Embedding Values and Attitudes in Curriculum

SHAPING A BETTER FUTURE

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Table of contents

Executive summary 7

1 Attitudes and values for shaping a better future 9

Why do attitudes and values matter for shaping a better future? 10

Defining attitudes and values as part of a competency that influences decisions for future 10

Understanding the role of attitudes and values in developing competencies to shape a better future 11

Attitudes and values to appreciate holistic, integrated and long-term perspectives 14

Which attitudes and values are likely to contribute to shaping a better future towards well-being 2030? 14

Globally agreed common attitudes and values towards common future goals 17

Attitudes and values made explicit in national/jurisdictional curriculum 19

Which attitudes and values are embedded in key competencies for the future? 31

Intercultural attitudes and values as part of global competency 31

Ethical judgements and media literacy 36

Notes 40

References 41

2 Attitudes and values in subject-specific curriculum 47

How can attitudes and values be linked to subject-specific learning goals and content? 48

How are these specific skills, attitudes and values defined, measured for impact, and linked to subject learning? 49

1. Reflection 50

2. Collaboration and co-operation 53

3. Learning to learn 56

4. Respect 58

5. Responsibility 62

6. Empathy 65

7. Self-regulation 68

8. Persistence 73

9. Trust 77

Notes 84

References 85

3 Cultivating positive attitudes and values in a learning ecosystem 105

Where and how do students develop attitudes and values? 106

The OECD E2030 multi-layered ecosystem approach to curriculum change: Micro-, meso-, exo-, macro- and chrono-systems 107

Policy, people and places 111

Which attitudes and values do students aspire to develop and what does research say about the impact of teaching attitudes and values? 112
Student aspirations for developing attitudes and values in school 113
Research findings about students' attitudes and values for better learning and well-being 117
How do teachers' attitudes and values affect their students' learning and well-being? 118
Teachers' self-efficacy, enthusiasm for better student learning outcomes, job satisfaction and relationships at work 119
Teachers' perceptions of subject discipline boundaries for students' curiosity, epistemic knowledge, humility and attitudes towards learning-to-learn 119
Teacher agency and co-agency building on mutual trust, respect and responsibility –with students and parents – for better relationships, school climate, and growth mindset classroom cultures 120
Which parental attitudes and values can support children's learning and well-being? 123
Parental attitudes and values associated with student learning outcomes 123
Parental attitudes and values associated with student well-being 124
Excessive parental expectations and overly protective attitudes associated with student learning and well-being 125
How are attitudes and values connected to wider community and society? 126
Attitudes and values towards lifelong learning, starting from early childhood education and care 126
Connections of attitudes and values in local and global communities with those of school ethos and aspirations 128
Better engagement in community and conflict management 133
What do governments aspire to do to make systems more resilient at all levels? 135
Note 137
References 137

4 Challenges and strategies in embedding values 147
What are the challenges and strategies related to curriculum redesign? 148
Challenges to introducing values and attitudes into curriculum design 149
Strategies to overcome challenges to introducing values and attitudes into curriculum design 150
What are the challenges and strategies related to the school and its environment? 157
Challenges introducing values and attitudes into school and its environment 158
Strategies to overcome challenges of introducing values and attitudes into school and its environment 159
What are the challenges and strategies related to alignment with other policies? 160
Challenges in aligning curriculum with other policies 161
Strategies to overcome challenges in aligning curriculum with other policies 163
Note 169
References 169

5 Lessons learned from embedding values in curriculum 173
Six lessons learned from unintended consequences of embedding values in curriculum 174
Lesson 1. Acknowledge that some values are "caught", "sought" and "aspired to" – rather than directly "taught" 174
Lesson 2. Prepare and support schools and teachers to be able to reconcile the tension and dilemmas associated with values and attitudes 175
Lesson 3. Reassure teachers by preserving the integrity of subject-area content and appropriately addressing values in their learning contexts. 176
Lesson 4. Be aware of risks and opportunities in messaging through social media 177
Lesson 5. Make conscious efforts to reflect student voice 177

Lesson 6. Consider not only validity and reliability, but also authenticity, feasibility, sustainability, costs and scalability when assessing attitudes and values 178
Research gaps: What is still unknown about attitudes and values in curriculum? 184
How attitudes and values are "taught"', "caught"', "sought" or "aspired to" 184
How to manage national processes of negotiation and consultation in incorporating attitudes and values in curriculum 184
How to embed attitudes and values in curriculum in connection with the development of knowledge and skills 184
How to assess attitudes and values taught 185
Note 186
References 186

Contributors list 189

Tables

Table 1.1. Values articulated by international bodies and instruments 18
Table 1.2. Values explicitly embedded in the curriculum 22
Table 1.3. Common values explicitly embedded in curricula by countries/jurisdictions 25
Table 3.1. Education 2030 ecosystem approach to curriculum analysis 108
Table 4.1. Challenges and strategies related to curriculum redesign 148
Table 4.2. Places in which values are included, other than curriculum 152
Table 4.3. Approaches used to embed values in the curriculum 156
Table 4.4. Challenges and strategies related to the school and its environment 158
Table 4.5. Challenges and strategies related to alignment with other policies 161

Figures

Figure 1.1. Correlations between students' intercultural attitudes and dispositions 32
Figure 1.2. Students' respect for people from other cultures 33
Figure 1.3. Number of learning activities and students' attitudes 34
Figure 1.4. Global competency in curricula 35
Figure 1.5. Media literacy in curricula 37
Figure 2.1. CCM skills, values and attitudes in curricula 49
Figure 2.2. Reflection in curricula 53
Figure 2.3. Collaboration/co-operation in curricula 55
Figure 2.4. Learning to learn in curricula 58
Figure 2.5. Respect in curricula 61
Figure 2.6. Responsibility in curricula 65
Figure 2.7. Empathy in curricula 68
Figure 2.8. Student self-discipline is a better predictor of grades than IQ 70
Figure 2.9. Childhood self-control predicts physical health, substance dependence and several dimensions of financial success 71
Figure 2.10. Self-regulation in curricula 72
Figure 2.11. Persistence in curricula 76
Figure 2.12. Seven facets important for the development of trust in school settings 78
Figure 2.13. The OECD framework for measuring well-being and progress 79
Figure 2.14. Trust in curricula 81
Figure 3.1. The ecosystem of curriculum change 108
Figure 3.2. Growth mindset and student attitudes 118
Figure 3.3. Parents' activities and students' science performance 124
Figure 3.4. Parents' activities and students' life satisfaction 125
Figure 5.1. Domains and manifestations of socio-emotional competences (DOMASEC) 179

Boxes

Box 1.1. OECD Learning Compass categorisation of values 11
Box 1.2. The types of attitudes and values students wish to see more in curriculum for shaping the future they want 12
Box 1.3. The OECD Learning Compass Student Agency and the United Nations Convention on the Rights of the Child Article 12 15
Box 1.4. Curriculum design to support student agency, personal and social responsibility for positive societal change 27
Box 1.5. A lesson in moral education, co-designed through interactions between a teacher and students, to support student agency towards fairness, impartiality and social justice 29
Box 1.6. Service learning in action in Japan: A valuable collaborative experience for students with additional language needs 35
Box 1.7. Media literacy in Thailand: An avenue to citizenship and social responsibility 38
Box 2.1. The “Tree of Trust” - a school initiative in France to promote and measure trust 82
Box 3.1. Informal and non-formal learning of attitudes and values: Examples of lessons or proverbs from Japan and New Zealand 107
Box 3.2. Miki and Dzhafar – students’ visions for building a multi-layered learning ecosystem based on trust, empathy and co-operation 110
Box 3.3. What values matter the most for students? 113
Box 3.4. Observations by experts: Kiasu and FOMO 115
Box 3.5. Development of skills-based curriculum employing the Learning Compass ecosystem: Teacher-student co-agency in Lady Davis High School (Tel Aviv, Israel) 121
Box 3.6. Curiosity and willingness to learn through STE(A)M from early years to high school: Alcanena Schools Cluster 127
Box 3.7. Portuguese PA National Schools Network – attitudes and values as part of Student Profiles 129
Box 3.8. A collaborative approach to developing student competencies and agency: Working towards SDGs from local perspectives 134
Box 3.9. Valuing student well-being as a response to COVID 19 in Japan 135
Box 4.1. Local initiative in Delhi, India “Happiness Curriculum” 164
Box 5.1. Japan: Examples of current assessment methods valuing students’ experience 180
Box 5.2. Assessment at the Amala Foundation (UK-based): Developing competency portfolios 182

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Executive summary

An increasingly uncertain and complex world requires agile embracing of opportunities and equally responsive solutions to the challenges provoked. Under such circumstances, it is time to think harder and ask ourselves about what it is to be a human and support students to develop the types of **attitudes and values that are inherent to being human and find a sense of purpose with their own moral compass**. In doing so, students will not need to rush to a single answer, to an either-or solution, but rather reconcile tensions, dilemmas and trade-offs – for instance, between equity and freedom; autonomy and solidarity; efficiency and democratic processes; ecology and economic logic; diversity and universality; and innovation and continuity – by integrating seemingly contradictory or incompatible goals as aspects of the same reality.

Curricula can provide the opportunity for students to develop knowledge, skills, as well as values and attitudes that can support them to thrive and shape a better future towards increased well-being at individual, societal, and environmental levels. The OECD Learning Compass 2030 sets out a globally shared vision for such competencies, which students can learn both in school and beyond it.

Embedding values into curriculum is a contested topic across many countries. It is often assumed or expected that students develop values and attitudes **informally and non-formally,** e.g. through the interactions with their peers and teachers at school, siblings and parents at home, and others with whom they interact in the community. Within school, the role of "**hidden curriculum**" is also important in fostering students' attitudes and values. However, interrelated attitudes and values are increasingly identified in international agencies' goals for social cohesion and sustainable development. So too, are they reflected in key policy documents and in educational goals and curriculum design. The OECD Learning Compass defines values and attitudes as follows:

- **Values** are the guiding principles that underpin what people believe to be important when making decisions in all areas of private and public life.
- **Attitudes** are underpinned by values and beliefs and have an influence on behaviour.

Similar terminologies include "affective outcomes," "aptitudes," "beliefs," "dispositions," "ethics," "morals," "mindset," "socio-emotional skills," "soft skills," "character qualities" or "virtues." The OECD Learning Compass further classifies attitudes and values into four broad categories:

- **personal** – those related to defining a person's individual life goals;
- **social** – those related to positive interactions and relationships with others;
- **societal** – those related to promoting social and institutional cohesion;
- **human** – those related to promoting cultural and global well-being.

The attitudes and values articulated in curriculum differ across countries and jurisdictions; however, there is nonetheless a degree of commonality of purpose in that they all support and promote an equitable, humane, just and diverse society – e.g. respect, cultural diversity, personal and social responsibility, human dignity, tolerance, democracy, equality, integrity, self-awareness, justice, freedom, inclusion, global-mindedness, equity, and fairness. The precise values and attitudes, and how they are articulated in

curriculum to maximise student learning and well-being, vary considerably. They are integrated in curriculum, either **as part of general goals or subject-specific goals and content**. Countries make different choices about which attitudes and values to link to within a particular set of subjects/disciplines.

Children and young people's development of attitudes and values begins before engaging in school and continues well beyond it. In **a learning ecosystem**, everyone becomes an agent for change and mutually influences or reinforces one another – intentionally or unintentionally – through their interactions. This ecosystem involves their immediate as well as broader environment of parents, community, peers and government agencies, and includes teachers and others within school and learning contexts.

The complexities of embedding values into curriculum can be understood in three areas. In **curriculum redesign**, for example, countries reported challenges: i) reaching agreement on whether values should be addressed as part of curriculum redesign; ii) building consensus on which values and attitudes should be included in the curriculum; iii) even when agreement to include them is reached, the dissonance between values instilled through media and social media and those intended to be fostered through curriculum; and iv) harmonising values intended for inclusion in curriculum and changing values aligned with societal and economic changes. Alignment is key to successful strategies: e.g. alignment of local, national and international priorities; alignment with key stakeholder views, and building consensus; embedding values into subject-specific content or creating specific subjects to teach values; and capitalising on students' connection to communities and their social context.

In **school and its environment**, countries reported challenges in terms of: i) variation in the levels of engagement among schools in designing and managing curriculum content on values; and ii) dissonance between teachers' own values and beliefs and those values in the curriculum. Promising strategies were also reported, such as: i) providing some general guidelines to schools on the type of values to embed and how, either as part of the education legislation or the national curriculum; ii) embedding values into subject-specific content; and iii) rewarding good design and implementation practices that promote values learning across different schools.

With regards to **alignment with other policies**, countries faced challenges in: misalignment of values with those in pedagogies, textbooks and learning materials; and misalignment of values with those in assessment policies and practices. Countries reported a range of strategies, including: boosting teacher confidence and competence by articulating values education in teacher education and professional development; reviewing textbook content to align with the values promoted in curriculum; encouraging national and local initiatives to train and support teachers for pedagogies fit for purpose of instilling values; defining the purpose for assessing values and carefully considering the assessment methods that would fit for the purpose; and designing a "strategic package" or suite of measures to support the development of values.

Countries shared the lessons learned and some unintended consequences of embedding values education in curriculum design:

1. Acknowledge that some values are "caught", "sought" and "aspired to" – not directly "taught";
2. Prepare and support schools and teachers to be able to reconcile the tension and dilemmas associated with values and attitudes;
3. Reassure teachers by preserving the integrity of subject-area content and appropriately addressing values in their learning contexts;
4. Be aware of risks and opportunities in messaging through social media;
5. Make conscious efforts to reflect student voice;
6. Consider not only validity and reliability, but also authenticity, feasibility, sustainability, costs and scalability when assessing attitudes and values.

Research gaps are also indicated to further consolidate the knowledge base on values in the curriculum.

1 Attitudes and values for shaping a better future

An increasingly uncertain and complex world requires agile embracing of opportunities and equally responsive solutions to challenges. Curriculum that embraces opportunities and challenges provides students with the competencies needed to take responsibility and action to successfully navigate their futures. These competencies include knowledge and skills, as well as the values and attitudes that students can develop to thrive and shape a better future, which they can learn both in school and beyond. This chapter explores the research and data that underpin educational considerations in relation to values and attitudes. Countries/jurisdictions identify – in national and local policy and in educational goals and curriculum content – the values and attitudes they prioritise for student learning. The values and attitudes expressed in these educational instruments align with broad societal values and attitudes increasingly identified by international agencies in their future-focused goals.

Why do attitudes and values matter for shaping a better future?

Societies are changing rapidly and profoundly, stimulating environmental, economic, technological and social opportunities as well as risks. Climate change is impacting on and depleting the world's natural resources; economic and financial interdependencies have created global value chains but also uncertainty and exposure to pecuniary risk; scientific knowledge is creating new opportunities and solutions that can enrich lives, while also fuelling disruptive waves of change. Unprecedented innovation in science and technology, especially in biotechnology and artificial intelligence, is raising fundamental questions about what it is to be human. Data are being created, used and shared on a vast scale, promising expansion, growth and improved efficiencies, while posing threats in relation to cyber security and privacy protection. As the global population continues to grow, migration, urbanisation and increasing social and cultural diversity are reshaping communities and countries. However, in large parts of the world, inequalities in living standards and life expectation are widening, and conflict, instability and inertia are eroding trust and confidence in government and its institutions. The prolonged impact of the COVID-19 pandemic exacerbates existing inequalities and poses new threats and challenges (OECD, 2021[1]).

As these global environmental, economic and societal trends affect the lives of individuals and communities now and into the future, they have triggered large-scale debate and calls for international and local responses and solutions, including reimagining education and curriculum encompassing a holistic perspective – viewing learners as active protagonists in their learning and synthesising and integrating global and local aspirations (Opertti, 2021[2]). Curriculum needs to be dynamic to evolve and be transformative; it needs to be in a constant process of flux and subject to an ever-increasing range of influences and pressures.

Defining attitudes and values as part of a competency that influences decisions for future

Motivated by these changes in society, the need for rethinking how students learn in the 21st century has been championed by the OECD Learning Compass 2030, which identifies competencies necessary for students to thrive in and shape a better future. The concept of competency implies more than just the acquisition of knowledge and skills; it involves the ability to meet complex demands, by drawing on and mobilising psycho-social resources (including values and attitudes) in a particular context (OECD, 2005[3]). In 2001, the OECD Education Ministers met and issued a communiqué highlighting that "sustainable development and social cohesion depend critically on the competencies of all of our population – with competencies understood to cover knowledge, skills, attitudes and values" (OECD, 2001[4]).

Acquiring these competencies leads to desirable individual development and well-being, and to flourishing cultures and societies (Keyes and Haidt, 2003[5]). For example, perceiving and assessing what is right or wrong, good or bad in a specific situation is about ethics. It implies asking questions related to values and limits, such as: What should I do? Was I right to do that? Where are the limits? Knowing the consequences of what I did, should I have done it? This supports a holistic understanding of a competency, assuming attitudes and values are inseparable from cognitive processing. These competencies include all aspects of a competency, that is, knowledge, skills, attitudes and values that all people need for today, for the future and to become successful lifelong learners (OECD, 2019[6]).

The Learning Compass defines attitudes and values as the principles and beliefs that influence one's choices, judgements, behaviours and actions on the path towards individual, societal and environmental well-being (OECD, 2019[6]). More precisely:

- **Values** are the guiding principles that underpin what people believe to be important when making decisions in all areas of private and public life. They determine what people will prioritise in making a judgement, and what they will strive for in seeking improvement (Haste, 2018[7]) The OECD

Learning Compass classifies values, and the attitudes inherent in and related to them, into four categories (OECD, 2019[6]): personal, social, societal and human (Box 1.1).

- **Attitudes** are underpinned by values and beliefs and have an influence on behaviour (UNESCO IBE, 2013[8]). It reflects a disposition to react to something or someone positively or negatively and attitudes can vary according to specific contexts and situations (Haste, 2018[7]) Attitudes are made of a complex interweaving of beliefs and affective responses that influence individuals' views on their environment, as well as their decisions and judgements, and consequently their actions (Jarrett, 1991[9]). Attitudes are also related to socio-emotional skills: interactions with others play an important role because "relationships provide the crucible out of which develops not only conscience and ethics but also self-attitudes and identities" (Heath, 1994[10]).

The terms used to reference attitudes and values competencies in educational goals can include "**affective outcomes**," "**aptitudes**," "**beliefs**," "**dispositions**," "**ethics**," "**morality**," "**mindset**," "**socio-emotional skills**," "**soft skills**," "**character qualities**" or "**virtues**."[1]

Box 1.1. OECD Learning Compass categorisation of values

Personal values – these values are associated with who one is as a person and how one wishes to define and lead a meaningful life and meet one's goals.

Social values – these relate to principles and beliefs that influence the quality of interpersonal relationships. They include how one behaves towards others, and how one manages interactions, including conflict. Social values also reflect cultural assumptions about social well-being (i.e. what makes a community and society work effectively).

Societal values – these define the priorities of societal cultures, the shared principles and guidelines that frame social order and institutional life. These values endure when they are enshrined in social and institutional structures, documents and democratic practice and when they are endorsed through public opinion.

Human values – these have much in common with societal values. However, they are defined as transcending nations and cultures, and apply to the well-being of humanity. They can be identified across spiritual texts and Indigenous traditions spanning generations. They are often articulated in internationally agreed conventions, such as the Universal Declaration of Human Rights and the United Nations Sustainable Development Goals (SDGs).

Source: (OECD, 2019[6]).

Understanding the role of attitudes and values in developing competencies to shape a better future

As defined above, attitudes and values matter in influencing one's future because values underpin one's choices. They are closely related to **a sense of agency**, that is, one's belief that one can positively influence one's own life and the world around them (OECD, 2019[11]). Thus, they are required for shaping a better future, i.e. to meet complex demands, and for making good decisions and judgements to ensure better lives of people and well-being of the planet.

Attitudes and values are integral to developing knowledge, skills and agency:

- as motivation for acquiring and using knowledge and skills, and providing the cognitive and affective engine for agency (Cerasoli, Nicklin and Ford, 2014[12]); (Clary and Orenstein, 1991[13]; Haste, 2018[7]);

- as framing the priorities for what comprises "well-being", good personhood and good citizenship (Banks, 2006[14]; Haste, 2018[7]; Reysen and Katzarska-Miller, 2013[15]); (Killen and Smetana, 2010[16]; Hardy and Carlo, 2011[17]);
- as endorsing and supporting societal and human values that promote social capital and societal well-being (Haste, 2018[7]; Lerner, 2015[18]; Mattessich and Monsey, 1992[19]; Wood and Gray, 1991[20]; Noddings, 1992[21]; Vorauer and Sasaki, 2009[22]);
- for moral agency (Berkowitz, Miller and Bier, 2018[23]; Gough, McClosky and Meehl, 1952[24]; Hardy and Carlo, 2011[17]; Malin, Liauw and Damon, 2017[25]).

To shape the future we want, students need to be able to use their knowledge, skills, attitudes and values to act in responsible ways (OECD, 2019[26]). The student voice and their aspirations for their future collected from the students' group of the OECD Future of Education and Skills 2030 can be found in Box 1.2.

Box 1.2. The types of attitudes and values students wish to see more in curriculum for shaping the future they want

Maria Inês – Justice and empathy through civic engagement

Maria Inês, a high school student from Portugal, wrote an article for the OECD project's student-initiated newsletter The Voice, about the importance of civic engagement. She recounted a conversation she had had with a friend who was unaware of a recent presidential election in Portugal. She realised that this was not an isolated position: that a large percentage of her classmates were ill informed about local and global politics. She contrasted this with Generation Z's commitment to social causes such as climate change, and a deep sense of social justice and empathy with movements such as Black Lives Matter.

Maria Inês questioned why many of her classmates are distanced from the political systems that allow them to affect change. She believes curriculum and school systems should prepare students for real life and help them navigate society, e.g. voting, paying taxes, understanding legal rights, managing a budget. She and her classmates have been taught the quadratic formula but cannot name the branches of her country's government; can conjugate verbs, but cannot name the political party in power, which makes decisions for their future. They have been taught to study a little each day, but not the importance of keeping up with the news. She asks: what does this lack of knowledge take away from me?

While teenagers do not need to be preoccupied with politics, Maria Inês believes it is necessary for schools to provide students with the tools needed to be engaged in political and civic activity should they wish to. "We are reaching out, trying to grip our future in our hands – we just need someone to push us a little closer to it."

Source: The Voice: Newsletter of the OECD E2030 Student Sphere (2021[27]), Issue 2, June 2021, https://heyzine.com/flip-book/eb458d65ec.html.

Camille – Co-operation and tolerance

Camille, a university student in France and an Ashoka Young Changemaker, shared experiences from his childhood in Madagascar and secondary school in France. He emphasised the need for openness, tolerance, ethics and the ability to work with others. These values and attitudes enable understanding of the complexity of the world. He felt values should be integral to pedagogy and to innovative classroom

learning practices; for Camille, social-emotional and meta skills are as important as mathematics or reading in a hyper-connected, exponentially complex world.

Empathy

For Camille, empathy needs to be a foundational value in curriculum, as everyone should be able to understand the feelings and perspectives of others and use this understanding to guide one's actions for the good of all. Empathy serves not only as a moral compass, but as a tool for innovation, the capacity to understand complex problems and articulate our own ideas as well as the ideas of others.

He felt that schools could use pedagogies such as research-based learning (which involves critical thinking, understanding complexity/subjectivity and developing ethical understanding by questioning) and project-based learning (involving inductive logic and integration of learning territories and collaboration) to promote co-operation and tolerance. He stressed the importance of creating a shared vision of schools as places of social change and that this requires a systemic and collaborative approach involving parents, media and other education stakeholders. Camille concluded with a call for curricula and educational systems that nurture values to make people more humane, and ready to face future challenges.

Source: OECD Future of Education and Skills 2030 (2021[28]), Recording of the OECD Learning Compass 2030 workshop on Core Foundations, 24 May 2021, https://www.oecd.org/education/2030-project/teaching-and-learning/learning/learning-compass-2030/.

Risa – Equity and empathy

Risa, an 18-year-old student from Japan, spoke about her personal journey and how she saw curriculum as a holistic vehicle to support students in navigating their learning at school, and in the world beyond it.

Health literacy

Risa suffered from multiple health issues – Tourettes syndrome and migraine headaches – whose impacts, including their medication, created enormous stress for her. Stress affected her ability to participate in school tasks and examinations, and online learning which included constant use of a computer screen. She suggested that new and flexible approaches to teaching and learning need to cater for the individual physical and mental health needs of students, so that all students have an opportunity to experience equitable outcomes.

Bullying

Risa also spoke about the psychological impacts of bullying. Lack of empathy for her disabilities meant that she suffered bullying from other students, and lack of empathy for what occurred from her teachers.

Diversity

Risa gave other examples of why education needs to prioritise values. She empathised with LGBTQ+ students who faced challenges at school, from uniforms to changing rooms to being part of a minority within the school.

In her concluding remarks, Risa emphasised that educational systems, to be sustainable, must value understanding others, and recognise and support the health (physical and mental) and well-being of all.

Source: OECD Future of Education and Skills 2030 (2021[28]), Recording of the OECD Learning Compass 2030 workshop on Core Foundations, 24 May 2021, https://www.oecd.org/education/2030-project/teaching-and-learning/learning/learning-compass-2030/.

Attitudes and values to appreciate holistic, integrated and long-term perspectives

Many challenges of the 21st century (e.g. climate change and the depletion of natural resources; unprecedented innovation in science and technology and disruptive change; financial interdependence, growing inequalities; increasing social and cultural diversity; new challenges such as cyber security and privacy protection; and political conflict, instability and inertia) are characterised by volatility, uncertainty, ambiguity and complexity (OECD, 2018[29]). This has been often expressed as "VUCA world" as a way to reflect upon the risks and opportunities in the fast-changing society, which makes it difficult to predict the future, with the confounding of issues or fallacy of composition that cannot be explained by a single linear cause-and-effect chain (OECD, 2019[30]).

Under such circumstances, it is time to think harder and ask ourselves about what it is to be a human and support students to develop the types of attitudes and values that are inherent to being human (OECD, 2019[30]) so that they can find a sense of purpose with their own moral compass. In doing so, students will need not to rush to a single answer, to an either-or solution, but rather reconcile tensions, dilemmas and trade-offs – for instance, between equity and freedom; autonomy and solidarity; efficiency and democratic processes; ecology and economic logic; diversity and universality; and innovation and continuity – by integrating seemingly contradictory or incompatible goals as aspects of the same reality (OECD, 2016[31]).

They will need to navigate freely through the VUCA world with regards to:

- **Space**: **local and global as well as digital** – finding a sense of agency to take action towards addressing local and global issues, traveling across digital space that cut across both local and global space;
- **Time**: **past, today, future** – e.g. learning from the past, assessing current state today, and making sense and meaning making as well as creating new narratives for future, such as by "not only redefine our moral and ethical boundaries but also relation to others, the environment." (Schwab, 2016);
- **Perspective**: **challenges and opportunities** – e.g. understanding the complexity of sustainability, turning uncertainties and risks into opportunities, and creating new demands rather than responding to demands (OECD, 2016[31]);
- **Horizon**: **short-term, long-term** – e.g. taking a long-term perspective and at times thinking out of the box, in order to reconcile trade-offs, dilemmas, contradictions, ambiguities, non-simultaneity, and non-linear processes in a constructive, future-oriented way, will be critical in the future (OECD, 2018[29]).

To ignite their agency, students need to synergise, integrate and make sense of the global and local aspirations, demands and realities – instead of treating local and global as separate agendas (Opertti, 2021[2]). Adopting both local and global systemic perspectives places the curriculum in its context and environment, and positions it in a holistic perspective, i.e. seeking to optimise students' learning integrated into their own local environment and the contemporary world, with clear links to global issues and the world of tomorrow. For example, the concept of sustainable development is one possible answer to the tension between economic growth, ecological constraints, and social cohesion, recognising their complex and dynamic interplay instead of treating them as separate and unrelated, if not mutually exclusive issues.

Which attitudes and values are likely to contribute to shaping a better future towards well-being 2030?

While value systems vary across groups and cultures, as well as across individuals (Hogg and Vaughan, 2002[32]), some studies suggest that certain values are more widespread and less culturally dependent

than previously thought, but are manifested differently in different societies (Cline and Necochea, 1996[33]; Leming, 1994[34]).

At the global level, international bodies have been identifying **human values,** meaning societal values commonly found across countries, as integral to individual and social well-being since the middle of the 20th century (e.g. **human dignity**, **equality**, **freedom**, **justice** and **peace**). The importance of developing broad human and societal attitudes and values through education is increasingly discussed in international forums. For example, during the last decades, the world witnessed increasing cases of international and internal conflicts within and across countries, such as global terrorism and threats to social cohesion. The need to promote peace has become a global policy, as well as an educational, goal. The OECD Future of Education and Skills 2030 (Education 2030) project considers children's rights as an integral part of the human values for human dignity associated with the concept of "student agency/child agency" suggested in the OECD Learning Compass ((OECD, 2019[30]);Box 1.3).

Box 1.3. The OECD Learning Compass Student Agency and the United Nations Convention on the Rights of the Child Article 12

Princess Laurentien's participation in the 1st E2030 Global Forum, May 2020

"Sadly, COVID-19 has forced millions of people around the world into survival mode. But we also know that in looking for ways to adapt to the new COVID-19 reality, we need to get into questioning mode. The new reality amplifies and uncovers the urgency of implementing ambitions voiced through the Sustainable Development Goals and at national level, also on education. So, let's not forget that the call for structural educational reforms predates COVID-19. How many conferences have we attended to discuss the role of digital technology in complementing teachers and materials? How many reports indicate that learning is not just about grades but also about well-being? And how many pleas have been made by students themselves about what they truly need for learning to be meaningful for their development, now and for their future? Now is the time to carry through the changes that were already staring us in the face before COVID-19 was in our midst.

With this in mind, I was delighted to moderate a dialogue recently as part of the digital OECD seminar to capture lessons learned from COVID-19 for education: *Future of Education and Skills 2030 – Overcoming challenges in curriculum delivery during school closures and transitions back to school.*

Who is the expert, who is the learner?

What made the dialogue invaluable was the combination of voices gathered. Students, teachers, policy makers and educational experts shared insights and ideas as equals. As I've advocated for over 10 years, students themselves are the educational experts; those shaping educational goals should learn to translate needs into programmes, not just the other way around. We should listen to them. Talk to them. Look them in the eyes and take them seriously. Not just the eloquent ones, but equally the silent and shy ones.

If there's one quote from the OECD dialogue that stuck with me, it is the one uttered by a teacher: *'We don't like this situation. This is not our world.'* Real progress starts with admitting to being confused, so this level of openness is priceless. This sentiment uncovers a deeper fear for the unknown: the online learning world that reshuffles the roles of the learner and the teacher. It demands different skills from teachers in terms of energy, ways to connect with students and approach to transmitting knowledge. It lays bare that learning is much more than a transmission of knowledge. That learning is about an experience.

In between the lines, this quote uncovers a reluctance to ask for help, let alone do so from those best equipped to give advice on how to deal with this online world: students themselves. *This is the time to reach out to young people and find out what to do – and not do – to make their learning a life-changing experience, not a mechanical transaction.*

The principle of reciprocity

When all is new, there's a huge opportunity for students and teachers to find out *together* what each one needs. I call it the principle of reciprocity. We tell young people to be curious, ask questions, be inquisitive. Adults in questioning mode set a great example for students. A questioning teacher is more of a role model than a teacher only showing how much he or she knows. What's more, learning together shares the burden of responsibility. Which always, in any situation, makes a task lighter and easier.

Now is the time for teachers and students to put into practice this 'new learning world'. To share what they need and not need from the other. To learn to read needs in between the lines. To show real interest in the other. When do they need support, and when freedom? What makes them feel seen and heard? *'Sometimes it takes days for teachers to connect with me online,'* a student said. *'This feels like sitting with my hand raised in class for days.'* This statement is an opening to understand what she would truly need to be motivated in her learning process. While teachers and students may need different things at different moments in the learning process, they both have (new) needs. It is time to embrace the new reality and apply the principle of reciprocity. It will open up opportunities and address restrictions. By learners and teachers co-creating learning processes together, this new reality of offline and online learning *will* become our world!

Transition back to school

Another insight from the OECD dialogue was that how you solve a problem depends on how you define it. What does the *transition back to school* mean? And who defines the problem? Policy makers? The traditional educational experts? Headmasters? Teachers? Do students and teachers just go back to the school buildings, but in a sub-optimal, socially distanced situation? Is it really the plan to go back to business as usual but with restrictions, knowing school systems around the world need a push for the better?

This crisis should be our final wake-up call on educational reform and the need for reciprocity between teachers and students. Young people today are not the same as when we (I'm 54...) were young. COVID-19 should be the final push we needed to put into practice what we already knew about changes in our educational systems. If we don't act now, when will we? Are we brave enough to take the giant leap forward? Brave enough to rethink some very basic definitions: What is school? What is school for? Filling buildings and classrooms with students, following the curriculum and aiming for good grades?

Or is it for *fulfilling* the dream that all children have the opportunity and space to develop the knowledge, mindset and skills in a way that suits their needs, so they can become active, happy and successful citizens?

Embracing a new reality

Children and young adults have become even more aware of the world around them. Their motivation and engagement are even more important, now that their learning process partially takes place outside of the traditional school building. The students in the OECD dialogue confirmed what young people have been saying for years: take me seriously. We can only shape education through dialogue between teachers and students. Invisible glitches become visible and learning becomes positive.

'See students as whole persons, they are more than just their grades,' a student said. How? By re-evaluating the role of the teacher, by establishing a relationship based on trust between the teacher and student, by focusing on relevant topics from real-life issues instead of the traditional curriculum-based core competencies and by building the bridge between students and the world outside of the school building."

Source: H.R.H. Princess Laurentien of the Netherlands, UNESCO Special Envoy on Literacy for Development (2020[35]), "Overcoming education challenges: The coronavirus crisis turns us all into learners", OECD Education and Skills Today, https://oecdedutoday.com/overcoming-education-challenges-coronavirus-learners/

At the national or jurisdictional level, a number of countries/jurisdictions embed universally recognised values in their national curriculum that are deemed to help build a better future based on the well-being of individuals, communities and the planet (OECD, 2019[36]). Future-oriented approaches, addressing global challenges and how to embed values into curriculum often draw upon cultural and societal traditions at the design stage. Values related to notions of **respect, cultural diversity, personal and social responsibility, tolerance** and **integrity** appear, increasingly, in revised curricula, and these approaches will be highlighted further in the section on how countries/jurisdictions compare (OECD, 2019[37]).

Globally agreed common attitudes and values towards common future goals

Following the United Nations Charter signed in 1945, the United Nations Universal Declaration of Human Rights (1948), drafted by representatives with different legal and cultural backgrounds from all regions of the world, set common standards of achievement for all peoples and all nations. It stated fundamental human rights to be universally protected based on the recognition of the values to be shared and respected worldwide: **human dignity**, **equality**, **freedom**, **justice** and **peace** (United Nations, 1945[38]; United Nations, 1948[39]). Other UN instruments have followed the way paved by these first documents including the United Millennium Declaration (2000[40]) to reaffirm the "faith in the Organization and its Charter as indispensable foundations of a more peaceful, prosperous and just world".

The OECD Education 2030 project collaborates with the United Nations Educational, Scientific and Cultural Organization (UNESCO) with regards to the Sustainable Development Goals, 4.7 in particular, on global citizenship and education for sustainable development, as well as the UNESCO International Bureau of Education (IBE) on curriculum development. For example, Education 2030 curriculum analyses recognised the need to strengthen literacy for sustainable development and global understanding (also labelled global competency, global citizenship, and democratic citizenship), and highlighted the role that attitudes and values play in people's behaviours and competency development. The analyses included global competency and literacy for sustainable development as part of the curriculum content mapping (CCM) exercise (OECD, 2020[41]; OECD, 2020[42]).

The PISA global competence framework 2018 explored how to support the quality, equity and effectiveness of educational systems to create a shared **respect for human dignity** (OECD, 2019[37]). The

Council of Europe Competence Framework for Democratic Culture – originated at the Chairmanship of the Committee of Ministers in 2013 – presents a set of material for education systems to equip young people with competencies to defend values such as "**human rights, democracy and the rule of law**, to participate effectively in a culture of democracy, and to live peacefully together with others in culturally diverse societies" (Council of Europe, 2013[43]).

The leaders of G7 met in Ise-Shima, Japan, on 26 and 27 May 2016 (Consilium, 2016[44]) to address major global economic and political challenges such as escalated geo-political conflicts, increasing refugee flows and terrorism. They pledged to collectively tackle threats to international order as well as common values and principles for all humanity such as freedom, democracy, the rule of law and respect for human rights. They renewed a commitment to the adoption of the 2030 Agenda for Sustainable Development (2030 Agenda) and the Paris Agreement on climate change.

The table below summarises the types of values articulated by international bodies in frameworks, goals and declarations, in chronological order.

Table 1.1. Values articulated by international bodies and instruments

International bodies and instruments	Values included and promoted
United Nations instruments (UN Charter, Universal Declaration of Human Rights, UN Millennium Declaration), 1945, 1948, 2000	Values articulated include “equality”, “freedom”, “justice”, “dignity”, “solidarity”, “tolerance”, “peace and security”, and “sustainable development”
Council of Europe Competence Framework for Democratic Culture, 2013	Includes values (e.g. valuing “human dignity and human rights”, “cultural diversity”, “democracy, justice, fairness, equality and the rule of law”) and attitudes (e.g. “openness to cultural otherness and other beliefs”, “world views and practices”, “respect”, “civic-mindedness”, “responsibility”, “self-efficacy”, and “tolerance of ambiguity”)
Sustainable Development Goal 4.7 on Education, 2015	Focuses on Global Citizenship Education and Education for Sustainable Development; knowledge of global issues and universal values, such as “justice”, “equality”, “dignity” and “respect”, as well as aptitudes for “networking and interacting with people of different backgrounds, origins, cultures and perspectives”, and behavioural capacities to “act collaboratively and responsibly to find global solutions for global challenges”, and to “strive for the collective good”
The COP 21; the Paris Agreement 2015	Focuses on increasing importance of combatting climate change issues; includes values such as “voluntary co-operation”; “enhancing adaptive capacity”; enhanced “coordination and delivery of resources”; “transparency” and “public access to information”.
G7 Summit Leaders’ Declaration 2016	Recognises the importance of common values and principles for all humanity (e.g. “freedom”, “democracy and respect for privacy”, “human rights”, “human dignity”) at a time of violent extremism, terrorist attacks and other challenges
OECD PISA Global Competency Framework, 2019	Includes values (“valuing human dignity” and “valuing cultural diversity”) as guiding principles for attitudes such as “openness towards people from other cultures”, “respect for cultural otherness”, “global-mindedness”, and “responsibility”

The COP 26; the Glasgow Climate Pact, 2021	Recognises the role of "multilateralism", the importance of ensuring a "sustainable, resilient and inclusive global recovery, showing solidarity" (to address the "coronavirus disease 2019 pandemic"); the "importance of international collaboration on innovative climate action … across all actors of society"; the respective obligations on "human rights", the "right to health", the "rights of Indigenous peoples, local communities, migrants, children, persons with disabilities and people in vulnerable situations" and the "right to development", as well as "gender equality", "empowerment of women" and "intergenerational equity"; the urgent need for "co-operative action", etc.

Sources: OECD (2019[30]), *OECD Learning Compass 2030: A series of concept notes*, *OECD Future of Education and Skills 2030*, https://www.oecd.org/education/2030-project/teaching-and-learning/learning/learning-compass-2030/OECD_Learning_Compass_2030_Concept_Note_Series.pdf; United Nations (2016[45]) "Report of the Conference of the Parties on its twenty-first session, held in Paris from 30 November to 13 December 2015", https://unfccc.int/resource/docs/2015/cop21/eng/10a01.pdf; United Nations (2021[46]) "Decision-/CP.26: Glasgow Climate Pact", https://unfccc.int/sites/default/files/resource/cop26_auv_2f_cover_decision.pdf; United Nations (2021[47]) "Organization of work, including for the sessions of the subsidiary bodies – Proposal by the President – Draft decision CMA.3 – Glasgow Climate Pact", https://unfccc.int/sites/default/files/resource/cma2021_L16_adv.pdf.

Across these international instruments, common threads emerge as to the importance given to particular values and attitudes across countries/jurisdictions, although the terminology used to articulate values and attitudes is not identical. **Human dignity, respect, equality, justice, responsibility, global-mindedness, cultural diversity, freedom, tolerance and democracy** are aspirational values cited for citizens, across countries, authorities and international bodies. These values shape shared futures built on the well-being of individuals, communities and the planet (OECD, 2019[30]).

The value of **respect** includes respect for self, others, cultural diversity and intercultural understanding, and the environment. Studies show that **self-respect** improves academic outcomes (Rosenberg et al., 1995[48]) Respect also improves societal relations such as valuing others, which is essential for forming close relationships.

The values of **equality and social equity** are significant in that low inequality is a strong predictor of democratic stability (Anderson and Singer, 2008[49]). Income equality is associated with greater child well-being, more trust, less mental illness, less drug use, greater life expectancy, lower infant mortality, less obesity, higher educational performance, and less homicide (Wilkinson and Pickett, 2009[50]). Valuing equality helps people to understand the situation of people of different social status and of people who are suffering from inequality as well as to take responsibility to reduce inequality (Reysen and Katzarska-Miller, 2013[15]).

Research suggests that **integrity** is associated with equity and equality (Lippman et al., 2014[51]). **Justice** is also closely related to equality; in order to make just decisions, an individual must consider the ways in which equality and equity are achieved for all (Lerner, 2015[18]). The value of equality helps us to take responsibility to reduce inequality (Reysen and Katzarska-Miller, 2013[15]). **Justice** is also integral to **individual and social well-being**. Valuing justice has been found to increase tolerance and reduce prejudice across ages (Killen and Smetana, 2010[16]). The development of justice values is considered to be an important bridge between moral judgement and moral action to protect the rights of others (Hardy and Carlo, 2011[17]) and necessary for promoting positive intergroup relations across cultures (Lerner, 2015[18]). Adolescents who have a sense of justice also exhibit prosocial behaviours (e.g. helping, co-operating, sharing), which in turn are associated with academic achievement and school success (Caprara et al., 2000[52]; Jones, Greenberg and Crowley, 2015[53]; Wentzel, 1991[54]).

Attitudes and values made explicit in national/jurisdictional curriculum

Values and attitudes can become part of curriculum implemented in schools and, consequentially, reflect the desired nature of future citizens, as well as of the society they will shape. To do so requires "explicitly recognising the importance of values as part of a holistic education" and "deliberately fostering a set of

values – as part of broader competencies – to support and guide students in navigating an uncertain future" (OECD, 2019[30]).

Curricula or curriculum subjects are rarely value-neutral (Sutrop, 2015[55]). Indeed, most national curricula are built on a set of shared values (OECD, 2020[42]), which often represent universal human and/or culture-specific values, although countries/jurisdictions vary considerably as to the extent to which these are explicitly stated in the curriculum. Choices that countries/jurisdictions make are very much context-specific, and there is, therefore, contestation and debate as to the specificity, nature and place of values in curriculum design.

The inclusion of values in curriculum redesign requires a clear decision-making process to identify and select shared values that support the overall mission and goals of the curriculum – which values and whose values – to include or exclude and how to balance these choices in the context of a multicultural society with evolving value systems (Kirschenbaum, 1976[56]). A number of countries/jurisdictions, in responding to the OECD's Policy Questionnaire, emphasised the importance of alignment across consultations processes, consensus-building strategies, educational goals and curriculum framework design. In Australia, British Columbia (Canada), Brazil and Viet Nam, for example, consultation with diverse social and political influencers on the competencies to be identified as part of curriculum design strengthened acceptance of the identified values and attitudes.

Countries/jurisdictions present a multidimensional context for embedding values: for instance, the desire to foster individuals' holistic development **(personal**); the need to preserve and cultivate respect for one's own and others' cultural traditions and identity (**social**); the need to ensure social cohesion in increasingly pluralistic societies (**societal**); and commitment to universal goals that promote protection of humankind and the planet (**human**) (see Box 1.1).

Which values are chosen for inclusion in curriculum, how they are selected and whose values are prioritised vary considerably across countries/jurisdictions (Table 1.2). Social, economic, cultural and historical contexts drive why and how countries encourage their education systems to foster the holistic development of their students through a set of values explicitly designated in curriculum. The following cases illustrate the point:

Case 1: Values aligned with national priorities, traditional social tenets, and enshrined in national vision statements:

- The curriculum of **Korea** includes values to align with *Hongik Ingan*, the founding spirit of the first kingdom in Korea, "contributing to the overall benefit of humankind".
- The values curriculum in **Scotland** reflects the motto inscribed on the mace of the Scottish Parliament, "Wisdom, justice, compassion and integrity", which are the defining values for Scottish democracy.

Case 2: Values reflecting respect for and learning from Indigenous cultures and peoples:

- In **Australia**[2], curriculum values aim to develop personal and social capability, ethical and intercultural understanding; but also, to provide advice on student diversity, and develop knowledge and understanding of Aboriginal and Torres Strait Islander histories and cultures as a cross-curriculum priority.
- The curriculum of **British Columbia** (Canada) foregrounds First Peoples' knowledge and perspectives and highlights these throughout all areas of learning, to provide students with an opportunity to develop empathy, respect, and good citizenship.
- In **Norway**, according to the ILO Convention on Indigenous and Tribal Peoples, the Sámi have status as an Indigenous people. The Norwegian Constitution lays down the principle that the central authorities must make it possible for the Sámi to protect and develop the Sámi languages, culture

and societal life, a principle that is addressed in the Education Act. The core curriculum also applies to the Sámi school, which is used to designate education and training that follows a parallel and equal Sámi curriculum. The Sámi curriculum applies in the municipalities that are part of the administrative area for Sámi languages. The same curriculum also applies to pupils who have the right to be taught in one of the Sámi languages in the rest of Norway, who follow the Sámi curriculum in the Sámi subject. The core curriculum states that "School shall give pupils historical and cultural insight that will give them a good foundation in their lives and help each pupil to preserve and develop her or his identity in an inclusive and diverse environment. […] Christian and humanist heritage and traditions are an important part of Norway's collective cultural heritage and have played a vital role in the development of our democracy. Sámi cultural heritage is part of Norway's cultural heritage. Our shared cultural heritage has developed throughout history and must be carried forward by present and future generations. The teaching and training shall ensure that the pupils are confident in their language proficiency, that they develop their language identity and that they are able to use language to think, create meaning, communicate and connect with others. Language gives us a sense of belonging and cultural awareness. In Norway, Norwegian and the Sámi languages, South Sámi, Lule Sámi and North Sámi, have equal standing." (Utgannings-direktoratet, 2021[57]) The curriculum also aims at giving all learners insight into the Indigenous Sámi people's history, culture, societal life and rights; learners shall learn about diversity and variation in Sámi culture and societal life.

