.

Students from these schools have been regular participants in national conferences and meetings regarding curriculum autonomy and flexibility and are thus developing several competency areas outlined in the Students' Profile while preparing themselves to engage in a fast-changing world as informed and responsible citizens.

Source: Eulália Alexandre, Deputy Director, Directorate General for Education, Portugal.

Box 4.7. Teacher and student co-creation

Finnian, an 18-year-old student in **Ireland**, discusses the importance of student voice, which is at the heart of the work in his school and has been for many years.

"Student voice is embedded into the cornerstone of our school and permeates the teaching and learning across all aspects of our school. I believe student voice is critical in determining what we are learning and how we are learning".

His school focuses on formative assessment, learning intentions and success criteria. Teachers seek student engagement and make changes in their teaching practices as a result of this communication, and teachers share learning intentions with students. Together with teachers, students develop and co-create success criteria, and they provide feedback to move learning forward. Every class is tailored to meet the needs of the students in the class in a way that it never has been before.

Finnian finds that the success of this collaboration has led not only to enhanced student-teacher relationships but also to greater student engagement and interest with course content. Students engage more meaningfully, and with greater interest, when they feel the material being taught is done so in a manner that they feel is personalised to them and their learning styles. He believes that if student voice was heard and acted upon across all areas of the curriculum, then this could foster powerful learning for all, as it has done for him and the students at his school. The focus on student voice has changed the way decisions are made in their school and classrooms for the better.

Source: OECD Future of Education and Skills 2030 Student Voices on Curriculum (Re)design campaign, https://www.oecd.org/education/2030-project/educationwewant/.

Box 4.8. A student's thoughts on how to engage students in learning

Nakai, a 16-year-old student in **Ireland**, shares ideas about how to improve the way students learn: "I think that the students of today learn by doing. By this I mean that if we actively engage with what is going on and can relate to it, we are more likely to have a positive learning experience, and more likely to be able to recall what we have learned".

She finds that there is nothing that affects students more than what is going on around them, and yet many students are unaware of or uninterested in current affairs. Nakai also points to the fact that many students get their news from social media, which provides information that is often anecdotal, poorly researched, exaggerated or untrustworthy. She believes we can tackle this problem while also changing how students learn for the better by integrating current affairs into the curriculum. For example, relating information in textbooks to current events, reading newspaper articles and then discussing them as a class, or watching videos of news channels reporting on today's events. As a transition year student, Nakai finds that a shift away from textbooks makes for different and more exciting school days. Current affairs teach students about politics, natural disasters, public health and more. There is never a dull moment, and there are always new items to investigate. Nakai believes that this active way of learning benefits students more than reading from textbooks, which tend to focus on very specific areas that do not seem relevant to developing competencies needed to succeed in the real world. "Interest, engagement and enjoyment of the curriculum would be greatly improved through this change in how we learn".

Source: OECD Future of Education and Skills 2030 Student Voices on Curriculum (Re)design campaign, https://www.oecd.org/education/2030-project/educationwewant/.

Student agency

Granting sufficient autonomy for students to have agency over their learning has implications for learners, teachers and schools. An unintended consequence of promoting student agency is that reforms become hollow promises unless a commensurate level of autonomy and flexibility is granted to teachers and schools. The managerial and structural flexibility needed to put agency into practice is significant and needs to be granted to schools and teachers across curriculum, pedagogy, assessment and time allocation to achieve the intended benefits. Furthermore, teachers must be able to use their professional judgement to determine how core concepts and skills based on the broader goals of the curriculum are to be acquired by students while providing for individual needs and interests.

Another unintended consequence of enabled student agency is the potential for inequity, particularly when some students have had limited prior opportunities to contribute to decisions about their own learning. This means that different individuals and student groups, especially those from socio-economically

disadvantaged backgrounds, will need additional support and guidance from teachers and schools to develop the knowledge, skills and dispositions to make best use of agency (OECD, 2019[39]).

Lessons from student agency initiatives are:

- policies that promote and enable learner and professional autonomy and flexibility need to go hand-in-hand at school and system levels;
- curriculum structure needs to be sufficiently flexible to avoid locking in specific topics, resources or contexts and open up how students can engage in meaningful, relevant and engaging learning experiences;
- students need insights into the scope and depth of various modes of teaching and learning available to them, with monitoring processes to ensure equity of access and opportunity.

One of the most common unexpected consequences for countries and jurisdictions introducing student choice, student voice or student agency is caused when a clear distinction is not made between these ways of engaging learners. In addition to understanding and using the appropriate terminology, countries and jurisdictions must:

- specify the scope and limitations of autonomy, and ensure this is communicated to all stakeholders;
- recognise the implications for schools in terms of organisational change, and ensure that measures are taken to support the autonomy learners are granted;
- monitor how students use their autonomy, to identify and rectify equity and/or access issues.

EdTech industry

One intention of curriculum flexibility and autonomy is to encourage innovation in response to student needs, local contexts and emerging areas of learning. However, without the right incentives, future directions or a well-established conceptual framework for learning and well-being, EdTech might replicate digital versions of current issues with education systems. It is important to transform EdTech towards the aims set out in the OECD Learning Compass, such as valuing and supporting agency and well-being, instead of simply amplifying learning and teaching practices such as “preparing for the test”.

Box 4.9. Ensuring inclusive and flexible education for students with disabilities via technologies

The **United Robotics Group** (URG) focuses on improving education for young students with autism and hospitalised children by prioritising inclusivity and equality. With the introduction of the NAO humanoid robot, the URG demonstrates how robotics can promote well-being and create a supportive space for diverse learners. Through the HERO Solution program in Italy and the Ask NAO Tablet program in France, the use of NAO is exemplified in enhancing self-expression, exercise participation and interactive communication.

Supporting children with autism

The HERO Solution programme, utilising SoftBank Robotics' NAO robot, plays a vital role in supporting children with autism. By incorporating robotics into education, the programme positively impacts children with autism, as they can find robots less visually overwhelming than interacting with humans, potentially leading to improved communications. As a therapeutic mediator, NAO fosters connections and creates a safe environment for self-expression, providing comfort and reassurance to these children. Specialised schools have developed programmes that enable autistic children to use the robot as a means of expression, encouraging creative communication and promoting emotional well-being. Through interactive exercises and guidance from NAO, children gain confidence, develop motor skills, and take risks in a non-threatening setting, empowering them to actively engage in their own development.

Supporting hospitalised children

The Ask NAO Tablet programme in France addresses the challenge of connectivity and inclusivity for hospitalised children. By utilising the NAO robot as a physical presence in the classroom on behalf of the hospitalised child, the programme creates an inclusive learning environment and ensures that children undergoing medical treatment stay connected with their peers and educational experiences. Tablets connect participants to NAO's visual and auditory interfaces, enabling interactive communication and engagement. Through the robot's eyes and movements, the child can actively participate in classroom activities, both academically and socially, ensuring they remain engaged with their studies and connected to their school community. This innovative approach highlights the importance of well-being alongside academic progress, ensuring that hospitalised children do not miss out on essential educational experiences. NAO acts as an avatar, promoting involvement and equality in the educational experience, allowing every child, regardless of their abilities or circumstances, to learn and thrive academically.

URG believes in the potential of robotics to transform education into more inclusive and student-centred learning. By collaborating with educators, specialists and other stakeholders, technology can be a catalyst for positive change. Through humanoid robots like NAO, educational institutions can pave the way for a more inclusive and equitable future for students with autism and other diverse learning needs. Thus, students can freely express themselves, participate in exercises, and engage in interactive communication. The URG's initiatives in Italy and France showcase the potential of robotics to transform education by prioritising inclusivity and equality, ultimately fostering a nurturing and supportive learning environment for all students.

Source: The OECD Future of Education and Skills 2030. Focus Group 2B (France). Emile Kroëger (United Group Robotics).

New technologies should be solutions for a better future, not part of the problem. Assessing the benefits (e.g., detecting struggling students to help them at an early stage) and risks (e.g., algorithm biases), and seeking new public-private partnerships is important for making EdTech part of the larger learning ecosystem. Furthermore, for innovation in teaching and learning to occur, schools and teachers must take risks and learn from their mistakes, building a healthy school culture that allows and encourages such outcomes.

Community engagement is also crucial to foster innovation in an inclusive manner and enable existing and potential stakeholders to inspire and explore new ideas in partnership with schools, teachers and learners. Private sector engagement is an important mechanism for creating benefits in curriculum provision. Some countries and jurisdictions recognise the private sector as an important stakeholder in curriculum reform. Moreover, as more companies commit to socially responsible behaviours and seek to embed these in their corporate manifestos, the potential benefits for education are significant, particularly in relation to exploring new pedagogical and assessment strategies and tools.

However, some countries and jurisdictions report that an unanticipated consequence of engagement with the private sector can be that companies primarily try to sell their products or approach schools purely for promotional purposes rather than to engage in dialogue and co-creation. While this might be understandable given that the schooling sector presents a large market opportunity for business, it is essential that all parties are committed to mutually beneficial outcomes from public-private partnerships. In the case of schools, this invariably concerns the enhancement of teaching and learning.

It is important that the value of a proposed partnership is stated in terms of what each partner contributes and gains from engaging in an innovative approach to supporting students' learning and teachers' work. As stated by the Council for Corporate and School Partnerships (2004[99]), this kind of partnership can be defined as:

> *…a mutually supportive relationship between a business and a school or school district in which the partners commit themselves to specific goals and activities intended to benefit students and schools. In many cases, a partnership is a win-win situation for all parties. In addition to improving the education experience, the business partners will frequently realise benefits as well, such as enhanced goodwill and a stronger presence in the community. (p 3)*

In its guidance to businesses and schools, the Council lists 18 steps as a roadmap for successful public-private partnerships (Box 4.10).

Box 4.10. Establishing public-private partnerships in education

Getting started

1. Determine if your school or students have unmet needs and whether forming a business partnership to meet those needs would enhance the student experience.
2. Identify and research potential partners.
3. Understand your core values.
4. Draft a partnership proposal and present it to your potential partner.

Laying the foundations: Developing the partnership's core values

1. Have a frank discussion about values, goals and needs.
2. Assess the impact of partnership on the academic, social and physical well-being of students.
3. Define short and long-range goals of partnership, including expected outcomes.
4. Collaborate with your partner to identify activities that meet the goals of all involved.
5. Align activities with education goals and school and district goals.

Implementation: Translating values into action

1. Ensure that partnership activities are integrated into school and business culture.
2. Ensure that the partnership provides opportunities for students, teachers and business employees to interact with each other and at community, school and business sites.
3. Establish a formal (and written) management structure with specific individuals assigned to manage partnerships to ensure accountability, provide quality control and monitor alignment with partnership goals.
4. Provide training for all involved parties.
5. Secure explicit support and buy-in for the partnership throughout the school and business, at all levels.
6. Provide the opportunity for the community to review and contribute.
7. Construct internal and external communication plans and communicate regularly about intended and actual outcomes of all activities.
8. Ensure that both parties are publicly and privately recognised for their contribution.

Evaluation: Determining strengths, weaknesses and future directions

1. Based on the definitions of success determined earlier, conduct regular evaluations that include data collection and analysis to determine accomplishments, strengths and weaknesses of the partnership.

Source: The Council for Corporate & Social Partnership (2004[99]), A how-to guide for school-business partnerships.

Summary of key actions to consider for managing political and economic context

1. Properly budget resources before embarking on curriculum flexibility reform to build structural, professional and learner autonomy.
2. Make the distinction between student agency, student voice and student choice clear to stakeholders.
3. Steer EdTech industries towards co-creating to meet future demands, which should fit the broader purpose of education, instead of reproducing what exists today in a digital form, as a mere response to today's existing market demands.

Ecosystem views on conditions affecting curriculum flexibility and autonomy

It is important to stress that the four system conditions described above (system goals, system accountability, system capacity, and political and economic context) interact with and influence each other. Thus, ensuring an appropriate balance between these four conditions is needed in order to maximise the benefits of curriculum flexibility and autonomy.

Figure 4.3 and Table 4.1 represent how the aforementioned conditions for optimal curriculum flexibility and autonomy influence each other and support or hinder actors from striking the optimal balance in a learning ecosystem at each layer of the learning ecosystem (i.e., microsystem, mesosystem, ecosystem and macrosystem, see Table 4.1) (OECD, 2020[90]).