- The National Curriculum of **New Zealand** is comprised of: *Te Whāriki* (early childhood curriculum), The New Zealand Curriculum (English medium years 1-13) and *Te Marautanga o Aotearoa (*Māori medium years 1-13). *Te Whāriki,* integrates *kaupapa* Māori concepts (Māori values and philosophy) affirming the identities, languages, and cultures of all children, *whānau*[3], teachers, and communities from a strong bicultural foundation. Values such as community and participation for the common good; ecological sustainability, respect for selves, others, and human rights are expressed in the New Zealand Curriculum (NZC). In *Te Marautanga o Aotearoa* (TMOA), learners understand the values of their *whānau*, *hapū*[4] and *iwi*[5], and gain access to *Te Ao Māori* (the Māori world). They learn to be respectful of the *mana*[6] and spirituality of each person and each *whānau*, and their attitudes and values, even if these differ from their own. The NZC is currently undergoing a refresh, which will include determining whether the current values are bicultural, inclusive, clear and easy to use.

Case 3: Values reflecting the need to prepare students for emerging societal change or reflect on historical change, such as social diversity, democracy, migration, equity, equality and inclusion, and environmental challenges:

- **Czech Republic** refers specifically to equity for women and men.
- **Estonia** references "respect for mother tongue and culture" and "environmental sustainability".
- From September 2020, **Italy** has included 30 hours of climate change education as part of the school curriculum, putting the value of sustainability and environmental concerns at the centre of education.
- In the **Netherlands**, curriculum values nurture students' respect for diversity in an increasingly pluralistic society: "taking care of one's self and others' physical and mental health; social self-reliance; respect for common values and norms; inclusion; citizenship, respect for religious diversity, cultural diversity, sexual diversity, differences in beliefs and attitudes, and criticism of one's own opinions; taking care of the environment, democratic and political awareness".
- The curriculum of **Portugal** includes the values of freedom, responsibility, integrity, citizenship and participation. These reflect the desire to enable all young people's personal fulfilment through the development of character and citizenship, to provide students with the tools to reflect on spiritual, aesthetic, moral and civic values, balanced with physical development. Embedding these values

in the curriculum prepares future adults to be responsible citizens: to develop equality in their interpersonal relationships, to respect human rights and individual differences, and to advance democratic citizenship.

Case 4: Values promoting education goals that are aligned with international and regional instruments and declarations. The process can involve broad collaboration with stakeholders.

- **Czech Republic** makes a reference to "principles and basic norms of European integration as the basis for peaceful cohabitation".
- In **Estonia,** the early phase of the national curricula development process ensured the framework reflected significant social values specified in the Constitution of the Republic of Estonia, as well as the Universal Declaration of Human Rights, the Convention on the Rights of the Child and key documents of the European Union. The process of selecting values was supported by interdisciplinary research and facilitated discussions by the Centre for Ethics at the University of Tartu.
- In **Finland**, the values described in National Core Curriculum for Basic Education (2014) were defined in the early phase of the development process. Values were identified in national legislation and international obligations and declarations: The Constitution of Finland, Basic Education Act (well-being of pupils); Non-Discrimination Act, the UN Declaration on the Rights of the Child and UN Convention on the Rights of the Persons with Disabilities, as well as by extensive consultation with stakeholders, including education providers and the general public.

Table 1.2. Values explicitly embedded in the curriculum

Country/jurisdiction	Values explicitly embedded in the curriculum
OECD	
Australia[7]	Personal and social capability; ethical understanding; intercultural understanding; Humanities and Social Sciences (HASS) and Health and Physical Education (HPE) curricula; advice on student diversity; Aboriginal and Torres Strait Islander cross-curriculum priority
British Columbia (Canada)	Respond to discrimination, stereotyping and bullying; explain different perspectives on past or present people, places, issues, or events; make ethical judgements about past events, decisions, or actions; express and reflect on a variety of experiences, perspectives and world views through place; collaboration and reflection; positive personal and cultural identity: personal awareness and responsibility (includes self-regulation); social awareness and responsibility
Chile	Solidarity; respecting others; empathy; environmental respect; respect others' opinion; assist those in need; tolerance; take responsibility for life in society; heritage protection; teamwork; diversity; freedom; respect for human rights; democratic participation; conflict resolution; gender equity; inclusion; justice; dignity respect; cultural diversity; integrity and self-awareness
Costa Rica	Freedom; political equality; human rights; solidarity and equity; enjoyment of diversity; democracy and/or co-operation; education for sustainable development; digital citizenship with social equity; the strengthening of a planetary citizenship with national identity
Czech Republic	Human freedom; ability to learn in lifelong perspective either in private, civil or professional area; spiritual and moral values development; the sense for democracy and legal state; human rights; responsibility; social cohesion; equity in women and men; understanding of national and state belonging, patriotism; respect for ethnic, national, cultural, or regional identity of all human beings; knowledge of basic world cultures, traditions and traditions; principles and basic norms of European integration as basis for peaceful cohabitation; positive attitude towards environmental protection and the need for sustainability of human development on earth and its basic principles; safety and life and health protection
Denmark	General values that apply for all subjects are to a limited extent expressed directly in the national curriculum plans, but are stated in the purpose clause of the national law of public primary and lower secondary school, which teaching in all subjects have to follow and reflect. The purpose clause of the national law of public primary and lower secondary school include a focus on the following general values: "Freedom of speech, equality and democracy," "participation, co-responsibility, rights and duties in a society with freedom and democracy," "understanding of other countries and cultures,"

	"understanding for human interaction with nature," "develop cognition and imagination," "gain confidence in their [pupils] own opportunities," "taking a stand and act". Then, the occurrence of specific values in the Danish curriculum plans varies from subject to subject[8].
Estonia	General human values: honesty; compassion; respect for life; justice; human dignity; respect for self and others Social values: liberty; democracy; respect for mother tongue and culture; patriotism; cultural diversity; tolerance; environmental sustainability; rule of law; solidarity; responsibility and gender equality Other concepts: happiness in personal life and society; Estonian cultural traditions; common European values and achievements of world culture and science; self-actualisation; knowledge-based world view
Finland	Uniqueness of each pupil and right to a good education; humanity, knowledge and ability; equality and democracy; cultural diversity as a richness; necessity of a sustainable way of living
Hungary	Become responsible citizens of the motherland; develop the sentimentality of patriotism; develop realistic self-knowledge and solid moral judgement; find their place in the family, in the narrower and wider communities, and in the world of work; strive for meaningful and lasting relationships; be able to make responsible decisions about the fate of those who are alone or under their care; be capable of independent orientation; opinion formulation and action; understand and be familiar with the natural, social, cultural phenomena and processes; consider it a value and task to preserve the diversity of culture and wildlife
Ireland	Collaboration; sustainability; creativity; democracy; respect; active citizenship; inclusion; diversity; co-operation; responsibility; human rights; active; healthy
Japan	Mainly regarding self: independence and autonomy; liberty and responsibility; moderation and temperance; ambition; developing one's personality; hope and courage; self-control and strong will; exploration of truth and creation Mainly concerning relationships with others: consideration and appreciation; courtesy; friendship and trust; mutual understanding and tolerance Mainly concerning relationships with group and society: law observance and sense of public duty; justice and impartiality; social involvement and public service; work; familial love and fulfilling family life; better school life and fulfilling group life; respect for tradition and culture of one's home town; love for one's home town; respect for tradition and culture of our nation; love for our nation; international understanding and international contribution Mainly concerning relationships with life; nature and the sublime: dignity of life; care for nature; impression and reverence; pleasure of better life
Korea	Autonomy; civic awareness; challenge spirit; creativity; cultural literacy; respect for multifactorial values and cultures; sense of community; co-operation; concern and respect for others; aesthetic sensibility; respect for rules and regulations; harmony of body and mind
Lithuania	Democracy; empathy; human dignity; responsibility; trust.
Mexico	Respect for legality and human rights; equality; equity; freedom with responsibility; participation; dialogue and the search for agreements tolerance; Solidarity, inclusion and diversity; Ethics, Responsibility; Peace, Justice and Democracy
Netherlands	Taking care of one's self and others' physical and mental health; social self-reliance; respect for common values and norms; inclusion; citizenship, respect for religious diversity, cultural diversity, sexual diversity, differences in beliefs and attitudes, and criticism on one's own opinions; taking care of the environment, democratic and political awareness
New Zealand	NZC: excellence, by aiming high and by persevering in the face of difficulties; innovation, inquiry, and curiosity, by thinking critically, creatively, and reflectively; diversity, as found in our different cultures, languages, and heritages; equity, through fairness and social justice; community and participation for the common good; ecological sustainability, which includes care for the environment; integrity, which involves being honest, responsible, and accountable and acting ethically; and to respect themselves, others, and human rights TMoA: knowing traditional Māori values: the learner: understands the values of their *whanau*, *hapu* and *iwi*, enabling access to the Māori world; is generous and caring for visitors; knows their identity and origins; knows their genealogy and *whakapapa* links; works co-operatively with peers and in groups. understanding the values of the wider world: the learner: acknowledges people, regardless of who or where they are, or their appearance; the learner is respectful of the *mana* and spirituality of each person and each *whanau*, and their attitudes and values, even if these differ from their own.

Northern Ireland (United Kingdom)[1]	Within the big picture of the curriculum: personal responsibility; concern for others; commitment, determination and resourcefulness; curiosity and openness to new ideas; self-belief, optimism and pragmatism; community spirit; flexibility; tolerance; integrity, courage and respect Within the key elements of the curriculum framework and within every subject which are values-related in respect of learning to make informed and responsible choices and decisions: - as an individual in relation to personal understanding, mutual understanding, personal health, moral character and spiritual awareness); as a contributor to society in relation to citizenship, cultural understanding, media awareness and ethical awareness - as a contributor to the economy and environment (in relation in relation to the following key elements: employability; economic awareness, sustainable development and environmental responsibility). within the specific area of study- learning for life and work - the curriculum specification for local and global citizenship is set out as an critical enquiry-based exploration of the values of: diversity and inclusion; human rights and social responsibility; equality and social justice; democracy and active participation
Norway	Human dignity; identity and cultural diversity; critical thinking and ethical consciousness; creativity, engagement and urge to explore; respect for nature and environmental awareness; democracy and agency
Ontario (Canada)	Inclusiveness; equity; empathy and respect; rights and responsibilities; freedom; social cohesion; fairness and justice; citizenship; collaboration and co-operation
Poland	Generosity; collaboration; solidarity; altruism; patriotism; respect for traditions; identify models of behaviour and build social relationships to support pupils' development; strengthen pupils' sense of individual, cultural, national, regional and ethnic identity; develop pupils' sense of personal dignity and respect for the dignity of other people
Portugal	Freedom; responsibility; integrity; citizenship; participation
Québec (Canada)	Democratic ideals and social cohesion: respect; solidarity; responsibility
Scotland (United Kingdom)	Wisdom; justice; compassion and integrity
Slovak Republic[2]	Cross-curriculum priorities: multicultural understanding, personal and social development, environmental education, e.g. - gaining a positive attitude towards oneself and others - developing self-reflection - the formation of good interpersonal relationships in and out of the classroom - developing basic communication and co-operation skills - acquiring basic social skills to deal with various situations - acceptance of different types of people, opinions, approaches to problem solving - understanding the connections between local and global problems and one's own responsibility in relation to the environment
Sweden	Fundamental values. Human rights and the fundamental democratic values on which Swedish society is based. Respect for the intrinsic value of each person and the environment we all share. The inviolability of human life, individual freedom and integrity, the equal value of all people, equality between women and men, and solidarity between people. Justice, generosity, tolerance and responsibility. Understanding and compassion for others; objectivity and open approaches.
Turkey	Justice; friendship; honesty; self-control; patience; respect; affection; responsibility; patriotism; charity
United States[1]	(m)
Wales (United Kingdom)	Confidence and pride in Wales as a bilingual nation with the strength and assurance to nurture both languages; collective responsibility; supported by co-operative values of: partnership, trust, mutual respect and support; self-esteem; sense of personal responsibility; self-respect; respect for others and celebrate diversity; safety; health; active responsible citizenship locally, nationally and globally; positive attitudes and behaviour towards the principles of sustainable development and global citizenship
Partner	
Brazil[1]	Tolerance; equality; justice; diversity; sustainability; emancipation; human rights; citizenship
China	12 Core values of Socialist: Prosperity, democracy, civilization, harmony, freedom, equality, justice, rule of law, patriotism, dedication, integrity, friendliness. spirits of patriotism and collectivism; love of socialism; Chinese traditional culture and revolutionary spirit; socialist legal awareness; abide by national law and social morality; correct outlook on world, life and values and form a sense of social responsibility; to serve the people and develop basic awareness of environmental protection; Students are also expected to develop a healthy body and psychological quality , form a healthy aesthetic value and lifestyle and become a new generation with lofty ideals, moral integrity, better education and good sense of discipline.

Hong Kong (China)	Perseverance; respect for others; responsibility; national identity; commitment; integrity; care for others; and two new priority values, empathy and law-abidingness, have been added to the Hong Kong (China) curriculum in 2021. In addition to these nine priority values and attitudes, schools can select other core values and attitudes promoted in the curriculum in accordance with the school mission and students' needs, such as modesty, courage and honesty. A range of other values and attitudes promoted in the school curriculum are listed in the Secondary Education Curriculum Guide (CDC, 2017) Booklet 2 Annex 2; Supplementary Notes to the Secondary Education Curriculum Guide (CDC, 2021).
India[1]	Commitment to democracy and values of equality; justice and freedom of status and opportunity; independence of thought and action; aesthetic appreciation; learning to learn and willingness to unlearn; sensitivity to others' well-being and feelings; co-existing in a multicultural society; building a culture of peace
Kazakhstan	Respect; collaboration; openness; patriotism and civic responsibility; strong work ethic and creativity; lifelong learning
Russian Federation	Unity of educational space of the Russian Federation; preservation and promotion of cultural diversity and linguistic heritage of the multinational people of the Russian Federation; the realisation of the right to study their mother tongue, access to basic general education in the native language; accessibility of high-quality basic education; spiritual and moral development
Singapore	Respect; responsibility; integrity; care; resilience; harmony
South Africa	Social transformation; human rights, inclusivity, environmental and social justice; valuing indigenous knowledge systems; active and critical learning; high knowledge and high skills; progression; credibility, quality and efficiency.
Viet Nam	Patriotism, love for home town; kindness; tolerance; respect others; self-respect; confidence; independence; self-control; proactive; creativity; being a saver; simplicity; honesty; responsibility; gratefulness; diligence, persistence; unite; co-operation; peace; democracy; equality

Note: 1: Responses for these countries/jurisdictions were submitted by independent researchers, not government officials.
2: The Slovak Republic did not participate in the E2030 PQC exercise, this information has been provided separately.
m: information not available.
Source: Data from E2030 PQC, item 1.2.1.1.

Despite these differences, there is a certain degree of commonality across countries/jurisdictions (Table 1.3). Shared values are important for strengthening and renewing trust in institutions, among communities and in building inclusive, fair, and sustainable economies and societies. The curricula of countries/jurisdictions in this study reflect such shared values, the most common being: **respect** (73% of countries/jurisdictions), **cultural diversity** (67%), and **personal and social responsibility** (67%), **tolerance** (54%) and **integrity** (43%). These personal social values are closely aligned to competencies in the OECD Learning Compass 2030 (OECD, 2019[30]).

Table 1.3. Common values explicitly embedded in curricula by countries/jurisdictions

Values[1]	Number of countries/jurisdictions	Countries/jurisdictions
Respect	28	OECD: Australia[9]; British Columbia (Canada); Chile; Czech Republic; Estonia; Hungary; Ireland; Japan; Korea; Lithuania; Mexico; Netherlands; New Zealand; Northern Ireland (United Kingdom)[2]; Norway; Ontario (Canada); Poland; Portugal; Québec (Canada); Sweden; Turkey; Wales (United Kingdom) Partner: China (People's Republic of); Hong Kong (China); Kazakhstan; Singapore; South Africa; Viet Nam
Cultural diversity	28	OECD: Australia; British Columbia (Canada); Chile; Costa Rica; Czech Republic; Denmark; Estonia; Finland; Hungary; Ireland; Japan; Korea; Mexico; Netherlands; New Zealand; Northern Ireland (United Kingdom)[2]; Norway; Ontario (Canada); Poland; Portugal; Wales (United Kingdom); Sweden Partner: Brazil[2]; China (People's Republic of); Hong Kong (China); India[2]; Russian Federation; South Africa

Personal and social responsibility	26	OECD: Australia; British Columbia (Canada); Chile; Czech Republic; Denmark; Estonia; Hungary; Ireland; Japan; Korea; Lithuania; Mexico; New Zealand; Northern Ireland (United Kingdom)[2]; Norway; Ontario (Canada); Portugal; Québec (Canada); Sweden; Turkey; Wales (United Kingdom) Partner: China (People's Republic of); Hong Kong (China); Kazakhstan; Singapore; South Africa
Human dignity	20	OECD: Australia; Chile; Costa Rica; Czech Republic; Estonia; Finland; Ireland; Japan; Korea; Lithuania; Mexico; New Zealand; Northern Ireland (United Kingdom)[2]; Norway; Poland; Portugal Partner: Brazil[2]; China (Peoples Republic of); Hong Kong (China); South Africa
Tolerance	22	OECD: Australia; Chile; Czech Republic; Estonia; Finland; Hungary; Japan; Korea; Mexico; New Zealand; Northern Ireland (United Kingdom)[2]; Norway; Poland; Portugal; Sweden; Wales (United Kingdom) Partner: China (People's Republic of); Hong Kong (China); India[2]; Russian Federation; South Africa; Viet Nam
Democracy	24	OECD: Australia; British Columbia (Canada); Chile; Costa Rica; Czech Republic; Denmark; Estonia; Ireland; Japan; Korea; Lithuania; Mexico; Netherlands; Northern Ireland (United Kingdom)[2]; Norway; Ontario (Canada); Portugal; Québec (Canada); Sweden Partner: China (People's Republic of); Hong Kong (China); India[2]; South Africa; Viet Nam
Equality	23	OECD: Australia; British Columbia (Canada); Chile; Costa Rica; Czech Republic; Denmark; Estonia; Finland; Japan; Korea; Mexico; New Zealand; Northern Ireland (United Kingdom)[2]; Norway; Ontario (Canada); Portugal; Québec (Canada); Sweden Partner: Brazil[2]; China (People's Republic of); Hong Kong (China); India[2]; Viet Nam
Integrity (alternatives: ethics, morality)	19	OECD: Australia; British Columbia (Canada); Chile; Estonia; Japan; Korea; Mexico; New Zealand; Northern Ireland (United Kingdom)[2]; Norway; Ontario (Canada); Scotland (United Kingdom); Sweden; Turkey Partner: China (People's Republic of); Hong Kong (China); Russian Federation; Singapore; South Africa
Self-awareness (alternatives: autonomy, identity)	20	OECD: Australia; British Columbia (Canada); Chile; Costa Rica; Estonia; Japan; Korea; Mexico; New Zealand; Northern Ireland (United Kingdom)[2]; Norway; Ontario (Canada); Poland; Portugal; Sweden; Turkey Partner: China (People's Republic of); Hong Kong (China); South Africa; Viet Nam
Justice	21	OECD: Australia; Chile; Denmark; Estonia; Hungary; Japan; Korea; Mexico; Northern Ireland (United Kingdom)[2]; Norway; Ontario (Canada); Portugal; Québec (Canada); Scotland (United Kingdom); Sweden; Turkey Partner: Brazil[2]; China (People's Republic of); Hong Kong (China); India[2]; South Africa
Freedom	18	OECD: Australia; Chile; Costa Rica; Czech Republic; Denmark; Estonia; Hungary; Japan; Korea; Mexico; Ontario (Canada); Norway; Portugal; Sweden Partner: China (People's Republic of); Hong Kong (China); India[2]; South Africa
Inclusion	19	OECD: Australia; British Columbia (Canada); Chile; Denmark; Estonia; Ireland; Japan; Korea; Lithuania; Mexico; Netherlands; Northern Ireland (United Kingdom)[2]; Norway; Ontario (Canada); Portugal; Sweden Partner: China (People's Republic of); Hong Kong (China); South Africa
Global-mindedness	16	OECD: Australia; Costa Rica; Czech Republic; Denmark; Estonia; Japan; Korea; Mexico; New Zealand; Northern Ireland (United Kingdom)[2]; Norway; Portugal; Wales (United Kingdom) Partner: China (People's Republic of); Hong Kong (China); South Africa
Equity	17	OECD: Australia; Chile; Costa Rica; Czech Republic; Denmark; Estonia; Japan; Korea; Mexico; New Zealand; Norway; Ontario (Canada); Portugal; Québec (Canada); Sweden Partner: China (People's Republic of); Hong Kong (China)

Fairness	13	OECD: Australia; British Columbia (Canada); Japan; Korea; Mexico; Norway; Ontario (Canada); Portugal; Sweden Partner: China (People's Republic of); Hong Kong (China); South Africa; Viet Nam

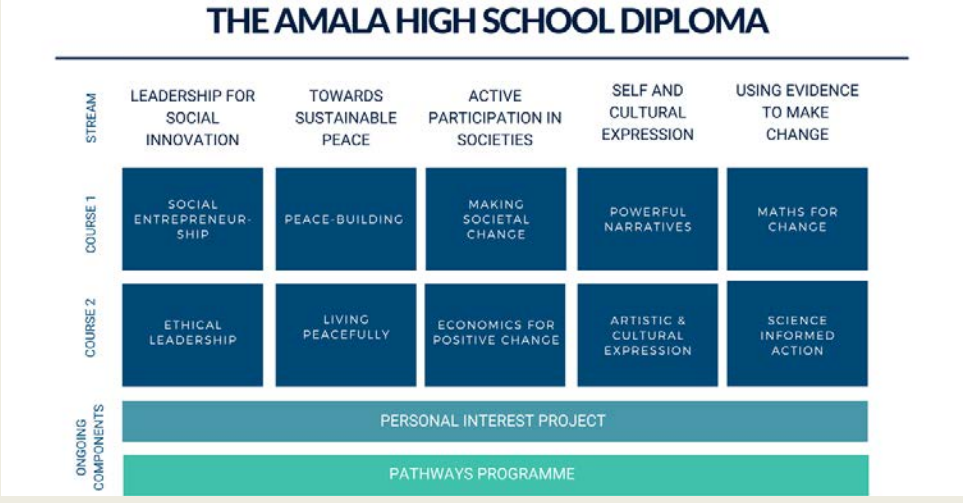
Note: Table is in descending order by number of countries/ jurisdictions listing identified value as explicitly embedded in their curriculum.
1. Values listed in table are highlighted in OECD Learning Compass 2030 concept note on attitudes and values for 2030 (OECD, 2019[30]).
2. Responses for these countries/jurisdictions were submitted by independent researchers, not government officials.
Source: Data from E2030 PQC, item 1.2.1.1.

Box 1.4 illustrates how curriculum can support certain attitudes and values, such as **personal and social responsibility**, rooted in the authentic sense of **student agency**, within and outside school. Box 1.5 illustrates how curriculum can support **student agency towards fairness, impartiality, and social justice.**

Box 1.4. Curriculum design to support student agency, personal and social responsibility for positive societal change

Sarah, a 20-year-old student from Iraq and living in Jordan, is pursuing her high school diploma through Amala, which provides an alternative pathway to completion of secondary education for refugees living in Jordan and Kenya. Amala's mission is to use the power of education to transform the lives of refugees, their communities and the world. Amala has developed the first international high school curriculum for young people who are displaced. Their high school diploma consists of five streams, each stream of two 10-week courses:

- **Leadership for social innovation** (Social entrepreneurship; Ethical leadership)
- **Towards sustainable peace** (Peace building; Living peacefully)
- **Active participation in societies** (Making societal change; Economics for positive change)
- **Self and cultural expression** (Powerful narratives; Artistic and cultural expression)
- **Using evidence to make change** (Maths for change; Science informed action)



After completing a 10-week course, students complete a Personal Interest Project (PIP), an extended project based on each student's area of interest. Amala encourages students to link their PIP to their future aspirations as well, e.g. the education and/or career they want to follow afterwards. Sarah and her peers at Amala work with a pathways advisor, a mentor that helps students figure out what kind of path they want to take in life. In addition to PIPs, students have regular opportunities to work on smaller projects in specific discipline areas, e.g. doing research, creating a workshop, creating an initiative for the community, doing an internship. Throughout PIPs and smaller projects, students are meant to constantly reflect on their work. At the end of projects, students engage in their learning by preparing a presentation of their actions as well as a separate reflection on their learning.

Sarah has completed numerous projects throughout her coursework. Her PIP for her course on "making societal change"; involved volunteering in her community by painting motivational images on walls of stairs and gardens and on recycling bins to help encourage positive change. Sarah and her classmates met with families in the community to ask what they want to see in their community as well as what they thought of Sarah's volunteering initiative. The students worked with the community to understand how they could be helpful, and Sarah believes their PIP made a positive change.

For her current PIP, in follow up to her "social entrepreneurship" course, Sarah worked with her classmates to devise a project to address cyberbullying. Prior to launching the project, Sarah organised a session with Amala students who had completed the social entrepreneurship course to learn about their PIP experiences, including the challenges they encountered and the lessons they learned. After reflecting on these other students' experiences, Sarah and her classmates felt prepared to design a PIP that was meaningful and important to them and their community: "Stop Cyberbullying". Each of Sarah's teammates had a project task, and Sarah's was graphic design: she designed the logo and cover for their blog; other classmates designed a survey to distribute to students, and Sarah helped develop the survey questions; while other classmates analysed the information collected in the survey. An example of a smaller project Sarah worked on as part of her social entrepreneurship course is designing a concept map showing all the main ideas of social entrepreneurship. This task was assigned during the course, as opposed to the PIP, which takes place after the course is completed. Sarah created "The Spider Concept Map": the spider's body is "social entrepreneurship", and the legs are labelled with the elements that make up this concept, e.g. exploring, reflecting, community-awareness and leading.

After completing her map, Sarah wrote a reflection on her task and shared it with her classmates for feedback, which was positive, and she felt it affirmed the worthwhileness of her efforts. Sarah and her peers at Amala show how a curriculum founded on positive values and attitudes enables students to develop their agency, as well as their own values and attitudes, through the learning process.

Source: Recording of the OECD Learning Compass 2030 workshop on the Anticipation-Action-Reflection Cycle, 2 November 2021, https://www.oecd.org/education/2030-project/teaching-and-learning/learning/learning-compass-2030/.

Box 1.5. A lesson in moral education, co-designed through interactions between a teacher and students, to support student agency towards fairness, impartiality and social justice

In moral education classes at Sunatori primary school in Kumamoto, Japan, students can broaden and deepen their own thoughts through exposure to the diverse thoughts of others.

The goal of the class

In the class, Megumi, the teacher, encourages students be aware of each person's thoughts and actions to develop a sense of fairness and impartiality within the group. She fosters students' attitudes to treating everyone with respect, without discrimination, by discussing problems, making common decisions and changing attitudes by considering others' views.

Many students in the class showed compassion for others, expressed in their attitudes and behaviours. Other students were not as actively involved in the problems that arose in groups within the class.

The learning material used in the class

The story:

I (i.e. the main character) heard that my classmate, student A, could run for the leading role in a school play. However, I assumed that it was impossible. Afterwards, seeing student A practicing alone, I changed my views. I tried to express my thoughts to other students.

Students in the class considered making assumptions and being impartial through this story where a student judged another student, based purely on his/her personal assumptions. This situation could be extrapolated to happen to any student, so it encourages students to deepen their own thoughts, making use of their prior experiences and judgements.

Perspectives to evaluate students' learning

The teacher evaluated students' learning in the class from the following perspectives:

- Was discussion with friends based on their own experiences and thoughts?
- Was thinking deepened and multifaceted about "fairness and impartiality" from the perspectives of "courage" "compassion" "mutual understanding" "better school life", etc.?
- Was thinking self-critical, such as looking back on themselves, thinking of their own ways of life in the future?

Key features of the class:

- **Students' ways of considering fairness, impartiality and social justice**

Students often think from the perspective of the main character in the story. Megumi tried to let students consider fairness, impartiality and social justice from their own perspective and "everyone around the main character" in a group.

- **Students' independent thinking**

The teacher asked questions that students could answer based on their own experiences and values. She allowed students to nurture new values through rich opportunities to exchange their own thoughts. She also valued each student's thoughts and opinions, and supported each student's flexible learning that followed the flows of his/her thoughts.

One of the students presented a new perspective of "good and bad assumptions" during the class. This student's idea was that "good assumptions" could encourage and build self-efficacy with positive impact on others. This student's presentation surprised and gave new perspectives to other students who had simply thought that "assumption is not good". After the class, many students wrote that their ideas about "assumption" had changed throughout the course of the class.

Students' nurturing values of fairness, impartiality, equality and social justice by themselves

This class reflected how the curriculum values the development of each student's independence. Value, in this class, was placed on letting students find their relationships with others, which led to finding their own identities and their connections with others, which is considered the beginning of the process of establishing "student agency".

Each student's and the teacher's attitude of "accepting any perspectives from any student" has affected the culture of this class, and will now be the foundation for building a community that values a fair, impartial and equal social climate. The value and significance of this approach in class was in cultivating students' sense that individual growth can change society. Students were trying to nurture values of fairness, impartiality, equality and social justice by themselves through the curriculum, which is significant for future society, where rapid changes are expected.

Sources: Sakamoto, M. (2021), "Moral class in class 3 of 4th grade, Sunatori Primary School"; Kadota, R. (2021), "From the perspectives of a researcher who visited the class and interviewed students", Seinan Gakuin University Graduate School, Japan.

Which attitudes and values are embedded in key competencies for the future?

As defined earlier, attitudes and values are an integral part of competencies. The kinds of attitudes and values that comprise a specific competency will become clearer if we explore specific research on how such attitudes and values are associated with the development of such a competency, and to also explore implications for policy and practice for developing attitudes and values through curriculum and learning activities.

For this purpose, "global competency" and "media literacy" are illustrated below as examples of competencies for the future. They are often understood as an "integrated ability", which goes beyond the boundaries of traditional disciplines. Other examples explored in the OECD E2030 project include digital literacy/ICT literacy, data literacy, environmental literacy/literacy for sustainable development, financial literacy, coding/programming/computational thinking, and entrepreneurship. This is one of the key features of a 21st century competency-based curriculum, i.e. the learning of knowledge and the cultivation of abilities, attitudes and values should not be desegregated. (OECD, 2020[41]).

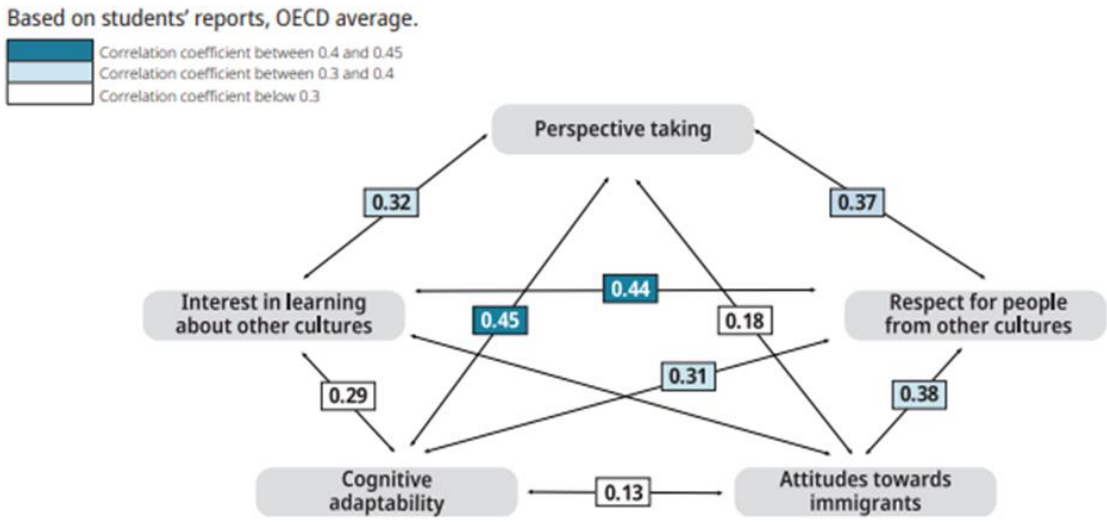
Intercultural attitudes and values as part of global competency

The OECD's Programme for International Student Assessment (PISA) 2018 survey looked into how well-prepared students are to become global citizens with intercultural attitudes and values. The PISA Global Competence is defined as a multidimensional capacity that encompasses the ability to: i) examine issues of local, global and cultural significance; ii) understand and appreciate the perspectives and worldviews of others; iii) engage in open, appropriate and effective interactions across cultures; and iv) take action for collective well-being and sustainable development (OECD, 2019[37]).

This conceptual framework relies on knowledge, skills, attitudes and values relevant to the OECD 2030 Learning Compass Framework vision and principles, such as the capacity to take an active part in conflict management and resolution; being adaptable; showing openness and respect; and having agency regarding global issues (i.e. that one is a citizen of the world with commitments and obligations towards the planet and others, irrespective of their particular cultural or national background) (OECD, 2020[58]).

PISA 2018 investigated the correlations between five indices related to living together in an interconnected world**: 1) perspective taking, 2) respect for people from other cultures, 3) attitudes towards immigrants, 4) cognitive adaptability** and **5) interest in learning about other cultures**. While most indices tended to be positively associated, some are more strongly correlated than others. Figure 1.1 presents the average correlation coefficient between pairs of these five indices. On average across OECD countries, the strongest correlations were between the index of perspective taking and the indices of cognitive adaptability (correlation coefficient of 0.45). The weakest correlations were observed between attitudes towards immigrants, on the one hand, and cognitive adaptability and perspective taking, on the other. Attitudes towards immigrants were found to be correlated with respect for people from other cultures (0.38) (OECD, 2020[58]).

Figure 1.1. Correlations between students' intercultural attitudes and dispositions



Source: OECD, PISA 2018 Database, Table VI.B1.3.18; Statlink: https://doi.org/10.1787/888934169785.

Students' respect for people from other cultures

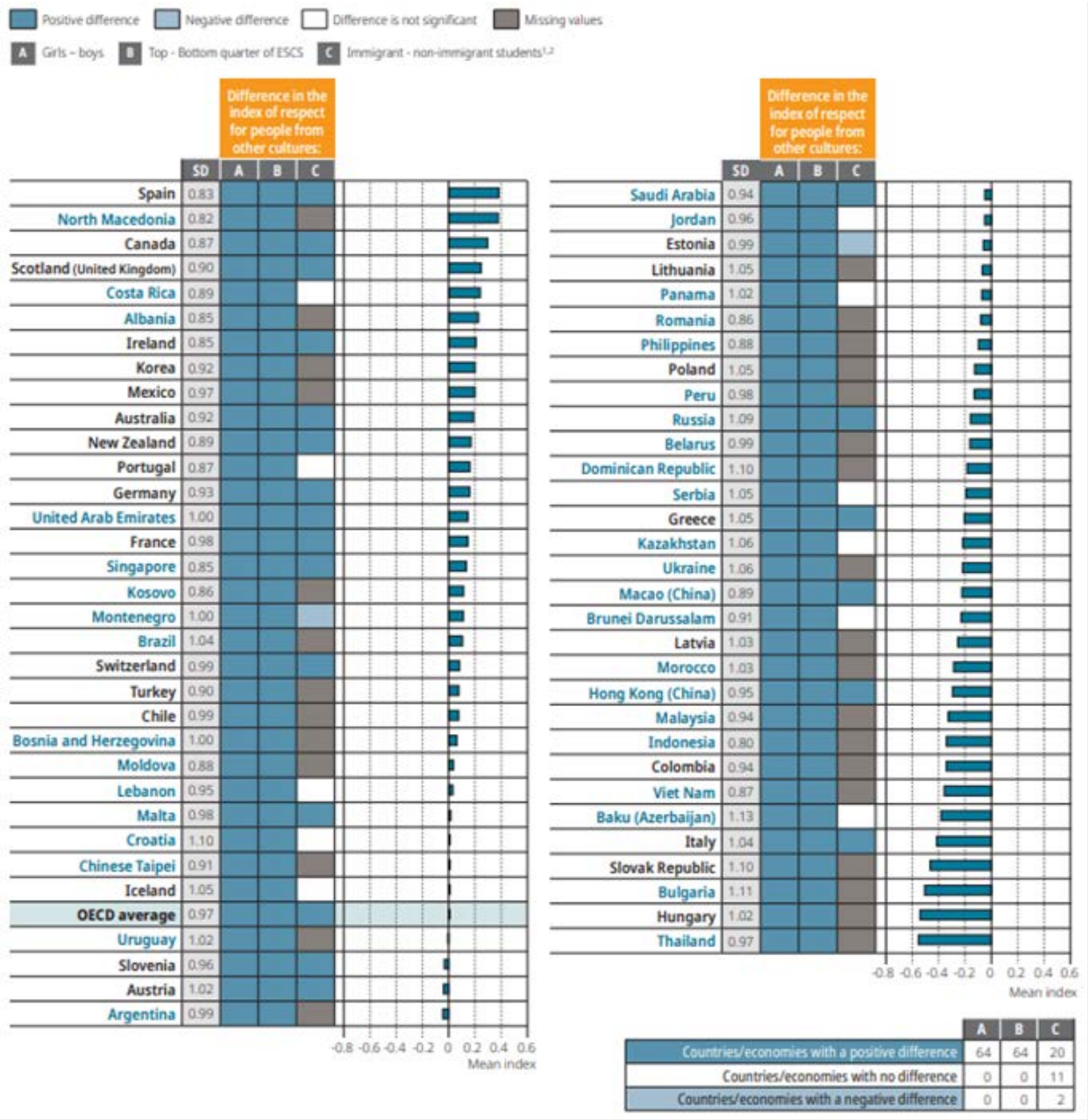
Living in an interconnected world with cultural diversity, respect for others and intercultural understanding necessarily include showing respect to people who are perceived to have different cultural affiliations or different opinions and beliefs, even if it does not imply agreement with the others' views and beliefs. PISA 2018 asked students the extent to which they respect people from other countries. The index of **respect for people from other cultures** was derived from responses to the following statements:

- "I respect people from other cultures as equal human beings";
- "I treat all people with respect regardless of their cultural background";
- "I give space to people from other cultures to express themselves";
- "I respect the values of people from different cultures";
- "I value the opinions of people from different cultures".

Positive values in this index indicate that students reported greater respect for people from other cultures than the average student across OECD countries. (Figure 1.2). Students' responses to the five statements about respect for people from other cultures varied substantially across countries. On average across OECD countries, about 82% of students reported that they respect people from other cultures as equal human beings and 81% reported that they treat all people with respect regardless of their cultural background. Slightly fewer students reported that they respect the values of people from different cultures (79%), that they give space to people from other cultures to express themselves (78%) and that they value the opinions of people from different cultures (78%) (OECD, 2020[58]) (Figure VI.3.5).

Figure 1.2. Students' respect for people from other cultures

Average, dispersion and variations by students' socio-demographic profile



	A	B	C
Countries/economies with a positive difference	64	64	20
Countries/economies with no difference	0	0	11
Countries/economies with a negative difference	0	0	2

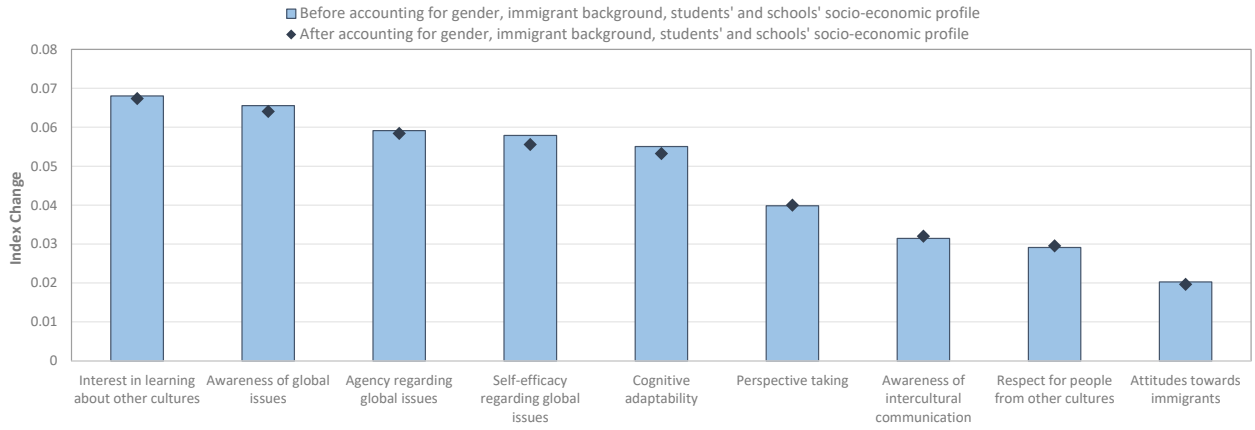
1. After accounting for students' and schools' socio-economic profile. The socio-economic profile is measured by the PISA index of economic, social and cultural status (ESCS).
2. Differences between immigrant and non-immigrant students are only presented for countries and economies where more than 5% of students have an immigrant background. The values for countries/economies with smaller proportions of immigrant students are reported as missing.
Notes: The global competence sample from Israel does not include students in ultra-Orthodox schools and, thus, is not nationally representative. See PISA 2018 Technical Report (OECD, forthcoming) for details. Countries and economies are ranked in descending order of the index of respect for people from other cultures.
Source: OECD, PISA 2018 Database, Table VI.B1.3.7 and Table VI.B1.3.9; https://doi.org/10.1787/888934169614.

Interest in learning about other cultures, awareness of global issues, agency, self-efficacy, cognitive adaptability and perspective taking

Intercultural and global learning can influence students' attitudes, values and actions, depending on their design and implementation as learning activities.

For example, PISA data reflected strong associations with interest in learning about other cultures, awareness of global issues, agency regarding global issues, self-efficacy regarding global issues, cognitive adaptability and perspective taking (Figure 1.3). Schools and teachers should be encouraged to develop and implement activities that enhance students' cultural understanding as well as values and attitudes necessary to evolve in this globalised multicultural world (OECD, 2020[58]). An example of service learning and a collaborative experience for intercultural understanding can be found in Box 1.6.

Figure 1.3. Number of learning activities and students' attitudes

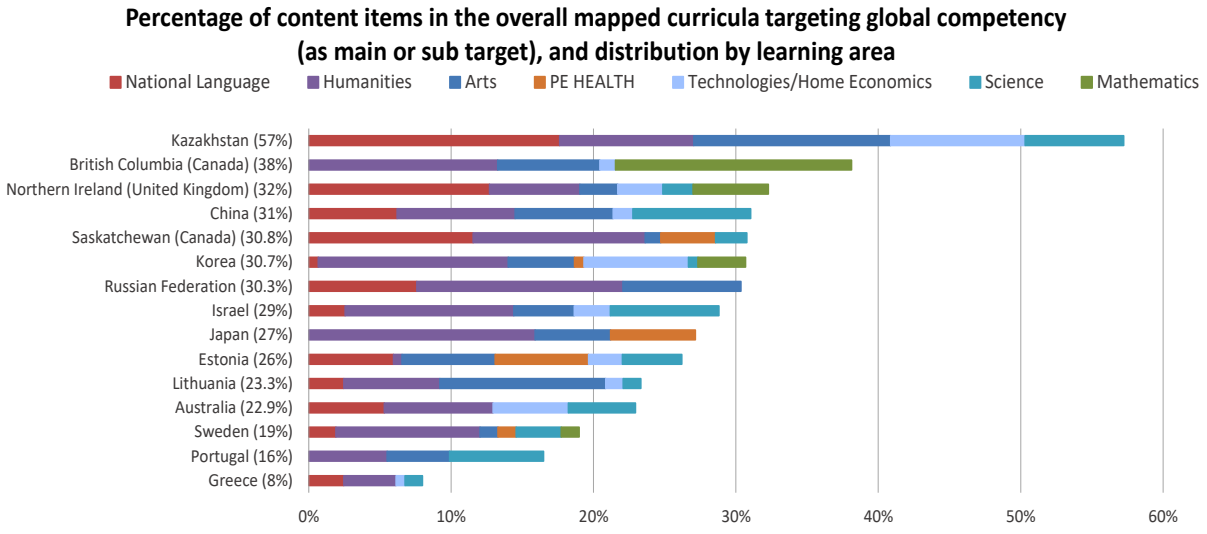


1. The socio-economic profile is measured by the PISA index of economic, social and cultural status (ESCS)
Note: All associations are statistically significant.
Source: OECD, PISA 2018 Database, Table VI.B1.7.11; https://doi.org/10.1787/888934170602.

PISA results also suggest that values and attitudes have an impact on students' cognitive skills. Indeed, **positive intercultural attitudes and dispositions, combined with knowledge of global issues**, are likely to translate into greater cognitive skills and a heightened capacity to take action for collective well-being and sustainable development. A corollary is also true – highly developed global and intercultural understanding can translate into more positive attitudes and dispositions. If this association is attenuated after accounting for students' and schools' socio-economic profile, it remains both positive and significant in almost all countries and economies (OECD, 2020[58]).