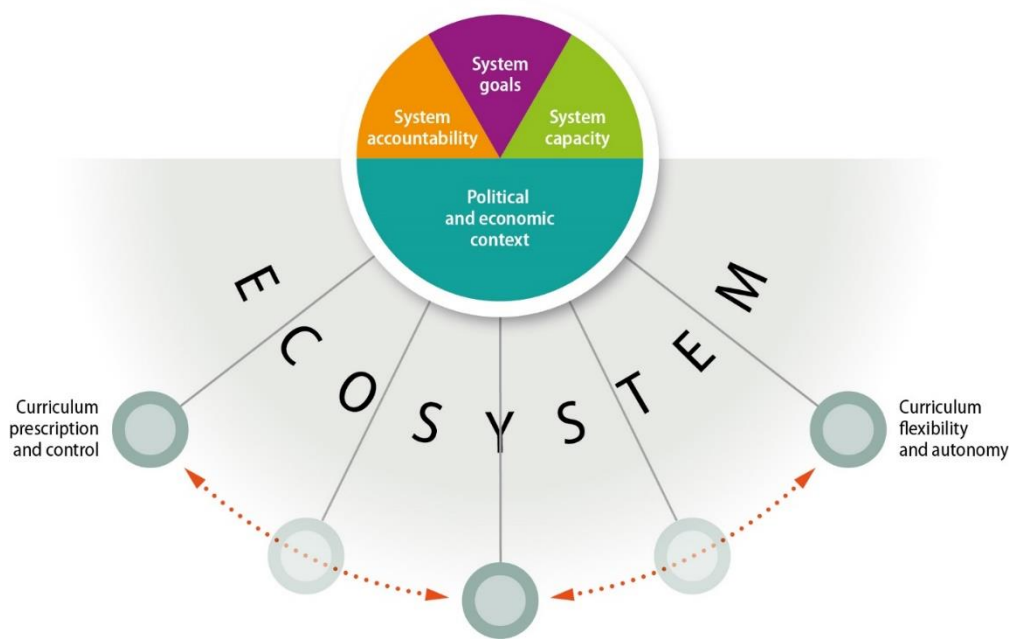
Teacher agency is crucial if curriculum reforms are to be implemented successfully. However, the differences between individualistic and ecosystemic views of agency should be noted: individualistic views of agency focus only on the capacity of individuals, while ecosystemic views of agency add "the conditions by means of which agency is achieved" (Priestley et al., 2015[66]) They highlight the need to consider cultures and structures alongside building capacity and capability, given that curricula are steeped in societal contexts. Therefore, the system conditions to be set out should be understood as the means by which agency at all levels in an ecosystem (teachers, students, school leaders and others) should be achieved.

Furthermore, teachers and school leaders need to be empowered as agents of change, drawing on their professional expertise. However, Priestley, Biesta, Robinson (2015[66]) explain that "teachers granted autonomy may simply fail to achieve agency as they, for example, habitually reproduce past patterns of behaviour, or as they lack cognitive and relational resources. Conversely, agency may be shaped and enhanced by policy that specifies goals and processes, enhancing the capability of teachers to manoeuvre between repertoires, make decisions and frame future actions".

A good example of an ecosystemic approach to the role of curriculum and system capacity (including social capital) is illustrated by **Finland**, where the national core curriculum involves a complex, open and inclusive process of creation. The curriculum development was a society-wide project with input from a range of stakeholders and a goal of making all stakeholders "experts" in the curriculum: "The curriculum work is seen as an ongoing dialogue and learning cycle that helps professionals in the education field identify the issues to be improved and promote the commitment of all stakeholders in the curriculum process. The

curriculum also sets the agenda for education at a societal level; its core purpose, objectives and principles." (Lähdemäki, 2018, p. 399[100]).

Figure 4.3. Ecosystem conditions for optimal curriculum flexibility and autonomy



Source: OECD Future of Education and Skills 2030.

Table 4.1. Interaction between conditions for optimal curriculum flexibility and autonomy at various ecosystem layers

Scale	System goals (curricular goals)	System accountability	System capacity	Political and economic context
Macrosystem	Policies, systems and culture – e.g., education goals, economic policy, societal expectations (beliefs and values about the curriculum) that interact with curriculum and align with curricular goals	Laws/regulations for accountability in the education sector, including in curriculum design/implementation	Leaders to put in place an accountability system with regard to curriculum design/implementation, which does not hinder innovation while managing risks in system delivery; media to communicate the intent of a new curriculum or curriculum reform	Leaders' political and financial commitment to curriculum change designed and implemented at any level granted curriculum autonomy
Ecosystem	Authorities granted autonomy over curriculum or learning standards at different levels (e.g., state, province, municipality, local board of education) should set curriculum goals aligned with both macro-level visions in their country and micro-level student needs	Accountability systems put in place to monitor and evaluate that curriculum goals and standards are being met; other measures in the best interest of students (e.g., mandatory professional development, closing schools based on the result of school inspection, etc.)	Teacher education colleges or other professional bodies to design and provide high quality and affordable professional learning programmes that equip and empower teachers and school leaders to exercise curriculum autonomy	Autonomy granted to different levels of government over curriculum or learning standards (state/province/municipality/local board of education); local system leaders play a role in political and financial commitment to innovation through curriculum autonomy, while ensuring students' entitlements (e.g., equal right to quality education) and avoid curriculum challenges (e.g., curriculum overload) through peer learning with regard to curriculum autonomy and flexibility
Mesosystem	Teachers and school leaders who support each other to understand the intent of curricular goals and ensure students experience school life as intended; if schools are given autonomy to set goals, these should serve the best interest of their students	School leader evaluations, peer evaluations, self-evaluation for accountability in the interest of students	School leader mentoring/coaching, peer observation, self-reflection for empowerment and improvement in the interest of students	Stakeholder buy-in for curriculum change driven by teachers and school leaders with professional autonomy, especially among parents and when the direction appears to contradict "preparing for tests"
Microsystem	Students entitled to and given ample opportunities to experience school life though the interactions with their teachers, peers, school leaders and others, aligned with system goals	Student-teacher conferences, teacher-parent conferences or third-party mediation in the interest of students (e.g., addressing bullying to ensure student well-being when part of curriculum goals)	Students informed of the degree of autonomy granted to them and supported to make informed decisions and choices about the use of curriculum flexibility in pursuit of their full potential	Buy-in from students or teachers for curriculum decisions at the classroom level to support optimal curriculum for students

Source: Developed by OECD E2030, adapted from: Sinnema, C. (2015) "Balance in curricular autonomy: the role of system conditions"; the OECD E2030 curriculum (re)design overview brochure; the ebb and flow of curricular autonomy: D. Wyse, L. Hayward, & J. Pandya (Eds.); (Sinnema, 2015[83]) "Balance between local freedom and national prescription in curricula"; OECD E2030 series of curriculum analysis reports (2020, 2021).

Knowledge gaps

Curriculum flexibility is a relatively new and under-researched concept. Areas where additional research could enhance the relevance and quality of the current literature are:

- ***Refining the definition and dimensions of curriculum flexibility*.** The concept of curriculum flexibility can be understood in different and conflicting ways. For example, the term is often used interchangeably with "individualised" or "personalised" learning. This can mean a curriculum that is able to easily respond to societal change, rather than being fixed. This publication presents five dimensions of curriculum flexibility commonly identified at the global level: 1) goals, 2) content, 3) pedagogies, 4) assessment and 5) learning time. Further consensus on the definition of curriculum flexibility and its dimensions can advance discussions about the rationale, operationalisation and assessment of the impact of curriculum flexibility on teaching and learning.
- ***Showing how curriculum flexibility and autonomy affect outcomes for students and teachers*.** While data from the 2006 PISA assessment showed a correlation between school curriculum autonomy and student performance (Huang, 2009[101]), concerns were expressed in terms of equity, with data from PISA tests spanning 2000–2009 indicating that autonomy affects student achievement positively in developed and high-performing countries but negatively in developing and low-performing countries (Hanushek, Link and Woessmann, 2013[102]). Additional research could assist in understanding the impact of increased flexibility on different populations of students in different countries, such as students from disadvantaged backgrounds or low-performing students, and identifying strategies to mitigate negative outcomes. Research on the impact of curriculum flexibility and autonomy on student well-being is scarce despite student well-being becoming a more and more articulated system goal. In general, more research on the use of assessment data would be helpful to analyse its various effects on students and teachers.
- ***Understanding how the dimensions of curriculum flexibility affect each other***. Research on the five outlined areas of flexibility highlights the considerations and conditions conducive to translating policy into practice. More insight is needed into the implications of combining some or all of these dimensions of flexibility, to evaluate the benefits, opportunities and possible negative impacts in terms of achievement, equity, engagement, teachers' job satisfaction, and teachers' and students' well-being.
- ***Exploring connections between curriculum flexibility and autonomy*.** Despite considerable literature on school and teacher autonomy, few studies have been undertaken on the autonomy that teachers have over specific aspects of the curriculum. Little is known about how a balance between curriculum flexibility and school and teacher autonomy looks in practice. Shedding light on the scope and extent of autonomy and flexibility applied in varying degrees in different schooling contexts could help determine the appropriate mix or optimal degree to support policy reforms aimed at improving student learning, teacher efficacy and the well-being of both.
- ***Assessing social capital and conditions for optimal curriculum flexibility and autonomy*.** An important research finding is that the enactment of curriculum flexibility depends on how teachers and schools use their autonomy. Literature demonstrates that building a culture of trust and self-evaluation between national authorities, schools and teachers is essential for teachers to use curriculum flexibly as intended. However, it remains unclear how to achieve this across cultural and institutional contexts. Insight into this would help policy makers understand how a culture of trust is established between stakeholders and the contribution this can make to implementation of curriculum flexibility.
- ***Developing more systemic research on the interactions between curriculum flexibility and learner and teacher autonomy.*** Much of the research on curriculum autonomy looks at

professional autonomy for teachers and schools. Student-centred approaches to curriculum design and implementation are increasingly visible both on political agendas and in recent literature. However, systemic research is still missing on the interactions between curriculum flexibility and learner autonomy in different student-centred approaches. This publication summarises emerging categorisations and research. However, more systemic and concerted efforts are required to inform policies and practices in curriculum design. This should include more precise research on interactions between curriculum flexibility and teacher autonomy, including more recent concepts such as connected autonomy, and teacher agency, co-agency and collective agency.

References

Abeles, V. and G. Rubenstein (2015), *Beyond measure: Rescuing an overscheduled, overtested, underestimated generation*, Simon and Schuster. [24]

AITSL (2017), *Australian Professional Standards for Teaching*, https://www.aitsl.edu.au/australian%02professional-standards-for-teachers/standards/list. [72]

Australian Primary Principals Association (2014), *School Autonomy in Primary Education*, https://appa.asn.au/wp-content/uploads/2020/05/APPA-School-Autonomy-Report.pdf. [91]

Benevene, P., S. De Stasio and C. Fiorilli (2020), "Editorial: Well-Being of School Teachers in Their Work Environment", *Frontiers in Psychology*, Vol. 11, https://doi.org/10.3389/fpsyg.2020.01239. [56]

Brill, F. et al. (2018), "What Impact Does Accountability Have On Curriculum, Standards and Engagement In Education? A Literature Review National Foundation for Educational Research (NFER) What Impact Does Accountability Have On Curriculum, Standards and Engagement In Education? A Literature Review", http://www.nfer.ac.uk (accessed on 26 April 2022). [12]

Burgess, P. and S. Kennedy (1998), *What Gets Tested, Gets Taught; Who Gets Tested, Gets Taught: Curriculum Framework Development Process*, Mid-South Regional Resource Center. [23]

Caldwell, B. (2016), "Impact of school autonomy on student achievement: cases from Australia", *International Journal of Educational Management*, Vol. 30/7, pp. 1171-1187, https://doi.org/10.1108/ijem-10-2015-0144. [44]

Cho, E. and T. Chan (2020), "Children's wellbeing in a high-stakes testing environment: The case of Hong Kong", *Children and Youth Services Review*, Vol. 109, p. 104694, https://doi.org/10.1016/j.childyouth.2019.104694. [25]

Clark, C. and P. Peterson (1986), *Teachers' Thought Processes*, Macmillan & Co LDT. [69]

Coleman, J. (1988), "Social Capital in the Creation of Human Capital", *American Journal of Sociology*, Vol. 94, pp. S95-S120, https://doi.org/10.1086/228943. [58]

Collinson, V. (2012), “Sources of teachers’ values and attitudes”, *Teacher Development*, Vol. 16/3, pp. 321-344, https://doi.org/10.1080/13664530.2012.688675. [95]

Conroy, D. (2004), “The Unique Psychological Meanings of Multidimensional Fears of Failing”, *Journal of Sport and Exercise Psychology*, Vol. 26/3, pp. 484-491, https://doi.org/10.1123/jsep.26.3.484. [33]

Crooks, T. (1988), “The Impact of Classroom Evaluation Practices on Students”, *Review of Educational Research*, Vol. 58/4, https://doi.org/10.3102/00346543058004438. [13]

Daly, A. (2012), “Data, Dyads, and Dynamics: Exploring Data Use and Social Networks in Educational Improvement”, *Teachers College Record*, Vol. 114/11, pp. 1-38, https://doi.org/10.1177/016146811211401103. [61]

Daly, A. et al. (2014), “The Critical Role of Brokers in the Access and Use of Evidence at the School and District Level”, in *Using Research Evidence in Education*, Springer International Publishing, Cham, https://doi.org/10.1007/978-3-319-04690-7_3. [62]

Educação (2017), *Students’ Profile by the End*. [4]

Elliot, A. and K. Sheldon (1997), “Avoidance achievement motivation: A personal goals analysis.”, *Journal of Personality and Social Psychology*, Vol. 73/1, pp. 171-185, https://doi.org/10.1037/0022-3514.73.1.171. [32]

Erss, M. (2018), “‘Complete freedom to choose within limits’ – teachers’ views of curricular autonomy, agency and control in Estonia, Finland and Germany”, *The Curriculum Journal*, Vol. 29/2, pp. 238-256, https://doi.org/10.1080/09585176.2018.1445514. [76]

Erss, M. and V. Kalmus (2018), “Discourses of teacher autonomy and the role of teachers in Estonian, Finnish and Bavarian teachers’ newspapers in 1991–2010”, *Teaching and Teacher Education*, Vol. 76, pp. 95-105. [3]

Erss, M., V. Kalmus and T. Autio (2016), “‘Walking a fine line’: Teachers’ perception of curricular autonomy in Estonia, Finland and Germany”, *Journal of Curriculum Studies*, Vol. 48/5, pp. 589-609, https://doi.org/10.1080/00220272.2016.1167960. [77]

Erss, M., V. Kalmus and T. Autio (2016), “’Walking a fine line’: Teachers’ perfeptions of curricular auttonomy in Estonia, Finland, and Germany”, *Journal of Curriculum Sutdies*, Vol. 48/5, pp. 589-609. [48]