When looking at evidence from countries targeting global competency in lower secondary education, the interdisciplinary potential of this competency in the curriculum becomes clear with humanities being fairly prominent as a natural learning area for global competency development in all countries with available data (Figure 1.4). Albeit cross-country variations on the proportion of curriculum content items targeting this competency exist, the findings also suggest that there is room for some countries to further explore the inclusion of global competency in the national language curriculum as well. Some of the good examples of such practices suggest that such learning is connected to authentic learning through issues from the real world outside school (Box 1.6).

Figure 1.4. Global competency in curricula



Note: The percentage bar next to the country name refers to the total percentage of the mapped curriculum that embeds the competency. Graph bars ordered by decreasing total percentage of mapped items targeting the competency across learning areas.
Source: OECD (2020[42]), Future of Education and Skills 2030 Curriculum Database, E2030 Curriculum Content Mapping exercise, https://www.oecd.org/education/2030-project/curriculum-analysis/data/Distributions-of-competencies-across-learning-areas-subjects-data.xlsx.

StatLink https://stat.link/vc7wse

Box 1.6. Service learning in action in Japan: A valuable collaborative experience for students with additional language needs

Three university classmates collaborated on a service-learning project: "A Project for High School Students Who Have Roots in a Foreign Country", conducted at a high school in Fukui Prefecture. The university students worked with eight high school students: four from the Philippines, three from Vietnam, and one from China. Once a week, the university students supported the high school students to develop their Japanese language speaking skills through conversation and presentations. The project led to unanticipated consequences through collaboration and co-operation, well beyond developing language skills.

"Each week, we divided into three groups consisting of one university student to 1-2 high school students. We talked about our favourite things, ways to study Japanese and problems in school life or daily life. During these talks, one of the students from Vietnam told me she liked reading but didn't understand how to borrow books from the school library. We talked about seemingly small things and shared the students' thoughts and feelings with high school teachers as much as possible. I thought this approach was successful and was easier for us because we are closer in age to the students than teachers are.

Additionally, we helped the high school students prepare and conduct presentations in English to local elementary school students about school life in the Philippines and Vietnam. Interestingly, since the students could speak English well, together we had to consider the audience, and speak slowly and use English that was easy enough for the children to understand. We felt this activity was effective for both the elementary school students and high school students (and us!) to know about other cultures, and to interact and learn with and about each other.

Throughout these experiences, we discovered that there are people living nearby who need support. We already knew that the number of foreign workers and their children is increasing in Japan, and in Fukui as well, but we did not know that students with foreign roots were attending this local high school. Until this experience, we felt little or no connection to this situation or these students, though we major in global studies and each of us has lived and studied overseas. This experience also reconfirmed our understanding that students with foreign passports continue to face difficulties accessing Japanese public education, even in institutions where administrators and teachers create programs to improve their students' learning opportunities. But speaking with these students showed us that to support them, we needed to understand not only the difficulties they face, but also their dreams and goals.

Having university students support high school students with foreign roots allowed both groups to develop mutual understanding: we learned the necessity of community and local government support for students with foreign roots, and we learned we are part of, and not apart from, the community. We hope this project continues, spreads and helps make our community comfortable for all residents."

Source: Ayaka Nakamura, Department of Global and Community Studies, University of Fukui.

Ethical judgements and media literacy

Media literacy is defined as the ability to access, analyse and critically evaluate media messages (Buckingham, 2007[59]; Kellner and Share, 2005[60]), for which certain types of attitudes and values are essential for ensuring individual and social well-being in 2030. For example, social media, online networks and interactive technologies have changed young people's interactions with others and their perceptions of their environment. Today's students are both consumers and creators of media (Kellner and Share, 2005[60]; Hobbs, 1998[61]). An unprecedented amount of information and online content, social networks can pose risks to young people, including exposure to harmful or inappropriate content, lack of awareness about how online behaviour can affect others and a dependence on the Internet or social networking that can lead to disconnection from the real world.

Cultivating students' skills with a certain attitudes and values in intercultural communication can help mitigate these risk and help students to capitalise on digital spaces, better understand the world they live in and responsibly express their opinions online (OECD, 2020[58]). Students need to consider the many interconnections and inter-relations between seemingly contradictory or incompatible ideas, logic and positions, and consider the results of actions from both short- and long-term perspectives (OECD, 2019[30]). Being equipped with media literacy, students can also prevent risky behaviours (Jeong, Cho and Hwang, 2012[62]).

The OECD Education 2030 Curriculum Content Mapping (CCM) study defines media literacy as "the ability to think critically and analyse what one reads in the media, including social media and news sites. This

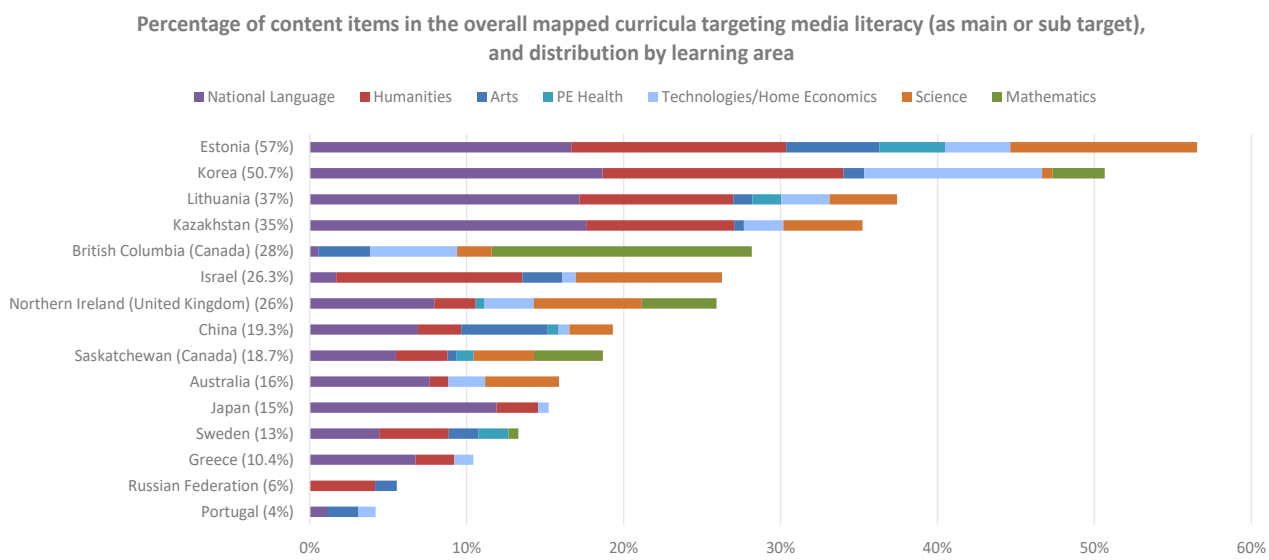
includes recognising 'fake news' or the ability to distinguish what is true from what is not, as well as to be able to assess, evaluate and reflect on the information that is given in order to make informed and ethical judgements about it" (OECD, 2020[63]).

To make **informed and ethical judgements**, students will need not only knowledge about media, awareness about the influence of the media, and critical thinking skills (e.g. to discern "fake news", risks of manipulation and bias, possibly to be accelerated through the use of artificial intelligence), but also attitudes and values such as **respect for others** (e.g. conscience to avoid negative consequences for others of one's action of online posting), **respect for one's own well-being** (e.g. protect one's healthy sleep patterns and duration or healthy eating habits against excessive social media use or addiction) (OECD, 2021[64]), and **responsibility and Integrity** (e.g. adherence to strong moral and ethical principles to fight against cyberbullying), etc. These attitudes and values are crucial to navigate oneself to make responsible judgements in an interconnected, diverse and fast-changing world of media.

It is important to recognise that media literacy is closely linked with other literacies (e.g. data literacy, digital literacy, information literacy, scientific literacy, statistical literacy and computational literacy). Recognising its multifaceted nature that covers abroad range of disciplines (OECD, 2019[26]), policy makers increasingly embed media literacy in curricula. They often highlight it as the ability to analyse and reflect critically on the validity and veracity of media content, perspectives and views. For example, it is embedded in over 50% of the curriculum in each of Korea (51%) and Estonia (57%), and to a lesser extent in the curricula of all other countries/jurisdictions participating in the study (4% in Portugal to 37% in Lithuania) (Figure 1.5).

With regards to the subject areas, it is embedded in the national language subject in the curricula of nearly all countries/jurisdictions (the highest percentages: 19% in Korea, 18% in Kazakhstan, 17% in Lithuania and Estonia), followed by Humanities, Technologies and Science. In British Columbia (Canada), media literacy is embedded more in Mathematics than any other subject (17%).

Figure 1.5. Media literacy in curricula



Notes: The percentage bar next to the country name refers to the total percentage of the mapped curriculum that embeds the competency. Graph bars ordered by decreasing total percentage of mapped items targeting the competency across learning areas.
Source: OECD (2020[42]), Future of Education and Skills 2030 Curriculum Database, E2030 Curriculum Content Mapping exercise, https://www.oecd.org/education/2030-project/curriculum-analysis/data/Distributions-of-competencies-across-learning-areas-subjects-data.xlsx.

StatLink https://stat.link/ry2x7s

Box 1.7. Media literacy in Thailand: An avenue to citizenship and social responsibility

Simon Whitaker, of the Plearnpattana School in Bangkok, explains the relationship between media literacy and the development of values and attitudes related to safe and responsible citizenship:

"Media literacy is one of the key competencies, along with digital literacy and information literacy, in many international frameworks, such as UNESCO's Global Citizenship Education (GCED). This subject aims to train our students to become active citizens in this fast-changing digital world."

What do we teach in Media Literacy?

At Plearnpattana School in Bangkok, students explore by questioning the "media ecosystem" from simple to more complex media, from simple to more complex concepts. Starting with advertisements of famous brands, students might come up with questions such as "What are the strategies used in this ad?' or 'Why did they choose this person as a brand ambassador?" Students are then encouraged to consider more in-depth questions to develop understanding of communication systems and the interaction patterns of humans as media consumers and media producers. Students learn to analyse the media more broadly and to understand its importance and its influences on society.

How do we teach Media Literacy?

The goal of teaching media literacy is to create a sense of security for students and, in turn, for society.

Simon explains, "there are three strategies we use:

1. **Questioning**: students learn how to question certain types of media.
2. **Analysing information**: students learn how to effectively filter, select, organise, save, and use information gathered from media sources.
3. **Recognising fake news**: students learn to read past the headline, check the date and author credentials, gauge the tone and language, and identify biases."

The school's programme uses a staged approach to media literacy development. This begins with students developing the skills and understanding of social media responsibility – to use their social media accounts and what they publish about themselves appropriately. Students then learn about how they can use social media platforms to initiate and support social change. Students role-play as reporters or content creators to create content that is beneficial to society.

Lastly, students learn to be active citizens through exemplar social media campaigns such as the Facebook page "Thailand Footpath" which campaigns for better pavements in Thailand: posting broken pavements encourages the authorities to fix them. Students learn about campaigns that use the power of the hashtag to bring about social change. A crucial element of the program examines the potential problems encountered by young users: the effects of media on mental and physical health, on privacy, on virtual versus reality.

Source: Simon Whitaker, Plearnpattana School, Bangkok. Teacher 'Air' Sippakorn

Notes

[1] The various descriptions countries and jurisdictions include in student profile statements demonstrate these differences. For example, Chile, Estonia, Hungary, Japan, Lithuania, Northern Ireland, China, Russia and Singapore all mention "moral character" and/or "moral principles" as contributing characteristics in student profiles; Finland, Hungary, Lithuania, Norway, Sweden, Northern Ireland, Scotland, Argentina, Costa Rica, India and Kazakhstan all include developing "ethical" skills as part of their teaching and learning goals (data from the OECD Education 2030 Policy Questionnaire on Curriculum Redesign, item 1.1.2.2).

[2] Coding for the data tables and narrative was done in relation to a previous version (version 8.4) of the Australian Curriculum.

[3] "*Whānau* is often translated as 'family', but its meaning is more complex. It includes physical, emotional and spiritual dimensions and is based on *whakapapa*. *Whānau* can be multi-layered, flexible and dynamic. *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." (Te Ara - the Encyclopedia of New Zealand, 2017[65])

[4] The most significant political unit in pre-European Māori society was the *hapū*. *Hapū* ranged in size from one hundred to several hundred people, and consisted of a number of *whanau* (extended families). *Hapū* controlled a defined portion of tribal territory. Ideally, territory had access to sea fisheries, shellfish beds, cultivations, forest resources, lakes, rivers and streams. Many *hapū* existed as independent colonies spread over a wide area and interspersed with groups from other *iwi*. This pattern of land use could give rise to a web of overlapping claims. Ruling families and their leaders mediated some disputes over land, and others were resolved through intermarriage, but failure to reconcile competing claims could lead to conflict. The viability of a *hapū* depended on its ability to defend its territory against others; in fact the defence of land was one of its major political functions." (New Zealand Ministry for Culture and Heritage, Manatu Taonga, 2005[66])

[5] "The largest political grouping in pre-European Māori society was the *iwi* (tribe). This usually consisted of several related *hapū* (clans or descent groups). The *hapū* of an *iwi* might sometimes fight each other, but would unite to defend tribal territory against other tribes. *Iwi-tūturu* (the homeland tribe) or *tino-iwi* (the central tribe) were groups living in a long-held location. They would take their name from a founding ancestor. *Iwi-nui* or *iwi-whānui* (the greater tribe) were groups tracing descent from the founding ancestor of the *iwi-tūturu*. They were often widespread and lived alongside people from other *iwi*." (New Zealand Ministry for Culture and Heritage, Manatu Taonga, 2005[66])

[6] *Mana* refers to an extraordinary power, essence or presence. This applies to the energies and presences of the natural world. There are degrees of mana and our experiences of it, and life seems to reach its fullness when mana comes into the world (New Zealand Ministry for Culture and Heritage, Manatu Taonga, 2017[67]).

[7] Coding for the data tables and narrative was done in relation to a previous version (version 8.4) of the Australian Curriculum.

[8] Examples are: Social Studies has a key focus on social and cultural conditions and issues; democratic values, social inequality, cultural globalisation, and international politics with a focus on the role of international organisations in relation to conflict and co-operation in the world. In Christianity studies, the national Common Objectives include learning about different religions and life views and reflecting on ethical principles and moral practice in social relations. The purpose of Biology includes a focus on responsibility towards nature, the environment and health, decision-making and action in relation to sustainable development and human interaction with nature – locally and globally. In the subject Health, Sex Education and Family Knowledge, the subject purpose is to develop pupils' competences to promote health and well-being and understanding of lifestyles and living conditions, and also aims at contributing to development of self-confidence, happiness and support of the individual in developing their own identity. The subject also aims at contributing to the pupils' recognition of their rights as well as understanding of others, and focuses on human rights, equality, knowledge of diversity concerning identity and sexuality. In Home Economics, issues related to food, food choices, cooking and meals in relation to culture, well-being, health and sustainability are examined.

[9] Coding for the data tables and narrative was done in relation to a previous version (version 8.4) of the Australian Curriculum.

References

(n.a.) (2021), *The Voice: Issue 2*, https://heyzine.com/flip-book/eb458d65ec.html (accessed on 23 November 2021). [27]

Anderson, C. and M. Singer (2008), "The Sensitive Left and the Impervious Right: Multilevel Models and the Politics of Inequality, Ideology, and Legitimacy in Europe", http://dx.doi.org/10.1177/0010414007313113. [49]

Banks, J. (ed.) (2006), *Diversity and Citizenship Education: Global Perspectives*, Jossey-Bass. [14]

Berkowitz, M., K. Miller and M. Bier (2018), *AI, Attitudes and Values*, OECD, https://www.oecd.org/education/2030/Education-and-AI-preparing-for-the-future-AI-Attitudes-and-Values.pdf. [23]

Buckingham, D. (2007), "Digital Media Literacies: Rethinking Media Education in the Age of the Internet", *Research in Comparative and International Education*, Vol. 2/1, pp. 43-55, http://dx.doi.org/10.2304/RCIE.2007.2.1.43. [59]

Caprara, G. et al. (2000), "Prosocial foundations of children's academic achievement", *Psychological Science*, Vol. 11/4, pp. 302-306, http://dx.doi.org/10.1111/1467-9280.00260. [52]

Cerasoli, C., J. Nicklin and M. Ford (2014), "Intrinsic motivation and extrinsic incentives jointly predict performance: A 40-year meta-analysis", *Psychological Bulletin*, Vol. 140/4, pp. 980-1008, http://dx.doi.org/10.1037/A0035661. [12]

Clary, E. and L. Orenstein (1991), "The Amount and Effectiveness of Help: The Relationship of Motives and Abilities to Helping Behavior", *Personality and Social Psychology Bulletin*, https://doi.org/10.1177/0146167291171009 (accessed on 7 September 2021). [13]

Cline, Z. and J. Necochea (1996), "An effective character education model for a diverse student population", *Educational Forum*, Vol. 60/2, pp. 165-173, http://dx.doi.org/10.1080/00131729609335119. [33]

Consilium (2016), *G7 Ise-Shima Leaders' Declaration*, https://www.consilium.europa.eu/fr/press/press-releases/2016/05/27/g7-japan-leaders-declaration/ (accessed on 10 September 2021). [44]

Council of Europe (2013), *Reference Framework of Competences for Democratic Culture*, https://www.coe.int/en/web/reference-framework-of-competences-for-democratic-culture (accessed on 10 September 2021). [43]

Gough, H., H. McClosky and P. Meehl (1952), "A personality scale for social responsibility", *Journal of Abnormal and Social Psychology*, Vol. 47/1, pp. 73-80, http://dx.doi.org/10.1037/H0062924. [24]

H.R.H. Princess Laurentien of the Netherlands (2020), *Overcoming education challenges: The coronavirus crisis turns us all into learners*, OECD Education and Skills Today, https://oecdedutoday.com/overcoming-education-challenges-coronavirus-learners/ (accessed on 23 November 2021). [35]

Hardy, S. and G. Carlo (2011), "Moral identity: What is it, how does it develop, and is it linked to moral action?", *Child Development Perspectives*, Vol. 5/3, pp. 212-218, http://dx.doi.org/10.1111/J.1750-8606.2011.00189.X. [17]

Haste, H. (2018), *Attitudes and Values and the OECD Learning Framework 2030: A critical review of definitions, concepts and data*, OECD, https://www.oecd.org/education/2030-project/contact/Draft_Papers_supporting_the_OECD_Learning_Framework_2030.pdf. [7]

Heath, D. (1994), *Schools of Hope: Developing Mind and Character in Today's Youth*, Jossey Bass. [10]

Hobbs, R. (1998), "The seven great debates in the media literacy movement", *Journal of Communication*, Vol. 48/1, pp. 16-32, http://dx.doi.org/10.1111/J.1460-2466.1998.TB02734.X. [61]

Hogg, M. and G. Vaughan (2002), *Social Psychology*, Prentice Hall, London. [32]

Jarrett, J. (1991), "The Teaching of Values: Caring and Appreciation", *History of Education Quarterly*, Vol. 32/4, pp. 547-549, http://dx.doi.org/10.2307/368973. [9]

Jeong, S., H. Cho and Y. Hwang (2012), "Media Literacy Interventions: A Meta-Analytic Review", *The Journal of Communication*, Vol. 62/3, p. 454, http://dx.doi.org/10.1111/J.1460-2466.2012.01643.X. [62]

Jones, D., M. Greenberg and M. Crowley (2015), "Early Social-Emotional Functioning and Public Health: The Relationship Between Kindergarten Social Competence and Future Wellness", *American Journal of Public Health*, Vol. 105/11, pp. 2283-2290, http://dx.doi.org/10.2105/AJPH.2015.302630. [53]

Kellner, D. and J. Share (2005), "Toward Critical Media Literacy: Core concepts, debates, organizations, and policy", *Discourse: Studies in the Cultural Politics of Education*, Vol. 26/3, pp. 369-386, http://dx.doi.org/10.1080/01596300500200169. [60]

Keyes, C. and J. Haidt (eds.) (2003), *Flourishing: Positive Psychology and the Life Well-Lived*, American Psychological Association, Washington, D.C. [5]

Killen, M. and J. Smetana (2010), "Future directions: Social development in the context of social justice", *Social Development*, Vol. 19/3, pp. 642-657, http://dx.doi.org/10.1111/J.1467-9507.2009.00548.X. [16]

Kirschenbaum, H. (1976), "Clarifying Values Clarification: Some Theoretical Issues and a Review of Research". [56]

Leming, J. (1994), "Character Education and the Creation of Community", *The Responsive Community*, Vol. 4/4, pp. 49-57. [34]

Lerner, R. (2015), "Promoting positive human development and social justice: Integrating theory, research and application in contemporary developmental science", *International Journal of Psychology*, Vol. 50/3, pp. 165-173, http://dx.doi.org/10.1002/IJOP.12162. [18]

Lippman, L. et al. (2014), *Flourishing Children: Defining and Testing Indicators of Positive Development*, Springer Netherlands, Dordrecht, http://dx.doi.org/10.1007/978-94-017-8607-2. [51]

Malin, H., I. Liauw and W. Damon (2017), "Purpose and Character Development in Early Adolescence", *Journal of Youth and Adolescence*, Vol. 46, pp. 1200-1215, http://dx.doi.org/10.1007/s10964-017-0642-3. [25]

Mattessich, P. and B. Monsey (1992), "Collaboration: What makes it work: A review of research literature on factors influencing successful collaboration", *Wilder Research Center, Amherst H. Wilder Foundation.*. [19]

New Zealand Ministry for Culture and Heritage, Manatu Taonga (2017), *Te Ao Mārama – the natural world*, https://teara.govt.nz/en/te-ao-marama-the-natural-world/page-5 (accessed on 2021). [67]

New Zealand Ministry for Culture and Heritage, Manatu Taonga (2005), *Rāwiri Taonui, 'Tribal organisation - The significance of iwi and hapū'*, https://teara.govt.nz/en/tribal-organisation/page-1 (accessed on 14 September 2021). [66]

Noddings, N. (1992), *The Challenge to Care in Schools: An Alternative Approach to Education*, Teachers College Press, New York and London. [21]

OECD (2021), *Beyond Academic Learning: First Results from the Survey of Social and Emotional Skills*, OECD Publishing, Paris, https://doi.org/10.1787/92a11084-en. [1]

OECD (2021), *Measuring What Matters for Child Well-being and Policies*, OECD Publishing, https://doi.org/10.1787/e82fded1-en. [64]

OECD (2020), *E2030 Curriculum Content Mapping exercise data*, Future of Education and Skills 2030 Curriculum Database, https://www.oecd.org/education/2030-project/curriculum-analysis/data/Distributions-of-competencies-across-learning-areas-subjects-data.xlsx. [42]

OECD (2020), *PISA 2018 Results (Volume VI): Are Students Ready to Thrive in an Interconnected World?*, PISA, OECD Publishing, Paris, https://dx.doi.org/10.1787/d5f68679-en. [58]

OECD (2020), *Techinical Report: Curriculum Analysis of the OECD Future of Education and Skills 2030*. [63]

OECD (2020), *What Students Learn Matters: Towards a 21st Century Curriculum*, OECD Publishing, Paris, https://dx.doi.org/10.1787/d86d4d9a-en. [41]

OECD (2019), *Conceptual learning framework: Core foundations for 2030*, Future of Education & Skills 2030 Concept Note, http://www.oecd.org/education/2030-project/teaching-and-learning/learning/core-foundations (accessed on 7 September 2021). [26]

OECD (2019), *Conceptual learning framework: Learning Compass 2030*, Future of Education and Skills 2030, http://www.oecd.org/education/2030-project/teaching-and-learning/learning/learning-compass-2030/OECD_Learning_Compass_2030_concept_note.pdf (accessed on 10 September 2021). [6]

OECD (2019), *Conceptual learning framework: Student agency for 2030*, Future of Education & Skills 2030 Concept Note, Paris, http://www.oecd.org/education/2030-project/teaching-and-learning/learning/student-agency/Student_Agency_for_2030_concept_note.pdf (accessed on 7 September 2021). [11]

OECD (2019), *OECD Learning Compass 2030: A Series of Concept Notes*, Future of Education and Skills 2030. [30]

OECD (2019), *PISA 2018 Assessment and Analytical Framework*, OECD Publishing, Paris, https://doi.org/10.1787/b25efab8-en (accessed on 7 September 2021). [37]

OECD (2019), *PISA 2018 Results (Volume III): What School Life Means for Students' Lives*, PISA, OECD Publishing, Paris, https://dx.doi.org/10.1787/acd78851-en. [36]

OECD (2018), *The Future of Education and Skills 2030 - The Future We Want - Position Paper*, OECD Publishing, Paris, https://www.oecd.org/education/2030-project/about/documents/E2030%20Position%20Paper%20(05.04.2018).pdf (accessed on 20 October 2021). [29]

OECD (2016), *E2030 Conceptual Framework: Key Competencies for 2030*, https://www.oecd.org/education/2030-project/about/documents/E2030-CONCEPTUAL-FRAMEWORK-KEY-COMPETENCIES-FOR-2030.pdf (accessed on 20 October 2021). [31]

OECD (2005), *The Definition and Selection of Key Competencies*, https://www.oecd.org/pisa/35070367.pdf. [3]

OECD (2001), *Investing in Competencies for All: Communiqué*, OECD Media Relations, Paris, https://www.oecd.org/education/innovation-education/1870589.pdf (accessed on 7 September 2021). [4]

OECD Future of Education and Skills 2030 (2021), *Learning Compass 2030 workshop series*, https://www.oecd.org/education/2030-project/teaching-and-learning/learning/learning-compass-2030/ (accessed on 23 November 2021). [28]

Opertti, R. (2021), *Ten clues for rethinking curriculum. In-Progress Reflection No. 42*, UNESCO International Bureau of Education (IBE-UNESCO), http://www.ibe.unesco.org/sites/default/files/resources/ten_clues_for_rethinking_curriculum_eng.pdf (accessed on 22 November 2021). [2]

Reysen, S. and I. Katzarska-Miller (2013), "A model of global citizenship: Antecedents and outcomes", *International Journal of Psychology*, Vol. 48/5, pp. 858-870, http://dx.doi.org/10.1080/00207594.2012.701749. [15]

Rosenberg, M. et al. (1995), "Global Self-Esteem and Specific Self-Esteem: Different Concepts, Different Outcomes", *American Sociological Review*, Vol. 60/1, http://dx.doi.org/10.2307/2096350. [48]

Sutrop, M. (2015), "Can values be taught? The myth of value-free education", *Trames*, Vol. 19/2, pp. 189-202, http://dx.doi.org/10.3176/TR.2015.2.06. [55]

Te Ara - the Encyclopedia of New Zealand (2017), *Tai Walker, 'Whānau – Māori and family'*, https://teara.govt.nz/en/whanau-maori-and-family/print (accessed on 14 September 2021). [65]

UNESCO IBE (2013), *IBE: Glossary of curriculum terminology*, UNESCO International Bureau of Education (IBE), http://www.ibe.unesco.org/en/glossary-curriculum-terminology. [8]

United Nations (2021), *Decision-/CP.26: Glasgow Climate Pact*, https://unfccc.int/sites/default/files/resource/cop26_auv_2f_cover_decision.pdf (accessed on 23 November 2021). [46]

United Nations (2021), *Organization of work, including for the sessions of the subsidiary bodies - Proposal by the President - Draft decision CMA.3 - Glasgow Climate Pact*, https://unfccc.int/sites/default/files/resource/cma2021_L16_adv.pdf (accessed on 23 November 2021). [47]

United Nations (2016), *Report of the Conference of the Parties on its twenty-first session, held in Paris from 30 November to 13 December 2015*, https://unfccc.int/resource/docs/2015/cop21/eng/10a01.pdf (accessed on 23 November 2021). [45]

United Nations (2000), *United Nations Millennium Declaration*, https://www.ohchr.org/EN/ProfessionalInterest/Pages/Millennium.aspx (accessed on 10 September 2021). [40]

United Nations (1948), *Universal Declaration of Human Rights*, https://www.un.org/en/about-us/universal-declaration-of-human-rights (accessed on 10 September 2021). [39]

United Nations (1945), *United Nations Charter*, https://www.un.org/en/about-us/un-charter (accessed on 10 September 2021). [38]

Utgannings-direktoratet (2021), *Core curriculum - values and principles for primary and secondary education*, https://www.udir.no/lk20/overordnet-del/?lang=eng. [57]

Vorauer, J. and S. Sasaki (2009), "Helpful Only in the Abstract? Ironic Effects of Empathy in Intergroup Interaction", *Psychological Science*, Vol. 20/2, https://www.jstor.org/stable/40065053 (accessed on 8 September 2021). [22]

Wentzel, K. (1991), "Relations between Social Competence and Academic Achievement in Early Adolescence", *Child Development*, Vol. 62/5, p. 1066, http://dx.doi.org/10.2307/1131152. [54]

Wilkinson, R. and K. Pickett (2009), *The Spirit Level: Why More Equal Societies Almost Always Do Better*, Bloomsbury Publishing, Allen Lane/Penguin Group UK. [50]

Wood, D. and B. Gray (1991), “Toward a Comprehensive Theory of Collaboration”, *Journal of Applied Behavioral Science*, Vol. 27/2, pp. 139-162, http://dx.doi.org/10.1177/0021886391272001. [20]

2 Attitudes and values in subject-specific curriculum

This chapter explores how a subset of the OECD 2030 Learning Compass competencies, more specifically, nine constructs (**reflection, collaboration and co-operation, learning to learn, respect, responsibility, empathy, self-regulation, persistence, trust)** are defined and embedded in curriculum across different subject content areas. Research about the positive academic and social outcomes that are associated with each of these is also summarised.

How can attitudes and values be linked to subject-specific learning goals and content?

The previous chapter outlined the importance countries/jurisdictions place on students developing appropriate values and attitudes to shape their own and society's future as part of a holistic education, despite some contestation. When it comes to actual teaching and learning, attitudes may be easier to observe than underlying values and beliefs, therefore, values in the context of curriculum design need to be specified in well-defined contexts, such as subject-specific learning goals and content.

Furthermore, we need to have a clear understanding about the complex nature of some constructs, i.e. multifaceted and thus difficult to be classified into a single domain or a single sub-domain. It is technically difficult to make a clear distinction between skills (especially social and emotional skills) and attitudes and values. For example, "empathy" is generally understood as a multifaceted construct and therefore it is often categorised under different taxonomies according to different sources, different focuses, and different definitions. The Council of Europe's Competencies for Democratic Culture Framework classifies "empathy" as part of both "cognitive" and "emotional" skills (Council of Europe, 2016[1]), while it is considered as an attitude in some research (Shapiro, 2002[2]).

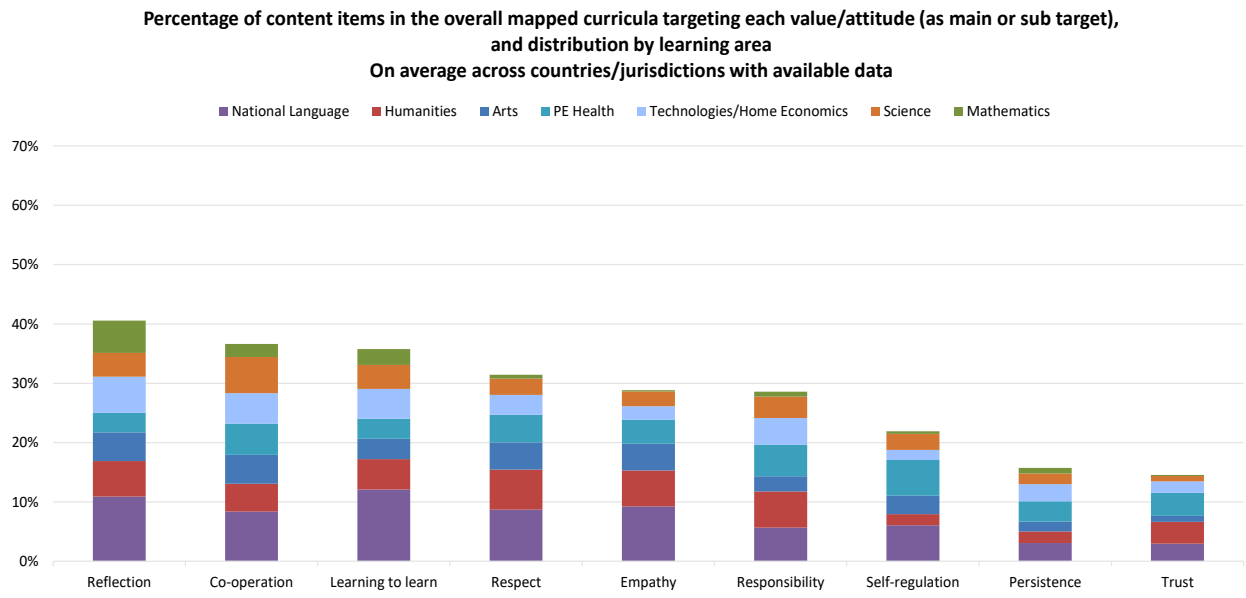
OECD E2030 participating countries/jurisdictions wished to learn from peers about how the competencies identified in the Learning Compass, privilege the types of knowledge, skills, attitudes and values that are considered most relevant for helping young people navigate, thrive and shape a better world in the future. A study mapping these competencies (Curriculum Content Mapping) was undertaken with the participation of a number of member and partner countries and jurisdictions. Of the competencies mapped in the study, some align closely with the values and attitudes identified across country/jurisdictional educational goals (OECD, 2020[3]).

This chapter focuses on nine of the competencies – attitudes, values and skills – that are closely or directly related to the notion of values explored in Chapter 1 (e.g. **human dignity, respect, equality, justice, responsibility, global-mindedness, cultural diversity, freedom, tolerance** and **democracy).** An OECD 2030 Curriculum Content Mapping (CCM) study looked at nine competencies, encompassing skills, values and attitudes and the extent to which each was explicitly embedded in curriculum content.

This section illustrates the degree, in descending order, to which these skills, attitudes and values, suggested in the Learning Compass, are associated explicitly with subject goals in curriculum. It also illustrates how countries/jurisdictions' curricula associate certain skills, attitudes and/or values with different subject areas. For example, on average, the national language subject is likely to be a home for many of the attitudes and values, while mathematics is less associated with those such as respect, responsibility, empathy and trust.

1. **Reflection**
2. **Collaboration and co-operation**
3. **Learning to learn**
4. **Respect**
5. **Responsibility**
6. **Empathy**
7. **Self-regulation**
8. **Persistence**
9. **Trust**

Figure 2.1. CCM skills, values and attitudes in curricula



Notes: The percentages illustrated in this graph correspond to the percentage of content items included in a standard learning framework for each learning area[1] that explicitly targets these items (for details, see Technical Report: Curriculum Analysis of the OECD Future of Education and Skills 2030 (OECD, 2020[4]). The averages include the OECD countries/jurisdictions and partner economies participating in the Curriculum Content Mapping exercise. OECD countries and jurisdictions: Australia, British Columbia (Canada), Saskatchewan (Canada), Estonia, Greece, Israel, Japan, Korea, Lithuania, Northern Ireland (United Kingdom), Portugal, Sweden. Partner countries: China, Kazakhstan and the Russian Federation. Coding for the data tables and narrative was done in relation to a previous version (version 8.4) of the Australian Curriculum.
Source: Data from the OECD (2020[3]) E2030 Curriculum Content Mapping (CCM) exercise, https://www.oecd.org/education/2030-project/curriculum-analysis/data/Distributions-of-competencies-across-learning-areas-subjects-data.xlsx.

StatLink https://stat.link/3tmsop

The CCM study showed that countries/jurisdictions make different choices about those subjects or learning areas with which they explicitly associate particular attitudes and values, and take account of the most relevant fit according to their own unique cultural, political and ideological contexts. There was considerable variation in terms of the percentage of subject/disciplinary content that maps to the identified skills, attitudes and values, that different subjects/disciplines reflect skills, attitudes and values to varying extents, and that there is considerable variation of the percentage of particular skills, values and attitudes explicitly embedded in learning content (Figure 2.1).

How are these specific skills, attitudes and values defined, measured for impact, and linked to subject learning?

As discussed earlier, deeper understanding of curriculum design as well as teaching and learning of specific skills, attitudes and values through peer-learning across different countries, requires sensitivities in relation to the nature of international comparison, such as comparable definitions and recognition of differences in scope of available research in local languages. Therefore, this section identifies the following dimensions for each of the nine skills, attitudes and values, to support peer-learning and better understanding of curriculum design, teaching and learning of these future-oriented skills, attitudes and values:

- **Definition**: providing internationally comparative definitions, which have been piloted and tested carefully, across different countries/ jurisdictions;

- **Relevance for 2030**: illustrating how the selected skills, attitudes and values are relevant for students to thrive in the future, referring to some of the key concepts in which underpin the OECD Learning Compass 2030;
- **Inter-relatedness**: considering how selected skills, attitudes and values develop hand in hand with other competencies, which can impact upon how teaching and learning can be designed;
- **Impact**: referencing what research exists about the impact of the selected skills, attitudes and values on students' academic and social outcomes, and which supports these constructs; and
- **Curriculum design and integration**: describing how countries embed the selected skills, attitudes and values into specific subject learning within a curriculum, which can give food for thought for curriculum designers.

Before detailing each of the constructs (whether they be skills, attitudes or values), the following cautionary considerations need to be stated:

First, some constructs can be identified within subject-specific contexts or more broadly. For instance, "self-efficacy" may be defined broadly as part of "life skills", but PISA has measured "self-efficacy in mathematics", and the International Civic and Citizenship Education Study has measured "students' political internal efficacy" (Schulz et al., 2016[5]). These measurement tools are designed differently for individual subjects/themes or for a particular scope, even though the broad construct of "self-efficacy" may be considered to be the same.

Second, some constructs are context-dependent, while others are context-independent. For example, "empathy" may be defined or understood in different ways depending upon the cultural contexts and, it is not necessarily understood that "the more you have, the better" in some cultures. By comparison, "integrity" is generally defined similarly across different cultures, and it can be expected that having more integrity is better, in scale.

Third, we need to consider the age-appropriateness of developmental trajectories of some constructs. The life-cycle approach to construct analysis revealed that the scope and selection of key constructs that are developmentally appropriate or most sensitive to brain development may vary across ages. For example, the key constructs developed in the early years that impact upon later educational attainment, employment, health, happiness and life satisfaction, include verbal skills, numeracy, social skills, locus of control and motor skills (Schoon et al., 2015[6]); more and varied constructs in various domains, i.e. knowledge (including disciplinary; interdisciplinary; epistemic; and procedural), skills (including cognitive & metacognitive; social & emotional; practical & physical) and attitudes and values may be more salient across middle childhood or adolescence than in the early years of learning.

1. Reflection

Definition

Reflection is a systematic, rigorous, disciplined way of thinking, with its roots in scientific inquiry (OECD, 2019[7]). It requires "attitudes that value the personal and intellectual growth of oneself and of others" (Rodgers, 2002[8]).

In the comparative curriculum content mapping (CCM) exercise, reflection is defined as "the ability to take a critical stance before deciding, choosing and acting, such as, by stepping back from the assumed, known, apparent, and accepted, comparing a given situation from other, different perspectives, and looking beyond the immediate situation to the long-term and indirect effects of one's decisions and actions. This enables individuals to reach a level of social maturity that allows them to adopt different perspectives, make independent judgements and take responsibility for their decisions and actions. The reflective approach is based on a model of human development in which individuals are able to integrate increasing levels of complexity into their thinking and actions" (OECD, 2020[4]).

Reflection, or the act of **reflective thinking**, includes: thinking things through and examining them from all angles; refraining from jumping to conclusions; being able to change one's mind in light of new evidence; and being able to evaluate all evidence fairly (Peterson and Seligman, 2004[9]). When an individual engages in reflective thinking, they also use **metacognitive skills** as they actively evaluate their own thinking and learning (Van der Schaaf et al., 2013[10]).

Relevance for future – link to the OECD Learning Compass 2030

Building on the underlying concept of "reflection or reflective practice" in the OECD Key Competencies framework, the OECD Learning Compass further articulated its importance, in particular, when navigating in time (past, today, future) and in social and digital space (family, community, region, nation, earth and universe) (Rychen, 2016[11])). Specifically, reflection is highly relevant to the transformative competencies of the Learning Compass, i.e. creating new values, reconciling tensions and dilemmas, and taking responsibility.

First, reflection allows individuals to **create new value, innovate or think "outside of the box"**. This requires that an individual not only reflect upon what is already known, but also consider what needs to be known, and then contemplate actions that can be taken. Individuals connect what they have learned from the past to their present situation, and use this information to plan for the future (Luhmann, 1995[12]). Considering multiple perspectives can help create new meaning and develop innovative solutions for both old and new problems (Costa and Kallick, 2008[13]).

Reflective thinking can also help **reconcile tensions and dilemmas**, i.e. one of the key transformative competencies of the Learning Compass. Repairing relationships and finding solutions to problems require that individuals in conflict come together to reflect upon, and identify, the problem. Next, the individuals examine the contradictions or tensions that may be present by reflecting upon different perspectives presented. Finally, possible solutions are reflected upon as individuals synthesise a solution for moving forward based on what was expressed and considered (Yost and Mosca, 2002[14]).

Finally, reflective thinking is a foundational skill necessary to become an engaged, forward-thinking and responsible citizen (OECD, 2016[15]). According to John Dewey, **taking responsibility**, another key transformative competency of the Learning Compass, is an integral characteristic of the reflective process. He argues that reflecting without taking action based on what was learned from the reflection is actually irresponsible. This means that to responsibly reflect requires that one have the courage to make changes or act upon what was learned throughout the reflective process (Rodgers, 2002[8]).

Reflection is related to:

- **Conflict resolution**, which requires that individuals engage in reflective and critical thinking to carefully weigh all sides of a conflict and consider fair solutions to the conflict (Pianta and Allen, 2008[16]). A study conducted with primary school students in Brisbane found that employing reflection strategies to assist students with conflict resolution encouraged a more perceptive, responsive and healthy classroom climate (Ayling, 2018[17]).
- **Creativity** requires reflection as part of the creative process. A qualitative study examining the quality of reflections from primary school students during group processing when involved in science, technology, engineering, arts and mathematics (STEAM) activities. The reflective discussions of the students were analysed to identify beliefs, attitudes and emotions which revealed higher levels of critical reflection than anticipated with artistic and creative aspects of STEAM providing an increased perception of individual responsibility and a promotion of interaction (Bassachs et al., 2020[18]).
- **Critical thinking**: thoroughly considering potential solutions to a problem requires the use of critical and reflective thinking (Hattie and Yates, 2014[19]; Taconis, 2013[20]). Multiple studies conducted to

examine the Reflective Judgement Model[2] (RJM) have found that critical thinking is related to the development of reflective judgement in that reflective thinkers use evidence and reason to support their conclusions (King and Strohm Kitchener, 2004[21]).

- **Problem solving** also requires reflective thinking to evaluate the problem and fully weigh alternative perspectives in efforts to find a solution (Hattie and Yates, 2014[19]; Taconis, 2013[20]). A study conducted with elementary students (grades 3-5) found that students were better able to solve previously difficult math problems when they engaged in a reflective activity, such as talking through potential ways to approach a problem before actually solving the problem (Ross, 2002[22]).

Impact on academic and social outcomes/well-being

Academic outcomes

Making personal decisions about one's learning, including guiding self-directed learning, requires that an individual be able to reflect upon their own thinking and learning process (Istance and Dumont, 2010[23]). Learning is an interplay of emotion, motivation, and cognition, all of which combine to help a learner develop new understandings (Dai and Sternberg, 2004[24]). As an individual reflects upon the role that these factors play in their own learning, they can better evaluate what types of conditions are best needed to support their learning process. Ideally, this then allows the individual to envisage a personalised learning environment that optimises learning (Istance and Dumont, 2010[23]).

Indeed, a quantitative study involving 197 fourth-grade students undertaken by Deringol (2019[25]) found that a positive relationship existed between reflective thinking skills and students' academic success in mathematics. Similarly, separate studies undertaken by Bas and Kıvılcım (2013[26]), Sen (2013[27]), Aydin and Coşkun (2015[28]) and Mason (2003[29]) have each concluded that students' reflective thinking skills towards problem solving explained achievement in mathematics.

Findings in relation to the value of reflection on academic success are also not limited to mathematics. Bianchi (2007[30]), for example, found that the academic achievement of students in secondary science experimental groups increased compared that of the control groups owing to the former group being trained in using and applying reflective thinking skills as part of the teaching and learning process. Moreover, Youde's (2019[31]) meta-analysis of the impact of reflective self-assessment on student academic achievement found that overall, students exposed to self-reflection outperformed students not exposed to self-reflection on measures of academic achievement across different areas of subject-area learning.

Along with critical thinking, reflective thinking is fundamental for social, professional and ethical development (Branch and George, 2017[32]). For example, as an individual contemplates and reflects upon their interactions within their social sphere, they may begin to see themselves, and their social situation, in a new light. Critically reflecting upon the role one plays within social environments may broaden self-understanding, as well as help individuals identify potential roles that they can adopt to help improve society (Gelerstein et al., 2016[33]).

Social outcomes/well-being

An example of self-reflection in a social-collaborative activity is provided by Valkanova et al., (2004[34]) who examined how primary-aged students were able to engage in self-reflection on their learning and discourse when undertaking collaborative science group activities by creating video documentaries of their learning process.

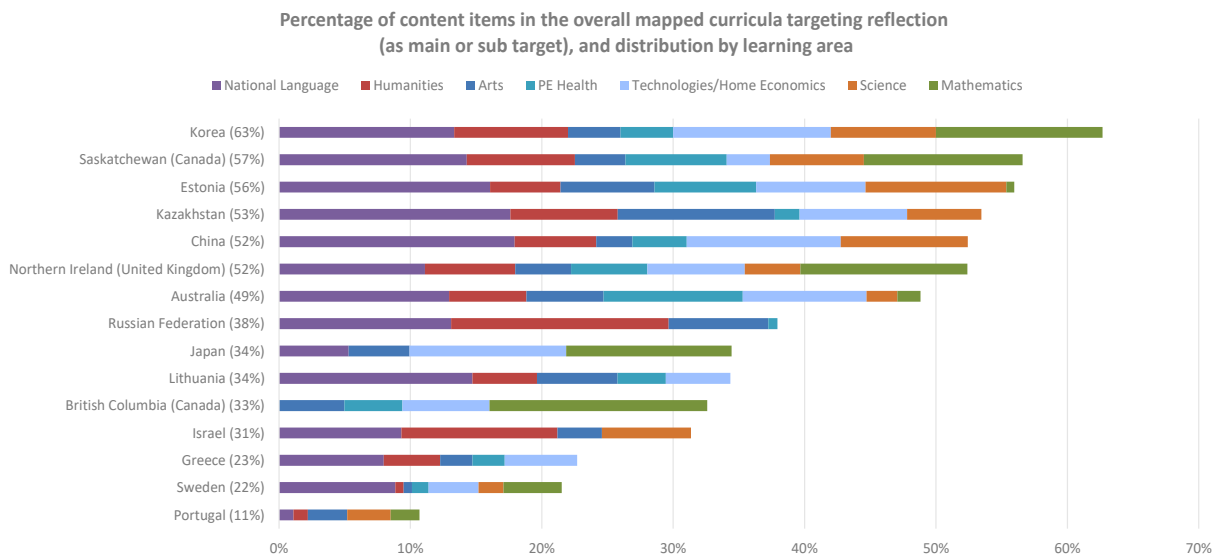
Which learning areas/subjects are most likely to embed "reflection"?

Recognising the relevance and importance of students developing the ability to reflect, it is embedded in the curricula of all countries/jurisdictions that participated in the study, and, in most curricula, its presence

is significant. It was mapped to over 50% in seven of the country/jurisdictional curricula: China, Estonia, Kazakhstan, and Northern Ireland, with it mapped to 63% of content in Korea (Figure 2.2).

Not only is reflection embedded in significant proportions of curricula, but it is also explicitly reflected across subjects. For some countries/jurisdictions, it is reflected in all subjects in their curricula such as in the curricula of Australia, Estonia, Korea, and Northern Ireland. Mathematics is mapped to reflection more than to any of the other skill/attitude in the study, from 1% in Estonia, 2% in Australia and Portugal, 4% in Sweden, 13% in Japan, Korea and Northern Ireland, and 17% in British Columbia (Canada).

Figure 2.2. Reflection in curricula



Note: The percentage bar next to the country name refers to the total percentage of the mapped curriculum that embeds the competency. Graph bars ordered by decreasing total percentage of mapped items targeting the competency across learning areas.
Source: Data from the OECD (2020[3]) E2030 Curriculum Content Mapping (CCM) exercise, https://www.oecd.org/education/2030-project/curriculum-analysis/data/Distributions-of-competencies-across-learning-areas-subjects-data.xlsx.

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2. Collaboration and co-operation

Definition

Collaboration is a social process of knowledge and relationship-building, in which people work together towards common objectives, resulting in well-defined final products, consensus or decisions. In the CCM exercise, collaboration is defined as "the ability to work well as member of a group or team, being loyal to the group, doing one's share. Teamwork is a strong predictor of well-being and of a fulfilled and successful life. Collaboration skills are character traits and skills (associated with attitudes such as open-mindedness)" (OECD, 2020[4]).

In collaborative activity, "autonomous or semi-autonomous actors interact through formal and informal negotiation, jointly creating rules and structures governing their relationships and ways to act or decide on the issues that brought them together; it is a process involving shared norms and mutually beneficial interactions" (Wood and Gray, 1991[35]).

In school education, collaboration is closely associated with **co-operative learning**, **collaborative learning**, and group learning formats (Williams, 2009[36]). Collaborative projects can help students develop

skills that are important in the professional world and in life (Lee and Bonk, 2014[37]). **Co-operation** requires the development of communication skills as well as shared or socially negotiated skills, including learned attitudes and behaviours that involve:

- challenging assumptions;
- planning and managing time, including breaking complex tasks into parts and steps;
- communicating clearly, including refining understanding (through discussion and explanation).

Relevance for future – link to the OECD Learning Compass 2030

The shift towards an increasingly globalised and networked world often requires individuals to work with diverse teams in different locations through collaborative technology (Salas, Cooke and Rosen, 2008[38]). Education needs to prepare students to work effectively and solve problems in groups (Griffin and Care, 2015[39]; Rosen and Rimor, 2012[40]).

Child and Shaw (2016[41]) identify six facets of the collaborative process: social interdependence, introduction of new ideas, co-operation/task definition, conflict resolution, sharing of resources and communication. These facets are highly relevant to the key concepts of the Learning Compass.

Collaboration is an action-oriented construct. Collaboration plays an important role in developing **student agency, co-agency and collective agency**, the three key underlying concepts, involving individual confidence, interpersonal skills, and social capital.

Collaboration is linked with the capacity of **reconciling tensions and dilemmas**, a transformative competency in the OECD Learning Compass. Through collaboration, teams work together to find common ground as they expose discrepancies, negotiate viewpoints and organise effective group norms and processes (Clark, 1996[42]; Lai, DiCerbo and Foltz, 2017[43]). Establishing and maintaining team organisation can also provide real-life training in social reconciliation through role and rule definition (OECD, 2017[44]).

The individual and social skills associated with effective collaboration include **taking personal responsibility**, another key transformative competency of the Learning Compass – for personal behaviours, group interactions and solution-oriented outcomes. Collaborative problem solving promotes positive interdependence (Johnson and Johnson, 1989[45]) (Box 2.1).

Collaboration/co-operation is related to:

- **Adaptability**: Collaboration strengthens individuals' and groups' abilities to compromise by increasing flexibility and promoting adaptability (Rosen, 2014[46]).
- **Conflict resolution**: Collaboration typically engages individuals and groups to regulate social processes and build consensus by understanding divergent points of view through discussion, negotiation and (possibly) resolution (Fawcett and Garton, 2005[47]).
- **Empathy**: Empathy enables more efficient collaboration as collaboration involves acknowledging the thinking patterns and perspectives of collaborators (Young, 2015[48]).
- **Pro-activeness**: Proactivity is fostered through collaborative activities, which can create conditions that foster mutual respect, understanding and trust; collaboration enables decision making around concrete, attainable goals and objectives and facilitates open and frequent communication and information exchange (Mattessich and Monsey, 1992[49]; Smith-Jentsch, 2008[50]).
- **Trust**: Trust has been described as a fundamental bond in collaboration (Child, 2001[51]).

Impact on academic and social outcomes/well-being

Academic outcomes

Collaboration can create a virtuous cycle that fosters agency, improving both student achievement and motivation to learn (Johnson, Johnson and Stanne, 2000[52]; Williams, 2009[36]). It is important to note, however, that organising collaborative groups does not in itself lead to such outcomes (Domingo, 2008[53]). Findings from several studies point to the need for students to receive guidance from their teachers in how to collaborate through scaffolding such behaviours and competencies as support each other by generating feedback, sharing group decisions, valuing group goals and actively working towards achieving the agreed goals (Frey, Fisher and Everlove, 2009[54]; Gillies, 2016[55]; Jadallah et al., 2011[56]).

Social outcomes/well-being

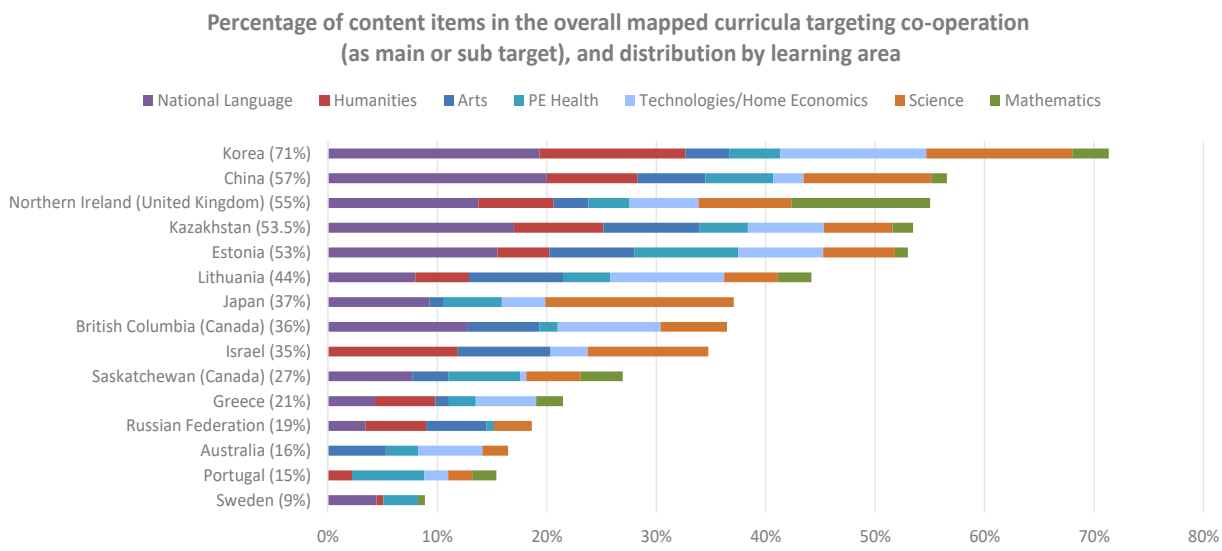
Collaborative groups are successful in addressing issues by envisioning solutions beyond the traditional, and coming up with new ideas, approaches and methods (Johnson, Johnson and Smith, 2007[57]).

Which learning areas/subjects are likely to embed "collaboration"?

Collaboration or co-operation, the key component of successful teamwork, is embedded in all curricula of the participating countries/jurisdictions, from 9% in Sweden, 15% and 16% in Portugal and Australia respectively, to 71% in Korea. It is mapped to more than 50% of the curriculum in China, Estonia, Kazakhstan and Northern Ireland (Figure 2.3).

In a number of countries/jurisdictions, co-operation is embedded in all subjects across the curriculum: in China, Estonia, Lithuania, Kazakhstan, Korea, Northern Ireland. Co-operation is embedded in Physical Education (PE) Health in nearly all curricula, from 1% to 10%; and it is significantly embedded in national language: 20% in China and 19% in Korea.

Figure 2.3. Collaboration/co-operation in curricula



Notes: The percentage bar next to the country name refers to the total percentage of the mapped curriculum that embeds the competency. Graph bars ordered by decreasing total percentage of mapped items targeting the competency across learning areas.
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3. Learning to learn

Definition

Learning to learn, or **meta-learning**, involves thinking about thinking. Meta-learning is a branch of metacognition concerned with learning about one's own learning and learning processes. More specifically, it involves "the process by which learners become aware of and increasingly in control of habits of perception, inquiry, learning, and growth that they have internalized" (Maudsley, 1979[58]).

In the CCM study, it is defined as “the awareness and understanding of the phenomenon of learning itself, which enables students to take control of one’s own learning’ and explained as follows: implicit in this definition is the learner’s perception of the learning context, which includes knowing what the expectations of the discipline are and, more narrowly, the demands of a given learning task. Learning to learn strategies aim to equip each student with the ability to reflect on her/his own learning; the skills required to understand, analyse and regulate her/his thinking, attitude and behaviours when engaged in learning; the ability to set goals for learning, to monitor progress, and to take steps and adjust to improve learning” (OECD, 2020[4]).

Relevance for future – link to the OECD Learning Compass 2030

Learning to learn is foundational to the underlying concepts of the OECD Learning Compass 2030. As the world continues to shift and evolve, what is required to be an effective learner also changes. Learning to learn sets students up to succeed in lifelong, self-directed learning, in their academic progress and careers they may choose, and in the personal choices individuals make during a lifetime. It also supports students to continue to improve and thrive, as **a self-directed learner**, without teachers or parents necessarily prompting them at every step.

The OECD 2030 Learning Compass also embraces learning to learn as a component of **student agency**: meta-learning occurs when students are self-aware as active agents in the process of learning (Biggs and Telfer, 1987[59]). It is also associated with the **Anticipation-Action-Reflection cycle**: learning to learn is both a condition for and an outcome of Anticipation-Action-Reflection (AAR), i.e. the competency develops through the tri-fold cycle (Rolheiser-Bennett, Bower and Stevahn, 2000[60]).

Learning to learn is related to

- **Critical thinking**: Developing critical thinking is often tied closely to developing reflective or metacognitive habits of mind, as each can support and strengthen the other (Kuhn, 1999[61]).
- **Goal orientation (e.g. grit, persistence)**: Meta-learning skills help students set their own learning goals and assess how realistically they can be achieved (Borgen and Hjardemaal, 2017[62]).
- **Growth mindset**: Students can practice “reflection, learn about their learning, internalise a growth mindset that encourages them to strive, and learn how to adapt their learning and behaviour based on their goals” (Fadel, Trilling and Bialik, 2015[63]).
- **Problem solving**: Metacognitive skills play a critical role in monitoring and regulating cognitive processes (Chan and Mansoor, 2007[64]) and help students to understand when, why, where, and how to use their own knowledge to solve problems successfully (Carr and Jessup, 1995[65]). In addition, students who are not able to notice the errors they have made in solving problems, monitor what they have done, use appropriate strategies or explain their solutions are not good at mathematics (Carlson and Bloom, 2005[66]; Lucangeli and Cabrele, 2006[67]). Therefore, metacognition is one of the critical issues in problem solving (Lester, 1994[68]; Güner and Erbay, 2021[69]).

- **Self-efficacy**: Students who have higher levels of self-efficacy (more confidence in their ability to achieve their goals) are more likely to engage in metacognition and, in turn, are more likely to perform at higher levels (Kanfer and Ackerman, 1989[70]).
- **Self-regulation:** Several models of self-regulated learning suggest that students' goals couple with motivational beliefs and affective reactions to shape self-regulation (Bandura, 1993[71]; Mithaug, 1993[72]; Zimmermand, 1989[73]; Carver and Scheier, 1990[74]).

Impact on academic and social outcomes/well-being

Academic outcomes

Developing metacognition can improve the application of knowledge, skills, and character qualities beyond the immediate contexts in which they were learned (Schraw and Moshman, 1995[75]) Metacognitive practices have been shown to improve academic achievement across age ranges, cognitive abilities and learning domains. This includes reading and text comprehension, writing, mathematics, reasoning and problem solving, and memory (Dignath and Buttner, 2008[76]; Dignath, Buttner and Langfeldt, 2008[77]).

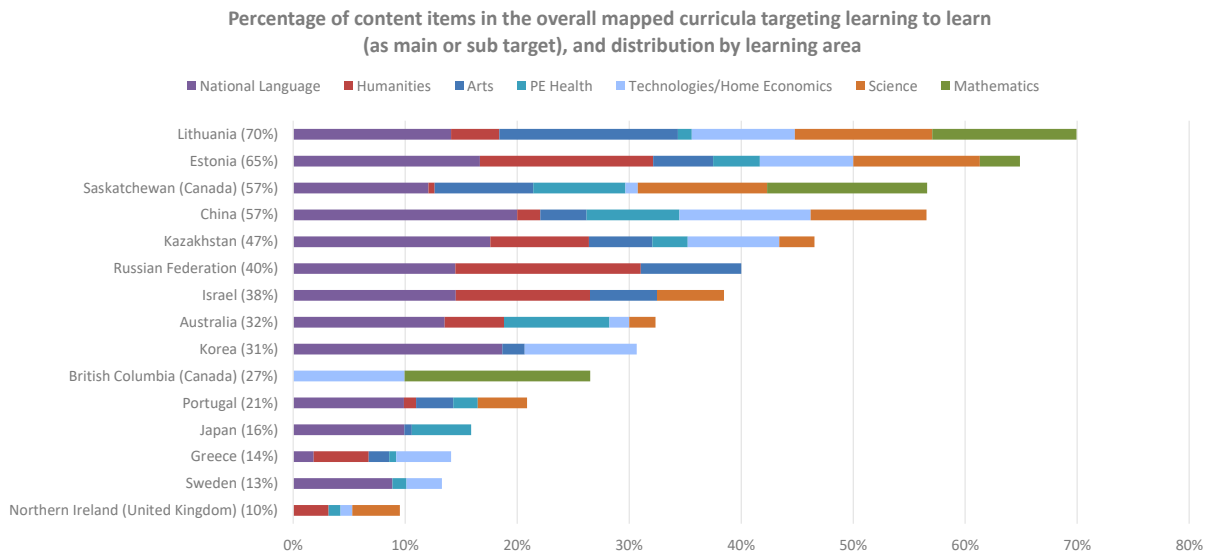
Those with good metacognitive skills are aware of their own strengths and weaknesses, are better able to evaluate their capacity in relation to tasks at hand, and have a better set of mental tools that can be deployed to achieve their goals (OECD, 2017[78]). When self-aware, students are likely to select the learning strategies which suit their motives and purposes, and are able to adopt, adapt and apply these strategies to any problem-solving situation (Seng, Tey and Fam, 1993[79]) This was identified by Hassan and Rahman (2017[80]) in their study of secondary students who found the development of students' metacognitive awareness in problem solving correlated with mathematics achievement. In a primary school context Aurah et al. (2011[81]) found that student's capacity to apply metacognition was both a good predictor of problem-solving ability and overall academic achievement. Further, in their study of primary schools across several sites Cornoldi et al. (2015[82]) found that instruction in metacognitive skills resulted in improved capability of the participating students in both undertaking metacognitive tasks and positive-related effects on their ability to solve problems.

Which learning areas/subjects are likely to embed "learning to learn"?

Countries/jurisdictions value positive attitudes towards learning and students developing learning autonomy, and this is reflected in the CCM study. All participants indicated that learning to learn, or meta-learning, is explicitly present in at least two subjects. Four countries indicated that learning to learn is referenced in over 50% of the mapped curriculum, with both Lithuania and Estonia demonstrating significantly more, with 65% and 70% respectively and across multiple subjects (Figure 2.4).

Learning to learn is referenced across curriculum subjects, and is included in the national language subject in most curricula, from between 2% (Greece) and 20% (China) and also significantly in Technologies, from between 1% (Northern Ireland) and 12% (China). This attitude is referenced in the domain of mathematics in a number of countries/jurisdictions such as in the curricula of Estonia, Lithuania, and British Columbia (Canada) 17%.

Figure 2.4. Learning to learn in curricula



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StatLink https://stat.link/6dm54s

4. Respect

Definition

Respect is the valuing of self and others, and all living things, including the environment. Respect includes giving due regard to the feelings, wishes, or rights of the self and others (Dillon, Spring 2018 ed.[83]). **Respect for self and others** is relevant in many contexts, including discussions of justice and equality, injustice and oppression, autonomy and agency, moral and political rights and duties, moral motivation and moral development, and cultural diversity (Dillon, Spring 2018 ed.[83])

- ***Respect for self*** has long been regarded as crucial for rational human beings (Dillon, Spring 2018 ed.[83]). For example, the philosopher Kant (1788/1996[84]) argues that, just as we have a moral duty to respect others as persons, so we have a moral duty to respect ourselves as persons, a duty that derives from our dignity as rational beings.
- ***Respect for others*** is complex, and substantial thought and research has gone into understanding how to develop this effectively (Dillon, Spring 2018 ed.[83]). One important way to respect others is to value the similarities and differences among humans, and respect and value the characteristics of members of other ethnic, cultural, LGBTQ, or religious groups (Nieto and Bode, 2017[85]; Morrell, 2008[86]). Respect is demonstrated through behaviour and communication, which will vary based on cultural context. Inherent is a mindset that is open to the benefits of variation and heterogeneity, but also sensitive to the social and political climates and discourses which perpetuate stereotyping, discrimination or exclusion and the need to counter these phenomena (Carretero, Haste and Bermudez, 2016[87]; Banks, 2004[88]; Hess and McAvoy, 2015[89]; Bekerman and Zembylas, 2012[90]).
- Contemporary views of respect include fostering a sense of ***respect for all living things, such as the environment and the things we consume from it***. There is an entire branch of ethics

dedicated to *Respect for nature* (Taylor, 2011[91]) which concerns the moral relations between humans and the natural world.

Relevance for future – link to the OECD Learning Compass 2030

Respect for self, others and nature is part of the attitudes and values that underpin the vision of well-being in the OECD Learning Compass, that is, to ensure not only individual well-being but also societal and planetary well-being. The growing appreciation of the importance for children and adolescents learning to respect the environment and their world is explicitly reflected in the Learning Compass.

Of particular relevance in the OECD Learning Compass 2030, are the concepts of **student agency, co-agency** and **collective agency** as well as the **three pillars of transformative competencies**.

Respect involves an individual cognitive challenge accompanied by affect – dealing with multiple entities, concepts and positions, which can be stimulants for action or debilitating because they are overwhelming and induce a sense of impotence (Allen and Light, 2015[92]). Teaching students to respect diversity requires facilitating **student agency** through affirming identity – being confident with who one is and what one can accomplish. It also involves creating a sense of belonging to a group and place; creating an environment which expects the best from everyone; teaching students to be critical; and enabling individuals to recognise their own power (Morrell, 2008[86]; Seider, 2012[93]; Nieto and Bode, 2017[85]).

Manifestations of respect for diversity may involve addressing the fact that other people, or groups, are acting in a manner that an individual feels a moral obligation to counter (for example based on justice or equality) or to intervene in interpersonal conflict on the grounds of empathy or compassion. To find workable solutions to complex problems, not only outcomes, but processes and relationships matter. In this regard, respect for others is essential for **reconciling tensions and dilemmas** because it includes the affective-interpersonal dimension (i.e. involving **co-agency**) of resolving conflicts between peoples in a group (i.e. involving **collective agency**) (Todd, 2008[94]).

The ability to reconcile tensions and dilemmas requires the individual to address the range of positions and perspectives in the problem or situation, to evaluate them with respect (even if in disagreement), and to **take responsibility** for problem-solving, reconciliation and constructive management of emergent relationships, whether between ideas, values or persons. To achieve such resolutions or coexistences, it is necessary to recognise the factors that create or are manifest in conflict, not just find palliative solutions. For example, in restorative justice, attention is paid not only to the outcome, but also to maintaining a process that respects both the victim and the offender (Van Ness, 2014[95]).

Respect requires open, continuous and deep dialogues to overcome tensions, dilemmas, contradictions, ambiguities, and trade-offs (Rychen, 2016[11]), instead of debates which can lead opposing viewpoints into a false dichotomy or fragmentation, instead of cohesion. Dialogues that are based on respect for others and an openness to listen to opposing views or new ideas can help students see other perspectives and what is beyond their own horizon. This can help everyone to create new solutions to unsolved problems, i.e. **creating new value**.

Respect is related to

- **Conflict resolution**: In a mixed methods research study of 323 K-8 students in the United States, LaRusso (2011[96]) found that early adolescents who reported using more co-operative and respectful conflict resolution strategies also reported engaging in fewer personal risky behaviours (e.g. substance abuse, risky sexual behaviour).
- **Equality/equity:** In its evaluation of respectful relationships pilot studies undertaken in primary schools in two different states in Australia, Our Watch found that after only six months implementing in-class and whole of school approach, Year 1 and 2 students showed signs of diminishing

stereotypical gender attitudes regarding jobs and activities and overall understandings regarding equity in relationships (Our Watch, 2020).

- **Justice**: Restorative justice, specifically, is designed to respect the humanity of both victim and offender (Van Ness, 2014[95]).
- **Perspective taking**: Respect involves perspective taking and taking responsibility for finding out the beliefs and values of others, especially those from groups perceived as different or other to one's self (Hess and McAvoy, 2015[89]; Damon, 2008[97]; Moran, 2017[98]; Bondu and Elsner, 2015[99]; Allen and Light, 2015[92]).
- **Compassion**: Compassion is described as a "mental attitude based on the wish for others to be free of their suffering and is associated with a sense of commitment, responsibility, and respect towards the other" (Gyatso, 2002[100]).
- **Global mindset**: "Globally competent students are able to communicate effectively and respectfully with people who are perceived to have different cultural backgrounds. Respectful communication requires understanding the expectations and perspectives of diverse audiences and applying that understanding to meet the audience's needs" (OECD, 2018[101]).
- **Identity**: Moral identity involves having an explicit theory of yourself as a moral agent – as one who acts on the basis of respect and/or concern for the rights and/or welfare of others' (Moshman, 2005[102]; Hardy and Carlo, 2005[103]).

Impact on academic and social outcomes/well-being

Academic outcomes

There is widespread agreement that schools should contribute to students' moral development and character formation (Nucci, 2014[104]). Schools should be places where children receive support to develop honesty, respect for others, democracy, and respect for people of different races and backgrounds (Agenda, 1997[105]). Current educational movements, such as Moral Education, Social and Emotional Learning, and Character Education (Elias, 2014[106]) have the goal of and proposed processes for creating such school environments.

Respect is foundational for positive social interactions. Research has demonstrated the importance of respect on students' well-being and success in school (Battistich, 1997[107]). Teachers play a significant role in creating respectful classroom climates (Jennings, 2009[108]; LaRusso, 2008[109]). In a study in the United States of 476 high school students (ages 14–18), LaRusso (2008[109]) found that adolescents who reported their schools as having more supportive teachers and greater regard for student perspectives were more likely to see their schools as having respectful climates. These students also reported a greater sense of social belonging and fewer symptoms of depression. In a mixed-method study of 323 K-8th grade students also in the United States, LaRusso (2011[96]) found that early adolescents who reported using more co-operative and respectful conflict resolution strategies were less likely to engage in risky behaviours (e.g., substance use, risky sexual behaviour).

Social outcomes/well-being

Successful academic performance has been shown to occur in the context of safe, supportive classroom and school climates that foster respectful, challenging and engaging learning communities (Zins, 2004[110]; Thompson, 2018[111]). During a large-scale Australian study, the importance of respect on well-being was noted consistently during interviews with teachers and students, with older students explicitly noting the importance self-respect and respect for others for core to well-being and younger students making implicit references to respect through drawing and discussion activities relating to an ideal "imaginary school" that supported well-being (Graham et al., 2016[112]).

In a study of 233 8th-grade students in the United States, Ryan (2001[113]) found that teacher encouragement of mutual respect among students was the strongest predictor of improvements in academic efficacy (i.e. students' views of their capability to successfully complete their work) and self-regulation in middle school students.

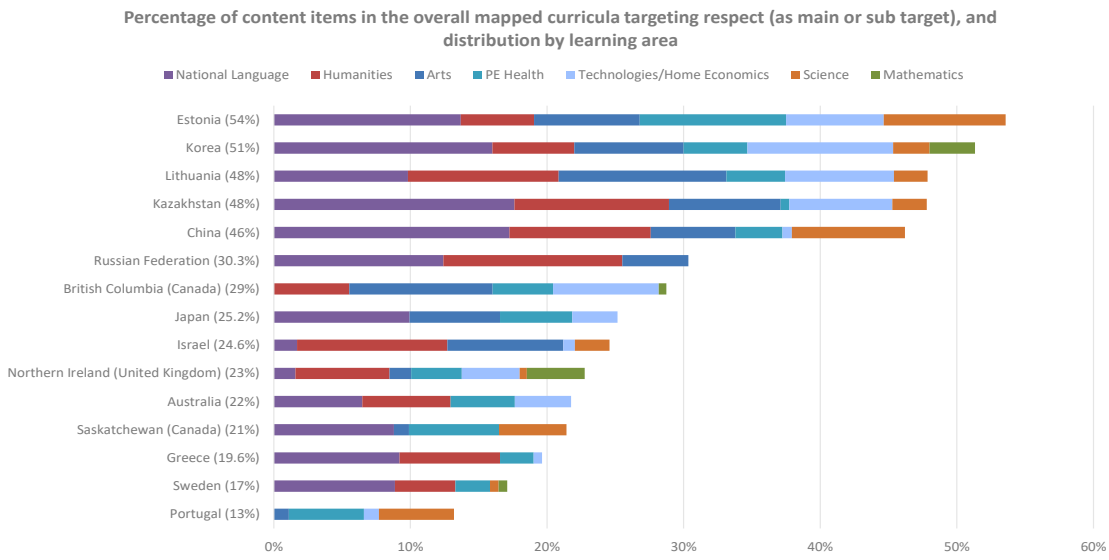
Which learning areas/subjects are most likely to embed "respect"?

Respect is the most commonly referenced value as part of the overall goals of education by countries/jurisdictions (see Table 1.3 in Chapter 1). However, in the more technical subject-specific CCM study, the degree to which respect was explicitly integrated into the descriptions of subject-specific goals ranged between 13% and 54% of curriculum content, with most countries embedding respect in around 25% of the mapped curriculum (Figure 2.5). The most frequent occurrences were in Estonia and Korea, in 54% and 51% respectively, followed by Lithuania, Kazakhstan and China, which include respect in over 40% of the mapped curriculum.

Respect is included across curriculum subjects, but most significantly included in content in the national languages and humanities subjects, in 80% of the mapped curriculum. In British Columbia (Canada), the subject where respect is most represented is the arts. In Portugal, science and physical education/health are the areas where respect is most emphasised.

Mathematics is the subject least represented in the study in relation to respect, although British Columbia (Canada), Korea, Northern Ireland (United Kingdom) and Sweden include respect within the content of mathematics curriculum.

Figure 2.5. Respect in curricula



Notes: The bar next to the country name refers to the percentage of content items included in the standard learning frameworks across learning areas (i.e. mapped curriculum) that explicitly targets this value). Graph bars ordered by decreasing total percentage of mapped items targeting the competency across learning areas.
Source: Data from the OECD (2020[3]) E2030 Curriculum Content Mapping (CCM) exercise, https://www.oecd.org/education/2030-project/curriculum-analysis/data/Distributions-of-competencies-across-learning-areas-subjects-data.xlsx.

StatLink https://stat.link/9vx8hu

This, of course, needs to be interpreted with caution, as some countries/jurisdictions set out a certain set of skills, attitudes and values to be embedded into every subject of the curriculum, which is not captured

in this subject-specific mapping exercise. This being said, teachers in the E2030 project, in particular, secondary school teachers, shared that they tend to prioritise the goals specifically set out for their own subject, rather than the general goals, as they are often perceived as “too broad” or “too general” – this relates to the issue of “perceived curriculum”. Additionally, regardless of whether or not it is explicitly described in curriculum, the teaching and learning of attitudes and values are often reliant on teacher agency, school leader agency and students themselves, who create the school ethos, mirroring the attitudes and values which the school community collectively intends to cultivate in their culture (see Chapter 3).

5. Responsibility

Definition

Acting responsibly means first, recognising that individuals have obligations to others and what these are. Secondly, it means being willing to fulfil obligations oneself (either directly or indirectly) and thirdly, understanding that one’s actions have consequences, and being able to both anticipate these and to deal with the outcomes of one’s actions (Trnka and Trundle, 2017[114]; Mergler, 2017[115]; Haste, 2001[116]; Haste and Bermudez, 2017[117]; Wray-Lake and Syversten, 2011[118]; Myers, 2010[119]; Berkowitz, Bier and McCauley, 2017[120]; Damon and Colby, 2015[121]). **Responsibility** therefore includes cognitive and knowledge appraisal of a context or situation, valuing responsibility and seeing oneself as a responsible person - including being motivated to acquire the skills and knowledge necessary to be so.

In the CCM exercise, **taking responsibility** is defined as “the ability to act responsibly for a good cause, principles and integrity for individual and collective well-being. A responsible person demonstrates the willingness to accept praise, blame, reward, or punishment for an act or omission and to accept the consequences of their behaviour, they have a commitment to the group and others, they can be depended on, and they have integrity” (OECD, 2020[4]).

Relevance for future – link to the OECD Learning Compass 2030

In a globalised world, learners are likely to have more frequent interactions with people from different cultures and with different perspectives. They will therefore need to understand how their actions affect others in a global community in order to behave ethically and take responsibility for their actions.

The OECD Learning Compass recognises the role of **responsibility** as a transformative competency. This highlights how the three pillars of transformative competencies are closely inter-linked.

Reconciling and managing value and **conceptual dilemmas and tensions** in areas of uncertainty and ambiguity, requires being able to **take responsibility** for one’s own beliefs, identity and perspectives and being aware of and reflect on one’s ethical stances, in order to decide where best to direct one’s responsibility and actions (Schraa-Liu and Trompenaars, 2006[122]). **Reconciling interpersonal or social tensions and dilemmas** requires acknowledging that one has a **responsibility** to intervene in a given situation. To be responsible requires empathy, perspective taking, conflict resolution and collaboration skills, and respect for diversity.

Taking responsibility contributes to taking a leadership role in innovation, creativity and risk-taking. **Creating new value** has ethical implications of potential consequences for individuals, community, society and the environment, so acting responsibly is a crucial component to elicit positive outcomes.

Responsibility also aligns with the central function of **student agency,** a core construct in the Learning Compass. Responsibility is about **ethical agency** and having the skills, values and motives to exercise it. It also includes being critically aware and adaptable to different social and cultural contexts and being able to identify how one’s personal ethical agency should adjust to different situations and conditions.

Responsibility helps students to make effective decisions about their own life and the lives of others with whom they have connections (including personal, local, and institutional or societal); and effective, where possible, in relation to wider issues concerning general well-being and human flourishing (Mergler, 2017[115]; Reysen and Katzarska-Miller, 2013[123]; Bondu and Elsner, 2015[99]; Hardy and Carlo, 2005[103]; Myers, 2010[119]; Haste, 2001[116]; Allen and Light, 2015[92]). Responsible and effective decision making includes values, skills and attributes relevant to managing interpersonal interactions, such as trust, conflict resolution, perspective taking, and to taking a wider view of the obligations arising from one's beliefs and values, for example the responsibility one might take by espousing a social or civic cause (Tausch et al., 2011[124]; Selman, 2007[125]; Kim et al., 2018[126]; Diazgranados, Selman and Dionne, 2016[127]; Schonert-Reichl, 2011[128]; Roeser and Pinela, 2014[129]; Flanagan, 2013[130]).

Responsibility is related to:

- **Agency** in four domains (Haste, Lee and Omaigan, 2019[131]). Each of the areas of agency involve different constructs
  - *Responsibility and agency in relation to innovation, uncertainty and novelty*: This area requires the exercise and development of **adaptability**, **critical thinking**, **mindfulness**, **open mindset**, **perspective taking**, **respect for diversity**, **risk management**, and **tolerance of ambiguity and uncertainty**. It is about being able to resist anxiety about uncertainty, fuzzy boundaries, and to go beyond the familiar. It requires consciously seeking more than one perspective, option for action or route to problem solving (Martin et al., 2012[132]; Nijstad et al., 2010[133]; Furnham and Marks, 2013[134]). It is likely to be accompanied by positive, affective arousal at the idea of something unknown or innovative, including pleasure in taking risks (Kashdan, Rose and Fincham, 2004[135]; Haste, 2001[116]). This kind of agency requires valuing innovation and boundary-pushing and believing that this will have positive outcomes, both personally and for wider benefit. It involves being able to evaluate parallel options and being able to make effective judgements between them, knowing how to calculate the limits of useful risk (Halpern, 2007[136]). Responsibility here means both reflecting on one's own capacities to exercise these skills in assessing a context, and being able to take action with others, as colleague or leader, in applying them (Craft, Gardner and Claxton, 2007[137]; Schonert-Reichl and Roeser, 2016[138])
  - *Responsibility and agency in interacting and working effectively with others*: This concerns interpersonal interaction and the capacity for taking responsibility arising from being sensitive to the perspectives and affective states of others. It requires valuing caring, taking responsibility for resolving conflict, for creating harmonious interpersonal relationships and being able to take appropriate action. Responsibility requires wanting to acquire the skills for doing this and to exercise them. These therefore involve links to **compassion, collaboration, empathy, perspective taking**, and **conflict resolution** (Gehlbach, 2004[139]; Hoever et al., 2012[140]; Kim et al., 2018[126]; Diazgranados, Selman and Dionne, 2016[127]; Schonert-Reichl and Weissberg, 2014[141]; Schonert-Reichl, 2011[128]; Roeser and Pinela, 2014[129]; Selman, 2007[125]; Sandy and Cochran, 2000[142]).
  - *Responsibility and agency in taking and acting upon an ethical or civic stance:* Responsibility here involves several steps; first making an ethical or civic judgement deriving from a value position, interpreting a situation or event in light of it, then feeling personally motivated to take action, and being able to summon the appropriate skills to do so. Making an ethical judgement means drawing upon values (such as **justice** or **equality/equity**) to evaluate a situation, and exercising critical thinking skills, but it also involves believing that one is obligated to exercise such judgement. Further agency is involved to translate a judgement into feeling a personal responsibility to act in support of it, whether alone or in collaboration with others. Values that inform an ethically responsible position include **collaboration, compassion, empathy,**

equality/equity, global mindset, justice, respect for diversity; responsibility also involves **critical thinking, open mindset, perspective taking, self-efficacy** and having an **identity** as a moral agent (Wray-Lake and Syversten, 2011[118]; Weinstein, 2014[143]; Tausch et al., 2011[124]; Mergler, 2017[115]; Myers, 2010[119]; Andreotti, 2014[144]; Beaumont, 2010[145]; Bondu and Elsner, 2015[99]; Flanagan, 2013[130]); (Carretero, Haste and Bermudez, 2016[87]).

- *Responsibility and agency in being aware of and taking control for self-states, actions and thinking*: Responsibility here focuses on taking control of the self, managing both affective and cognitive states, and finding values and goals that give direction and purpose to identity. The key elements, values and skills relate to regulating the self's emotions, cognitions and motives, being able to be aware and reflective of one's states of being and desires, being able to identify goals and purposes that channel behaviour and skill acquisition, including the belief that self-regulation will be of collective social benefit, not just individual rewards. Responsibility here links to **goal orientation, growth mindset, identity, mindfulness, purpose**, **resilience, self-regulation, self-awareness,** and **self-efficacy** (Kashdan, Rose and Fincham, 2004[135]; Han, 2015[146]; Dweck and Molden, 2005[147]; Deci and Ryan, 2000[148]; Schonert-Reichl and Roeser, 2016[138]; Damon and Colby, 2015[121]; Burnette et al., 2013[149]; Malin, Liauw and Damon, 2017[150]; Duckworth et al., 2007[151])

Impact on academic and social outcomes

Academic outcomes

Gough (Gough, McClosky and Meehl, 1952[152]) shows an overlap between responsibility, trustworthiness and integrity. Individual social responsibility can increase trust among community members. In school settings, a lack of responsibility increases the likelihood to be actively engaged in bullying. Taking responsibility is as an important factor in developing a global mindset, global interconnectedness and reducing global inequalities (Andreotti, 2014[144]).

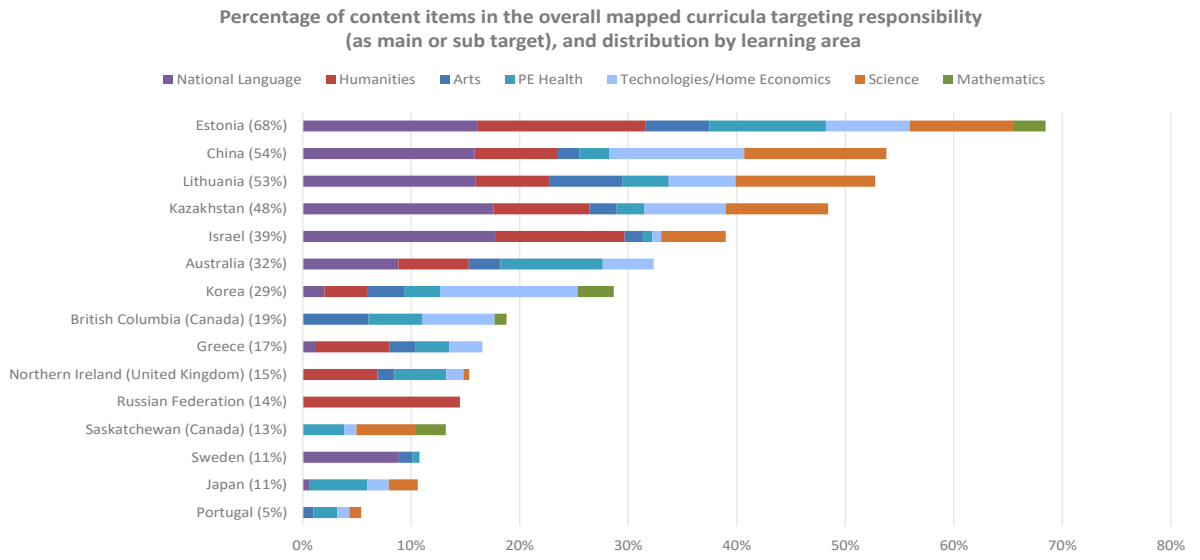
Responsibility is positively correlated with task performance and job dedication, and negatively correlated with counterproductive work behaviour (Figure 2.6; (OECD, 2018[153])).

Which learning areas/subjects are most likely to embed "responsibility"?

Acting responsibly and taking responsibility are embedded, to a greater or lesser extent, in the curricula of all countries/jurisdictions that took part in the CCM study, from 5% in Portugal to three of the participants mapping responsibility to over 50% of their curricula: Lithuania 53%, China 54% and Estonia 68% (Figure 2.6).

The mapping demonstrates that responsibility is embedded in subjects across the curriculum, with nearly all participants indicating that responsibility is embedded in at least three subjects. In Portugal, while it only represents 5% of the curriculum, responsibility is embedded in Arts, PE/Health, Technologies and Science. In most of the curricula mapped, subjects that typically include a significant practical component, have responsibility embedded, such as Arts (between 1% and 7%), PE/Health (between 1% and 11%), and Technologies and Science (both between 1% and 13%). National language has the largest proportion of responsibility embedded: 18% in Israel and Kazakhstan and 16% in each of China, Estonia and Lithuania.

Figure 2.6. Responsibility in curricula



Notes: The percentage bar next to the country name refers to the total percentage of the mapped curriculum that embeds the competency. Graph bars ordered by decreasing total percentage of mapped items targeting the competency across learning areas.
Source: Data from the OECD (2020[3]) E2030 Curriculum Content Mapping (CCM) exercise, https://www.oecd.org/education/2030-project/curriculum-analysis/data/Distributions-of-competencies-across-learning-areas-subjects-data.xlsx.

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6. Empathy

Definition

Empathy has been defined as 'an affective response that stems from the apprehension or comprehension of another's emotional state or condition, and that is similar to what the other person is feeling or would be expected to feel' (Eisenberg, Fabes and Spinrad, 2006, p. 647[154]). Empathy is conceptualised in a three-component model comprising cognitive and affective components: (a) the ability to discriminate and label affective states in others; (b) the ability to adopt the perspective and role of another person (i.e. perspective taking); (c) the affective ability to experience emotions (i.e. emotional responsiveness) (Feshbach, 1978[155]).

There is clear distinction between empathy and **sympathy**; while empathy is considered a mirroring or vicarious experience of another's emotions, sympathy 'is an affective response that frequently stems from empathy, but can derive directly from perspective taking or other cognitive processing, including retrieval of information from memory' (Eisenberg, Fabes and Spinrad, 2006[154]). Empathy reflects feeling as the other feels, whereas sympathy reflects feeling for the other.

Furthermore, empathy and **compassion** are closely related; empathy is an important component of compassion (Schonert-Reichl, 2011[156]). However, unlike compassion, empathy does not involve a motivation or readiness to relieve suffering (Jazaieri, 2017[157]). Some researchers have identified compassion as a caring motivational system that includes empathy, sympathy, perspective taking, and distress tolerance (Gilbert, 2015[158]). Evidence shows that empathy can lead to emotional over-arousal and feelings of personal distress and this may lead to avoidance rather than compassionate action, however, when empathy leads to sympathy, children are more likely to show caring actions (Eisenberg, Fabes and Spinrad, 2006[159])

In the CCM study, empathy is defined as "the capacity to share, understand, and respond with care to others. People tend to have more empathy with others who are more similar (with regard to culture and living conditions) to themselves and with people with whom they are more frequently interacting. Empathy is a multifaceted construct, e.g. it involves perspective taking (cognitive skills) as well as social and emotional skills" (OECD, 2020[4]).

Relevance for future – link to the OECD Learning Compass 2030

In the OECD Learning Compass, empathy plays a critical role in exercising **co-agency** and **collective agency**. In an increasingly globalised world, empathy is foundational for citizenship and responsibility (Hope, 2014[160]; Wray-Lake and Syversten, 2011[118]), learners need empathy when they consider global issues from different perspectives, such as cultural, environmental, societal. The PISA 2018 findings on global competency found that students who are willing to take action are engaged in improving living conditions in their own communities and in building a more just, peaceful, inclusive and environmentally sustainable world (OECD, 2020[161]).

The study also showed that students were more likely to agree with statements that did not necessarily involve taking an active role (e.g. "looking after the global environment is important to me", "I think of myself as a citizen of the world"") than with statements that imply that they need to take action (e.g. "when I see the poor conditions that some people in the world live under, I feel a responsibility to do something about it", "It is right to boycott companies that are known to provide poor workplace conditions for their employees", "I can do something about the problems of the world", "I think my behaviours can impact people in other countries"). The study also indicated that there is a degree of pessimism about whether students can make a difference, that they may feel reluctant to take action or may not see themselves as responsible for solving particular issues.

This suggests that empathy is not enough on its own to solve global issues; starting with empathy, agency needs empathy as well as compassion and other attitudes and values to **reconcile tensions and dilemmas** in complex environments, to shape a better future towards **collective and planetary well-being**, part of the goals of the OECD Learning Compass.

Empathy is related to:

- **Collaboration**: Empathy contributes to communication and collaboration skills (Krasner et al., 2009[162]).
- **Compassion**: Compassion, which is like empathy in that it is instigated by the suffering of another, is considered both a dimension of morality and an important aspect of ethical behaviour and interpersonal responsibility (Knafo, 2008[163]). Compassion, however, is distinguished from empathy in that it moves beyond the sole concern for the well-being of someone in distress and includes a need or desire to alleviate that person's suffering (Eisenberg, 2002[164]). While empathy refers more generally to an individual's ability to take the perspective of and feel the emotions of another person, compassion includes the desire to help (Welp and Brown, 2014[165]).
- **Conflict resolution**: Stover (2005[166]) states that "empathy, the ability to experience the values, feelings, and perceptions of another, [is] a basic element needed to understand international relations."
- **Global mindset**: Empathy is an important aspect of a global mindset that reduces out-group derogation (United Nations Educational, 2014[167])
- **Perspective taking**: According to Feshbach (1978[155]), comprehension of another person's affect – that is, cognitive ability – is an indispensable prerequisite for feeling with another. Perspective taking is an important component of empathy (Cohen, 2010[168]; Galinsky et al., 2008[169]).