European Commission (2020), *The Education and Training targets*, https://op.europa.eu/webpub/eac/education-and-training-monitor-2020/en/chapters/chapter2.html#ch2-3. [52]

Figlio, D. and S. Loeb (2011), *School Accountability*, Elsevier B.V. [19]

Frederiksen, J. and A. Collins (1989), “A Systems Approach to Educational Testing”, *Educational Researcher*, Vol. 18/9, https://doi.org/10.3102/0013189X018009027. [15]

Fullan, M. (2020), *Leading in a culture of change*, Jossey-Bass. [60]

Greany, T. and J. Waterhouse (2016), “Rebels against the system”, *International Journal of Educational Management*, Vol. 30/7, pp. 1188-1206, https://doi.org/10.1108/ijem-11-2015-0148. [42]

Guess, P. and S. McCane-Bowling (2013), “Teacher Support and Life Satisfaction”, *Education and Urban Society*, Vol. 48/1, pp. 30-47, https://doi.org/10.1177/0013124513514604. [37]

Gustafsson, H., S. Sagar and A. Stenling (2016), “Fear of failure, psychological stress, and burnout among adolescent athletes competing in high level sport”, *Scandinavian Journal of Medicine & Science in Sports*, Vol. 27/12, pp. 2091-2102, https://doi.org/10.1111/sms.12797. [34]

Hanushek, E., S. Link and L. Woessmann (2013), “Does school autonomy make sense everywhere? Panel estimates from PISA”, *Journal of Development Economics*, Vol. 104, pp. 212-232, https://doi.org/10.1016/j.jdeveco.2012.08.002. [102]

Hargreaves, A., L. Earl and J. Ryan (2013), *Schooling for change : reinventing education for early adolescents (3rd.)*, Falmer Press, https://www.routledge.com/Schooling-for-Change-Reinventing-Education-for-Early-Adolescents/Earl-Hargreaves-Ryan/p/book/9780750704908 (accessed on 5 May 2022). [21]

Harkins, S. (ed.) (2001), *Multiple perspectives on the effects of evaluation on performance: Toward an integration.*, Springer Science & Business Media. [14]

Hattie, J. (2015), “The applicability of Visible Learning to higher education.”, *Scholarship of Teaching and Learning in Psychology*, Vol. 1/1, pp. 79-91, https://doi.org/10.1037/stl0000021. [50]

Hattie, J. and H. Timperley (2007), “The Power of Feedback”, *Review of Educational Research*, Vol. 77/1, pp. 81-112, https://doi.org/10.3102/003465430298487. [74]

Hawthrone, R. (1990), “Analyzing School-Based Collaborative Curriculum Decision Making”, *Journal of Curriculum and Supervision*. [70]

Hong, W. and P. Youngs (2016), “Why are teachers afraid of curricular autonomy? Contradictory effects of the new national curriculum in South Korea”, *Asia Pacific Journal of Education*, Vol. 36/sup1, pp. 20-33, https://doi.org/10.1080/02188791.2014.959471. [80]

Hopkins, D. (2013), “Exploding the myths of school reform”, *School Leadership & Management*, Vol. 33/4, pp. 304-321, https://doi.org/10.1080/13632434.2013.793493. [40]

Huang, M. (2009), “Classroom homogeneity and the distribution of student math performance: A country-level fixed-effects analysis”, *Social Science Research*, Vol. 38/4, pp. 781-791, https://doi.org/10.1016/j.ssresearch.2009.05.001. [101]

Ko, J., Y. Cheng and T. Lee (2016), “The development of school autonomy and accountability in Hong Kong”, *International Journal of Educational Management*, Vol. 30/7, pp. 1207-1230, https://doi.org/10.1108/ijem-10-2015-0145. [47]

Ko, J., Y. Cheng and T. Lee (2016), “The development of school autonomy and accountability in Hong Kong”, *International Journal of Educational Management*, Vol. 30/7, pp. 1207-1230, https://doi.org/10.1108/IJEM-10-2015-0145. [45]

Kuiper, K. (2017), “Reflection, writing, and transformative learning for college teachers”, *Journal of Transformative Learning*, Vol. 4/2, https://jotl.uco.edu/index.php/jotl/article/view/182/133. [82]

Kuiper, W. and J. Berkvens (Eds.) (2013), *Balancing curriculum regulation and freedom across Europe*. [10]

Kuiper, W. and J. Berkvens (eds.) (2013), *Curricular balance based on dialogue, cooperation and trust – The case of Finland*, SLO. [79]

Kyriacou, C. (2011), *Teacher stress: From prevalence to resilience*. [96]

Lähdemäki, J. (2018), "Case Study: The Finnish National Curriculum 2016—A Co-created National Education Policy", in *Sustainability, Human Well-Being, and the Future of Education*, Springer International Publishing, Cham, https://doi.org/10.1007/978-3-319-78580-6_13. [100]

Leat, D. and U. Thomas (2018), "Exploring the role of 'brokers' in developing a localised curriculum", *The Curriculum Journal*, Vol. 29/2, pp. 201-218, https://doi.org/10.1080/09585176.2018.1445513. [49]

Lim, L. (2014), "Critical thinking and the anti-liberal state: the politics of pedagogic recontextualization in Singapore", *Discourse: Studies in the Cultural Politics of Education*, Vol. 35/5, pp. 692-704, https://doi.org/10.1080/01596306.2014.927173. [26]

Lin, N. (2001), *Social Capital*, Cambridge University Press, https://doi.org/10.1017/cbo9780511815447. [59]

Liu, L., H. Song and P. Miao (2018), "Navigating individual and collective notions of teacher wellbeing as a complex phenomenon shaped by national context", *Compare: a journal of comparative and international education*, Vol. 48/1, pp. 128-146. [55]

Lundgren, U. (2013), *Balancing Curriculum Regulation*, http://www.cidree.org/fileadmin/files/pdf/publications/YB_13_Balancing_Curriculum_Regulation_and_Freedom.pdf#page=270. [94]

Maes, F. et al. (2012), "Evidence-based Education", *TIJDSCHRIFT VOOR LERARENOPLEIDER*, Vol. 33/1, pp. 12-19. [81]

Mausethagen, S. (2020), *Redefining public values: data use and value dilemmas in education*, https://doi.org/10.1080/20004508.2020.1733744. [18]

McCallum, B., E. Hargreaves and C. Gipps (2000), "Learning: The pupil's voice", *Cambridge Journal of Education*, Vol. 30/2, pp. 275-289, https://doi.org/10.1080/713657145. [73]

Messick, S. (1987), "VALIDITY", *ETS Research Report Series*, Vol. 1987/2, https://doi.org/10.1002/j.2330-8516.1987.tb00244.x. [16]

Minarechová, M. (2012), "Negative impacts of high-stakes testing", *Journal of Pedagogy / Pedagogický casopis*, Vol. 3/1, pp. 82-100, https://doi.org/10.2478/v10159-012-0004-x. [27]