- **Equality/equity**: Experiencing empathy is what leads an individual to see others as equals. The concept of human dignity, which entails that every human being has an equal inner worth, can be explained only through empathy. The "self-evidence" of human rights, as the historian Lynn Hunt calls it, "relies ultimately on an emotional appeal" (Hunt, 2007[170]; Schultz, 2013[171]). Indeed, discrimination is based on an empathy gap, which is the result of impaired empathy. Discrimination usually occurs in intergroup relations. Identification with norms and ideas of collectives can lead to a reduced empathic view and exclusion of out-group members. An out-group member is easily stereotyped, prejudiced and dehumanized (Schultz, 2013[171]).
- **Mindfulness**: Dekeyser (2008[172]) found that a greater tendency for mindful observation was associated with more empathy in individuals.
- **Responsibility**: A recent study conducted on a sample of 5-grade students from Turkey found that there is a positive, moderate and significant relationship between empathy and responsibility levels of students (Yontar and Yel, 2018[173]).

Impact on academic and social outcomes/well-being

Academic outcomes

Empathy has been shown to have a variety of impacts on social dynamics, such as to motivate prosocial behaviours such as helping, co-operation, and decrease antisocial behaviours such as aggression (Schonert-Reichl, 2011[174]; Schonert-Reichl, 2011[156]; Eisenberg, 2006[175]). Empathy leads to other prosocial behaviours, to improving intergroup relations, and reducing violence (Finlay and Stephan, 2000[176]).

Students who show empathy are less likely to be instigators in bullying (Caravita, Di Blasio and Salmivalli, 2009[177]). Research by Cohen (2010[168]) showed that empathy "discouraged attacking opponents' networks, misrepresentation, inappropriate information gathering, and feigning emotions to manipulate opponents."

Social outcomes/well-being

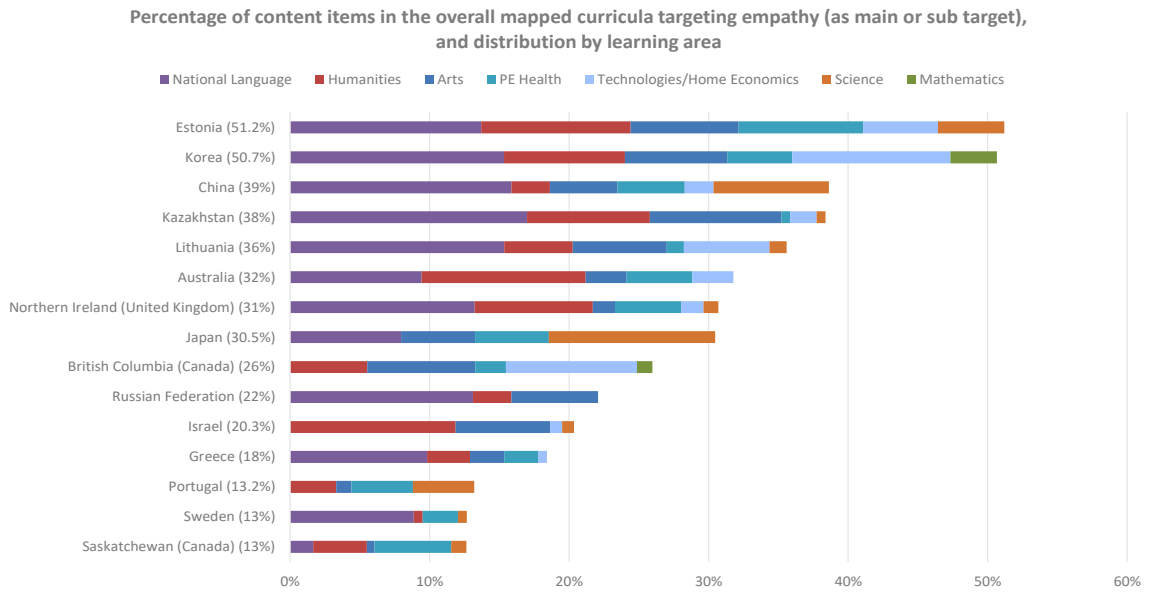
In a study of empathy-related responses by adolescents (Eisenberg, Zhou and Koller, 2001[178]), students engaged in reasoning about moral dilemmas in which the needs of the individual conflict with those of others. Findings regarding internalised reasoning using prosocial measures were significantly related to both sympathy and empathy. Additionally, empathy and perspective taking were found to be associated with students' self-reports of prosocial behaviours.

Which learning areas/subjects are most likely to embed "empathy"?

There is considerable variation in the explicit representation of empathy in curriculum content. Empathy is embedded in between 13% and 51% of the mapped curriculum in participating countries/jurisdictions. In Estonia and Korea, empathy is included in around 51% of their mapped curriculum, followed by China, Kazakhstan and Lithuania, with empathy in over 35% of the mapped curriculum content (Figure 2.7).

Estonia and Korea, who put the strongest emphasis on empathy in the curriculum, embed it in most learning areas. Other countries privilege a subset of learning areas, for example, in Greece and Sweden, national language provides significant content that includes empathy. In Israel, most of the content that embeds empathy is in the humanities. Only British Columbia (Canada) and Korea include empathy within the learning area of mathematics.

Figure 2.7. Empathy in curricula



Notes: The bar next to the country name refers to the percentage of content items included in the standard learning frameworks across learning areas (i.e. mapped curriculum) that explicitly targets this value). Graph bars ordered by decreasing total percentage of mapped items targeting the competency across learning areas.
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7. Self-regulation

Definition

Self-regulation is a broad term, regularly defined in relation to an "internally-directed capacity to regulate affect, attention, and behaviour to respond effectively to both internal and environmental demands" (Raffaelli, Crockett and Shen, 2005[179]) with its development beginning at around 36 months of age (Kopp, 1982[180]). The mental processes that contribute to self-regulation are often referred to as executive functions, which include cognitive flexibility, or the ability to change perspectives or adapt flexibly to change, working memory, or the ability to retain and manipulate information, and inhibitory control, or the ability to inhibit impulsive responses (Diamond, 2013[181]).

Self-regulation includes students' self-initiated, strategically guided, and self-sustained efforts to learn. This construct refers to processes that learners use to activate and maintain cognitions, emotions, and behaviours to attain personal goals. These goals enable learners to create self-oriented feedback loops to monitor their effectiveness and to adapt their functioning. In order to set challenging goals and sustain self-regulatory efforts to achieve them on demanding tasks, learners need to possess or develop supportive motivational beliefs. To respond adaptively to personal feedback, learners need to control their cognition, emotions, and environments. It should be noted that "self-regulation" is similar to terms such as **self-management**, **self-directed behaviour**, and **self-discipline** (Zimmerman and Kitsantas, 2014[182]).

A similar concept "**self-control**" can be defined as the ability to delay gratification, control impulses, and modulate emotional expression (OECD, 2018[153]), with this development beginning at around 24 months of age (Kopp, 1982[180]). The two terms, self-regulation and self-control, are often used interchangeably. However, some developmental psychologists subsume self-control under self-regulation and describe self-

regulation as the internalisation of self-control that enables children to adapt flexibly to the changing demands of different contexts (Kopp, 1982[180]).

In the CCM study, the closely related concepts self-regulation/ self-control were combined and defined as "the ability to delay gratification, control impulses and modulate emotional expression. Self-control is an umbrella construct that incorporates concepts from different disciplines (e.g., impulsivity, conscientiousness, delay of gratification, inattention-hyperactivity, executive function, willpower, intertemporal choice)" (OECD, 2020[4]). The related concept of "self-regulated learning" is defined as the process whereby students activate and sustain cognitions and behaviours systematically oriented towards the attainment of their learning goals (Zimmerman, 1986[183]).

Relevance for future – link to the OECD Learning Compass 2030

Self-regulation/self-control is one of the key constructs of **student agency**, geared towards **one's own well-being**, i.e. the individual well-being, which is the fundamental condition to contribute to collective and planetary well-being of the future in the Learning Compass 2030.

In the journey towards well-being, students need self-regulation **to successfully navigate – through volatility, uncertainty, complexity and ambiguity** - in time (i.e. past, present, future) as well as in social and digital spaces (e.g. family, school, community).

Self-regulation and self-control are social and emotional competencies that play a significant role in fostering the **well-being of adolescents** (Ronen et al., 2016[184]; deBlois and Kubzansky, 2016[185]). They are linked to physical health (deBlois and Kubzansky, 2016[185]; Schlam et al., 2013[186]), cognitive ability (Marsh et al., 2006[187]), and social competencies (Miller and Byrnes, 2001[188]; Checa, Rodriguez-Bailon and Rueda, 2008[189]). Self-regulation and self-control are significant as individuals mature into adulthood, such as in terms of financial well-being; and when there is a lack of these competencies, there may be negative behaviours, such as substance use/abuse and dependence, or even engaging in criminal activity (Moffitt et al., 2011[190]; Pahl, Brook and Lee, 2014[191]).

In the rapidly changing world, learners are expected to **keep learning, unlearning, and relearning**. Self-regulated learning behaviour plays an important part in developing confident lifelong learners (Lüftenegger et al., 2012[192]). Self-regulated learners are likely to be successful with self-directed learning. This was observed during the remote learning and hybrid learning experiences of many students around the world during the 2020/21 pandemic.

Self-regulation is related to

- **Mindfulness**: Self-control is positively associated with mindfulness. As a self-regulatory skill, mindfulness involves observing one's own thoughts and feelings without judgement (Brown and Ryan, 2003[193]). In research carried out with early adolescents, Oberle and colleagues (2011[194]) found that adolescents who reported higher levels of dispositional mindfulness also had better self-control, measured using a computerised executive function task that assesses inhibitory control by the percentage of correct responses[3].
- **Reflective thinking**: Self-regulation is positively connected to reflective thinking in learning (Zimmerman, 2002[195]). If students are aware of their learning strategies and know why they use them, they will make better decisions and have more control over their learning process (Zimmerman, 2002[195]).
- **Meta-learning**: Self-regulation skills give learners the ability to identify their strengths and weaknesses, as well as recognise their needs and monitor their progress (Fisher, 1998[196]).

Impact on academic and social outcomes/well-being

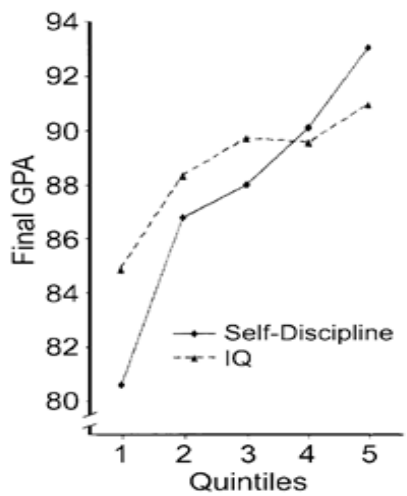
Academic outcomes

Through self-regulation and self-control, students set goals, stay focused and aim to achieve their goals. Self-regulated learning enables learners to transform their mental abilities, such as verbal aptitude, into an academic performance skill, such as writing (Zimmerman and Schunk, 2011[197]). It is a proactive process that students use to acquire academic skills in addition to setting goals, such as selecting and deploying strategies and self-monitoring one's effectiveness. Self-regulated learners display personal initiative, perseverance and adaptive skills. These proactive qualities stem from positive motivational feelings and beliefs as well as metacognitive strategies (Zimmerman and Schunk, 2011[197]).

Research shows a positive association between self-control/self-regulation and academic achievement. In two studies conducted by Duckworth and Seligman (2005[198]) with 198 and 164 eighth grade students, they found that self-discipline (assessed using a battery of student-, teacher- and parent-report scales that included measures of self-control, delay of gratification, and study habits), was a better predictor of academic grades than IQ (Figure 2.8).

Duckworth, Quinn, and Tsukayama (2012[199]) found similar results in the first of two studies conducted with 1 364 middle school students. They found that higher levels of self-control, assessed using the Social Skills Rating System[4] (Gresham and Elliot, 1990[200]), at the beginning of the school year was predictive of higher academic grades at the end of the school year. This study also found self-control to be a better predictor of grades than IQ. The results were replicated in a second study published in the same article conducted with a sample of 513 middle school students. Teacher ratings of homework completion and classroom behaviour provided one explanation for this association.

Figure 2.8. Student self-discipline is a better predictor of grades than IQ



Source: Figure adapted from Duckworth and Seligman (2005[198]).

Executive functions, the cognitive aspect of self-regulation, was found to be predictive of higher academic grades in another sample of 146 elementary and secondary students (Zorza, Marino and Mesas, 2016[201]). McClelland and colleagues (2013[202]) found that the level of self-regulation of 4-year-old children, as rated by parents in the Colorado Child Temperament Inventory[5] (Rowe and Plomin, 1977[203]), was found to be positively predictive of standardised tests scores in math and reading when these children reached 21 years of age. In the same study, these self-regulation skills also predicted their rates of college graduation.

Self-regulated learning is also positively related to academic achievement. In a sample of 1 148 adolescents who were followed longitudinally between Grades 7 and 11, Wang and Eccles (2012[204]) found that decreases in self-regulated learning over time was associated with declines in academic achievement, assessed using the combined grade point average of language arts, math, science and social studies.

Self-control is associated with financial stability. In their longitudinal study of 1 037 children from birth to age 32, Moffitt et al. (2011[190]) found that children with poor self-control were less financially secure at age 32. They were less likely to have investments (home ownership, retirement) and more likely to have credit problems. Moreover, self-control was a better predictor of these financial issues than children's social class or IQ. These outcomes were partially explained by decisions made in adolescence, such as staying in high school, not becoming a teenage parent, and not smoking.

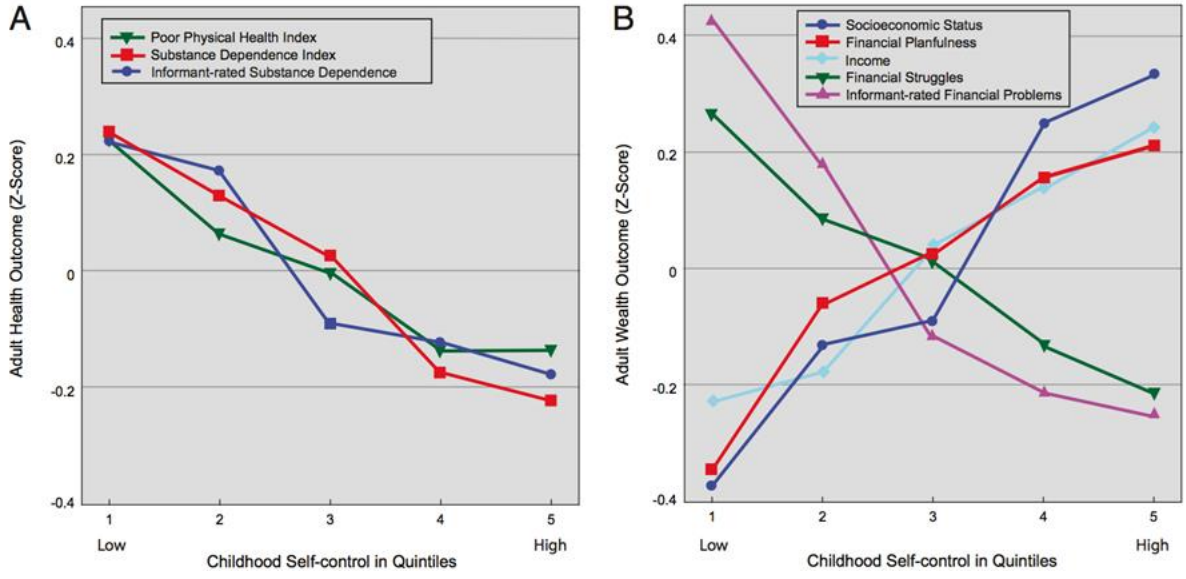
Social outcomes/well-being

Improvements in self-regulation are associated with decreases in internalising symptoms (e.g. depression, anxiety) and improvements in self-esteem (van Genugten et al., 2017[205])

Self-control is associated with improved well-being. In a sample of 1 576 adolescents, Orkibi and Ronen (2017[206]) found that adolescents with higher self-control skills, assessed using the Adolescents' Self-Control Scale[6] (Rosenbaum and Ronen, 1991[207]), perceived themselves to have had their school-related psychological needs met to a higher degree, leading them to experience higher school-related subjective well-being.

In a series of research studies carried out with middle and secondary school students, Weise and colleagues (2018[208]) examined the association between self-control, assessed using the Doman Specific Impulsivity Scale for Children[7] (Tsukayama, Duckworth and Kim, 2013[209]), and subjective well-being. In all studies, the researchers found that those who self-reported higher levels of self-control also reported experiencing higher subjective well-being; i.e. the more self-control students have, the happier tend to be.

Figure 2.9. Childhood self-control predicts physical health, substance dependence and several dimensions of financial success



Source: Figure adapted from Moffitt et al., (2011[190]).

Self-control is also associated with better health. Moffitt and colleagues (2011[190]) report findings from a longitudinal study of a complete birth cohort of 1 037 children born in one city in a single year, whom they followed from birth to the age of 32. This study shows that children who were rated as having poor self-control (via a composite of observer-, teacher-, parent-, and self-ratings) in childhood exhibited poorer health (e.g. cardiovascular, inflammation, weight) and more substance dependence in adulthood (see Figure 2.9). In addition, children with poor self-control were also more likely to be convicted of crimes in adulthood, than children with better self-control.

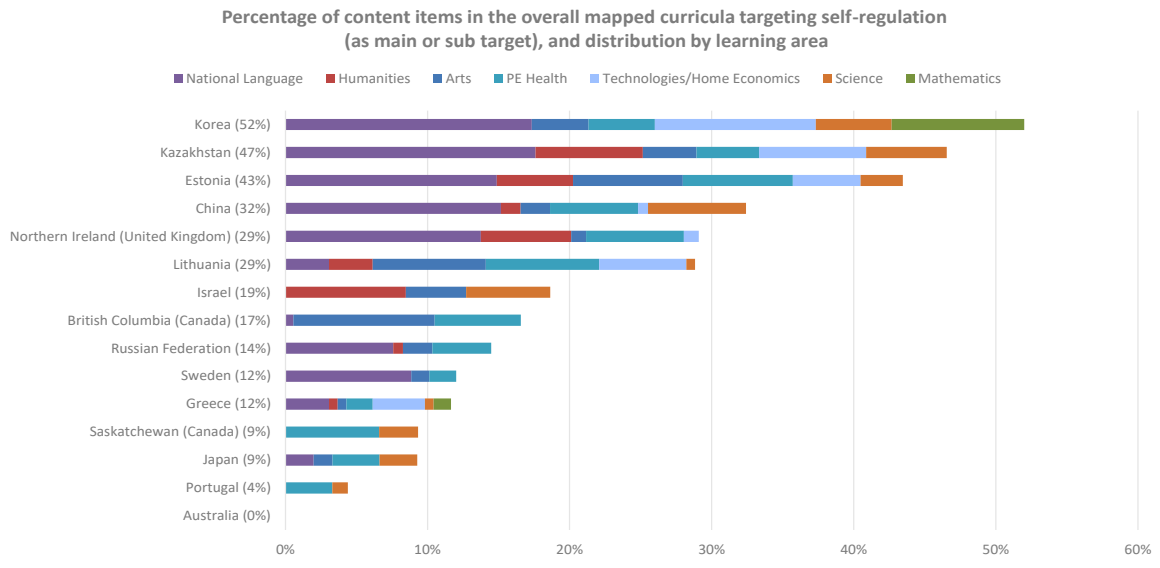
Self-regulation is associated with prosocial behaviour. Executive functions – the cognitive aspect of self-regulation – were found to be positively predictive of teacher and peer assessments of prosocial behaviours in elementary and secondary students (Zorza, Marino and Mesas, 2016[201]).In a sample of 850 sixth grade students, Carlo and colleagues (2012[210]) found that early adolescents' ability to self-regulate positively predicted parent ratings of their prosocial behaviours at home and with peers when the adolescents were 15 years old.

Which learning areas/subjects are most likely to embed "self-regulation"?

Self-regulation covers a disparate range of constructs that bridge concepts and measurements from different disciplines, and this is reflected in the considerable variation in responses in the CCM study. Country/jurisdictional mapping ranged from 0% in Australia and 4% in Portugal to over 50% in Korea (52%), followed by 47% in Kazakhstan and 43% in Estonia (Figure 2.10).

Self-regulation is included in Arts in a number of curricula, in Greece, Japan, Northern Ireland and Sweden (1%), China and Russia (2%), Israel, Kazakhstan and Korea (4%), Estonia and Lithuania (8%) and in British Columbia (Canada) 10%. In those countries which give greatest emphasis to self-regulation, it is in national language where it is more embedded than other subjects: Korea (17%), Kazakhstan (18%), China and Estonia (15%).

Figure 2.10. Self-regulation in curricula



Notes: The percentage bar next to the country name refers to the total percentage of the mapped curriculum that embeds the competency. Graph bars ordered by decreasing total percentage of mapped items targeting the competency across learning areas.
Source: Data from the OECD (2020[3]) E2030 Curriculum Content Mapping (CCM) exercise, https://www.oecd.org/education/2030-project/curriculum-analysis/data/Distributions-of-competencies-across-learning-areas-subjects-data.xlsx.

StatLink https://stat.link/8w6jrd

8. Persistence

Definition

Persistence is the capacity to engage consistently in challenging tasks without losing focus and despite distractions towards a long-term goal (Drake, Belsky and Fearon, 2014[211]) (OECD, 2018[153]). In the personality literature, persistence is described as an aspect of conscientiousness and related to **grit**, whereas in the motivation literature, persistence is related to **mastery goals**.

When linked to **grit**, as part of goal orientation, persistence is defined as 'learners' perseverance of effort and consistency of interests over a period of time on challenging activities and subjects in school and in other areas' (Duckworth and Quinn, 2009[212]; Duckworth, 2016[213]). The motivation of children and adolescents is related to the choices about which tasks and activities to pursue in school and other settings, the effort and intensity with which to engage in them, and their performance on them (Wigfield et al., 2015[214]).

There have been several different ways in which **goal orientation** has been defined in the literature, but it has most often been viewed as the *adoption and pursuit of goals in an achievement context* (DeShon and Gillespie, 2005[215]). This approach looks at achievement of goals as either mastery or performance goals. The **mastery goal orientation** refers to an individual's striving towards *developing* competence, whereas the **performance goal orientation** is concerned with *demonstrating* competence and receiving favourable evaluation from others (Dweck and Leggett, 1988[216]; Wigfield and Wagner, 2005[217]; Nicholls, 1984[218]; Ames, 1992[219]). Performance goals have further been categorised into performance-approach (i.e. desire to outperform others) and performance-avoidance goals (i.e. desire to avoid doing worse than others) (Hulleman and Senko, 2010[220]; Elliot and Church, 1997[221]). Distinct patterns of cognition, affect and behaviour emerge from different goal orientations.

In the CCM study, persistence, combined with a similar concept "**resilience**", is defined as 'the disposition required to maintain effort or interest in an activity in the face of difficulties encountered, the length of time or steps involved or when opposed by someone or something' (OECD, 2020[4]). The American Psychological Association defines resilience as the process of adapting well in the face of adversity, trauma, tragedy, threats or significant sources of stress — such as family and relationship problems, serious health problems or workplace and financial stressors. It means "bouncing back" from difficult experiences'.

Relevance for future – link to the OECD Learning Compass 2030

Persistence, grit and mastery goals are all related to **student agency**. Students who feel that their agency is supported by their educators are more likely to engage in learning tasks for intrinsic reasons, report having a more positive experience at school and using more efficient learning strategies, and display higher levels of performance and persistence (Bonneville-Roussy, Vallerand and Bouffard, 2013[222]).

When students set a goal with which they can feel a sense of purpose and enjoy reaching mastery in tasks towards the goal, they need to deal with complex and ambiguous demands, and this requires persistence. Persistence is a fundamental competency because it enables students to successfully handle increasing demands from society and to prepare them for future roles through sustained effort (DiCerbo, 2016[223]). In order to support student persistence and to improve their learning, schools and communities must cultivate an environment where intrinsic motivation and grit are fostered in the pursuit of achieving long-term goals (Duckworth et al., 2007[151]).

The Learning Compass 2030's **Anticipation-Action-Reflection (AAR)** cycle is an iterative learning process where learners progress over time towards long-term goals that contribute to **collective well-being** (OECD, 2019[7]). Grit and persistence help learners navigate the various stages of the AAR cycle

through first defining a goal and clarifying its purpose, then acting upon it and finally evaluating and learning from the action that is taken towards the goal.

Persistence is important for **creating new value**. According to the dual pathways to creativity model, the generation of new ideas requires cognitive flexibility and persistence; the latter involves blocking out irrelevant thoughts so that attention is fully focused on examining available ideas and arriving at new ideas (Nijstad et al., 2010[224]).

Goal orientation (embracing persistence and grit) is related to

- **Motivation**: Research evidence highlights the positive consequences of mastery orientation for self-efficacy, the use of deeper cognitive strategies, and intrinsic motivation to learn and the strong negative consequences for student motivation and learning, as have been highlighted in the previous section, (poor academic performance, anxiety, etc.) (Elliott and Hulleman, 2017[225]; Hulleman et al., 2008[226]; Hulleman and Senko, 2010[220]). The way students approach goals can be related to both grit and persistence. A study that examined the relationship between grit and motivation among high school students found that perseverance of effort was strongly related to motivation as compared to consistency of effort (Muenks, Yang and Wigfield, 2018[227]). The researchers posited that this could be a result of the developmental stage where students are switching interests and exploring new interests rather than a lack of motivation itself (Muenks, Yang and Wigfield, 2018[227]).
- **Responsibility**: Students' sense of school belonging and social responsibility, i.e. their adherence to social rules and structures in school (e.g. following teachers' instructions) determine whether they seek mastery or performance goals (Anderman and Anderman, 1999[228]). Social responsibility goals represent the students' desire to adhere to the formal expectations of the school and they are more likely to focus on the importance of learning and effort in schoolwork to achieve mastery (Anderman and Anderman, 1999[228]). In physical education settings, high school students' personal and social responsibility behaviours, such as setting goals, staying on task, co-operating, respecting classmates and teachers were positively linked to the mastery goal orientation (Agbuga, Xiang and McBride, 2015[229]). Mastery goals are positive predictors of persistence and effort (Elliot, 1999[230]; Guan et al., 2006[231]).
- **Self-efficacy**: Those pursuing mastery goals typically use self-referential standards (i.e. looking at own learning and skills to improve competency) to define success versus failure, while those pursuing performance goals instead use normative standards (i.e. looking at others to improve competency) to define success versus failure (Hulleman and Senko, 2010[220]). A study examined the transfer of problem-solving strategies to other tasks and found that elementary school students with mastery goal orientations performed better than students with performance-approach orientations (Bereby-Meyer and Kaplan, 2005[232]). The researchers in this study (Bereby-Meyer and Kaplan, 2005[232]) noted that a concern with social comparisons may distract students and result in employing cognitive strategies that lead to quick solutions, rather than employing higher-order thinking to solve problems.
- **Self-regulation/self-control**: Research has shown that students who adopt a mastery goal orientation are more likely to seek ways to become aware of their understanding and monitor their learning (Pintrich, 2000[233]). Adaptive help-seeking is an important aspect of self-regulation. In a study, students who reported that they would like to seek instrumental help (e.g. by asking for hints rather than answers) were high in mastery goal orientation. According to Duckworth (2016[213]), both grit and self-control are important in assisting individuals in turning intention into action.
- **Students' awareness of social status and their attitudes towards co-operation with peers** (Levy, Kaplan and Patrick, 2004[234]). Students who pursue mastery goals value co-operation, show

high levels of engagement, and persist during difficult circumstances (Harackiewicz et al., 2008[235]; Senko, Hulleman and Harackiewicz, 2011[236]; Darnon, Butera and Harackiewicz, 2007[237]).

- **Performance-avoidance and performance-approach goals.** While there is far more consensus on the negative effects of performance-avoidance goals in terms of low interest, help-avoidance and self-handicapping (using strategies that deflect attention away from performance, e.g. ''I could have aced the test, but I put off studying until the last minute.'') (Elliot, 1999[230]; Elliot and Church, 1997[221]; Midgley and Urdan, 2001[238]), the effects of performance-approach goals have been met with mixed results (Midgley, Kaplan and Middleton, 2001[239]).

Impact on academic and social outcomes / well-being

Academic outcomes

Mastery-oriented students have high academic well-being (i.e. school value, resistance to burnout, schoolwork engagement, and satisfaction with educational choice) (Tuominen-Soini, Salmela-Aro and Niemivirta, 2012[240]) and high interest in the subject (Harackiewicz et al., 2000[241]). In a study with students who were transitioning to upper secondary schools in Finland, researchers noted a positive relationship between mastery-oriented students and academic well-being, characterised by high levels of perceived school value and engagement and low levels of school burnout (exhaustion from schooling) (Tuominen-Soini, Salmela-Aro and Niemivirta, 2012[240]). Other studies show the value of performance goals in academic achievement (Harackiewicz et al., 2000[241]; Midgley, Kaplan and Middleton, 2001[239]), and that both performance and mastery goals together positively influence learning (Pintrich, 2000b[242]; Luo et al., 2011[243]).

Persistence is strongly related to situational interest (i.e. a temporary state that is triggered by the complexity or novelty of the task) during academic challenges (Tulis and Fulmer, 2013[244]), and situational interest in turn is important for task engagement and learning (Ainley, Hidi and Berndorff, 2002[245]).

Task persistence is positively related to academic achievement (Deater-Deckard et al., 2005[246]). In a longitudinal study, Andersson & Bergman (2011[247]) analysed the relationship between teachers' ratings of student persistence at age 13 and educational and occupational outcomes at age 43. Higher levels of task persistence were related to higher income and occupational level, after controlling for multiple other variables, including educational attainment for men; whereas for women, educational attainment mediated the effect of persistence on income and occupational level. For both women and men, persistence at age 13 was positively related to grades at age 16 (Andersson and Bergman, 2011[247]).

Grit predicts students' achievement in test score gains from fourth to eighth grade (West et al., 2016[248]), graduation from high school (Eskreis-Winkler, 2015[249]), grades in elementary and middle school (Rojas and Usher, 2013[250]), college grades (Duckworth et al., 2007[151]; Strayhorn, 2014[251]), doctoral programme grades (Cross, 2014[252]), and years of education completed by adults (Duckworth et al., 2007[151]; Duckworth and Quinn, 2009[212]). Grittier individuals are better able to realise the opportunities given to them, show greater levels of engagement, and in turn attain higher levels of education (Bowman et al., 2015[253]).

Social outcomes/well-being

Mastery goals are positively associated with not only academic learning but also psychological well-being. (Kaplan and Maehr, 1999[254]) Students who pursue mastery goals have relatively high levels of self-esteem and low levels of depressive symptoms, and this suggests that striving towards learning and growth can lead to enhanced well-being (Tuominen-Soini, Salmela-Aro and Niemivirta, 2008[255])

Findings for the relation between performance goals and affect have been mixed. In their study of college students, Daniels et al. (2008[256]) highlighted the emotional vulnerability of performance students who

displayed less enjoyment, more boredom and greater anxiety than mastery students. Generally, performance-avoidance goals have been linked to negative affect. Students who are oriented to performance-avoidance goals that are concerned with appearing less able than others, show high levels of anxiety (Kaplan et al., 2002[257]). Similarly, in a study with German and American undergraduate students, researchers found that while performance-approach goals were positive predictors of pride, performance-avoidance goals were positive predictors of anxiety, sense of hopelessness and shame (Pekrun, Elliot and Maier, 2006[258]).

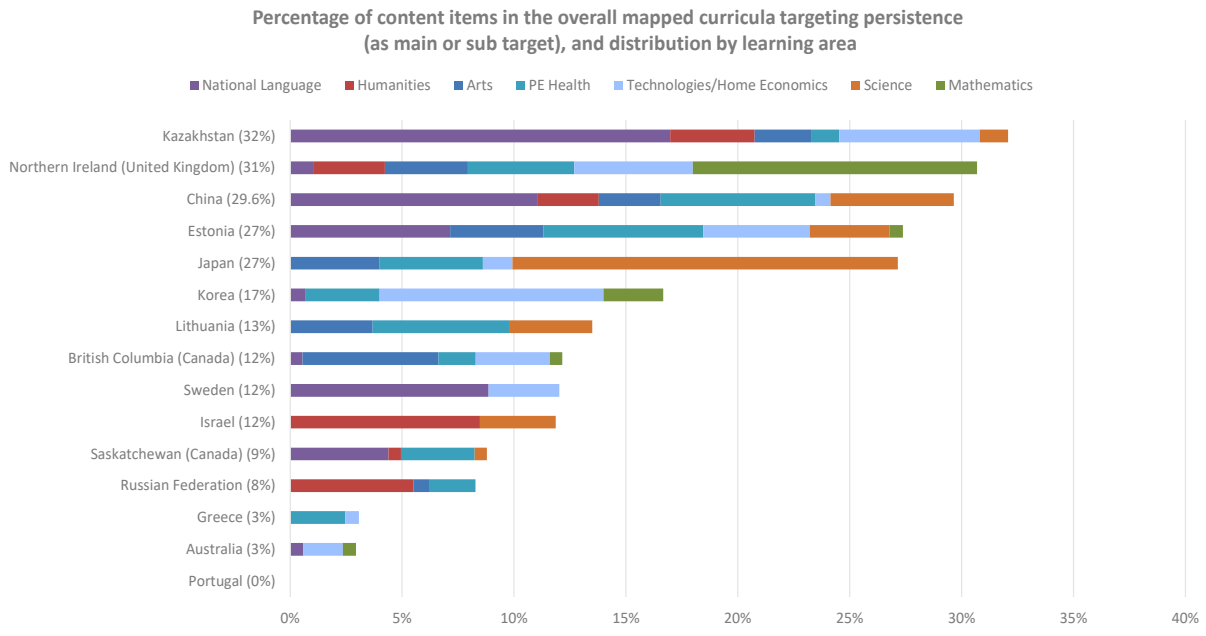
Grit is positively related to psychological well-being and life satisfaction, as it reflects a motivation to seek engagement and meaning for personal growth (Von Culin, Tsukayama and Duckworth, 2014[259]; Vainio and Daukantaitė, 2016[260]). Studies of college students showed that grittier students are more satisfied with college, engaged in more co-curricular activities and had a greater sense of belonging (Bowman et al., 2015[253])

Which learning areas/subjects are most likely to embed "persistence"?

Persistence, like learning to learn, is regarded as beneficial to promoting student agency. Despite this, persistence is not as strongly, explicitly nor as widely referenced in the CCM study (Figure 2.11). It is mapped most in Kazakhstan (32%) and in Northern Ireland (31%), with some very small percentages, in Australia, Greece and Portugal.

There is considerable variation in those subjects embedding persistence and, in those subjects where it has the highest proportion of representation: in Kazakhstan, it is national language that embeds persistence more than other subjects mapped (17%), in Northern Ireland it is Mathematics (13%), in Japan it is Science (17%), in Korea, Technologies (10%) and in Israel, it is in Humanities (8%).

Figure 2.11. Persistence in curricula



Notes: The percentage bar next to the country name refers to the total percentage of the mapped curriculum that embeds the competency. Graph bars ordered by decreasing total percentage of mapped items targeting the competency across learning areas.
Source: Data from the OECD (2020[3]) E2030 Curriculum Content Mapping (CCM) exercise, https://www.oecd.org/education/2030-project/curriculum-analysis/data/Distributions-of-competencies-across-learning-areas-subjects-data.xlsx.

StatLink https://stat.link/8fv3ki

9. Trust

Definition

Trust is defined as an attitude developed towards individuals and institutions/organisations based on a belief in the reliability and integrity of actions taken or planned. The OECD (2017[261]) has categorised trust into two domains: **interpersonal trust** and **institutional trust**. Interpersonal trust, specifically, is defined as "an expectancy held by an individual or group that the word, promise, or written statement of another individual or group can be relied on" (Rotter, 1967, p. 651[262]). For the purposes of this paper, the focus is primarily on interpersonal trust and the positive benefits it can have on learner outcomes.

Interpersonal trust is further subdivided into generalised trust, referring to trust in people who are unknown or not specified, and limited trust, which relates to trust in persons who are known, such as family, friends, and known individuals in one's community.

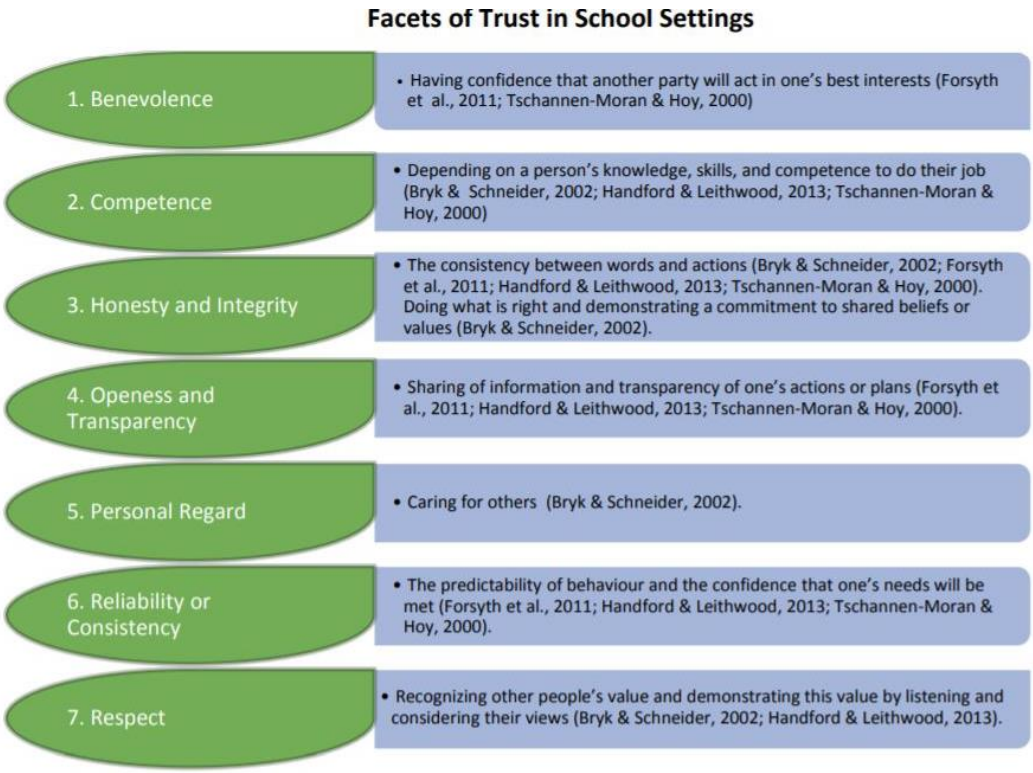
This attitude is formed when one is confident that the actions of others are primarily based on good intentions and ethical considerations, rather than being specifically aimed to negatively impact individuals or groups. Trust is a multidimensional construct relevant across numerous disciplines and domains of learning, and personal, emotional and social development (Luhmann, 2017[263]; Bryk and Schneider, 2002[264]; Tschannen-Moran, 2014[265]).

Within the educational context, interpersonal trust plays a critically important role. It supports a whole-school community to successfully engage its members in the process of educating youth. For example, with interpersonal trust, school can influence whether students attend school regularly and are engaged in classroom learning, or whether school faculty members have autonomy in their teaching practice or are willing to participate in school reform (Bryk and Schneider, 2002[264]; Van Maele, Forsyth and Van Houtte, 2014[266]; Sinay et al., 2016[267]).

Sinay and colleagues (2016[267]) defined seven constructs that are important for the development of trust in school settings, as illustrated in Figure 2.12.

In the CCM study, trust is defined as "an attitude developed towards individuals and institutions/ organisations based on a belief in the reliability and integrity of actions taken or planned. Trust is formed when one is confident that the actions of others are primarily based on good intentions and ethical considerations rather than being specifically aimed to impact negatively on individuals or groups. Trust is a multidimensional construct which is formed when care, competence and openness are exhibited by individuals and institutions/organisations. The degree of personal and/ or societal wellness is closely related to the level of trust held within a community" (OECD, 2020[4]).

Figure 2.12. Seven facets important for the development of trust in school settings



Source: Sinay et al. (2016[267]), "Fostering a 'culture of trust' within and outside a school system", Toronto District School Board.

Relevance for future – link to the OECD Learning Compass 2030

Interpersonal trust is the prerequisite for students, or any individual, to exercise their **agency** and **co-agency**, a key concept of the Learning Compass. It is a social and emotional concept that plays a significant role in fostering the well-being of individuals (Elgar, Trites and Boyce, 2010[268]). In learning, student agency is a relational process that is developed when there is a climate of trust between students, teachers, parents and the wider community (OECD, 2019[269]).

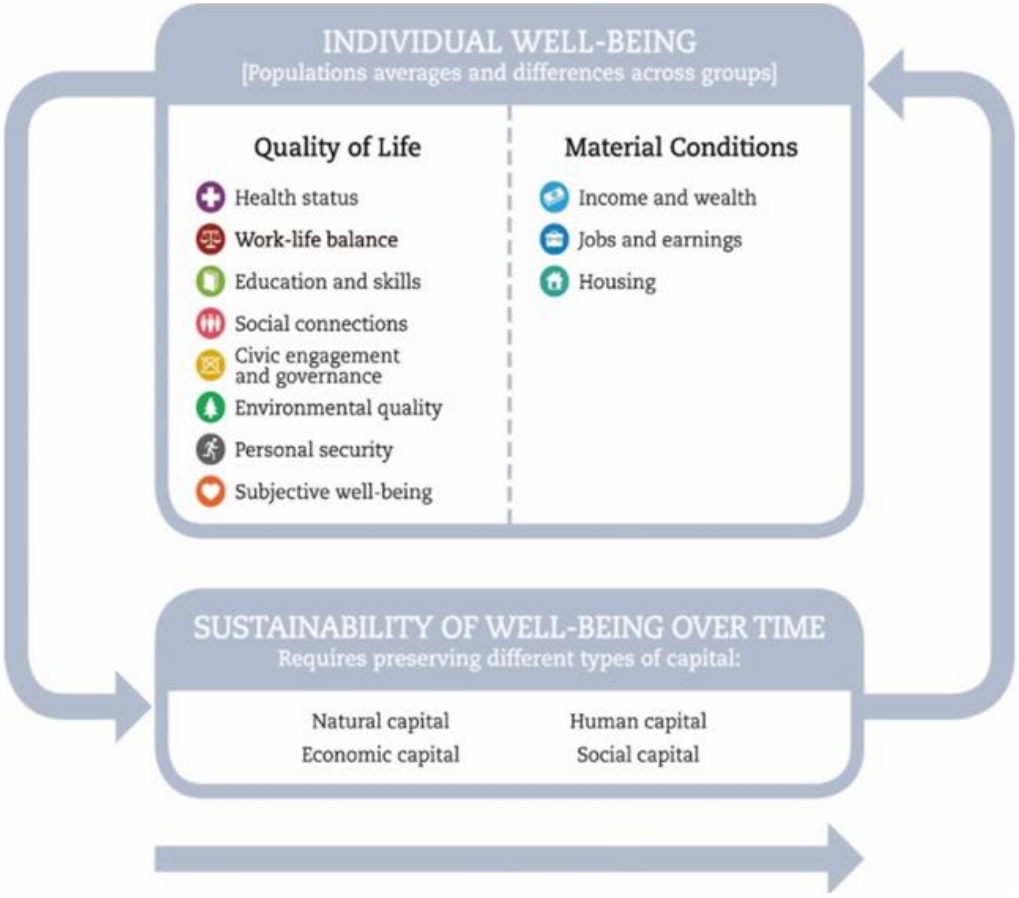
Interpersonal trust is also critical to build **collective agency** for a well-functioning society, because the development and maintenance of interpersonal relationships depends on the ability of individuals to trust one another (Rotenberg, 1991[270]). The ability to trust others, both those who are familiar and unfamiliar, has been shown to be related to improved communication (Huff, Cooper and Jones, 2002[271]), greater acts of altruism (Bergin and Bergin, 2009[272]), and positive attitudes towards individuals outside of one's social circle (Turner et al., 2010[273]). This relates to the overall goals of the Learning Compass, i.e. not only individual well-being but also **societal and planetary well-being.**

Trust and a high degree of interconnectedness are the two key components of social capital that facilitates communication among members of a social network. Both develop as a result of sustained social interactions over time (Coleman, 1988[274]), and have been found to encourage the exchange and combination of resources among members of an organisation, leading to product innovation (Tsai and Ghoshal, 1998[275]).

This precisely speaks to the **OECD well-being framework**, i.e. how individual well-being in 11 areas (income and wealth; jobs and earnings; housing; health; work-life balance; education and skill; social connections; civic engagement and governance; environmental quality; personal security; subjective well-

being) are related to today's and future well-being of the whole society, which can preserve human capital, economic capital, social capital and natural capital (Figure 2.13).

Figure 2.13. The OECD framework for measuring well-being and progress



Source: (Asmussen, 2017[276]), Language, well-being and social mobility, http://www.eif.org.uk/blog/language-wellbeing-and-social-mobility.

Trust is related to

- **Collaboration**: Trust can be an important factor for successful communication and collaboration. When groups have a climate of trust, members of the group are more likely to be committed to ensuring attainment of group goals and have more effective communication (Huff, Cooper and Jones, 2002[271]; De Hoyos Guevara, 2004[277]). Clear channels of communication between group members and their instructor foster the development of trust in both in-person and virtual settings (Huff, Cooper and Jones, 2002[271]). When there is trust, members are also more willing to engage in knowledge sharing (Staples and Webster, 2008[278]), be more satisfied with one's group members, and have greater interest in future group work (Ennen, Stark and Lassiter, 2015[279]).
- **Conflict resolution**: Interpersonal trust is a key element in resolving conflicts; in situations of distrust, involved parties may consider increasing their own sense of trustworthiness to increase interpersonal trust between parties (Sztompka, 2005[280]).
- **Global mindset**: Trust in unfamiliar others may be a prerequisite for fostering a global mindset. Research carried out with a large diverse sample of adolescents and young adults of various cultures and races found that having friendships with members of a different culture or race

promoted interpersonal trust on a broader scale that extends to unknown individuals of other cultures and races (Turner et al., 2010[273]).