Mkandawire, S. (2010), "Impediments to Curriculum Implementation in Learning Institutions", *African Higher Education Review*, Vol. 8/2, pp. 1-15. [71]

Mmantsetsa Marope (ed.) (2016), *What makes a quality curriculum?Current and Critical Issues in Curriculum and Learning*, https://unesdoc.unesco.org/in/documentViewer.xhtml?v=2.1.196&id=p::usmarcdef_0000243975&file=/in/rest/annotationSVC/DownloadWatermarkedAttachment/attach_import_7a36cb54-1044-443b-88da-66c2a0fb7df9%3F_%3D243975eng.pdf&locale=en&multi=true&ark=/ark:/48223/pf0000243975/PDF/243975eng.pdf#%5B%7B%22num%22%3A88%2C%22gen%22%3A0%7D%2C%7B%22name%22%3A%22XYZ%22%7D%2C68%2C346%2C0%5D (accessed on 26 April 2022). [84]

Moreno, J. (2007), "The Dynamics of Curriculum Design and Development: Scenarios for Curriculum Evolution", in *School Knowledge in Comparative and Historical Perspective*, Springer Netherlands, Dordrecht, https://doi.org/10.1007/978-1-4020-5736-6_12. [92]

Muijs, D. and D. Reynolds (2005), *Effective Teaching: Evidence and Practice*, SAGE Publications Ltd. [30]

Mulvenon, S., C. Stegman and G. Ritter (2005), "Test Anxiety: A Multifaceted Study on the Perceptions of Teachers, Principals, Counselors, Students, and Parents", *International Journal of Testing*, Vol. 5/1, pp. 37-61, https://doi.org/10.1207/s15327574ijt0501_4. [28]

Muskin, J. (2015), *Student Learning Assessment and the Curriculum: issues and implications*, http://www.ibe.unesco.org/sites/default/files/resources/ipr1-muskin-assessmentcurriculum_eng.pdf. [22]

Nieveen, N. and W. Kuiper (2012), "Balancing Curriculum Freedom and Regulation in the Netherlands", *European Educational Research Journal*, Vol. 11/3, https://doi.org/10.2304/eerj.2012.11.3.35 (accessed on 4 August 2023). [93]

Oates, T. (2011), "Could do better: using international comparisons to refine the National Curriculum in England", *The Curriculum Journal*, Vol. 22/2, pp. 121-150, https://doi.org/10.1080/09585176.2011.578908. [89]

OECD (2021), *Adapting Curriculum to Bridge Equity Gaps: Towards an Inclusive Curriculum*, OECD Publishing, Paris, https://doi.org/10.1787/6b49e118-en. [87]

OECD (2021), *Embedding Values and Attitudes in Curriculum: Shaping a Better Future*, OECD Publishing, Paris, https://doi.org/10.1787/aee2adcd-en. [86]

OECD (2020), "Curriculum (re)design A series of thematic reports from the OECD Education 2030 project OVERVIEW BROCHURE". [90]

OECD (2020), *Curriculum Overload: A Way Forward*, OECD Publishing, Paris, https://doi.org/10.1787/3081ceca-en. [85]

OECD (2020), *What Students Learn Matters: Towards a 21st Century Curriculum*, OECD Publishing, Paris, https://doi.org/10.1787/d86d4d9a-en. [2]

OECD (2019), *PISA 2018 Results (Volume III): What School Life Means for Students' Lives*, PISA, OECD Publishing, Paris, https://doi.org/10.1787/acd78851-en. [38]

OECD (2019), *TALIS 2018 Results (Volume I): Teachers and School Leaders as Lifelong Learners*, TALIS, OECD Publishing, Paris, https://doi.org/10.1787/888933931943. [7]

OECD (2019), "Well-being 2030 Action OECD FUTURE OF EDUCATION AND SKILLS 2030 A SERIES OF CONCEPT NOTES", http://www.oecd.org. (accessed on 26 April 2022). [39]

OECD (2016), *PISA 2015 Results (Volume II): Policies and Practices for Successful Schools*, PISA, OECD Publishing, Paris, https://doi.org/10.1787/9789264267510-en. [46]

OECD (2013), "How resources, policies and practices are related to education outcomes", in *PISA 2012 Results: What Makes Schools Successful (Volume IV): Resources, Policies and Practices*, OECD Publishing, Paris, https://doi.org/10.1787/9789264201156-5-en. [17]

OECD (2011), "School Autonomy and Accountability: Are They Related to Student Performance?", *PISA in Focus*, No. 9, OECD Publishing, Paris, https://doi.org/10.1787/5k9h362kcx9w-en. [41]

OECD (n.d.), *Declaration on Building Equitable Societies Through Education, OECD/LEGAL/0485*, https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-0485 (accessed on 30 July 2024). [1]

OECD CERI (2008), *Assessment for Learning Formative Assessment*, OECD, https://www.oecd.org/site/educeri21st/40600533.pdf. [31]

OECD Future of Education and Skills 2030 (2019), *Conceptual learning framework - Student agency for 2030*. [57]

Paradis, A. et al. (2017), "Canadian and Finnish upper-secondary school mathematics teachers' perceptions of autonomy", *Pedagogy, Culture & Society*, Vol. 26/3, pp. 381-396, https://doi.org/10.1080/14681366.2017.1407957. [97]

Parker, G. (2015), "Teachers' Autonomy", *Research in Education*, Vol. 93/1, pp. 19-33, https://doi.org/10.7227/rie.0008. [5]

Penuel, W. et al. (2010), "The Alignment of the Informal and Formal Organizational Supports for Reform: Implications for Improving Teaching in Schools", *Educational Administration Quarterly*, Vol. 46/1, pp. 57-95, https://doi.org/10.1177/1094670509353180. [63]

Priestley M and Minty S (2013), "Curriculum for Excellence: 'A brilliant idea, but. . .'", *Scottish Educational Review*, Vol. 45/1, pp. 39-52. [54]

Priestley, M. et al. (2016), "The teacher and the curriculum: exploring teacher agency.". [53]

Priestley, M. et al. (2012), "Teacher Agency in Curriculum Making: Agents of Change and Spaces for Manoeuvre", *Curriculum Inquiry*, Vol. 42/2, pp. 191-214, https://doi.org/10.1111/j.1467-873x.2012.00588.x. [67]

Pyhältö, K., J. Pietarinen and T. Soini (2018), "Dynamic and shared sense-making in large-scale curriculum reform in school districts", *The Curriculum Journal*, Vol. 29/2, pp. 181-200, https://doi.org/10.1080/09585176.2018.1447306. [98]

Ramberg, M. (2014), "What Makes Reform Work?–School-Based Conditions as Predictors of Teachers' Changing Practice after a National Curriculum Reform", *International Education Studies*, Vol. 7/6, https://doi.org/10.5539/ies.v7n6p46. [68]