- **Risk management**: Interpersonal trust also leads people to take risks in relationships (Schoorman, Mayer and Davis, 2007[281]). Positive student-mentor relationships in work-based placements that are based on mutual trust seem to be highly influential in decreasing students' perceptions of job-related risk, and encourages students to take on greater responsibility (Clouder, 2009[282]).

Impact on academic and social outcomes/well-being

Academic outcomes

Improvements in interpersonal trust within the school community (between teachers, teachers and parents, teachers and principal, and teacher and students) have been found to be related to improvements in academic achievement in elementary school students (Bryk and Schneider, 2002[264]; Adams and Forsyth, 2013[283]). Middle school students' trust in teachers has also been found to be related to students' academic adjustment, motivation and performance (Lee, 2007[284]; Fryberg, Covarrubias and Burack, 2013[285]).

In the OECD Early Learning and Child Well-Being Study, socio-emotional skills such as trust[8], prosocial behaviours, non-disruptive behaviours, and emotion identification and attribution were associated with early literacy and numeracy development, and early self-regulatory skills (e.g. inhibition, mental flexibility and working memory) (OECD, 2020[286]). Other studies that found opposing evidence: a large-scale state-wide randomised sample of elementary schools in the United States found that teachers' trust of students was related to students' performance on standardised achievement tests of reading and mathematics (Goddard, Salloum and Berebitsky, 2009[287]). In another study, college students who had a high level of trust towards group members in collaborative work received higher grades (Ennen, Stark and Lassiter, 2015[279]).

To create a positive school climate, faculty trust of students is required for students to feel agentic, and to ensure all students in a school community feel a sense of belonging (Clift, 2005[288]). Positive student-teacher/mentor relationships that are based on mutual trust can be important in reducing student perceptions of potential risk and encouraging students to take on responsibility (Clouder, 2009[282]). When learners are supported and nurtured, it encourages the development of trust and safety, which promotes learners' confidence levels, encourages them to be open about their mental processes and facilitates reflective learning, feedback and assessment (Lefevre, 2005[289]).

Interpersonal trust among school faculty is key to school improvement and reformation (Bryk and Schneider, 2002[264]; Seashore Louis, 2007[290]). In combination with high parental trust of schools, it has led to enhanced school effectiveness (Forsyth, Barnes and Adams, 2006[291]) and better communication and knowledge sharing among school faculty (Tschannen-Moran, 2014[265]).

Social outcomes/well-being

Interpersonal trust has been linked to prosocial behaviours (e.g. helpfulness) among peers, as prosocial behaviours are often initiated when an individual feels that others have good intentions and will keep their promises (Rotenberg et al., 2005[292]). In experimental research using the Trust Game[9] (Berg, Dickhaut and McCabe, 1995[293]), adolescents who were considered more prosocial (i.e. who preferred to maximise outcomes for both themselves and others) were found to be both more trusting and more trustworthy than adolescents who were more proself i.e. who preferred to maximise outcomes for themselves (Derks, Lee and Krabbendam, 2014[294]).

Early adolescents' own trustworthiness has been found to be related to higher social status among peers (Wentzel, 1991[295]). Moreover, adolescents who lack trust in their peers tend to experience more loneliness (Hamid and Lok, 2000[296]) and engagement in bullying behaviours (D'Urso, 2018[297]).

Longitudinal studies have found that adolescents' perceptions of teachers' fairness positively predict their levels of generalised trust (i.e. trust in unknown or unspecified others) in adulthood (Damico, Conway and Damico, 2000[298]). Among those who are already in the workforce, interpersonal trust can lead to greater job satisfaction, possibly due to reductions in job stress (Guinot, Chiva and Roca-Puig, 2014[299]). It also has important implications as individuals mature further into adulthood, affecting important outcomes such as longevity among older adults (Barefoot et al., 1998[300]).

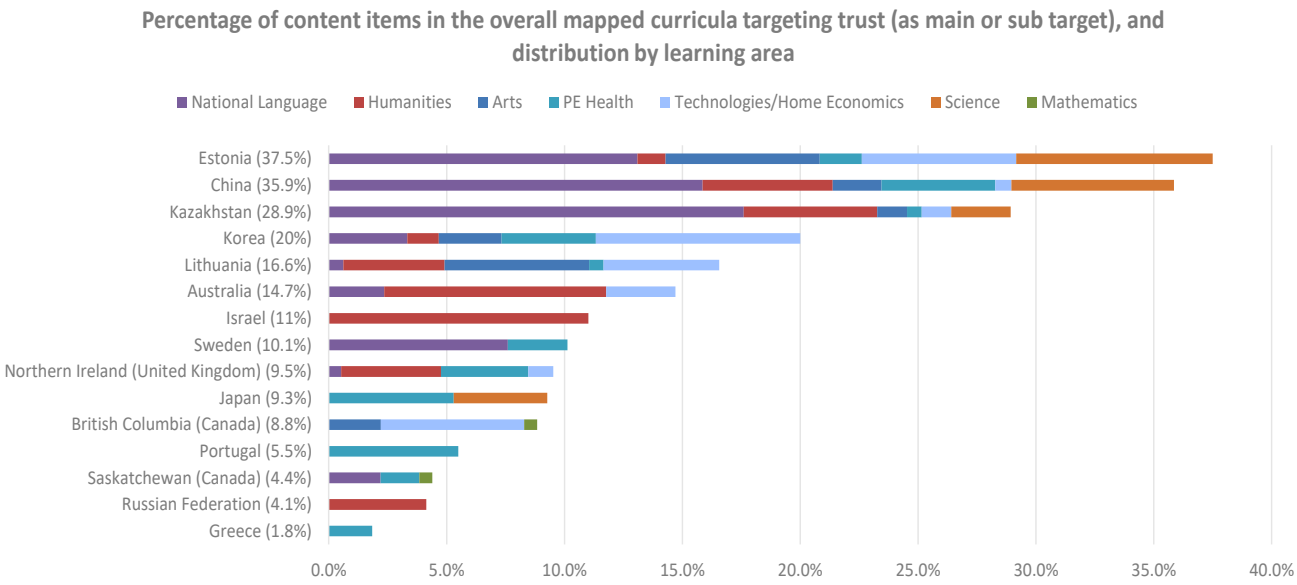
Research carried out with adults have found that greater interpersonal trust is strongly related to better quality of life (Tokuda et al., 2008[301]). Those who trust other people tend to cope better with negative life events, and tend to feel like they have a greater sense of control of their lives and interpersonal relationships (Schill, Toves and Ramanaiah, 1980[302]).

Which learning areas/subjects are most likely to embed "trust"?

Trust is one of the values/attitudes that demonstrates considerable variation in terms of the extent of its explicit representation in curriculum content. This variation applies both to its representation across country/jurisdictional curricula as well as the subjects within curricula. It is mapped in between 2% and 38% of the curricula, with most countries embedding trust in 15% or less of their mapped curriculum (Figure 2.14). Estonia and China embed trust in 38% and 36% respectively of their mapped curriculum, whereas in Greece it is in around 2% of their curricula.

Its limited overall curriculum inclusion is also reflected in the limited learning area representation. For example, in Greece, Israel, and Portugal, trust is embedded in one learning area, in Japan and Sweden in two. Trust is largely related to humanities and PE health. Only British Columbia (Canada) and Saskatchewan (Canada) include trust within the domain of mathematics.

Figure 2.14. Trust in curricula



Notes: The percentage bar next to the country name refers to the total percentage of the mapped curriculum that embeds the competency. Graph bars ordered by decreasing total percentage of mapped items targeting the competency across learning areas.
Source: Data from the OECD (2020[3]) E2030 Curriculum Content Mapping (CCM) exercise, https://www.oecd.org/education/2030-project/curriculum-analysis/data/Distributions-of-competencies-across-learning-areas-subjects-data.xlsx.

StatLink https://stat.link/t1iqb8

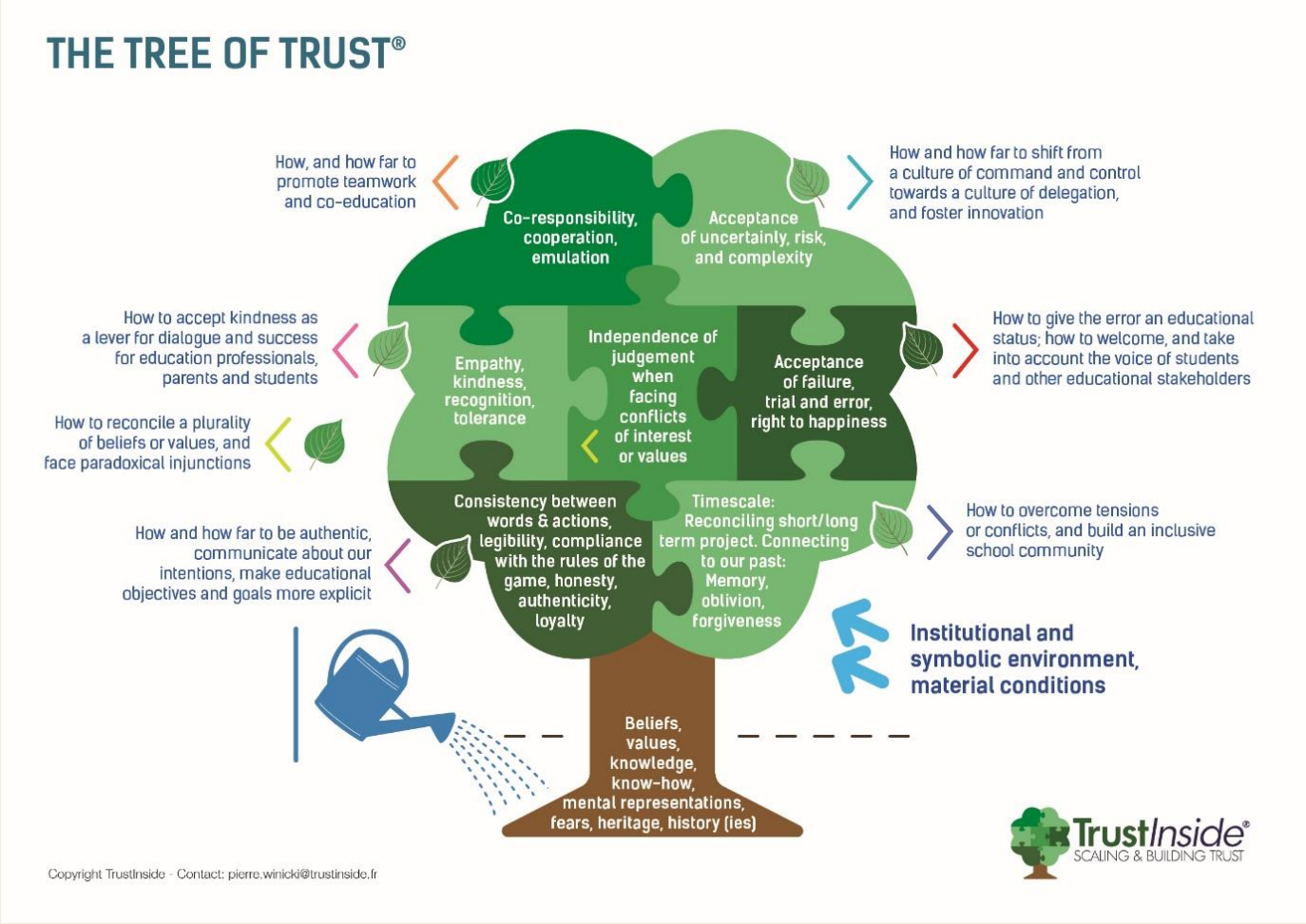
Box 2.1 illustrates an experiment of how to embed and measure “trust” in schools.

Box 2.1. The “Tree of Trust” - a school initiative in France to promote and measure trust

Fostering school climate and academic achievement by objectifying, assessing and improving trust

While a fundamental value in education[1], trust is difficult to define in terms of curriculum outcomes – how to enable it in student learning and assess it in terms of student and school community improvement. By strengthening relations between school professionals, students and parents, trust represents a lever to enhancing school climate and academic achievement. While it is a key success factor for SDG’s[2], it remains difficult to define and assess its constituting factors, and, as a result, measure the fostering of trust. The “Tree of Trust” is the result of a three-year project initiated in 2012 by 100 multidisciplinary experts from the French think tank *InstitutConfiances*[3]. The project aimed to objectify and assess the factors – values, attitudes and behaviours – that constitute trust.

The Tree of Trust



“The Tree of Trust” experienced in schools

Over a period of 3 years, the Tree of Trust has been piloted in 15 schools across France. Trust barometers were designed using the project principles to assess individual trust levels among students, parents, teachers, and school principal. Teachers debriefed and coached students based on the results of the barometer assessments. One year later, further measurements were taken and an evaluation showed significant improvement in social climate, school

attractiveness, and consciousness of their potential by students (see outcomes data and MOOC). The model was then deployed in primary and secondary schools in France, as well as in a school in Ukraine. An education team within the OECD was kept in the loop of the process (view interview with OECD's Director of Education, Andreas Schleicher). Return-on-experience recognises the Tree of Trust model as instrumental in defining levers, facilitating metacognition, and fostering constructive trust culture and practices in the school system. Results from the schools involved in the pilot project showed that individual Trust barometers, while useful in terms of their link with the project's principles, were somewhat complex and therefore hard for teachers to deploy. Modifications and a new, collective Trust barometer was deployed in later schools involved in the project, and was found to be easier and faster to use in the classroom, which facilitated the deployment of the Tree of Trust in more schools. Teachers found that the Tree of Trust was instrumental in creating and reinforcing trust in their classrooms, that it positively impacted on school climate, and had the potential to improve educational outcomes.

Notes: [1] The last sentence of the Chair's concluding remarks at the 8th OECD's Informal Working Group Meetings in Paris, on 31 October 2018, was: "Participants acknowledged the importance of trust".
[2] United Nations 17 Sustainable Development Goals.
[3] In 2017, Institut Confiances became the R&D Department of TrustInside.
Source: Pierre Winicki, President of TrustInside, Founder of the think tank *Institut Confiances* https://www.trustinside.fr/en#tm-top-d.

Notes

[1] Note that Humanities is inclusive of the subjects: geography, history, civics/ citizenship, economics/ business studies; Arts is inclusive of the subjects: visual art/art, music, dance, drama and media arts); Technologies/ home economics is inclusive of the subjects: craft/ design and technology, ICT, home economics; Science is inclusive of the subjects: biology, physics, chemistry, earth science/ space/ astronomy (OECD, 2020[4]).

[2] The *Reflective Judgement Model* (RJM) is a seven-stage model, created by K. Kitchener and P. King, that examines the processes individuals use when engaged in making reflective judgements.

[3] The Hearts and Flowers task (previously known as Dots) (Davidson et al., 2006[303]) is a computerized task that assesses the three core executive functions: inhibitory control, working memory and cognitive flexibility. In this task, hearts or flowers appear in random order across 33 trials. In congruent trials (hearts), participants are instructed to press the button on the same side as the heart. In incongruent trials (flowers), participants are instructed to press the button on the opposite side of the flower. Participants need to remember both rules and apply them according to the stimulus presented. In this study, the trials of interest were those that required the most inhibitory control skills – that is, trials that switched from the congruent to the incongruent trial (easier to harder rule).

[4] The Social Skills Rating System is an inventory of positive child behaviors as rated by parents and teachers. In this study, researchers used a composite of 9 items from the parent-reported and 10 items from the teacher-reported social skills subscale that assesses self-control at face value (e.g., “controls temper in conflict situations”).

[5] The Colorado Child Temperament Inventory (Rowe and Plomin, 1977[203]) is a parent-rated instrument with six subscales. The subscale used in the study was the Attention Span-Persistence subscale.

[6] The Adolescents’ Self-Control Scale (Rosenbaum and Ronen, 1991[207]) is a 32-item scale that measures cognitive-behavioral self-control skills related to adolescents’ experiences.

[7] The Doman Specific Impulsivity Scale for Children (Tsukayama, Duckworth and Kim, 2013[209]) is an 8-item scale that assesses self-control behaviors at school and in social interactions.

[8] In the Early Learning and Child Well-Being Study (OECD, 2020[286]), trust was assessed using a one-item measure reported by parents and teachers, asking them often each child approaches familiar adults for comfort when upset. Response options were “never”, “rarely”, “sometimes”, “often” or “always”.

[9] The Trust Game (Berg, Dickhaut and McCabe, 1995[293]), also known as the Investment Game. In Phase 1, the player (referred to as the trustor), begins with a set amount of money and may choose to invest (a portion of) this amount in a second player (referred to as the trustee). This amount of money is then tripled—the trustee will receive three times the amount given by the trustor. In Phase 2, the trustee may return any amount of money received to the trustor. This amount is not multiplied. Maximum levels of co-operation are attained when the trustee returns a fair share of the amount (i.e. half) to the trustor. The trustor’s investment is considered a measure of trust, while the trustee’s decision is considered a measure of trustworthiness (also referred to as reciprocity).

References

Adams, C. and P. Forsyth (2013), "Revisiting the trust effect in urban elementary schools", *The Elementary School Journal*, Vol. 114/1, pp. 1-21. [283]

Agbuga, B., P. Xiang and R. McBride (2015), "Relationship between achievement goals and students' self-reported personal and social responsibility behaviors.", *The Spanish journal of psychology*, Vol. 18/e22, pp. 1-9, http://dx.doi.org/10.1017/sjp.2015.26. [229]

Agenda, P. (1997), *Getting by: What American teenagers really think about their schools. A report from Public Agenda.*. [105]

Ainley, M., S. Hidi and D. Berndorff (2002), "Interest, learning, and the psychological processes that mediate their relationship", *Journal of educational psychology*, Vol. 94/3, pp. 545-561, http://dx.doi.org/10.1037//0022-0663.94.3.545. [245]

Allen, D. and J. Light (2015), *From voice to influence; understanding citizenship in the digital age*, Chicago University Press. [92]

Alon, I. and D. Bar-Tal (eds.) (2005), *Two theoretical approaches to trust; Their implications for the resolution of intergroup conflict*, Cambridge: Switzerland. [280]

Ames, C. (1992), "Classrooms: Goals, structures, and student motivation", *Journal of Educational Psychology*, Vol. 84/3, pp. 261-271, http://dx.doi.org/10.1037/0022-0663.84.3.261. [219]

Anderman, L. and E. Anderman (1999), "Social predictors of changes in students' achievement goal orientations", *Contemporary educational psychology*, Vol. 24/1, pp. 21-37, http://dx.doi.org/10.1006/ceps.1998.0978. [228]

Andersson, H. and L. Bergman (2011), "The role of task persistence in young adolescence for successful educational and occupational attainment in middle adulthood.", *Developmental Psychology*, Vol. 47/4, pp. 950-960, http://dx.doi.org/10.1037/a0023786. [247]

Andreotti, V. (2014), "Soft versus critical global citizenship education", *Development Education in Policy and Practice*, pp. 21-31. [144]

Asmussen, K. (2017), *Language, wellbeing and social mobility,*, https://www.eif.org.uk/blog/language-wellbeing-and-social-mobility. [276]

Aurah, C. et al. (2011), "The role of metacognition in everyday problem solving among primary students in Kenya", *Problems of Education in the 21st Century*, Vol. 30/2, pp. 9-21, http://www.scientiasocialis.lt/pec/files/pdf/vol30/9-21.Aurah_Vol.30.pdf (accessed on 20 November 2021). [81]

Aydin, B. and Y. Coşkun (2015), *The relationship between math achievement motivation and reflective thinking skills towards problem solving of the 8th grade student*, Yeditepe University, Istanbul. [28]

Bandura, A. (1993), "Perceived self-efficacy in cognitive development and functioning", *Educational psychologist*, Vol. 28/2, pp. 117-148. [71]

Banks, J. (2004), *Diversity and citizenship education; global perspectives*, Jossey Bass. [88]

Barefoot, J. et al. (1998), "Trust, Health, and Longevity", *Journal of Behavioral Medicine*, Vol. 21/6, pp. 517-526. [300]

Bas, G. and Z. Kıvılcım (2013), "The correlation between reflective thinking skills towards problem solving and academic success in mathematics and geometry courses of high school students", *Journal of Kırşehir Education Faculty*, Vol. 14/3, pp. 1-17, http://dx.doi.org/10.1016/j.sbspro.2015.07.326. [26]

Bassachs, M. et al. (2020), "Fostering critical reflection in primary education through STEAM approaches", *Education Sciences*, Vol. 10/12, pp. 1-14, http://dx.doi.org/10.3390/EDUCSCI10120384. [18]

Battistich, V. (1997), "Caring school communities", *Educational Psychologist*, Vol. 32, pp. 137-151. [107]

Bekerman, Z. and M. Zembylas (2012), *Teaching contested narratives; identity, memory and reconciliation in peace education and beyond*, Cambridge University Press. [90]

Bereby-Meyer, Y. and A. Kaplan (2005), "Motivational influences on transfer of problem-solving strategies", *Contemporary Educational Psychology*, Vol. 30/1, pp. 1-22, http://dx.doi.org/10.1016/j.cedpsych.2004.06.003. [232]

Bergin, C. and D. Bergin (2009), "Attachment in the Classroom", *Educational Psychology Review*, Vol. 21/2, pp. 141-170. [272]

Berg, J., J. Dickhaut and K. McCabe (1995), "Trust, reciprocity, and social history", *Games and Economic Behavior*, Vol. 10/1, pp. 122-142. [293]

Berkowitz, M., M. Bier and B. McCauley (2017), "Towards a science of character education; frameworks for identifying and implementing effective practices", *Journal of Character Education*, Vol. 13/1, pp. 33-51. [120]

Bianchi, G. (2007), *Effects of metacognitive instruction on the academic achievement of students in the secondary sciences*, Seattle Pacific University, Seattle, https://ui.adsabs.harvard.edu/abs/2007PhDT.....128B/abstract (accessed on 20 November 2021). [30]

Biggs, J. and R. Telfer (1987), *The Process of Learning*, Prentice-Hall of Australia, Sydney. [59]

Boekaerts., M., P. Pintrich and M. Zeidner (eds.) (2000), *The role of goal orientation in self-regulated learning*, Academic Press, http://dx.doi.org/10.1016/B978-012109890-2/50043-3. [233]

Bondu, R. and B. Elsner (2015), "Justice sensitivity in childhood and adolescence", *Social Development,*, Vol. 24, pp. 420-441. [99]

Bonneville-Roussy, A., R. Vallerand and T. Bouffard (2013), "The roles of autonomy support and harmonious and obsessive passions in educational persistence.", *Learning and Individual Differences*, Vol. 24, pp. 22-31, http://dx.doi.org/10.1016/j.lindif.2012.12.015. [222]

Borgen, J. and F. Hjardemaal (2017), "From general transfer to deep learning as argument for practical aesthetic school subjects?", *Nordic Journal of Studies in Educational Policy*, Vol. 3/3, pp. 218-229. [62]

Bowman, N. et al. (2015), "Keep on truckin'or stay the course? Exploring grit dimensions as differential predictors of educational achievement, satisfaction, and intentions", *Social Psychological and Personality Science*, Vol. 6/6, pp. 639-645, http://dx.doi.org/10.1177/1948550615574300. [253]

Branch, J. and M. George (2017), "Reflection-based learning for professional ethical formation", *AMA Journal of Ethics*, Vol. 19/4, pp. 349-356. [32]

Brown, K. and R. Ryan (2003), "The benefits of being present: Mindfulness and its role in psychological well-being", *Journal of Personality and Social Psychology*, Vol. 84/4, pp. 822-848. [193]

Bryk, A. and B. Schneider (2002), *Trust in Schools: A Core Resource for Improvement*, New York: Russell Sage Foundation. [264]

Burnette, J. et al. (2013), *Mind-sets matter: A meta-analytic review of implicit theories and self-regulation*, pp. 655-701. [149]

Caravita, S., P. Di Blasio and C. Salmivalli (2009), "Unique and interactive effects of empathy and social status on involvement in bullying", *Social Development*, Vol. 18/1, pp. 140-163, http://dx.doi.org/10.1111/j.1467-9507.2008.00465.x. [177]

Carlo, G. et al. (2012), "The role of emotional reactivity, self-regulation, and puberty in adolescents' prosocial behaviors", *Social Development*, Vol. 21/4, pp. 667-685. [210]

Carlson, M. and I. Bloom (2005), "The Cyclic Nature of Problem Solving: An Emergent Multidimensional Problem-Solving Framework", *Educational Studies in Mathematics*, Vol. 58/1, pp. 45-75, http://dx.doi.org/10.1007/s10649-005-0808-x. [66]

Carr, M. and D. Jessup (1995), "Cognitive and metacognitive predictors of mathematics strategy use", *Learning and Individual Differences*, Vol. 7/3, pp. 235-247. [65]

Carver, C. and M. Scheier (1990), *Principles of self-regulation: Action and emotion*, Guilford Press. [74]

Chan, E. and N. Mansoor (2007), *Metacognitive behaviours of primary 6 students in mathematical problem solving in a problem-based learning setting*, http://hdl.handle.net/10497/234. [64]

Checa, P., R. Rodriguez-Bailon and M. Rueda (2008), "Neurocognitive and temperamental systems of self-regulation and early adolescents' social and academic outcomes", *Mind, Brain, and Education*, Vol. 2, pp. 177-187. [189]

Child, J. (2001), "Trust—The fundamental bond in global collaboration", *Organizational Dynamics*, Vol. 29/4, pp. 274-288. [51]

Child, S. and S. Shaw (2016), "Collaboration in the 21st century: Implications for assessment", *Research Matters*, Vol. 22, pp. 17-22. [41]

Clark, H. (1996), *Using language*, Cambridge University Press. [42]

Clift, E. (2005), "A place to belong: Student agency in the social capital of a magnet high school", *Journal of Curriclum and Supervision*, Vol. 20/4, pp. 271-297. [288]

Clouder, D. (2009), "'Being responsible': students' perspectives on trust, risk and work-based learning", *Teaching in Higher Education*, Vol. 14/3, pp. 289-301, http://dx.doi.org/10.1080/1356251090289885. [282]

Cohen, T. (2010), "Moral emotions and unethical bargaining: The differential effects of empathy and perspective taking in deterring deceitful negotiation", *Journal of Business Ethics*, Vol. 94/4, pp. 569-579, http://dx.doi.org/10.1007/s10551-009-0338-z. [168]

Coleman, J. (1988), "Social capital in the creation of human capital", *American Journal of Sociology*, Vol. 94, pp. S95-S120. [274]

Corno, L. and E. Anderman (eds.) (2016), *Civic education*, Routledge. [87]

Cornoldi, C. et al. (2015), "Improving problem solving in primary school students: The effect of a training programme focusing on metacognition and working memory", *The British Journal of Educational Psychology*, Vol. 85/3, pp. 424-439. [82]

Costa, A. and B. Kallick (eds.) (2008), *Learning and leading with habits of mind: 16 essential characteristics for success*, ASCD. [13]

Council of Europe (2016), *Competences for Democratic Culture: Living Together as Equals in Culturally Diverse Democratic Societies*, https://rm.coe.int/16806ccc07 (accessed on 20 November 2021). [1]

Craft, A., H. Gardner and G. Claxton (2007), *Creativity, Wisdom and Trusteeship*, Corwin Press. [137]

Cross, T. (2014), "The Gritty: Grit and Non-Traditional Doctoral Student Success", *Journal of Educators Online*, Vol. 11/3, http://dx.doi.org/10.9743/JEO.2014.3.4. [252]

D'Urso, G. (2018), "The interplay between trust among peers and interpersonal characteristics in homophobic bullying among Italian adolescents", *Sexuality and Culture*, Vol. 22/4, pp. 1310-1320. [297]

Dai, D. and R. Sternberg (eds.) (2004), *Motivation, emotion, and cognition: Integrative perspectives on intellectual functioning and development*, Lawrence Erlbaum Associates. [24]

Damico, A., M. Conway and S. Damico (2000), "Patterns of political trust and mistrust: Three moments in the lives of democratic citizens", *Polity*, Vol. 32/3, pp. 377-400. [298]

Damon, W. (2008), *The path to purpose; how young people find their calling in life*, Free Press. [97]

Damon, W. and A. Colby (2015), *The power of ideals*, Oxford University Press. [121]

Daniels, L. et al. (2008), "Individual differences in achievement goals: A longitudinal study of cognitive, emotional, and achievement outcomes", *Contemporary Educational Psychology*, Vol. 33/4, pp. 584-608, http://dx.doi.org/10.1016/j.cedpsych.2007.08.002. [256]

Darnon, C., F. Butera and J. Harackiewicz (2007), "Achievement goals in social interactions: Learning with mastery vs. performance goals", *Motivation and Emotion*, Vol. 31/1, pp. 61-70, http://dx.doi.org/10.1007/s11031-006-9049-2. [237]

Davidson, M. et al. (2006), "Development of cognitive control and executive functions from 4 to 13 years: Evidence from manipulations of memory, inhibition, and task switching", *Neuropsychologia*, Vol. 44/11, pp. 2037-2078. [303]

De Hoyos Guevara, M. (2004), *Assessment of teamwork in higher education collaborative learning teams (Dissertation, University of Texas at Austin)*, https://repositories.lib.utexas.edu/handle/2152/1307. [277]

Deater-Deckard, K. et al. (2005), "A cross-sectional behavioral genetic analysis of task persistence in the transition to middle childhood.", *Developmental science*, Vol. 8/3, pp. F21-F26, http://dx.doi.org/10.1111/j.1467-7687.2005.00407.x. [246]

deBlois, M. and L. Kubzansky (2016), "Childhood self-regulatory skills predict adolescent smoking behavior", *Psychology, Health & Medicine*, Vol. 21/2, pp. 138-151. [185]

Deci, E. and R. Ryan (2000), "The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior", *Psychological Inquiry*, Vol. 11, pp. 227-268. [148]

Dekeyser, M. (2008), "Mindfulness skills and interpersonal behaviour", *Personality and Individual Differences*, Vol. 44/5, pp. 1235-1245. [172]

Deringöl, Y. (2019), "The relationship between reflective thinking skills and academic achievement in mathematics in fourth-grade primary school students", *International Online Journal of Education and Teaching (IOJET)*, pp. 613-622, http://iojet.org/index.php/IOJET/article/view/532 (accessed on 20 November 2021). [25]

Derks, J., N. Lee and L. Krabbendam (2014), "Adolescent trust and trustworthiness: Role of gender and social value orientation", *Journal of Adolescence*, Vol. 37/8, pp. 1379-1386. [294]

DeShon, R. and J. Gillespie (2005), "A motivated action theory account of goal orientation", *Journal of Applied Psychology*, Vol. 90/6, pp. 1096-1127, http://dx.doi.org/10.1037/0021-9010.90.6.1096. [215]

Deutsch, M. and P. Coleman (eds.) (2000), *The development of conflict resolution skills in children: Preschool to adolescence*, Jossey. [142]

Diamond, A. (2013), "2013", *Executive functions*, Vol. 64, pp. 135-168. [181]

Diazgranados, S., R. Selman and M. Dionne (2016), "Acts of social perspective-taking; a functional construct and the validation of a performance measure for early adolescents", *Social Development*, Vol. 25/3, pp. 572-601. [127]

Dignath, C. and G. Buttner (2008), "Components of fostering self-regulated learning among students. A meta-analysis on intervention studies at primary and secondary school level", *Metacognition and Learning*, Vol. 3, pp. 231-264. [76]

Dillon, R. (Spring 2018 ed.), *The Stanford Encyclopedia of Philosophy*. [83]

Domingo, J. (2008), "El aprendizaje cooperativo (Cooperative learning)", *Cuadernos de Trabajo Social (Social Work Notebooks)*, Vol. 21, pp. 231-246, https://revistas.ucm.es/index.php/CUTS/article/view/CUTS0808110231A (accessed on 20 November 2021). [53]

Drake, K., J. Belsky and R. Fearon (2014), "From early attachment to engagement with learning in school: The role of self-regulation and persistence", *Developmental psychology*, Vol. 50/5, pp. 1350-1361, http://dx.doi.org/10.1037/a0032779. [211]

Duckworth, A. (2016), *Grit: The power of passion and perseverance*, Scribner/Simon and Schuster. [213]

Duckworth, A. et al. (2007), "Grit: perseverance and passion for long-term goals", *Journal of personality and social psychology*, Vol. 92/6, pp. 1087-1101, http://dx.doi.org/10.1037/0022-3514.92.6.1087. [151]

Duckworth, A. and P. Quinn (2009), "Development and validation of the Short Grit Scale (GRIT–S)", *Journal of personality assessment*, Vol. 91/2, pp. 166-174, http://dx.doi.org/10.1080/00223890802634290. [212]

Duckworth, A., P. Quinn and E. Tsukayama (2012), "What No Child Left Behind leaves behind: The roles of IQ and self-control in predicting standardized achievement test scores and report card grades", *Journal of Educational Psychology*, Vol. 104/2, pp. 439-451. [199]

Duckworth, A. and M. Seligman (2005), "Self-discipline outdoes IQ in predicting academic performance of adolescents", *Psychological Science*, Vol. 16/12, pp. 939-944. [198]

Dunlosky, J. and J. Metcalfe (eds.) (2008), *How can primary school students learn self-regulated learning strategies most effectively?*, Springer. [77]

Dweck, C. and E. Leggett (1988), "A social-cognitive approach to motivation and personality", *Psychological review*, Vol. 95/2, pp. 256-273, http://dx.doi.org/10.1037/0033-295X.95.2.256. [216]

Eisenberg, N., R. Fabes and T. Spinrad (2006), "Prosocial Development", in Eisenberg, N., W. Damon and R. Lerner (eds.), *Handbook of child psychology: Social, emotional, and personality development*, John Wiley & Sons, Ltd. [154]

Eisenberg, N., Q. Zhou and S. Koller (2001), "Brazilian adolescents' prosocial moral judgment and behavior: Relations to sympathy, perspective taking, gender-role orientation, and demographic characteristics", *Child development*, Vol. 72/2, pp. 518-534, http://dx.doi.org/10.1111/1467-8624.00294. [178]

Elgar, F., S. Trites and W. Boyce (2010), "Social capital reduces socio-economic differences in child health: Evidence from the Canadian Health Behaviour in School-Aged Children Study", *Canadian Journal of Public Health / Revue Canadienne de Sante'e Publique*, Vol. 101, pp. S23-S27. [268]

Elliot, A. (1999), "Approach and avoidance motivation and achievement goals", *Educational Psychologist*, Vol. 34/3, pp. 169-189, http://dx.doi.org/10.1207/s15326985ep3403_3. [230]

Elliot, A. and M. Church (1997), "A hierarchical model of approach and avoidance achievement motivation", *Journal of Personality and Social Psychology*, Vol. 72/1, pp. 218-232, http://dx.doi.org/10.1037/0022-3514.72.1.218. [221]

Elliot, A. and C. Dweck (eds.) (2005), *Competence, motivation, and identity development during adolescence*, Guilford Publications. [217]

Elliot, A. and C. Dweck (eds.) (2005), *Self-theories; their impact on competence motivation and acquisition*, Guilford. [147]

Elliott, C., C. Dweck and D. Yeager (eds.) (2017), *Achievement goals*, Guilford Press. [225]

Ennen, N., E. Stark and A. Lassiter (2015), "The importance of trust for satisfaction, motivation, and academic performance in student learning groups", *Social Psychology of Education*, Vol. 18/3, pp. 615-633. [279]

Eskreis-Winkler, E. (2015), *Building Grit*, University of Pennsylvania. [249]

Fadel, C., B. Trilling and M. Bialik (2015), *Four-Dimensional Education: The Competencies Learners Need to Succeed*, Paperback. [63]

Fawcett, L. and A. Garton (2005), "The effect of peer collaboration on children's problem-solving ability", *British Journal of Educational Psychology*, Vol. 75/2, pp. 157-169. [47]

Finlay, K. and W. Stephan (2000), "Improving intergroup relations: The effects of empathy on racial attitudes", *Journal of Applied Social Psychology*, Vol. 30/8, pp. 1720-1737, http://dx.doi.org/10.1111/j.1559-1816.2000.tb02464.x. [176]

Fisher, R. (1998), "Thinking about thinking: Developing metacognition in children", *Early Child Development and Care*, Vol. 141/1, pp. 1-15. [196]

Flanagan, C. (2013), *Teenage citizens*, Harvard University Press. [130]

Forsyth, P., L. Barnes and C. Adams (2006), "Trust-effectiveness patterns in schools", *Journal of Educational Administration*, Vol. 44/2, pp. 122-141. [291]

Frey, N., D. Fisher and S. Everlove (2009), *Productive Group Work: How to Engage Students, Build Teamwork, and Promote Understanding*, Association for Supervision and Curriculum Development. [54]

Fryberg, S., R. Covarrubias and J. Burack (2013), "Cultural models of education and academic performance for Native American and European American students", *School Psychology International*, Vol. 34/4, pp. 439-452. [285]

Furnham, A. and J. Marks (2013), *Tolerance of ambiguity; a review of recent literature*, pp. 717-728. [134]

Galinsky, A. et al. (2008), "Why it pays to get inside the head of your opponent: The differential effects of perspective taking and empathy in negotiations", *Psychological Science*, Vol. 19/4, pp. 378-384, http://dx.doi.org/10.1111/j.1467-9280.2008.02096.x. [169]

Gehlbach, H. (2004), *A new perspective on perspective taking: A multidimensional approach to conceptualizing an aptitude*, pp. 207-234. [139]

Gelerstein, D. et al. (2016), "Designing and implementing a test for measuring critical thinking in primary school", *Thinking Skills and Creativity*, Vol. 20, pp. 40-49. [33]

Gilbert, P. (2015), "The evolution and social dynamics of compassion", *Social and personality psychology compass*, Vol. 9/6, pp. 239-254, http://dx.doi.org/10.1111/spc3.12176. [158]

Gillies, R. (2016), "Cooperative Learning: Review of Research and Practice", *Australian Journal of Teacher Education*, Vol. 41/3, p. 3, http://dx.doi.org/10.14221/ajte.2016v41n3.3. [55]

Goddard, R., S. Salloum and D. Berebitsky (2009), "Trust as a mediator of the relationships between poverty, racial composition, and academic achievement: Evidence from Michigan's public elementary schools", *Educational Administration Quarterly*, Vol. 45/2, pp. 292-311. [287]

Gough, H., H. McClosky and P. Meehl (1952), “A personality scale for social responsibility”, *The Journal of Abnormal and Social Psychology*, Vol. 47/1, pp. 73-80. [152]

Graham, A. et al. (2016), “Reframing ‘well-being’ in schools: The potential of recognition”, *Cambridge Journal of Education*, Vol. 47/4, pp. 439-455, http://dx.doi.org/10.1080/0305764X.2016.1192104. [112]

Gresham, F. and S. Elliot (1990), *Social Skills Rating Scale mnual*, Circle Pines, MN: American Guidance Service. [200]

Griffin, P. and E. Care (eds.) (2015), *Project Method Overview*, Springer. [39]

Guan, J. et al. (2006), “Achievement goals, social goals, and students’ reported persistence and effort in high school physical education.”, *Journal of Teaching in Physical Education*, Vol. 25/1, pp. 58-74, http://dx.doi.org/10.1123/jtpe.25.1.58. [231]

Guinot, J., R. Chiva and V. Roca-Puig (2014), “Interpersonal trust, stress and satisfaction at work: An empirical study”, *Personnel Review*, Vol. 43/1, pp. 96-115. [299]

Gullota, T. and M. Bloom (eds.) (2014), *Social and emotional learning during childhood*, Springer Press. [141]

Güner, P. and H. Erbay (2021), “Metacognitive skills and problem-solving”, *International Journal of Research in Education and Science (IJRES)*, Vol. 7/3, pp. 715-734, https://doi.org/10.46328/ijres.1594. [69]

Gyatso, G. (2002), *Universal Compassion. Inspiring Solutions for Difficult Times*, Tharpa Publications. [100]

Halpern, D. (2007), *The nature and nurture of critical thinking*, pp. 1-14. [136]

Hamid, P. and D. Lok (2000), “Loneliness in Chinese adolescents: A comparison of social support and interpersonal trust in 13 to 19 year olds”, *International Journal of Adolescence and Youth*, Vol. 8/1, pp. 45-63. [296]

Han, H. (2015), *Purpose as a moral virtue for flourishing*, pp. 291-309. [146]

Harackiewicz, J. et al. (2000), “Short-term and long-term consequences of achievement goals: Predicting interest and performance over time”, *Journal of educational psychology*, Vol. 92/2, pp. 316-330, http://dx.doi.org/10.1037/0022-0663.92.2.316. [241]

Harackiewicz, J. et al. (2008), “The role of achievement goals in the development of interest: Reciprocal relations between achievement goals, interest, and performance”, *Journal of Educational Psychology*, Vol. 100/1, pp. 105-122, http://dx.doi.org/10.1037/0022-0663.100.1.105. [235]

Hardy, S. and G. Carlo (2005), *Identity as a source of moral motivation*, pp. 232-256. [103]

Harsthorne, R., T. Heafner and T. Petty (eds.) (2012), *Teaching and assessing problem solving in online collaborative environment.*, Information Science. [40]

Hassan, N. and S. Rahman (2017), “Problem solving skills, metacognitive awareness, and mathematics achievement: A mediation model”, *New Educational Review*, Vol. 49/3, pp. 201-212, http://dx.doi.org/10.15804/TNER.2017.49.3.16. [80]

Haste, H. and A. Bermudez (2017), *The power of story; historical narratives and the construction of civic identity*, Palgrave Macmillan. [117]

Haste, H., K. Lee and A. Omaigan (2019), *The relationship between value constructs and transformative competencies*. [131]

Hattie, J. and E. Anderman (eds.) (2013), *Problem solving*. [20]

Hattie, J. and G. Yates (2014), *Visible Learning and the Science of How We Learn*, Routledge. [19]

Hess, D. and P. McAvoy (2015), *The political classroom*, Routledge. [89]

Hoever, I. et al. (2012), *Fostering team creativity: perspective taking as key to unlocking diversity's potential*, p. 982. [140]

Hope, E. (2014), "The role of sociopolitical attitudes and civic education in the civic engagement of black youth", *Journal of Research on Adolescence*, Vol. 24/3, pp. 460-470. [160]

Huff, L., J. Cooper and W. Jones (2002), "The development and consequences of trust in student project groups", *Journal of Marketing Education*, Vol. 24/1, pp. 24-34. [271]

Hulleman, C. et al. (2008), "Task values, achievement goals, and interest: An integrative analysis", *Journal of educational psychology*, Vol. 100/2, pp. 398-416, http://dx.doi.org/10.1037/0022-0663.100.2.398. [226]

Hunt, L. (2007), *Inventing Human Rights: A History*, W. W. Norton & Company. [170]

Istance, D. and H. Dumont (2010), *Future directions for learning environments in the 21st century. The Nature of Learning*, OECD. [23]

Jadallah, M. et al. (2011), "Influence of a Teacher's Scaffolding Moves During Child-Led Small-Group Discussions", *American Educational Research Journal*, Vol. 48/1, pp. 194-230, http://dx.doi.org/10.3102/0002831210371498. [56]

Jazaieri, H. (2017), "Compassionate education from preschool to graduate school.", *Journal of Research in Innovative Teaching & Learning.*, Vol. 11/1, pp. 22-66, http://dx.doi.org/10.1108/JRIT-08-2017-0017. [157]

Jennings, P. (2009), "The prosocial classroom: Teacher social and emotional competence in relation to student and classroom outcomes.", *Review of educational research*, Vol. 79, pp. 491-525. [108]

Johnson, D. and R. Johnson (1989), *Cooperation and competition: Theory and Research*, Interaction Book Company. [45]

Johnson, D., R. Johnson and K. Smith (2007), "The state of cooperative learning in postsecondary settings", *Educational Psychology Review*, Vol. 19/1, pp. 15-29. [57]

Johnson, D., R. Johnson and M. Stanne (2000), *Cooperative learning methods: A meta-analysis*, http://www.ccsstl.com/sites/default/files/Cooperative%20Learning%20Research%20.pdf. [52]

Kail, R. (ed.) (2002), *Children's emotion-related regulation*, Academic Press. [164]

Kanfer, R. and P. Ackerman (1989), "Motivation and cognitive abilities: An integrative/aptitude-treatment interaction approach to skill acquisition", *Journal of applied psychology*, Vol. 74/4, p. 657. [70]

Kant, I. (1788/1996), *Critique of Practical Reason.*, Chicago. [84]

Kaplan, A. and M. Maehr (1999), "Achievement goals and student well-being", *Contemporary educational psychology*, Vol. 24/4, pp. 330-358, http://dx.doi.org/10.1006/ceps.1999.0993. [254]

Kashdan, T., P. Rose and F. Fincham (2004), *Curiosity and exploration: Facilitating positive subjective experiences and personal growth opportunities*, pp. 291-305. [135]

Kim, H. et al. (2018), "Social perspective-taking performance; construct, measurement and relations with academic performance and engagement", *J. Applied Developmental Psychology*, Vol. 57, pp. 24-41. [126]

King, P. and K. Strohm Kitchener (2004), "Reflective judgment: Theory and research on the development of epistemic assumptions through adulthood", *Educational Psychologist*, Vol. 39, pp. 5-18. [21]

Knafo, A. (2008), "The developmental origins of a disposition toward empathy: genetic and environmental contributions.", *Emotion,*, Vol. 8/6, pp. 737–752. [163]

Kopp, C. (1982), "Antecedents of self-regulation: A developmental perspective", *Developmental Psychology*, Vol. 18/2, pp. 199-214. [180]

Krasner, M. et al. (2009), "Association of an educational program in mindful communication with burnout, empathy, and attitudes among primary care physicians", *JAMA*, Vol. 302/12, p. 1284, http://dx.doi.org/10.1001/jama.2009.1384. [162]

Kuhn, D. (1999), "A Developmental Model of Critical Thinking", *Educational Researcher*, Vol. 28/2, pp. 16-46. [61]

Lai, E., K. DiCerbo and P. Foltz (2017), *Skills for Today: What We Know about Teaching and Assessing Collaboration*, Pearson. [43]

LaRusso, M. (2011), "Early adolescent health risk behaviors, conflict resolution strategies, and school climate", *Journal of Applied Developmental Psychology*, Vol. 32, pp. 354-362. [96]

LaRusso, M. (2008), "Teachers as builders of respectful school climates: Implications for adolescent drug use norms and depressive symptoms in high school. Journal of Youth and Ad", *Journal of Youth and Adolescence*, Vol. 37, pp. 386 - 398. [109]

Lee, H. and C. Bonk (2014), "Collaborative learning in the workplace: Practical issues and concerns", *International Journal: Advanced Corporate Learning*, Vol. 7/2, pp. 10-17. [37]

Lee, S. (2007), "The relations between the student-teacher trust relationship and school sucess in the case of Korean middle schools", *Educational Studies*, Vol. 33/2, pp. 209-216. [284]

Lefevre, M. (2005), "Facilitating practice learning and assessment: The influence of relationship", *Social Work Education*, Vol. 24/5, pp. 565-583. [289]

Lerner, R., L. Liben and U. Mueller (eds.) (2015), *Development of achievement motivation and engagement*, John Wiley & Sons. [214]

Lester, F. (1994), "Musings about mathematical problem-solving research: 1970-1994", *Journal for Research in Mathematics Education*, Vol. 25, pp. 660-675, http://dx.doi.org/10.2307/749578. [68]

Levy, I., A. Kaplan and H. Patrick (2004), "Early adolescents' achievement goals, social status, and attitudes towards cooperation with peers", *Social Psychology of Education*, Vol. 7/2, pp. 127-159, http://dx.doi.org/10.1023/B:SPOE.0000018547.08294.b6. [234]

Lucangeli, D. and S. Cabrele (2006), "Mathematical difficulties and ADHD", *Exceptionality*, Vol. 14/1, pp. 53-62, https://psycnet.apa.org/doi/10.1207/s15327035ex1401_5. [67]

Luetz, J., T. Dowden and B. Norsworthy (eds.) (2018), *Measured reflection to assist in dealing with conflict: Can an educative approach improve reflection and cultivate a healthier classroom community?*, Springer. [17]

Lüftenegger, M. et al. (2012), "Lifelong learning as a goal–Do autonomy and self-regulation in school result in well prepared pupils?", *Learning and Instruction*, Vol. 22/1, pp. 27-36. [192]

Luhmann, N. (2017), *Trust and Power*, Polity Press. [263]

Luhmann, N. (1995), *Social Systems*, Stanford University Press. [12]

Luo, W. et al. (2011), "Do performance goals promote learning? A pattern analysis of Singapore students' achievement goals", *Contemporary Educational Psychology*, Vol. 36/2, pp. 165-176, http://dx.doi.org/10.1016/j.cedpsych.2011.02.003. [243]

M. Killen, J. (ed.) (2006), *Empathy-related responding in children*, Erlbaum. [175]

Maher, B. (ed.) (1978), *Studies of empathic behavior in children.*, Academic Press. [155]

Malin, H., I. Liauw and W. Damon (2017), *Purpose and character development in early adolescence*, pp. 1200-1215. [150]

Marsal, B. (ed.) (2011), *Teaching empathy to children: Theoretical and empirical considerations and implications for practice*, Lit Verlag. [174]

Marsh, R. et al. (2006), "A Developmental fMRI Study of Self-Regulatory Control", *Human Brain Mapping*, Vol. 27, pp. 848-863. [187]

Martin, A. et al. (2012), "Adaptability: Conceptual and Empirical Perspectives on Responses to Change, Novelty and Uncertainty", *Journal of Psychologists and Counsellors in Schools*, Vol. 22/1, pp. 58-81. [132]

Mason, L. (2003), "High School Students' Beliefs about Maths, Mathematical Problem Solving, and their Achievement in Maths: A cross-sectional Study", *Educational Psychology*, Vol. 23/1, pp. 73-85, http://dx.doi.org/10.1080/01443410303216. [29]

Mattessich, P. and B. Monsey (1992), *Collaboration: What makes it work*, Amherst H. Wilder Foundation. [49]

Maudsley, D. (1979), *A Theory of Meta-Learning and Principles of Facilitation: An Organismic Perspective*, University of Toronto. [58]

McClelland, M. et al. (2013), "Relations between preschool attention span-persistence and age 25 educational outcomes", *Early Childhood Research Quarterly*, Vol. 28, pp. 314-324. [202]

Mergler, A. (2017), "Personal responsibility: an integrative review of conceptual and measurement issues of the construct", *Research Papers in Education*, Vol. 32, pp. 254-267. [115]

Midgley, C. (ed.) (2002), *Achievement goals and goal structures*, Lawrence Erlbaum Associates, Incorporated. [257]

Midgley, C., A. Kaplan and M. Middleton (2001), "Performance-approach goals: Good for what, for whom, under what circumstances, and at what cost?", *Journal of Educational Psychology*, Vol. 93/1, pp. 77-86, http://dx.doi.org/10.1037/0022-0663.93.1.77. [239]

Midgley, C. and T. Urdan (2001), "Academic self-handicapping and achievement goals: A further examination", *Contemporary educational psychology*, Vol. 26/1, pp. 61-75, http://dx.doi.org/10.1006/ceps.2000.1041. [238]

Miller, D. and J. Byrnes (2001), "Adolescents' decision making in social situations: A self-regulation perspective", *Applied Developmental Psychology*, Vol. 22, pp. 237-256. [188]

Mithaug, D. (1993), *Self-regulation theory: How optimal adjustment maximizes gain*, Praeger Publishers/Greenwood Publishing Group. [72]

Moffitt, T. et al. (2011), "A gradient of childhood self-control predicts health, wealth, and public safety", *Proceedings of the National Academy of Sciences*, Vol. 26, p. 108. [190]

Moran, S. (2017), *Youth purpose worldwide; a tapestry of possibilities*, pp. 231-244. [98]

Morrell, E. (2008), *Critical literacy in urban youth; pedagogies of access, dissent and liberation*, Routledge. [86]

Moshman, D. (2005), *Adolescent psychological development: Rationality, morality, and identity (2nd ed.)*., Mahwah, NJ: Erlbaum. [102]

Muenks, K., J. Yang and A. Wigfield (2018), "Associations between grit, motivation, and achievement in high school students.", *Motivation Science*, Vol. 4/2, pp. 158-176, http://dx.doi.org/10.1037/mot0000076. [227]

Myers, J. (2010), *To benefit the world by whatever means possible': Adolescents' constructed meanings for global citizenship*, pp. 483-502. [119]

N. Eisenberg, W. (ed.) (2006), *Prosocial Development*, Wiley Online Library, https://doi.org/10.1002/9780470147658.chpsy0311. [159]

Nader, K. (ed.) (2011), *Promoting empathy in school-aged children: Current approaches and implications for practice*, Routledge. [128]

Narvaez, L. (ed.) (2014), *The complementary perspectives of social and emotional learning, moral education, and character education.*, Routledge, New York. [106]

Nicholls, J. (1984), "Achievement motivation: Conceptions of ability, subjective experience, task choice, and performance", *Psychological Review*, Vol. 91/3, pp. 328-346, http://dx.doi.org/10.1037/0033-295X.91.3.328. [218]

Nieto, S. and P. Bode (2017), *Affirming diversity; the socio-political context of multicultural education*, Pearson. [85]

Nijstad, B. et al. (2010), "The dual pathway to creativity model: Creative ideation as a function of flexibility and persistence", *European Review of Social Psychology*, Vol. 21/1, pp. 34-77, http://dx.doi.org/10.1080/10463281003765323. [224]

Nijstad, B. et al. (2010), *The dual pathway to creativity model: Creative ideation as a function of flexibility and persistence*, pp. 34-77. [133]

Nucci, L. (2014), *Handbook of moral and character education.*, Routledge. [104]

Oberle, E. et al. (2011), "Mindfulness and linhibitory control in early adolescence", *Journal of Early Adolescence*, Vol. 32/4, pp. 565-588. [194]

OECD (2020), *E2030 Curriculum Content Mapping exercise data*, Future of Education and Skills 2030 Curriculum Database, https://www.oecd.org/education/2030-project/curriculum-analysis/data/Distributions-of-competencies-across-learning-areas-subjects-data.xlsx. [3]

OECD (2020), *Early Learning and Child Well-being: A Study of Five-year-olds in England, Estonia, and the United States*. [286]

OECD (2020), *PISA 2018 Results (Volume VI): Are Students Ready to Thrive in an Interconnected World?*, PISA, OECD Publishing, Paris, https://dx.doi.org/10.1787/d5f68679-en. [161]

OECD (2020), *Technical Report: Curriculum Analysis of the OECD Future of Education and Skills 2030*, https://www.oecd.org/education/2030-project/contact/Technical%20_Report_Curriculum_Analysis_of_the_OECD_Future_of_Education_and_Skills_2030.pdf. [4]

OECD (2019), *OECD Future of EdConceptual Learning Framework Concept Note: Anticipation-Action-Reflection Cycle for 2030*, http://www.oecd.org/education/2030-project/teaching-and-learning/learning/aar-cycle/AAR_Cycle_concept_note.pdf. [7]

OECD (2019), *Student Agency for 2030*. [269]

OECD (2018), *Preparing Our Youth For an Inclusive and Sustainable World: The OECD PISA global competence framework*. [101]

OECD (2018), *Social and Emotional Skills: Well-being, connectedness and success*, OECD Publishing, https://www.oecd.org/education/school/UPDATED%20Social%20and%20Emotional%20Skills%20-%20Well-being,%20connectedness%20and%20success.pdf%20(website).pdf. [153]

OECD (2017), *OECD Guidelines on Measuring Trust*, OECD Publishing, https://www.oecd.org/governance/oecd-guidelines-on-measuring-trust-9789264278219-en.htm. [261]

OECD (2017), *PISA 2015 Assessment and Analytical Framework: Science, Reading, Mathematics, Financial Literacy and Collaborative Problem Solving*, OECD. [44]

OECD (2017), *Social and Emotional Skills Well-being, connectedness and success*, OECD. [78]

OECD (2016), *PISA 2015 Results (Volume I) Excellence and Equity in Education*, OECD. [15]

Orkibi, H. and T. Ronen (2017), "Basic psychological needs satisfaction mediates the association between self-control skills and subject well-being", *Frontiers in Psychology*, Vol. 8, p. 936. [206]

Pahl, K., J. Brook and J. Lee (2014), "Adolescent self-control predicts joint trajectories of marijuana use and depressive mood into young adulthood among urban African Americans and Puerto Ricans", *Journal of Behavioral Medicine*, Vol. 37, pp. 675-682. [191]

Pekrun, R., A. Elliot and M. Maier (2006), "Achievement goals and discrete achievement emotions: A theoretical model and prospective test", *Journal of Educational Psychology*, Vol. 98/3, pp. 583-597, http://dx.doi.org/10.1037/0022-0663.98.3.583. [258]

Peterson, C. and M. Seligman (2004), *Character strengths and virtues: A handbook and classification*, Oxford University Press. [9]

Pianta, R. and J. Allen (2008), *Building capacity for positive youth development in secondary school classrooms: Changing teachers' interactions with students. Toward positive youth development: Transforming schools and community programs*. [16]

Pintrich, P. (2000b), "Multiple goals, multiple pathways: the role of goal orientation in learning and achievement", *Journal of Educational Psychology*, Vol. 92/3, pp. 544-555, http://dx.doi.org/10.1037/0022-0663.92.3.544. [242]

Raffaelli, M., L. Crockett and Y. Shen (2005), "Developmental Stability and Change in Self-Regulation From Childhood to Adolescence", *The Journal of Genetic Psychology*, Vol. 166/1, pp. 54-75. [179]

Reysen, S. and I. Katzarska-Miller (2013), "A model of global citizenship: Antecedents and outcomes", *International Journal of Psychology*, Vol. 48/5, pp. 858-870. [123]

Rodgers, C. (2002), "Defining reflection: Another look at john dewey and reflective thinking", *Teachers College Record*, pp. 842-866. [8]

Roeser, R. and C. Pinela (2014), *Mindfulness and compassion training in adolescence: A developmental contemplative science perspective*, pp. 9-30. [129]

Rojas, J. and E. Usher (2013), *Exploring correlations among creativity, grit, and mathematics achievement in socioeconomically diverse schools*, University of Kentucky. [250]

Rolheiser-Bennett, N., B. Bower and L. Stevahn (2000), *The portfolio organizer: Succeeding with portfolios in your classroom*, Association for Supervision and Curriculum Development, Alexandria, VA. [60]

Ronen, T. et al. (2016), "Subjective well-being in adolescence: The role of self-control, social support, age, gender, and familial crisis", *Journal of Happiness Studies*, Vol. 17, pp. 81-104. [184]

Rosenbaum, M. and T. Ronen (1991), *Self-control and education for self-control: Development of rating scale. Paper presented at the 25th Anniversary Meeting of the Association for Advancement of Behavior Therapy, New York, NY.*. [207]

Rosen, Y. (2014), "Comparability of conflict opportunities in human-to-human and human-to-agent online collaborative problem solving", *Tech Know Learn*, Vol. 19, pp. 147-164. [46]

Rosen, Y., S. Ferrara and M. Mosharraf (eds.) (2016), *Assessment of task persistence*, IGI Global. [223]

Ross, S. (2002), "Place value: Problem solving and written assessment", *Teaching Children Mathematics*, Vol. 8/7, pp. 419-423. [22]

Rotenberg, K. (ed.) (2010), *Promoting intergroup trust among adolescents and young adults*, Cambridge: Cambridge University Press. [273]

Rotenberg, K. (1991), *Children's Interpersonal Trust: Sensitivity to Lying, Deception and Promise Violations*, Springer: New York, NY. [270]

Rotenberg, K. et al. (2005), "Construction and validation of a children's interpersonal trust belief scale", *British Journal of Developmental Psychology*, Vol. 23/2, pp. 271-293. [292]

Rotter, J. (1967), "A new scale for the measurement of interpersonal trust", *Journal of Personality*, Vol. 35, pp. 651-665. [262]

Rowe, D. and R. Plomin (1977), "Temperament in early childhood", *Journal of Personality Assessment*, Vol. 41, pp. 150-156. [203]

Ryan, A. (2001), "The classroom social environment and changes in adolescents' motivation and engagement during middle school.", *American Educational Research Journal*, Vol. 38, pp. 437-460. [113]

Rychen, D. (2016), *Education Conceptual Framework 2030: Key Competencies for 2030 (DeSeCo 2.0)*, OECD, https://www.oecd.org/education/2030-project/about/documents/E2030-CONCEPTUAL-FRAMEWORK-KEY-COMPETENCIES-FOR-2030.pdf. [11]

Rychen, D. and L. Salganik (eds.) (2001), *Ambiguity, autonomy and agency; psychological challenges to new competence*, OECD/Huber & Hogrefe. [116]

Salas, E., N. Cooke and M. Rosen (2008), "On teams, teamwork, and team performance: Discoveries and developments", *Human factors*, Vol. 50/3, pp. 540-547. [38]

Schill, T., C. Toves and N. Ramanaiah (1980), "Interpersonal trust and coping with stress", *Psychological Reports*, Vol. 47/3, p. 1192. [302]

Schlam, T. et al. (2013), "Preschoolers' delay of gratification predicts their body mass 30 years later", *Journal of Pediatrics*, Vol. 162, pp. 90-93. [186]

Schonert-Reichl, K. (2011), *Promoting empathy in school-aged children: Current state of the field and implications for research and practice*, Routledge. [156]

Schonert-Reichl, K. and R. Roeser (eds.) (2016), *Mindfulness in education: An introduction*, Springer. [138]

Schoon, I. et al. (2015), *The Impact of Early Life Skills on Later Outcomes*, UCL Institute of Education. [6]

Schoorman, F., R. Mayer and J. Davis (2007), "An integrative model of organizational trust: Past, Present, and Future", *The Academy of Management Review*, Vol. 32/2, pp. 344-354. [281]

Schraa-Liu, T. and F. Trompenaars (2006), "Towards responsible leadership through reconciling dilemmas", *Responsible leadership*, pp. 138-154. [122]

Schraw, G. and D. Moshman (1995), *Metacognitive Theories*. [75]

Schultz, N. (2013), *Empathy as the Key to Equality and Human Rights - An Investigation of Empathy's Role in Inter-Group Relations and Discrimination*, Adam Mickiewicz University Poznan, https://repository.gchumanrights.org/bitstream/handle/20.500.11825/643/Schultz.pdf?sequence=1&isAllowed=y#:~:text=Empathy%2C%20a%20universal%20human%20faculty,being%20an%20equally%20sentient%20being. [171]

Schulz, W. et al. (2016), *IEA International Civic and Citizenship Education Study 2016 Assessment Framework*, http://dx.doi.org/10.1007/978-3-319-39357-5. [5]

Seashore Louis, K. (2007), "Trust and improvement in schools", *Journal of Educational Change*, Vol. 8/1, pp. 1-24. [290]

Seider, S. (2012), *Character compass*, Harvard Education Press. [93]

Selman, R. (2007), *The promotion of social awareness*, Russell Sage. [125]

Seng, A., S. Tey and A. Fam (1993), *Metacognition and metalearning essential differences: Paper presented at the Seventh Annual Conference of the Educational Research Association*, National Institute of Education, Singapore, https://repository.nie.edu.sg/handle/10497/15461. [79]

Sen, H. (2013), "Reflective thinking skills of primary school students based on problem solving ability", *International Journal of Academic Research*, Vol. 5/5, pp. 41-48, http://dx.doi.org/10.7813/2075-4124.2013/5-5/B.6. [27]

Senko, C., C. Hulleman and J. Harackiewicz (2011), "Achievement goal theory at the crossroads: Old controversies, current challenges, and new directions", *Educational psychologist*, Vol. 46/1, pp. 26-47, http://dx.doi.org/10.1080/00461520.2011.538646. [236]

Shapiro, J. (2002), "How do physicians teach empathy in the primary care setting?", *Academic Medicine: Journal of the Association of American Medical Colleges*, Vol. 77/4, pp. 323-328, http://dx.doi.org/10.1097/00001888-200204000-00012. [2]

Sherrod, L., J. Torney-Purta and C. Flanagan (eds.) (2010), *Political agency and empowerment pathways for developing a sense of efficacy in young adults*, John Wiley & Sons. [145]

Sinay, E. et al. (2016), *Fostering a "culture of trust" within and outside a school system*, Toronto District School Board. [267]

Smith-Jentsch, K. (2008), "Guided team self-correction: Impacts on team mental models, processes and effectiveness", *Small Group Research*, Vol. 39, pp. 303-327. [50]

Staples, D. and J. Webster (2008), "Exploring the effects of trust, task interdependence and virtualness on knowledge sharing in teams", *Information Systems Journal*, Vol. 18/6, pp. 617-640. [278]

Stover, W. (2005), "Teaching and learning empathy: An interactive, online diplomatic simulation of Middle East conflict", *Journal of Political Science Education*, Vol. 1/2, pp. 207-219, http://dx.doi.org/10.1080/15512160590961801. [166]

Strayhorn, T. (2014), "What role does grit play in the academic success of black male collegians at predominantly white institutions?", *Journal of African American Studies*, Vol. 18/1, pp. 1-10, http://dx.doi.org/10.1007/s12111-012-9243-0. [251]

Tausch, N. et al. (2011), "Explaining radical group behavior; developing emotion and efficacy routes to normative and non-normative collective action.", *Journal of Personality & Social Psychology*, Vol. 101/1, p. 129. [124]

Taylor, P. (2011), *Respect for Nature: A theory of environmental ethics - 25th anniversary edition*, Princeton University Press. [91]

Thompson, C. (2018), "The Construct of 'Respect' in Teacher-Student Relationships: Exploring Dimensions of Ethics of Care and Sustainable Development", *Journal of Leadership Education*, Vol. 17/3, pp. 42-60, http://dx.doi.org/10.12806/V17/I3/R3. [111]

Todd, S. (2008), "Democracy, education and conflict: Rethinking respect and the place of the ethical", *Journal of Educational Controversy*, Vol. 3/1, pp. 1-11. [94]

Tokuda, Y. et al. (2008), "Interpersonal trust and quality-of-life: A cross-sectional study in Japan", *PLOS One*, Vol. 3/12, p. e3985. [301]

Trnka, S. and C. Trundle (2017), *Competing responsibilities; the politics and ethics of contemporary life*, Duke University Press. [114]

Tsai, W. and S. Ghoshal (1998), "Social capital and value creation: The role of intrafirm networks", *The Academy of Management Journal*, Vol. 41/4, pp. 464-476. [275]

Tschannen-Moran, M. (2014), *Trust matters: Leadership for successful schools*, John Wiley & Sons. [265]

Tsukayama, E., A. Duckworth and B. Kim (2013), "Domain-specific impulsivitiy in school-age children", *Developmental Science*, Vol. 16/6, pp. 879-893. [209]

Tulis, M. and S. Fulmer (2013), "Students' motivational and emotional experiences and their relationship to persistence during academic challenge in mathematics and reading.", *Learning and Individual Differences*, Vol. 27, pp. 35-46, http://dx.doi.org/10.1016/j.lindif.2013.06.003. [244]

Tuominen-Soini, H., K. Salmela-Aro and M. Niemivirta (2012), "Achievement goal orientations and academic well-being across the transition to upper secondary education", *Learning and Individual Differences*, Vol. 22/3, pp. 290-305, http://dx.doi.org/10.1016/j.lindif.2012.01.002. [240]

Tuominen-Soini, H., K. Salmela-Aro and M. Niemivirta (2008), "Achievement goal orientations and subjective well-being: A person-centred analysis", *Learning and Instruction*, Vol. 18/3, pp. 251-266, http://dx.doi.org/10.1016/j.learninstruc.2007.05.003. [255]

United Nations Educational, S. (2014), *UNESCO roadmap for implementing the global action programme on education for sustainable development.*. [167]

Urdan, T. and S. Karabenick (eds.) (2010), *Up around the bend: Forecasts for achievement goal theory and research in 2020*, Emerald Group Publishing Limited. [220]

Vainio, M. and D. Daukantaitė (2016), "Grit and different aspects of well-being: Direct and indirect relationships via sense of coherence and authenticity", *Journal of Happiness Studies*, Vol. 17/5, pp. 2119-2147, http://dx.doi.org/10.1007/s10902-015-9688-7. [260]

Valkanova, Y., A. Jackson and D. Watts (2004), "Enhancing Self-Reflection in Children: The Use of Digital Video in the Primary Science Classroom", *Journal of eLiteracy*, https://www.researchgate.net/publication/32938296_Enhancing_Self-Reflection_in_Children_the_Use_of_Digital_Video_in_the_Primary_Science_Classroom (accessed on 20 November 2021). [34]

Van der Schaaf, M. et al. (2013), "Feedback dialogues that stimulate students' reflective thinking", *Scandinavian Journal of Educational Research*, Vol. 57/3, pp. 227-245. [10]

van Genugten, L. et al. (2017), "Effective self-regulation change techniques to promote mental wellbeing among adolescents: a meta-analysis", *Health Psychology Review*, Vol. 11/1, pp. 53-71. [205]

Van Maele, D., P. Forsyth and M. Van Houtte (eds.) (2014), *Introduction: Trust as a Matter of Equity and Excellence in Education*, Springer Verlag: Dordrecht. [266]

Van Ness, D. (2014), *Restoring justice: An introduction to restorative justice.*, Routledge. Chicago. [95]

Von Culin, K., E. Tsukayama and A. Duckworth (2014), "Unpacking grit: Motivational correlates of perseverance and passion for long-term goals", *The Journal of Positive Psychology*, Vol. 9/4, pp. 306-312, http://dx.doi.org/10.1080/17439760.2014.898320. [259]

Wang, M. and J. Eccles (2012), "Adolescent behavioural, emotional, and cognitive engagement trajectories in school and their differential relations to educational success", *Journal of Research on Adolescence*, Vol. 22/1, pp. 31-39. [204]

Weinstein, E. (2014), *The personal is political on social media: Online civic expression patterns and pathways among civically engaged youth*, pp. 210-233. [143]

Welp, L. and C. Brown (2014), "Self-compassion, empathy, and helping intentions", *The Journal of Positive Psychology*, Vol. 9/1, pp. 54-65, http://dx.doi.org/10.1080/17439760.2013.831465. [165]

Wentzel, K. (1991), "Relations between social competence and academic achievement in early adolescence", *Child Development*, Vol. 62/5, pp. 1066-1078. [295]

West, M. et al. (2016), "Promise and paradox: Measuring students' non-cognitive skills and the impact of schooling", *Educational Evaluation and Policy Analysis*, Vol. 38/1, pp. 148-170, http://dx.doi.org/10.3102/0162373715597298. [248]

Wiese, C. et al. (2018), "Too much of a good thing? Exploring the inverted-U relationship between self-control and happiness", *Journal of Personality*, Vol. 86/3, pp. 380-396. [208]

Williams, S. (2009), *The impact of collaborative, scaffolded learning in K-12 schools: A meta-analysis*, http://www.cisco.com/web/about/citizenship/socioeconomic/docs/Metiri_Classroom_Collaboration_Research.pdf. [36]

Wood, D. and B. Gray (1991), "Towards a comprehensive theory of collaboration", *Journal of Applied Behavioral Science*, Vol. 27, pp. 139-162. [35]

Wray-Lake, L. and A. Syversten (2011), *The developmental roots of social responsibility in childhood and adolescence*, pp. 11-25. [118]

Yontar, A. and S. Yel (2018), "The Relationship between Empathy and Responsibility Levels of 5th Grade Students: A Sample from Turkey", *International Journal of Education & Literacy Studies*, Vol. 6/4, http://www.ijels.aiac.org.au/. [173]

Yost, D. and F. Mosca (2002), "Beyond behavior strategies: Using reflection to manage youth in crisis", *The Clearing House*, pp. 264-267. [14]

Youde, J. (2019), "A Meta-Analysis of the Effects of Reflective Self-Assessment on Academic Achievement in Primary and Secondary Populations", *Education Dissertations*, Vol. 48, https://digitalcommons.spu.edu/soe_etd/48 (accessed on 20 November 2021). [31]

Young, I. (2015), *Practical empathy: For collaboration and creativity in your work.*, Rosenfeld Media. [48]

Zimmerman, B. (2002), "Becoming a self-regulated learner: An overview", *Theory into practice*, Vol. 41/2, pp. 64-70. [195]

Zimmerman, B. (1986), "Becoming a self-regulated learner: Which are the key subprocesses.", *Contemporary Educational Psychology*, Vol. 11, pp. 307-313. [183]

Zimmerman, B. and A. Kitsantas (2014), "Comparing students' self-discipline and self-regulation measures and their prediction of academic achievement", *Contemporary Educational Psychology*, Vol. 39, pp. 145-155, http://dx.doi.org/10.1016/j.cedpsych.2014.03.004. [182]

Zimmerman, B. and D. Schunk (2011), "Motivational sources and outcomes of self-regulated learning and performance", *Handbook of self-regulation of learning and performance*, pp. 49-64. [197]

Zimmermand, B. (1989), "A social cognitive view of self-regulated academic learning", *Journal of educational psychology*, Vol. 81/3, p. 329. [73]

Zins, J. (2004), *Building school success through social and emotional learning*, Teacher's College, Columbia University. [110]

Zorza, J., J. Marino and A. Mesas (2016), "Executive functions as predictors of school performance and social relationships: Primary and secondary school students", *Spanish Journal of Psychology*, Vol. 19, p. E23. [201]

3 Cultivating positive attitudes and values in a learning ecosystem

Students develop values and attitudes within a learning ecosystem – formally, informally and non-formally. They learn through the formal school curriculum, but also through their peers and teachers at school, from siblings and parents at home, and from others with whom they interact in the community. This chapter explores the role of “hidden curriculum” in fostering students’ attitudes and values. It also introduces a curriculum redesign framework, which illustrates how various levels of the curriculum ecosystem interact with each other and impact design, content and implementation. This framework provides a model of how attitudes and values can be introduced and, in turn, influence the development of students’ beliefs, values, dispositions and behaviours. It also looks at data, research findings and shared experiences that can support the development of students’ attitudes and values, as well as personal perspectives on the values and attitudes students and teachers believe a holistic education should provide.

Where and how do students develop attitudes and values?

Cultivating positive attitudes and values in school can occur formally or informally. An increasing body of research suggests that students develop their attitudes and values in a large learning ecosystem, nourished from childhood and influencing students' well-being as well as cognitive development into their adult lives.

One of the questions that arises with values and attitudes teaching is whether they are visible in the curriculum and taught explicitly, or left implicit and **"caught"** by students informally, as a result of their experiences with learning activities in the classroom or as part of their broader school life. Examples of explicit teaching include discussion of values and attitudes during formal gatherings such as assemblies, or specific approaches such as case studies and role plays, or engagement of learners in targeted classroom activities meant to develop their sense of accountability and duty (Maphalala and Mpofu, 2018[1]). Some countries have subjects such as moral education and ethics, or consider moral education or ethics as part of the cross-curricular themes or competencies and embed them into relevant subject areas (OECD, 2020[2]) (OECD, 2020[3]).

Values and attitudes that are not necessarily specified in the curriculum can also be "**sought**" or something that students might "**aspire**" to have or be. Teachers and parents often seek to cultivate a school or home culture with a certain set of values they believe to be important. Students often aspire to values modelled by their friends, siblings, teachers, parents, or professionals from the real world who may be engaged in values-oriented philanthropic activities, for example writers, musicians, or athletes, whom students might admire as role models.

The concept of a **hidden curriculum** is also relevant here. It refers to unspoken or implicit values, behaviours and norms that exist in educational settings, conveyed or communicated without awareness or intent (Alsubaie, 2015[4]; Jerald, 2006[5]). **Teacher beliefs** play a key role in this hidden curriculum and are a critical dimension of teacher quality in relation to non-academic competencies, when considering their observed practices in the classroom and their students' perceptions of effectiveness (Witter, 2020[6]). Witter's review suggests that student-centred beliefs about teaching and deeply oriented beliefs about learning correlate with better cognitive outcomes for students (Witter, 2020[6]), indicating that consciousness of values and beliefs is essential for pedagogical intervention.

To analyse how students develop their attitudes and values, not only being taught in formal learning settings, but also in informal and non-formal settings, a much broader analytical framework is necessary. The OECD E2030 project has set out **a multi-layered ecosystem framework to curriculum change** (with micro-, meso-, exo-, macro- and chrono-systems) (Figure 3.1). This can illustrate the complex landscape in which students learn from many people, including those other than teachers; even from animals and nature; from home, school or neighbourhood/community environments; or through the roles they are given to play; and learn from reflections on the experiences or events they have gone through.

A selection of proverbs/sayings from Japan and New Zealand below illustrates how it has been long perceived that attitudes and values are learned in a holistic environment, including formal, non-formal and informal learning (Box 3.1).

Box 3.1. Informal and non-formal learning of attitudes and values: Examples of lessons or proverbs from Japan and New Zealand

Words of wisdom or proverbs often suggest how attitudes and values can be developed from the environment and people around us, not only through formal teaching. Some examples are given below.

Cultural perspectives: Japan

- "*Tachiba-ga Hito-wo Sodateru*" – When a person is given a certain role or a position, they will grow with the role/position through the actual experience of using the competencies needed for that role/position as well as through their aspiration to fill that role/position.

The Japanese national curriculum includes both subjects and non-subjects. Non-subject education includes "*Tokubetsu katsudo/Tokkatsu*" (special activities), such as classroom activities, student council activities, club activities and school events. *Tokkatsu* is intended to support fostering student agency, in particular, attitudes and values through experiential, collaborative and interactive learning. For classroom activities, students are often assigned to play a "role" in maintaining and improving their school life, through which they are expected to develop a sense of responsibility, leadership and agency. These roles are not limited to student representatives but include a wide range of responsibilities associated with running a classroom as a community, e.g. publishing classroom newspapers, creating a classroom mini-library, organising students to learn their own classrooms, organising school meals, organising fun activities, or taking care of a classroom pet. This wide-range approach to leadership roles allow many students to have the opportunity to experience "acting as a leader". By experiencing the role, students develop a certain sets of attitudes and values e.g. responsibility, empathy, collaboration, conflict resolution, and patience. This also provides opportunities to develop and learn to value friendship based on trust.

Cultural perspectives: New Zealand

- "*Ehara taku toa i te toa takitahi engari he toa takitini*" – I come not with my own strengths but bring with me the gifts, talents and strengths of my family, tribe and ancestors.

From *Te Whāriki* (2017) In Māori tradition, children are seen to be inherently competent, capable and rich, complete and gifted no matter what their age or ability. Descended from lines that stretch back to the beginning of time, they are important living links between past, present and future, and a reflection of their ancestors. These ideas are fundamental to how Māori understand teaching and learning.

Source: (New Zealand Ministry of Education, 2017[7]).

The OECD E2030 multi-layered ecosystem approach to curriculum change: Micro-, meso-, exo-, macro- and chrono-systems

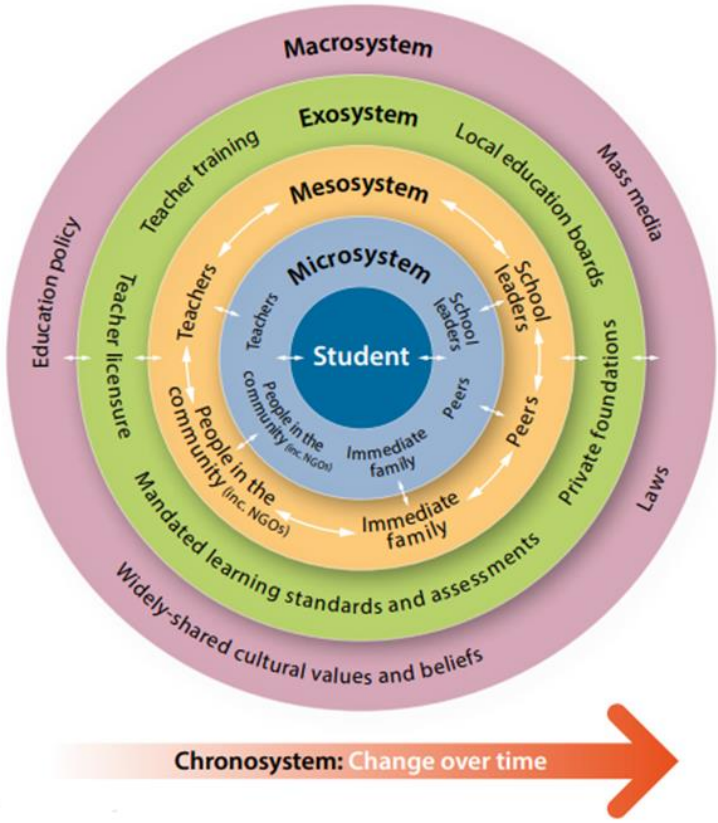
Research points to an array of localised contextual factors and the reciprocal relationships among them that affect curriculum design and implementation (Bronfenbrenner and Morris, 1998[8]; McLaughlin, 1990[9]; Spillane, Reiser and Reimer, 2002[10]; Tichnor-Wagner et al., 2018[11]).

The OECD Education 2030 ecosystem approach to curriculum analysis (Figure 3.1; Table 3.1) reflects the scope and complexity of systems that interact, build upon and influence one another, which have an impact on an individual's development through life. The model recognises the interactions between system levels, the students and their environments, and how these affect student learning. At the broadest macro-level,

cultural and societal beliefs about the purpose of education are overarching influences that have an impact on curriculum design, implementation and student learning (OECD, 2020[12]).

The ecosystem approach to curriculum redesign provides a framework for consideration of how values and attitudes can be an integral part of the redesign process.

Figure 3.1. The ecosystem of curriculum change



Source: Adapted from Bronfenbrenner (1979[13]), developed by the OECD Education 2030 team (OECD, 2020[12]).

Table 3.1. Education 2030 ecosystem approach to curriculum analysis

Micro-system (e.g. school level, at home, in community)	The micro-system represents the context closest to a student, encompassing interpersonal relationships and direct interactions with immediate surroundings (e.g. school, home, neighbourhood). In the context of teaching and learning of an intended curriculum, these interactions largely take place at the classroom level, in the form of students' interactions with and learning from their teachers, their peers, learning activities and materials, assessments and other channels through which students engage with the curriculum. Students may also interact with the curriculum during extracurricular and other out-of-school activities with people in the community or in the family/home environment.
Meso-system (e.g. interactions between different aspects of the microsystem)	The meso-system includes interactions between various aspects of the microsystem. For example, within the school context, this includes how teachers in different classrooms connect with one another, how school leaders facilitate interactions with teachers, families and the broader school community, and also how teachers connect with families, as these relationships may influence the student's microsystem. Through these interactions, teachers may come to understand curriculum design and content. How they subsequently operationalise it in the classroom is shaped by the social contexts in which they are situated. This may change the way in which teachers interact with their students. As a result, students may learn more effectively, with a sense of purpose as well as a sense of

	feeling safe with their teachers. Furthermore, what is actually implemented in classrooms is influenced by how school leaders communicate the meaning and importance of a new curriculum and how they intentionally create opportunities for teachers to collaborate around teaching it. Finally, when teachers and school leaders build bridges between home and school, through culturally responsive, two-way channels of communication with families, students see the relevance of the curriculum and receive support from family members to achieve curriculum goals.
Exo-system (e.g. education jurisdictions and boards, mandated learning standards and assessments, teacher training and registration)	The exo-system encompasses aspects that give structure to the micro-system, but it does not directly affect students. For example, curriculum design involves school, municipality, state/provincial/regional, and national levels, depending on the types of autonomy countries give to these entities. All of these levels of government are part of the exo-system because they each have jurisdiction over aspects of education that directly impact the guidelines, training, time and instructional materials that teachers have at their disposal to enact a curriculum, which in turn impacts students. Examples include mandated learning standards and assessments, teacher licensing and evaluation requirements, recognition programmes, and funding, through budget items and grants for staffing, resources, and professional development. External organisations (e.g. universities and non-governmental organisations) are also part of the exo-system alongside agencies, as they too indirectly impact how students engage with curriculum, by providing teacher training, instructional materials, grants and technical support to assist in implementation. Outside school, the exo-system can also involve factors that impact student learning, such as a student's parent losing their job, as that may affect whether the student will have parental support for homework or a place to study at home.
Macro-system (e.g. policy, mass media, laws, widely shared cultural values and beliefs	The macro-system, the outermost layer, includes social or cultural ideologies and beliefs that affect a student's environment. For example, it includes broader societal and cultural beliefs about the purpose or goals of education. These beliefs, which can vary widely within countries and can be contested, strongly influence what is taught and how it is taught (Spring, 2016[14]). They may be transmitted or reinforced through mass media or social media. Many issues may be debated. Should schools focus on preparing students for success on entry exams to higher education institutions? Should they address holistic cognitive, social, emotional and physical dimensions of learning? Should they serve as socialising agents to forge a national identity? Should they train students for jobs in a knowledge-based economy? Such beliefs about the purpose of schooling are reinforced both covertly and overtly throughout the education system, in policy documents, curricular content that teachers choose to teach, and high-stakes assessments.
Chrono-system (e.g. changes over time)	The chrono-system identifies the points of time in the implementation process when specific activities take place. Examples of such points include: before a new curriculum is officially endorsed or mandated; the year after a curriculum change is adopted; three years after a curriculum change is adopted; and a decade after a curriculum change is first introduced. The chrono-system also refers to how relationships or interactions within or across systems change over time. For example, student-teacher relationships may change over the years or in response to individual life events (e.g. changing grades or schools) or to local, national or global events (such as the COVID-19 pandemic).

Source: OECD (2020[15]), https://www.oecd.org/education/2030-project/contact/brochure-thematic-reports-on-curriculum-redesign.pdf.

From students' perspectives on how the ecosystem approach can be applied to their own learning, they highlight the important role of attitudes, values and skills, such as trust, empathy, and co-operation, as integral components that can connect all the people across these different layers of the learning ecosystem (Box 3.2).

Box 3.2. Miki and Dzhafar – students' visions for building a multi-layered learning ecosystem based on trust, empathy and co-operation

As Miki has been studying online, she wishes to develop and is conceptualising, with the support of Dzhafar, from Almaty, Kazakhstan, an online collaborative learning platform. The platform is based on trust, empathy and co-operation to connect students and stakeholders all over the world. Its purpose is to provide opportunities for students to promote their ideas and make friends, and a space for companies and local governments to find and support them.

Miki and Dzhafar see the benefits of the platform during the impact of COVID-19, with direct connections reduced as students study at home and online. In Miki's opinion, this is an opportunity to make stronger connections in different ways. Digitalisation can enable a society where "no one is left behind".

The platform Dzhafar suggests to co-create is based on the ideas from a discussion about a "school of the future" which:

1. will become the core of the community while learning about the real world;
2. will nurture innovators;
3. will realise a peaceful world;
4. fosters human resources that revitalize the community;
5. is a network that connects the entire world.

Miki and Dzhafar believe that the platform offers multiple opportunities and use the analogy of the components of a hamburger to describe these: the top bun of the hamburger represents the whole idea, the platform itself. They explain, "The platform is driven by students, and students see this as a vehicle for minimising barriers and creating a friendly and co-operative atmosphere. It is not about competition, it is all about collaboration." In addition to the bun, the "ingredients" bring out flavour. The "ingredients" of the platform are the stakeholders who make this project possible: students, teachers, businesses and government agencies.

Students:

- Making new friends (this has been extremely important during the COVID-19 pandemic);
- Positive and safe school boundaries, encouraging global issues resolution;
- Engagement with teachers from all over the world;
- Helping and supporting teachers (e.g. on ICT skills).

Teachers and school administrations:

- Having opportunities to learn from students;

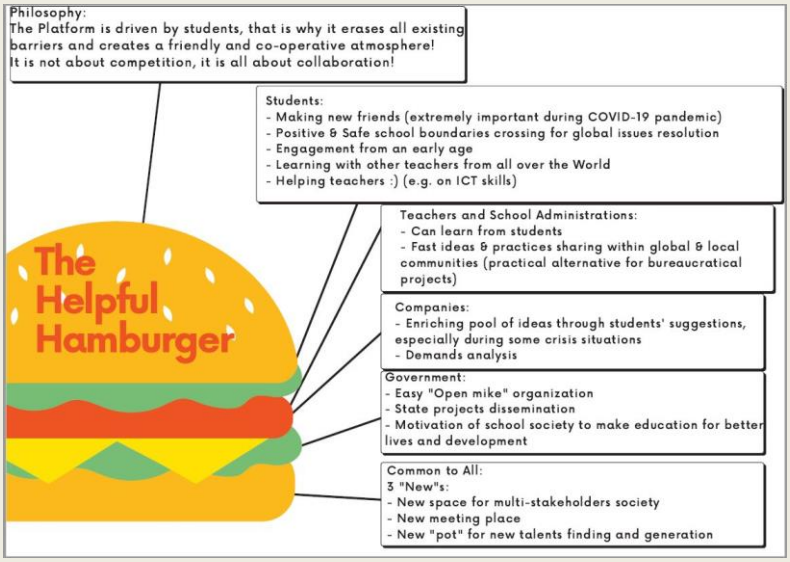
- Fast ideas and sharing of practices with local global and local communities.

Businesses:

- Enriching the pool of ideas, especially during crisis situations;
- Demand analyses.

Government agencies:

- Easy "open mic." organisation;
- Dissemination of information about state projects;
- Motivation to make education for better lives and development.



"The bottom bun is the base, the foundation upon which all the ingredients are combined, the opportunity to bring all stakeholders together." As a result of her own experiences and her need of a trusting environment to learn, Miki imagined this broad, collaborative space. "It's about finding people around the world who can understand you and empathise with you. By teaming up with someone else, we can take our ideas closer to realisation. If the idea spreads around the world, it may become an important part of someone else's idea. I think it would be interesting to make friends and project partners all over the world through this platform." Miki hopes that this platform could be a catalyst for a better society, "I would like to create this platform as a system that connects the world with trust, valuing the harmony between technology and philosophy."

Source: Panel presentations of the OECD Joint Thematic Working Group Webinar of 21 June 2021.

Policy, people and places

Curriculum redesign and implementation is a complex process that involves the intersection of multiple **policy dimensions**, **a range of people** and **diversity of places** (Honig, 2006[16]). Thus, the complex learning ecosystems can also be re-conceptualised through these three dimensions, which can cut across the micro-, meso-, exo-, macro-, and chrono-systems:

- The ***policy*** dimension of curriculum redesign and implementation includes the goals, tools, documents, programmes and resources associated with the redesigned curriculum. This can include, for example, national curriculum, standards, or learning objectives (macro), teacher

licensing and training (exo), school-level policy and guidance documents (meso), lesson or unit plans in classrooms (micro). Top-down approaches to curriculum design and implementation suggest a clear delineation between those who design curriculum (e.g. experts, government officials) and those who are given, or mandated, a curriculum to implement (e.g. teachers). Bottom-up approaches to implementation grant autonomy to local district, schools and educators, often involving students themselves, to design, make decisions about, and implement curriculum. Top-down and bottom-up approaches emphasise an iterative relationship between curriculum design and implementation, suggesting that how a curriculum is designed impacts implementation and how implementation unfolds reshapes the curriculum design (Tichnor-Wagner et al., 2018[11]; Tichnor-Wagner, 2019[17]).