Rawling, E. (2015), "Curriculum change and examination reform for geography 14–19", *Geography*, Vol. 100/3, pp. 164-168, https://doi.org/10.1080/00167487.2015.12093972. [88]

Richman-Abdou, K. (2019), *https://mymodernmet.com/singapore-abolishes-exams/*. [11]

Sagar, S., D. Lavallee and C. Spray (2007), "Why young elite athletes fear failure: Consequences of failure", *Journal of Sports Sciences*, Vol. 25/11, pp. 1171-1184, https://doi.org/10.1080/02640410601040093. [35]

Sinnema, C. (2015), "The ebb and flow of curricular autonomy: Balance between local freedom and national prescription in curricula", in Wyse, D., L. Hayward and Pandaya Jessica (eds.), *The SAGE Handbook of Curriculum, Pedagogy and Assessment*, Sage, London. [83]

Sinnema, C. et al. (2021), "When seekers reap rewards and providers pay a price: The role of relationships and discussion in improving practice in a community of learning", *Teaching and Teacher Education*, Vol. 107, p. 103474, https://doi.org/10.1016/j.tate.2021.103474. [65]

Spillane, J. and C. Kim (2012), "An Exploratory Analysis of Formal School Leaders' Positioning in Instructional Advice and Information Networks in Elementary Schools", *American Journal of Education*, Vol. 119/1, pp. 73-102, https://doi.org/10.1086/667755. [64]

Suggett, D. (2015), "School autonomy: Necessary but not sufficient", *Evidence Base: A journal of evidence reviews in key policy areas*, Vol. 2015/1, pp. 1-33. [43]

Suldo, S. et al. (2009), "Teacher Support and Adolescents' Subjective Well-Being: A Mixed-Methods Investigation", *School Psychology Review*, Vol. 38/1, pp. 67-85, https://doi.org/10.1080/02796015.2009.12087850. [36]

The Council for Corporate & School Partnerships (2004), *A HOW-TO GUIDE FOR SCHOOL-BUSINESS PARTNERSHIPS*, https://www.reseaureussitemontreal.ca/wp-content/uploads/2017/12/How_to_Guide_Cocacola.pdf. [99]

Torres, R. (2021), "Does test-based school accountability have an impact on student achievement and equity in education?: A panel approach using PISA", *OECD Education Working Papers*, No. 250, OECD Publishing, Paris, https://doi.org/10.1787/0798600f-en. [20]

Tucker, R. and G. Morris (2010), "Anytime, anywhere, anyplace: Articulating the meaning of flexible delivery in built environment education", *British Journal of Educational Technology*, Vol. 42/6, pp. 904-915, https://doi.org/10.1111/j.1467-8535.2010.01138.x. [9]

UN (1989), *11. Convention on the Rights of the Child*, https://treaties.un.org/pages/ViewDetails.aspx?src=IND&mtdsg_no=IV-11&chapter=4&clang=_en (accessed on 4 August 2023). [8]

Usma Wilches, J. (2007), "Teacher Autonomy: A Critical Review of the Research and Concept beyond Applied Linguistics", *Íkala, revista de lenguaje y cultura*, Vol. 12/18, pp. 245-275, https://www.redalyc.org/articulo.oa?id=255020488010. [6]

Van de Werfhorst, H. and J. Mijs (2010), "Achievement Inequality and the Institutional Structure of Educational Systems: A Comparative Perspective", *Annual Review of Sociology*, Vol. 36/1, pp. 407-428, https://doi.org/10.1146/annurev.soc.012809.102538. [51]

Voogt, J. et al. (2018), "Education and Skills 2030 : Curriculum analysis", *8th Informal Working Group Meeting (IWG)*. [75]

Wermke, W., S. Olason Rick and M. Salokangas (2019), “Decision-making and control: perceived autonomy of teachers in Germany and Sweden”, *Journal of Curriculum Studies*, Vol. 51/3, pp. 306-325, https://doi.org/10.1080/00220272.2018.1482960. [78]

Wren, D. and J. Benson (2004), “Measuring test anxiety in children: Scale development and internal construct validation”, *Anxiety, Stress & Coping*, Vol. 17/3, pp. 227-240, https://doi.org/10.1080/10615800412331292606. [29]

Wyse, D., L. Hayward and J. Pandya (eds.) (2015), *The teacher and the curriculum: Exploring teacher agency*, SAGE Publications. [66]

Annex A. Student narratives on playful learning

Collected from FG3 Playful Learning workshop (03/01/2022)

Manuel (Portugal)

Manuel, an 18-year-old student from Portugal, believes that playful learning can be used to bridge generations and build relationships. At his school, he joined the chess club where he was taught how to play by the older students until the 7th grade, at which point he started teaching younger students. Not only did he learn how to play chess, but he found the experience of transitioning from a mentee to a mentor formative. He talks about how using play as a peer learning tool has the potential to build communities. Through the game, students developed relationships not just across grades, but also across schools through participating in inter-municipal and national tournaments. Manuel expresses how peer learning combined with chess helped him develop social and relational skills which he believes all students should learn. Games can also be the starting point for engaging the entire community in learning. Manuel gives the example of how a project in his community collected traditional outdoor games that children's parents and grandparents played when they were little. The initiative was run by the school in partnership with the municipal youth department. Over a weekend, a historian led a tour, explaining the history of their city with stops where the old-time games were set up. Manuel still remembers the experience clearly: “It culminated in a day of play between people of different generations and the learning turned out to be much more than just the games”. By using games as a starting point, the whole community was engaged in the school’s history lesson.

Kazuma (Japan)

Kazuma, a 19-year-old student from Japan, talks about how a game helped him find a new appreciation and understanding for his culture: “One of the games I enjoyed when I was a student that left an impression on me was a unique Japanese card game called Hyakunin Isshu. I played it when I was in elementary school, and it was a wonderful time for me to learn about Japanese traditions, as I was able to experience the beautiful Japanese language and scenes.” In the Japanese card game, each card is a classical 5-line poem (*tanka)* and is matched with a corresponding character or picture. The game requires you to be able to recognise the poems fast, and Kazuma talks of how he was able to train his memorisation skills when memorising the 100 poems to win Hyakunin Isshu. While classical literature can often seem intimidating Kazuma found that being introduced to the old Japanese language through a game was much less daunting. As he started to enjoy the game, he also enjoyed learning about Japanese literature and tradition, and he believes that games can be a great introduction to topics that students might otherwise find intimidating or uninteresting. However, Kazuma stresses that in schools that already struggle with resources, it can be hard to find the time for teachers to develop and incorporate games: “I grew up in a rural public school system until high school. In this environment, the number of teachers and the subjects they can teach is limited. Therefore, I feel that to incorporate play into learning, first of all, the school teachers need to be understanding and have enough time.” He points out the challenges that may arise at the interconnection of incorporating playful learning as well as new skills and knowledge into the curriculum at the same time: “I don't think it is something that can be fixed by teacher training. I believe that the current business of teachers is largely due to the increased needs of students and society like learning programing, inquiry learning, and so on.” Kazuma stresses that such changes need time, resources and more hands-on deck in order to be successful and will not happen on their own.

Sophia (Denmark)

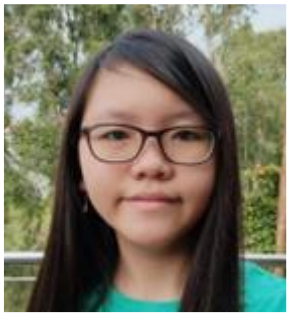
Sophia, a 17-year-old student from Denmark, believes that playful learning can create a needed sense of purpose and achievement in the classroom. Sophia shares how incorporating games specifically at the end of lessons can significantly improve student engagement: “If you know that what you do in the class becomes part of a game or competition at the end of the class, you have an immediate reason to follow along. When all the knowledge you are learning right now, can also be put to use right now, that is when you feel like the class has a clear purpose. In that way, games can create immediate gratification from

learning. You should not have to wait until the end of the year when you do good on an exam to feel gratification from your learning." Sophia believes that small games and playful exercises can give a small sense of achievement which students need to stay motivated. She also stresses how games teach her to use her knowledge in different contexts and thereby help her become a more agile and fast thinker. For instance, in her German class, they often play "quiz and swap" where the students each get a card with a question. When two people meet they must answer the other's question before they can swap cards and move on to a new partner. The first to have gone through every card wins. In this game, Sophia finds that she learns how to use the new phrases and vocabulary she has learned in a real conversation. At the same time, focusing on helping each other out to answer the questions as fast as possible makes the students try their best to negotiate meaning between them which is key to learning a new language. For games to be engaging, she thinks that it needs to make everyone feel like they are participating. On the contrary, she thinks that a bad game allows students to hide themselves away at the corner of the room. Moreover, she emphasises teacher engagement and how teachers can motivate students by being engaged themselves: "A playful teacher is contagious," she says.)

Clara (Indonesia)

If Clara, a 13-year-old student from Indonesia, could create a new curriculum, she would incorporate more playing. Online classroom games such as Quizizz, Kahoot, Blooket, Quizlet and Nearpod have been a staple in many of her classes, especially, when teaching was moved online during the pandemic. She talks about how the competitive nature of the game would make them eager to answer questions as fast as possible and, in parallel, make them learn and understand the material better without realising it. Playing games also gives both the students and teacher new energy. However, she stresses how some games are better suited for certain subjects: "[the best type of game] differs through subjects as each subject has its own methods/ ways of teaching in order to deliver the material at its best potential". For instance, she finds that online ranking or racing games would be suitable for subjects that involve a lot of memorising such as language classes or social studies. Conventional games like collaborative plays or board games are easier to incorporate into mathematics. Thus, she highlights the importance of selecting games that naturally fit into the nature of the different subjects. She believes that some subjects are easier to "play" with than others, but that all subjects can be "played" with when considerate of the right type of game.

Tara (Indonesia)



Tara, a 13-year-old student from Indonesia, thinks that her teachers should use more games in the classroom because she finds that friendly competitiveness helps her learn. “In games, we become competitive about learning, that way we end up learning more in order to try to get to first place”. Especially in language classes, she finds that games help take away the fear of speaking a foreign language in front of the whole class. Focusing on a game allows you to practice the language without worrying about being perfect. She thinks especially younger students would benefit from incorporating more playful learning. She highlights that making mistakes in-game sessions is less stressful. She highlights how the pace of the game is important to reap the benefits of playful learning. For instance, if the teacher sets a slow pace the students are quick to get distracted and disengaged. She talks about how games should not just be used to repeat material: “You also want to learn something new, instead of what you have learned before” and that new material can keep the game engaging.

Alice (Ireland)

Alice, a 16-year-old student from Ireland, finds that the difficulty of the game is central to its success: “If it is stuff that you already know, it will be repetition and you will get bored. If the content is too difficult, the game will be too hard and you become unmotivated”. She also finds that the student atmosphere matters: “Even if you are motivated, if no one else is the game will not be enjoyable or work, especially if it's a team game.” Teachers who are able to motivate students by incorporating more playful learning are generally also more popular among the students she finds. Moreover, Alice stresses that games all too often are used only at the end of chapters or revision for tests, but not as actual learning tools. While games like Kahoot are fun because you feel engaged as the name pops up on the screen, she believes that playful learning has much greater potential beyond simply being a revision tool.

Devina (Indonesia)

Devina, a 15-year-old student from Indonesia, thinks teachers and students are major parts of why she enjoys games in the classroom: “It’s nice to see that the teachers are making an effort to make the classes more fun, and that makes me more motivated to learn too.” In addition to the teacher's efforts, it is important for students to contribute to the games because the participation of everyone matters in playing a game. In short, teachers and students joining in to play classroom games make Devina more motivated to learn.

Charleine (Indonesia)

Charleine, a student from Indonesia, believes that students' preferences and moods are one of the key factors in creating a successful playful learning experience. Charleine’s teachers use Pear Deck to gauge the students’ preferences and moods at the beginning of the class and can adjust the rest of the class to how the students are feeling. She thinks that in the best classrooms the teachers listen to the students' thoughts to help them make decisions and there is a good balance between games and textbooks.

Felicia (Indonesia)

To Felicia, a student from Indonesia, playful learning is not always about games. She talks about how one of her mandarin teachers from 4th grade did not play a lot of games, "...but her way of teaching itself was very playful. This made the material much easier to understand". Pointing out that students do not necessarily want to play games all the time, she thinks that playful learning is also about taking student preferences into greater account. She believes in co-creating the classroom together as students and teachers.

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Curriculum Flexibility and Autonomy

PROMOTING A THRIVING LEARNING ENVIRONMENT

For the first time, the OECD Future of Education and Skills 2030 project conducted comprehensive curriculum analyses through the co-creation of new knowledge with a wide range of stakeholders including policy makers, academic experts, school leaders, teachers, NGOs, social partners and, most importantly, students. This report is one of six in a series presenting the first-ever comparative data on curriculum at the content level. It summarises existing literature, explores trends in curriculum adaptation, addresses challenges and strategies for effective implementation and offers policy insights drawn from real-world experiences of curriculum reforms.

This report explores curriculum flexibility and autonomy in global education systems, assessing how curricula adapt to diverse educational needs and contexts. It maps the stakeholders who influence decision-making on curriculum flexibility and discusses dilemmas faced by policymakers and practitioners between curriculum prescription and autonomy. Drawing on international examples, it illustrates how flexible curricula can enhance teaching effectiveness and inclusivity. It emphasises key strategies such as enhanced teacher training and collaborative policymaking, necessary for flexible curricula to meet educational needs. It also identifies critical factors, such as clear goals, accountability mechanisms, and societal support, which are crucial for successful curriculum implementation.

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