- ***People*** include all of those who play a role in designing and implementing curriculum. This includes, for example: students, teachers, parents, school leaders (micro and meso), teacher educators and community members (exo), and administrators, policymakers, and the media (macro). Teachers of course implement the curriculum, which is informed by the needs of the students in the classroom. They also can participate in the design phase. School leaders and administrators typically play a more significant role, but, as discussed in the *policy* dimension, other stakeholders should also be involved.
- ***Places***, or the varied contexts in which a curriculum is taught, shape implementation. This includes individual teachers' prior experiences and beliefs; the level of trust among administrators and teachers; how school leaders frame and prioritise new curriculum; the vision that school leaders set for the school; opportunities for teacher collaboration and the nature of those interactions; available resources such as money, materials and time; competing policy demands; and workplace norms such as trust, communication, and collaboration (Bryk, Camburn and Louis, 1999[18]; Coburn, 2001[19]; Coburn and Russell, 2008[20]; Chapman, Wright and Pascoe, 2016[21]; Cheung and Wong, 2012[22]; Hamilton et al., 2013[23]; Stringfield et al., 1998[24]; Wohlstetter, Houston and Buck, 2015[25]; Priestley and Biesta, 2013[26]; Simmons and MacLean, 2016[27]).

Students, teachers and school leaders, as well as their educational environments, are part of a larger ecosystem in which parents and communities also play a role. At a government level, it is evident that there is extensive support for curriculum content to include attitudes and values and that this is promoted within the broader ecosystem, from teachers and parents to all wider educational stakeholders. Students can co-create learning environments in their classes, supporting teachers' explicit and hidden curricula. They can be aspirational to others or role models in fostering attitudes and values among their peers. Different strategies are in place to make sure the whole curriculum is effectively implemented.

Which attitudes and values do students aspire to develop and what does research say about the impact of teaching attitudes and values?

Stakeholders at all levels are responsible for teaching values and attitudes throughout students' educational journeys. **Students** are learners but also active observers who seek and absorb attitudes and behaviours to which they are exposed in their social environments. **Parental support** is crucial for a healthy and solid social-emotional development. **Teachers** are known to be the main creators of classroom cultures and direct influencers of students' growth mindset (Bryan et al., 2021[28]), and, in general, values drivers, even without intent; their influence is developed from early childhood education and care. Finally, the influence of **local communities, foundations, private companies and other social partners** can be essential for encouraging students' passions, career and personal ambitions, as well as motivation for lifelong learning.

Student aspirations for developing attitudes and values in school

Putting students at the centre of learning implies taking into consideration the values that matter most to them. When asked about which values should be part of the curriculum and therefore implemented in schools, students have strong opinions, based on their own experiences and aspirations for their societies. In feedback, students indicated that personal and school experiences, both positive and negative, and expectations for their adult lives were what influenced the values and attitudes they considered during their time at school.

Curriculum designers face challenges related to incorporating values in curriculum, such as resistance to inclusion, and difficulties in reaching consensus across diverse stakeholders on which values (if any) to include. While these difficulties may seem common across systems, they are not generalisable across contexts. A study in England showed that students expect schools to help them develop particular values as part of the education of the whole child. The study, which examined the perceptions of over 5 000 students aged from 10 to 19, reported that students expect teachers to engage in character-development education about the values which can assist in their holistic development (Arthur, 2011[29]). Curriculum designers may be heartened to know that students themselves appreciate that curriculum covers values in addition to disciplinary learning.

At OECD Education 2030 workshops and related opportunities for collaboration and sharing of ideas, students discussed how cognitive and social/emotional skills are prerequisites for further learning, developing student agency and ensuring well-being. The following personal reflections highlight the values and attitudes that students considered as imperatives of curriculum design (Box 3.3).

Box 3.3. What values matter the most for students?

Carina – Empathy required for teamwork, respect and co-operation

17-year-old Carina recognises that her experiences directly influence the attitudes and values she most prizes. The Brazilian-Portuguese student has studied in two different countries and is now preparing for university as she completes her senior year in Portugal, specialising in Sciences and Technologies. Intending to follow a path in STEAM, Carina believes that understanding individual differences should be taught from an early age. As someone who is both passionate about foreign languages and technological development, she finds it frustrating that peers try to categorise her in either a science or a humanities program.

Regardless of the area of knowledge to which one dedicates oneself, she thinks that **teamwork, respect**, and **co-operation** should be encouraged and learned within the classroom, bringing teachers and students together to strive for the well-being of all. Carina sees empathy and compromise as essential components of co-operation and teamwork.

Curiosity, motivation, and confidence building up for agency

She also thinks **curiosity** should be encouraged as it impacts students' **motivation to learn**. For Carina, empowering students means giving them knowledge, skills and the tools needed to make an impact. Having teachers encourage students in the process, so one becomes more **confident** in one's own abilities, positively affects their **sense of agency**.

Carina remarks that innovation, progress and development can only happen tomorrow if we pay close attention to the way our students are evolving today. The personal pursuit of knowledge with the occasional aid of parents, teachers, colleagues, is an approach she advocates. “All of the values I mentioned should be taught, caught and sought in a student’s daily life: taught and caught by and with teachers, family members and peers, and sought by the student either by themselves or whilst co-operating with others. Co-creation and co-construction both apply in this context. Values guide our attitudes, so it makes sense that, for holistic, complex individuals like humans, holistic values are taught, caught and sought. Regardless of where I am, what I’m studying or what I’m planning to do next, I know for a fact that I will guide myself by values that emphasise who I am”.

Source: Panel presentations of the OECD Joint Thematic Working Group Webinar of 21 June 2021.

Arfath – Creativity, interaction, freedom, justice and equity

Arfath is a 15-year-old student from Bangalore who shared that he believes the three most important values to develop in curriculum are **creativity, interaction** and **freedom**.

In his opinion, many and varied talents bring creativity into the world. Creativity relies on imagination and new ideas. Interaction, for Arfath, helps us develop; it allows us to meet new people, to have enriching conversations, to learn from and with others and to produce work collectively, developing our learning experience in groups.

He believes that there is still discrimination in terms of gender, caste and religion and sees **equity** as freedom: “We have to eliminate discrimination and understand that everyone is equal and has equal rights ... **using our own words and our own thinking** are important so we can develop a better self and a better world.”

Source: OECD Future of Education and Skills 2030 Student Voices on Curriculum (Re)design campaign, bit.ly/2030StudentVoice.

Tara – collaboration, learning from failure and trust

Tara, a 13-year-old student from Indonesia, believes that the most relevant values to be incorporated into curriculum are **positive social interactions and collaboration** with other students, teachers and friends; **learning from the experience of failure**; and **trust**.

“Socialising and learning with classmates create a comfortable environment, which can help reduce anxiety and stress in students who have so much responsibility, positive interactions also create a welcoming atmosphere for newcomers. The experience of failure is knowing and embracing that mistakes happen and that we can learn from them. Making a mistake not only helps us improve but also promotes **independence** and **self-confidence**.

Feedback that includes reference to mistakes can be more meaningful than grades. Grades only increase anxiety and stress! Building **trust** enables students and teachers to feel **safe** while interacting – students are better able to focus on lessons, instead of being worried about making the teacher upset.”

Tara sums up these interconnected values: “Let’s create a healthier and happier class environment for a better future!”

Source: OECD Future of Education and Skills 2030 Student Voices on Curriculum (Re)design campaign, bit.ly/2030StudentVoice.

As highlighted by Tara (Box 3.3), it is important to provide students with space where they can feel safe and learn from failures. This is particularly important for students’ well-being, and part of the conditions

that make students' learning more effective and enjoyable. For this, it is important to avoid creating excessive pressure to learn new and more content, as well as anxieties and stress about exams (OECD, 2020[2]); this can be deeply rooted in the culture with attitudes and values such as fear of failure, fear of losing, or fear of missing out (Box 3.4).

Box 3.4. Observations by experts: Kiasu and FOMO

Kiasuism: Definition, origins and implications

Kiasu is a lexical innovation used in Singapore to describe a preoccupation with the refusal of allowing oneself to lose out on any opportunity to get more, win or be superior to others (Ho, Munro and Carr, 2020[30]). In the context of education, it is commonly used in Singapore to describe the lengths to which parents will go to ensure their children do not lose out to their peers academically (Bedford and Chua, 2018[31]).

The origins of *Kiasuism* stems from the Chinese-Hokien dialect, literally translating to "the fear of losing". *Kiasuism* is expressed in the fear of failure, the fear of being ridiculed, and the fear of social evaluation. The term FOMO ("fear of missing out") among social media users, particularly teenagers and young adults, appears to be a similar experience to *kiasuism*, resulting in heightened levels of anxiety and competitiveness (Milyavskaya et al., 2018[32]).

The traits of *kiasuism* create barriers in education (Bedford and Chua, 2018[31]) due to anxiety about making mistakes, failing in examinations and jobs, or falling behind peers. Although the *kiasu* attitude can manifest positively as diligence and hard work (Chua, 1989[33]), it can lead to negative, envious and selfish behaviours if unbridled. *Kiasuism* surfaces in education as a desire to be ahead of peers in terms of academic performance and, ultimately, societal standing upon graduation. There is high pressure from society and parents for students to do well academically, resulting in an examination and results-oriented system with a general lack of curiosity for intellectual pursuit (Ho et al., 1998[34]). In the hope of giving their children an edge over others, parents go to great lengths to ensure that their children receive as many educational advantages as possible. This includes tuition and enrichment classes, or even relocating to neighbourhoods near "good" schools in order to gain prioritised chances for their child's admission to these schools. This "more is better to get ahead" syndrome can result in overload and burnout for Singaporean students, as tuition and enrichment classes often come at the sacrifice of play and rest time. This widens the socio-economic disparity and deepens the fault lines of society when only students of higher socio-economic status stand to benefit from such opportunities.

Studies on Kiasuism

Three decades ago, the Report of the Advisory Council on Youths (1989[35]) identified *kiasuism* as an underlying attitude of Singapore youth's approach to education, work and other aspects of their lives. Three decades later, *kiasuism* continues to be an integral part of Singapore society, governing many attitudes and behaviours across areas of life and generations. The National Values Assessment Survey (NVA) organised by the Institute of Policy Studies (IPS) in 2012, 2015 and 2018, identified *kiasu* as the top value of Singapore society in all three years (aAdvantage Consulting Group, 2018[36]). A recent cross-cultural comparison study involving 136 Singaporeans and 128 Australian university students, suggested that *kiasuism* is a not unique to Singaporean culture (Ho, Munro and Carr, 2020[30]). Another study on *kiasuism* identified its cognitive aspects and concluded that *kiasuism* is a single dimension with a range of outcomes, with the motivation for an exhibited behaviour as the determining factor. In recent years, more light has been shed on *kiasuism* and the hyper-competitive culture in Singapore as well as how it is affecting the mental well-being of students (Poh, 2018[37]).

Policy response and alternative pathways for success

To address student well-being, the Ministry of Education in Singapore has been taking steps to "loosen" the education system, with the hope of making it less of a "pressure cooker". These include restructuring national examination assessment and curriculum systems. For example, the T-score system for the Primary School Leaving Examination (PSLE) was recently changed into a wider grade band system, which is less rigid and finely differentiated, discouraging students, teachers and parents from being overly focused on "chasing that last mark".

There has also been stronger emphasis on recognising students' non-academic abilities in other areas like sports, performing arts, uniformed groups and community service. Due to increased mental health issues brought about by the pandemic, MOE has also reduced the scope of year-end examinations in 2021 and is aiming to hire more school counsellors to ensure students' mental well-being (Lim, 2021[38]).

"Against a more competitive landscape, there can also be demands to make our tests sharper to distinguish one student from another. However, we should be careful and not go overboard," cautioned Mr Chan Chun Sing, Singapore's Minister of Education (Min, 2021[39]). He raised students (and parents) not being so concerned about competing with their peers, rather to develop a healthy hunger for personal excellence and growth, preparing themselves for the modern economy where opportunities abound to create a new future for themselves.

Source: Oon seng Tan, Ee Ling Low, Jocelyn Tan, and Jallene Chua from National Institute of Education, Singapore.

FOMO

"FOMO" stands for the "fear of missing out" and refers to the feeling of "anxiety, whereby one is compulsively concerned that he/she might miss an opportunity for social interaction, a rewarding experience, profitable investment or other satisfying event" or "an overwhelming urge to be in two or more places at once, fuelled by the fear that missing out on something could put a dent in one's happiness". Research has shown that there is a relationship between FOMO and mental health, social functioning, sleep, academic performance/productivity, neuro-developmental disorders, and physical well-being.

For students' learning, several studies have examined the relationship between Internet use and academic performance. While some studies have indicated positive links between these among high school students, others have started to explore possible links with problematic Internet use behaviours, suggesting that some characteristics of cyberspace put teenagers at risk, combined with adolescent traits, e.g. developmental changes during pubertal maturation and brain development, sensitivity to stimulation, relationship with parents, and an expanding social peer environment.

Other recent studies have started to explore the relationships between FOMO, problematic internet use, and students' learning approaches (e.g. deep or surface learning) and suggest that **self-regulation** might help students control their levels of FOMO and their problematic Internet use inside and outside of learning environments.

In relation to attitudes and values, self-regulation is aligned with **mindfulness**, **reflective thinking** and **meta-learning** (See Chapter 2), and developing values and attitudes such as **respect for self** and **self-worth** may help mitigate the effects of FOMO.

Sources: Gupta and Sharma (2021[40]) "Fear of missing out: A brief overview of origin, theoretical underpinnings and relationship with mental health"; Alt and Boniel-Nissim (2018[41]) "Links between Adolescents' Deep and Surface Learning Approaches, Problematic Internet Use, and Fear of Missing Out (FoMO)"; Abel, Buff and Burr (2016[42]) "Social Media and the Fear of Missing Out: Scale Development and Assessment"; Haggis (2003[43]) "Constructing images of ourselves? A critical investigation into 'approaches to learning' research in higher education".

To shape a better future towards increased well-being of individuals and the planet, today's society needs a new narrative and a big mindset shift, along with systemic change, for which revising the goals of education set out in curricula is of fundamental importance.

Research findings about students' attitudes and values for better learning and well-being

How can these attitudes and values students aspire to develop with their own sense of purpose help them to thrive in today's and tomorrow's world? Research suggests that social and emotional learning is correlated with increased student academic outcomes and highlights the importance non-cognitive factors play on psychological well-being and the education of the whole child/learner (Darling-Hammond and Cook-Harvey, 2018[44]; Farrington et al., 2012[45]; Weissberg and Cascarino, 2013[46]; Kanopka et al., 2020[47]; OECD, 2021[48]).

How will such skills, attitudes and values support students to enhance their learning and well-being or further develop other types of skills, attitudes and values? The following section will summarise some of the recent findings from the OECD data and literature that are relevant to the types of attitudes and values considered as part of future-ready competencies in the OECD Learning Compass.

Persistence, eagerness to learn new things, and curiosity

A recent OECD report shows, for example, that students' social and emotional skills are strongly related to their psychological well-being and that 15-year-old students who describe themselves as highly creative also tend to report greater levels of persistence and eagerness to learn new things (OECD, 2021[48]) The study also reported that students' social and emotional skills are strong predictors of school grades, irrespective of students' background, age cohort and location. This is particularly the case for attitudinal skills, such as persistence and curiosity, which are strong predictors of student performance among 10-year-old and 15-year-old students (OECD, 2021[48]).

Motivation to learn, motivation to achieve and goal orientation

The impact of quality values education is not limited to students' affective development and well-being; it also has the potential to improve their academic progress (Benninga et al., 2003[49]; Benninga et al., 2016[50]; Lovat and Clement, 2008[51]; Zins et al., 2004[52]; Berkowitz and Bier, 2007[53]). Students who understand and internalise values and attitudes may, in turn, be more motivated to learn and engage in critical thinking activities. Indeed, incorporating values into education has the potential to promote behaviours that make learning more effective for students.

PISA 2012 results showed that two of the most important ingredients for success in school are the motivation to achieve and being goal-oriented (OECD, 2013[54]). These attitudes allow students with less ability but more determination to be better able to pursue and achieve their goals than students with more ability but who are unable to set objectives for themselves (Eccles and Wigfield, 2002[55]; Duckworth et al., 2010[56]).

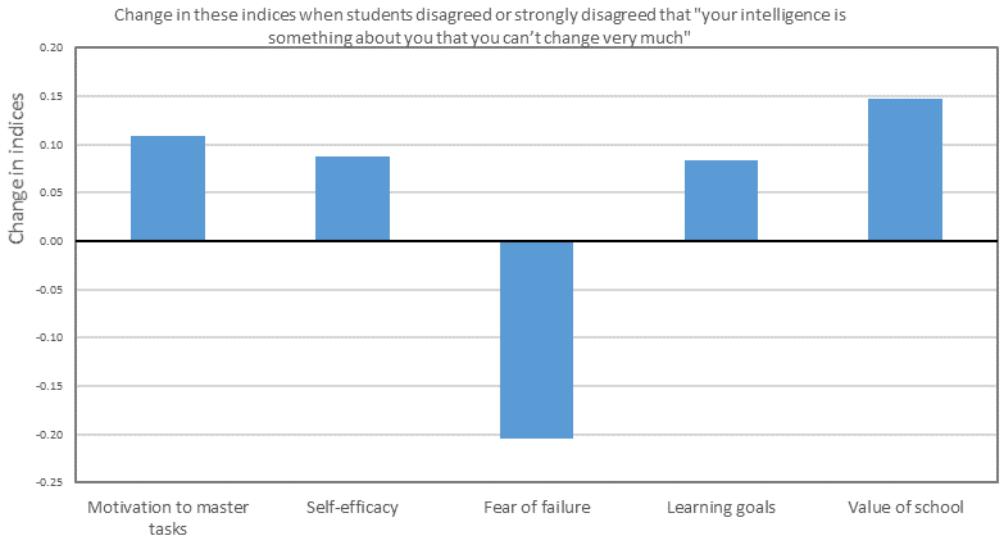
These attitudes are also crucial beyond school: being motivated and able to successfully set and pursue goals can be driving forces behind lifelong learning for future citizens (OECD, 2013[54]). These aspects, e.g. goal-setting and motivation, are deeply connected with the concept of student agency in the OECD Learning Compass (OECD, 2019[57]).

Growth mindset, self-efficacy, higher levels of motivation and lower levels of fear of failure

PISA 2018 data showed that when students had higher motivation and self-efficacy, set more ambitious learning goals, and valued school more, they scored higher in reading, mathematics and science. The data

also showed that students scored higher on reading when they reported greater co-operation among peers and that students who reported having a growth mindset scored higher in PISA. Furthermore, the analysis suggests how student attitudes are interrelated across different aspects, e.g. students with a growth mindset valued school more, set more ambitious learning goals, reported higher levels of self-efficacy, and displayed higher levels of motivation and lower levels of fear of failure (OECD, 2019[58]).

Figure 3.2. Growth mindset and student attitudes



Note: All values are statistically significant. All linear regression models account for gender and students' and schools' socio-economic profiles. The socio-economic profile is measured by the PISA index of economic, social and cultural status (ESCS).
Source: OECD, (2019[58]), *PISA 2018 Results (Volume III): What School Means for Students' Lives.*

How do teachers' attitudes and values affect their students' learning and well-being?

As discussed earlier, hidden curriculum can play a positive or negative role in education at a system or school level; therefore, it is important to be aware of its potential and how it may manifest in school (Alsubaie, 2015[4]). Teachers may employ a hidden curriculum to complement official curriculum's expected values, or to encourage learners to develop behaviour patterns that are valued in society (Cornelius-Ukpepi, Edoho and Ndifon, 2007[59]).

Teacher self-awareness and self-reflection are necessary to making a valuable hidden curriculum an explicit adjunct to the intended written curriculum. The OECD Future of Education and Skills 2030 project is currently exploring the types of competencies future-ready teachers need, and is working on the teacher-related concept-making and vision-making, e.g. new interpretations of teacher agency and teacher well-being. The visions will be developed into the OECD Teaching Compass, which will mirror the OECD Learning Compass.

The following section will explore research findings and cutting-edge practices regarding teachers' increased support of student learning and well-being; e.g. teachers' self-efficacy, collective teacher collective self-efficacy; teachers' perceptions of a subject discipline's boundaries; teacher agency, co-agency; mutual trust, respect and responsibility – with students and parents; and relationships, school climate, and growth mindset classroom cultures.

Teachers' self-efficacy, enthusiasm for better student learning outcomes, job satisfaction and relationships at work

Teachers' attitudes and beliefs of expectancy and self-efficacy have been found to promote student cognitive engagement and achievement in academic activities (Archambault, Janosz and Chouinard, 2012[60]). In past decades, a number of studies pointed out the important role of teachers' self-efficacy on student achievement outcomes (Anderson, Greene and Loewen, 1988[61]; Midgley, Feldlaufer and Eccles, 1989[62]; Mujis and Reynolds, 2000[63]). Different studies have proven that teachers who possess a high sense of self-efficacy and believe in their capacity to help students learn are usually more satisfied with their own work and with their students' behaviours and learning abilities (Pajares and Graham, 1999[64]; Tschannen-Moran, Hoy and Hoy, 1998[65]; Caprara et al., 2006[66]).

Other studies confirm this – teacher self-belief engenders positive attitudes, such as greater professional accomplishments, more stimulating relationships with colleagues, and higher enthusiasm regarding their role as teachers (Evans, 1998[67]; Ross, 1998[68]; Tschannen-Moran and Hoy, 2001[69]) – attitudes that will in turn have a positive impact on students' motivation, and on their willingness to keep involved and on task, and their positive attitudes towards school (Ashton and Webb, 1986[70]; Evans, 1998[67]; Soodak and Podell, 1993[71]; Ross, Hogaboam-Gray and Hannay, 2001[72]). Teacher enthusiasm and support also predicted student enjoyment of reading (OECD, 2019[58]).

At schools in which teachers' collective self-efficacy is strong, students perform better and the influence of individual characteristics, such as socio-economic status and ethnicity, on achievement is reduced (Bandura, 1993[73]; Newmann, Rutter and Smith, 1989[74]; Archambault, Janosz and Chouinard, 2012[60]). This is highly aligned with the concept of agency, co-agency and collective agency, not only for students but also for teachers.

Teachers' perceptions of subject discipline boundaries for students' curiosity, epistemic knowledge, humility and attitudes towards learning-to-learn

Children's epistemic curiosity in the classroom is in large part directed by their teacher and their perceptions of the subject discipline's boundaries (Bernstein, 2000[75]). For example, in secondary schools, there is a tendency to teach individual subjects in silos, apart from other subjects. When subject compartmentalisation becomes entrenched, consideration of wider contexts or the scope of real-world problems can be diminished (Billingsley et al., 2016[76]). This has been illustrated in a scenario where students walked out of a history class and a science class with different explanations as to why the Titanic sank and different perceptions of who was to blame.

In a world that rewards individuals who can create, apply and synthesise knowledge (OECD, 2013[77]; OECD, 2016[78]) examining big questions and real-world problems helps to build student resilience to misinformation and can improve students' attitudes towards learning. For example, participants in a big questions workshop called 'Renoir's Painting' used scientific and artistic ways of investigating to address the question: "How did audiences see and react to Renoir's portrait *Madame Léon Clapisson* when it was first painted?" (see (Billingsley and Windsor, 2020[79])). Another example of the workshop was to question whether robots can ever be persons succeeded in developing participants' appreciation of the strengths and limitations of science and the distinctive natures of different disciplines in a real-world context (Billingsley and Nassaji, 2019[80]).

These workshops aimed and succeeded in increasing students' epistemic insight and in particular, their epistemic curiosity and their critical thinking about the nature, application and communication of knowledge. Pedagogies and practice that assist young people to become knowledgeable require learning spaces that cultivate intellectual and moral virtues like wisdom and compassion, alongside pedagogies that enhance students' capacities to work with uncertainty and consider different disciplinary perspectives (Billingsley et al., 2018[81]) (OECD, 2019[82]).

Teacher agency and co-agency building on mutual trust, respect and responsibility – with students and parents – for better relationships, school climate, and growth mindset classroom cultures

When teachers have high expectations, believe students have the ability to learn, and take responsibility for students' learning, students are more engaged, feel more competent while they are learning, learn more, use fewer avoidance strategies when facing difficulties, and perform better (Feldlaufer, Midgley and Eccles, 1988[83]; Lee and Loeb, 2000[84]; Stipek and Daniels, 1988[85]). Moreover, regardless of students' abilities, when teachers trust students' potential and ability to learn, students feel more competent and report greater engagement and achievement (Brophy, 1983[86]; Connell and Wellborn, 1991[87]; Goddard, Tschannen-Moran and Hoy, 2001[88]).

The recent health crisis caused by the COVID-19 pandemic has changed priorities globally. New values have emerged as part of tackling the crisis, to both guide responses to possible future crises of this same magnitude, and to learn from this situation. In essence, the pandemic provided teachers and parents with the opportunity, though unplanned, to assess the extent to which children and young people successfully exhibited or demonstrated what emerged as essential values and dispositions such as trust, respect, responsibility and reliability during this time (Lambert, 2020[89]).

School climate can be conceptualised as students' sense of belonging, disciplinary climate and teacher support, among other features (OECD, 2019[58]). A report on the inclusion of values in the Australian curriculum indicates that education about values has the potential to positively impact school climate, the classroom environment and teacher-student relationships, therefore supporting better student learning outcomes and more positive attitudes and behaviours (Curriculum Corporation, 2003[90]). Values education can also improve interactions between students, which in turn contributes to more harmonious and productive learning environments (Lovat, 2011[91]) (Flay and Allred, 2010[92]; Goodwin, Costa and Adonu, 2004[93]; Snyder et al., 2009[94]; Watson, 2006[95]).

A positive school climate is recognised as being critical for students, teachers, parents and school leaders. Research conducted with 480 adolescents from urban schools in Sydney, Australia, found that non-instructional aspects of the school experience, such as the relationships that adolescents had with adults at school and with peers, were protective factors that contributed to their resilience and academic achievement (Wasonga, Christman and Kilmer, 2003[96]). Values in curriculum that promote behaviours and attitudes around co-operation, enthusiasm and self-efficacy among students and teachers may, in turn, relate to better performance.

Classroom cultures with growth mindset help to support and galvanise student motivation, behaviour and performance by giving students an adaptive way to make meaning from everyday academic experiences. Research shows that students guided by a growth (vs. fixed) mindset tend to pursue goals that emphasise mastering challenges (as opposed to goals designed to bring positive and avoid negative judgements of their ability). They tend to view failures and setbacks as signs that they need to exert more effort and try new strategies (rather than as signs that they lack ability), and they tend to see mistakes and confusion as an important part of the learning process (rather than an indicator of limited potential) (Murphy et al., 2021[97]). New strategies are needed to achieve new vision, cultivate new school cultures, and new competency-based curriculum, which highlight the important role that attitudes and values can play. The experience of a school in Israel illustrates how a new skills-based curriculum incorporated co-agency and collaboration as essential components of its development (Box 3.5).

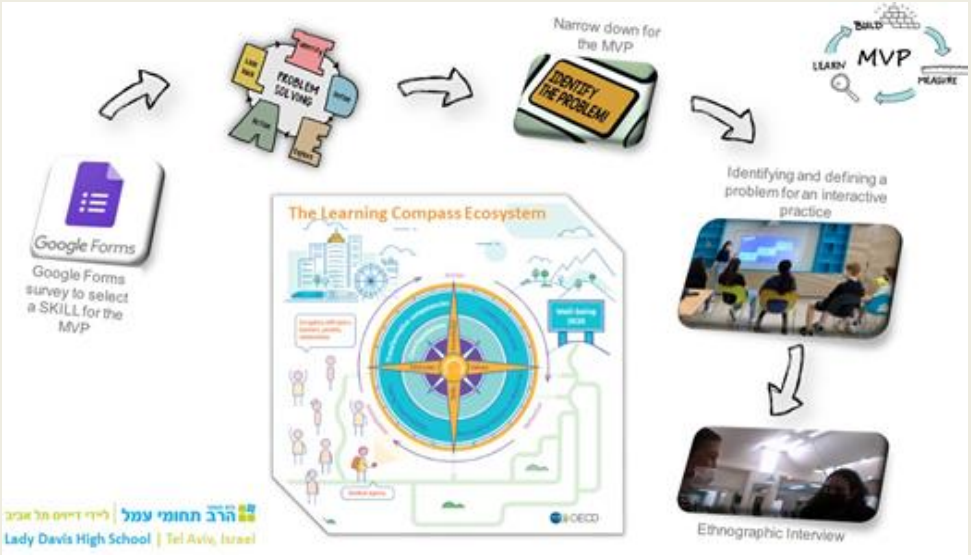
Box 3.5. Development of skills-based curriculum employing the Learning Compass ecosystem: Teacher-student co-agency in Lady Davis High School (Tel Aviv, Israel)

Defining a new set of values and the Learning Compass ecosystem

Lady Davis, a public high school in Tel Aviv (1 800 students, Grades 7-12 and 200 teachers), is known for its unique culture of change. It has a focus on pedagogical autonomy for all teachers, which provides a fertile soil for innovative and creative learning projects. During the first COVID-19 lockdown, harnessing the pedagogical changes accelerated by the move to online learning, the leadership team of the school promoted a re-definition of the school's values.

The result was a set of transformative values which signified the need to create a new normal: from "I must" to "I wish"; from compulsion to choice; from passive to active; from oppressive time to liberating time; from matriculation examinations to maturation processes.

In light of these new values, the Lady Davis team embraced the OECD 2030 Learning Compass as the basis for a pedagogical ecosystem, for new skills-based curriculum and which will be an antidote to national curriculum overload. A design-thinking workshop with the leadership team and selected teachers developed a new concept of schooling – "unleashing the nature of learning" – for both students and teachers, emphasising teacher agency, student agency and co-agency. The focus is on skills development – communication skills, thinking skills and social and emotional skills.



Lean Startup for skills-based curriculum

Time was an important factor in the process of change and Sarah Halperin, the Principal of Lady Davis decided to employ entrepreneurship and agile methods for the development of their new curriculum. The Lean Startup methodology was a "game changer" for the project:

- A group of six teachers developed an MVP (Minimum Viable Product) for quick testing of ideas using a build-measure-learn formula.
- They started with a survey to select the best skillset for students, and voted overwhelmingly for "problem solving".
- They then broke the problem solving concept into its component parts and decided to focus on defining a problem, the basic yet most difficult part in the process of conceptualising this skill.

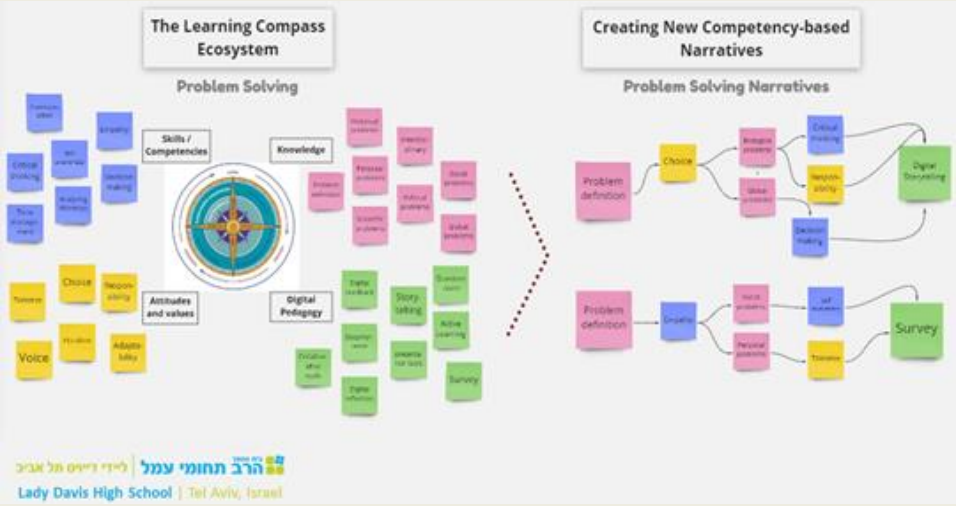
- A small group of students joined the development team and used the Learning Compass 2030's AAR (Anticipation-Action-Reflection) cycle to define simple, complex and wicked problems, utilising active learning in a flipped classroom model.
- The MVP concluded with an ethnographic interview, a design-thinking method that enabled students and teachers to take a holistic approach and deepen the relevance and the importance of the skill development to their agency.

New school culture: Co-agency and collaboration

The success of the MVP helped the Lady Davis team develop a pedagogical model based on the Learning Compass ecosystem for skills-based curriculum. To the knowledge, skills, attitudes and values they added "digital pedagogy", which includes:

- collaborative tools to assist with planning and design;
- documenting the design process with digital media;
- introducing digital feedback tools throughout the process;
- integrating creative digital products (e.g. storytelling);
- data gathering and analysis.

This learning model begins with creative brainstorming that supports an interconnected pedagogical frame. This method allows developers to connect interdisciplinary views and define the interplay between different components. It also enables developers to create diverse narratives that further refine the learning modules.



Lady Davis High School is now introducing skills-based curriculum stems from the ecosystem of the Learning Compass. This new direction will gradually replace parts of the traditional national curriculum. Their philosophy of change is aligned to Buckminster Fuller's maxim that "You never change things by fighting the existing reality. To change something, build a new model that makes the existing model obsolete."

Source: OECD (2019[57]), *Conceptual learning framework: Learning Compass 2030*; The OECD Future of Education and Skills 2030 School Networks: Guy Levi, Digital curriculum developer, Lady Davis High School, Tel Aviv, Israel.

In a study of teachers' exemplarity, Vivienne Collinson (2012[98]) identified sources of teacher attitudes and values, the most quoted being:

- family and personal environment;
- other teachers or role models;
- vicarious learning;
- daily routines and experiences;
- reflection;
- inquiry;
- government politics or political leaders.

Teachers interviewed for her study identified two additional sources of values and attitudes: philosophy/ religion (as a source during adulthood, not simply from family and close associates during childhood) and intensive, post-certification professional development over a period of time. The study highlights the important role of teacher professional development on values: "well-designed professional development may be able to help teachers surface, articulate, understand, and synthesise their own values into a coherent worldview and to appreciate how their values and attitudes affect their work and those whose lives they influence" (Collinson, 2012[98]).

Which parental attitudes and values can support children's learning and well-being?

While consolidated research has shown that parental backgrounds (e.g. their social, economic and cultural capital) as well as the home environments (e.g. books at home, safe and secure environment) can affect their children's learning and well-being, the actual activities they are engaged in, as well as their beliefs and behaviours at home, can also make a difference either positively or negatively. For example, excessive demands from parents and/or parental pressure to help their children succeed in school, which may seem natural and well meaning, can take a toll on children's academic performance and well-being.

Parental attitudes and values associated with student learning outcomes

All parents can make a difference for their children and play an important role in their children's development of attitudes and values. For example, In the PISA global competence analyses introduced in Chapter 2, a positive association was found between parents' attitudes towards immigrants and those of their children across all 14 countries that collected data from the parents' questionnaire. This suggests that parents can play important and complementary roles in developing a positive intercultural and global understanding among adolescents. Parents can transmit not only knowledge about global issues but also attitudes and values; as role models, showing interest in and understanding other cultures, demonstrating tolerance towards those who are different from them and awareness of global issues that affect us all.

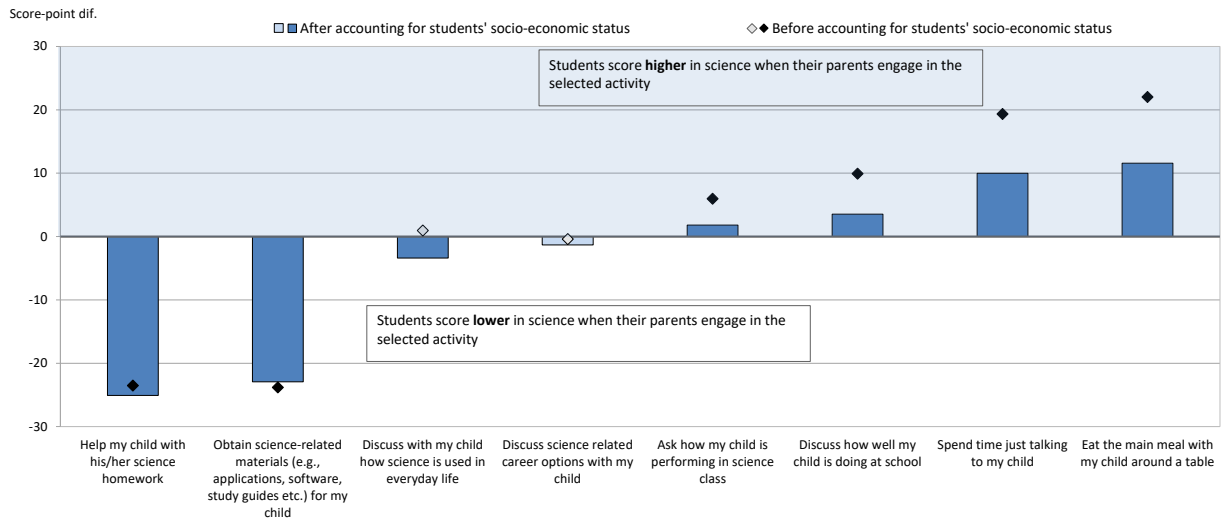
In PISA 2015, parental involvement in their children's education and lives were found to be positively related to their performance in science (OECD, 2017[99]). Not all forms of engagement are equal, however. Figure 3.3 shows that parental activities that may not necessarily be school-specific, such as eating the main meal with the child around a table or simply spending time talking to their child are also positively associated with students' higher performance in science. On the other hand, more direct support related to science learning such as helping with homework, obtaining science-related materials or discussing how science relates to everyday life has shown negative associations (OECD, 2017[99]).

This suggests that parents' knowledge about a subject and support to their children in this subject-specific area may not be as relevant for their children's performance as some of the more routine actions that are

rooted in parents' values and attitudes, such as valuing an enriching parent-child relationship, considering it important to spend time or eat together, and caring for how their children are doing in school and in life.

Research shows the importance of parents supporting their children at home with homework when they are young, but adolescents and pre-adolescents seem to benefit more from different types of parental support as they transition into more autonomous stages of their lives (Fan, 2010[100]; Hill and Tyson, 2009[101]; Hoover-Dempsey et al., 2010[102]).

Figure 3.3. Parents' activities and students' science performance



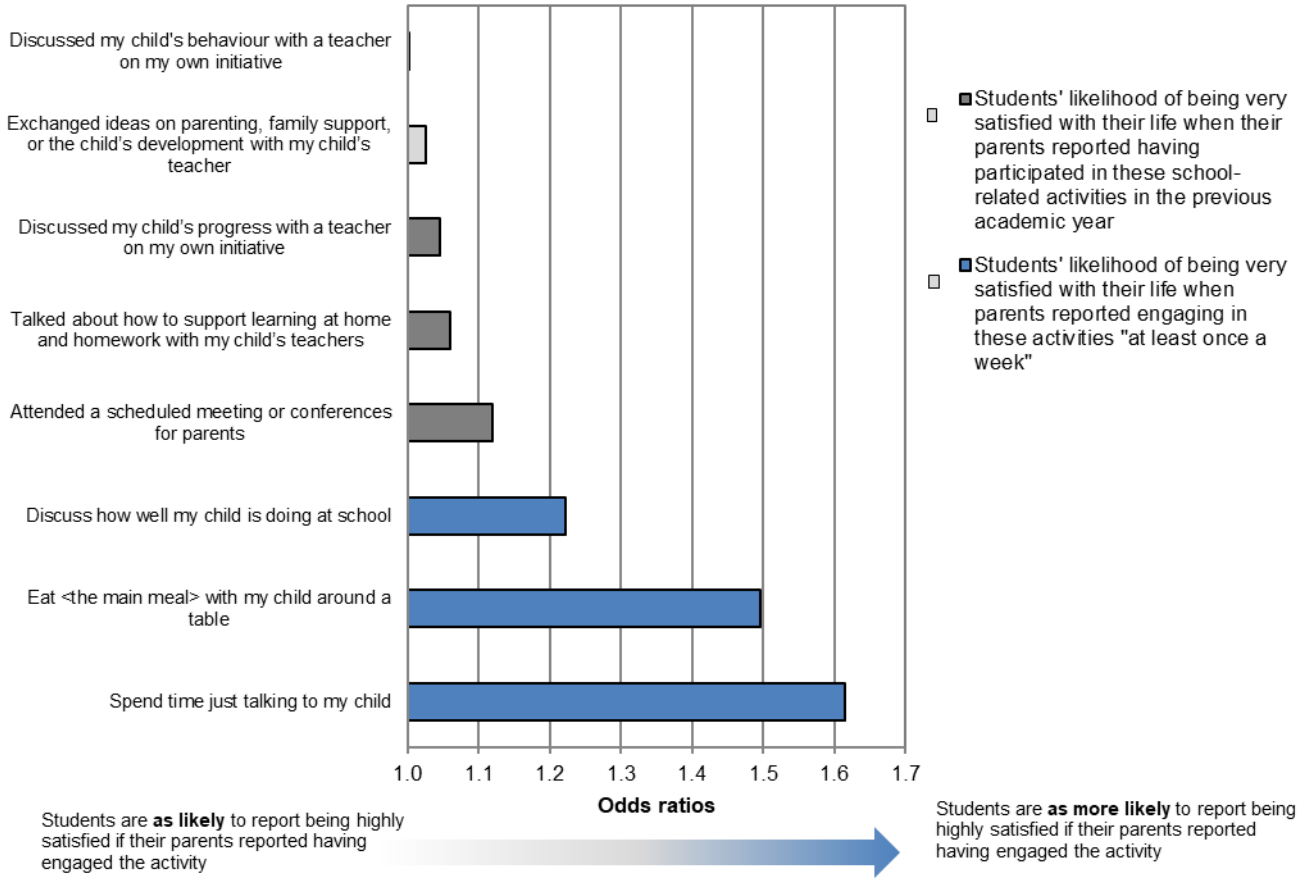
Note: The bars in the chart show the difference in science performance between students whose parents engage in selected activities at least once a week and those whose parents engage in such activities less frequently (average for 18 countries/economies). Statistically significant values are marked in a darker tone.
Source: OECD (2017[99]), PISA 2015 Database, Table III.9.4. http://dx.doi.org/10.1787/888933472199.

Parental attitudes and values associated with student well-being

The occurrence of these parental routine and relational activities at least once a week has also shown to be positively associated with greater levels of students' life satisfaction (Figure 3.4). Research has shown the positive effects on children of high expectations combined with responsive and warm parental support (Burns, 2019[103]); (Georgiou, Ioannou and Stavrinides, 2017[104]; Kalimuthu, 2018[105]), but when those expectations are unrealistic, from either parents or teachers, children are likely to suffer.

Parents face enormous pressure to help their children succeed at school, especially as students approach important transitions, such as preparing for entry to university, which often requires that they pass competitive entry examinations. Parents may also have their own high expectations throughout their child's development about how well they need to achieve in school.

Figure 3.4. Parents' activities and students' life satisfaction



Notes: The bars in the chart represent students' likelihood of reporting being highly satisfied with their life when their parents reported having engaged in the selected activities, after accounting for students' socio-economic status (average of all countries and economies with available data). A student is classified as "very satisfied" with life if he or she reported 9 or 10 on the life-satisfaction scale. The life-satisfaction scale ranges from 0 to 10. Statistically significant values are marked in a darker tone. All values regarding activities parents reported engaging in "at least once a week" are statistically significant.
Source: (OECD, 2017[99]), PISA 2015 Database, Table III.9.5.

Excessive parental expectations and overly protective attitudes associated with student learning and well-being

Unrealistic curriculum demands may cause teachers to assign some of the content that cannot be covered in the classroom to homework, for example, expecting them to learn by themselves. While homework can be used as a tool to support students' motivation and achievement, when it is excessive it has a negative impact on students' mental and physical health (Bempechat, 2004[106]). Excessive study hours can be translated into less time for students to engage in other critical activities for their development, such as sleeping, exercising and having time for socialising with family and friends, and may not necessarily lead to better student learning (Chraif and Anitei, 2012[107]; OECD, 2016[78]).

Parental responses may include a load of additional school-related materials, or over-involvement in helping with homework. This can aggravate school environments already experiencing curriculum overload (OECD, 2020[2]), which in turn leads to homework overload. Homework overload and/or excessive parental expectations can also lead parents to schedule after-school private lessons/tutoring, a practice that is common in Asian countries where a shadow education system has developed (OECD, 2020[2]; Bray,

2007[108]). Specialised tutoring services are common in Korea (*hagwons*) and in Japan (*juku*) as well as in parts of Europe. In an effort to boost students' achievement and their chances of being accepted into prestigious universities, this tutoring can add a substantive load of supplementary demands on the already burdened lives of students and inadvertently lead to negative psychological and educational outcomes (OECD, 2020[2]; Bukowski, 2017[109]).

As mentioned, high parental involvement is positively related to better psychological adjustment and life satisfaction as well as improved general physical health among adult children (Burns, 2019[103]; Fingerman et al., 2012[110]). On the other hand, parents' unrealistic expectations of their children's success, coupled with overly protective attitudes can exacerbate the emotional and mental pressure on their children. A recent OECD report shows the uncertain benefits of "helicopter" parenting, i.e. when parents figuratively "hover above" their children to protect them from harm. Children of helicopter parents are less likely to become resilient, show lower levels of psychological well-being and are more likely to experience anxiety and depression, and to engage in risky behaviours such as binge drinking and sexual risk-taking such as among college students (Burns, 2019[103]; Odenweller, Booth-Butterfield and Weber, 2014[111]; Lemoyne and Buchanan, 2011[112]; Segrin et al., 2012[113]; Bendikas, 2010[114]). These students also tend to experience lower academic outcomes, such as lower grades, lower level of engagement at school, as well as lower self-efficacy and resilience (Burns, 2019[103]; Shaw, 2017[115]).

The issue of intensive parenting or the over-involvement of parents has received much public attention, in particular, with some new terminologies to categorise hyper-parenting especially among (upper) middle class parents, such as "over-parenting" and "tiger parenting", in addition to "helicopter parenting" (Ulferts, 2020[116]). Since parenting can support or hinder the development of a certain attitudes and values in children based on parents' own attitudes and values, careful attention, observation and reflection is required on the ecosystemic relationship between parents and children, in particular, when supporting co-agency between the two.

Resilience is an important component in helping individuals reconcile tensions and dilemmas and overcome adversity. The PISA 2018 findings point to academic resilience[1]; in 64 of 77 countries, the more academically resilient students were those who reported having more support from their parents, having a growth mindset, and experiencing a positive school climate (OECD, 2019[58]).

PISA 2018 has also shown that there are external factors influencing students' attitudes, such as parents' emotional support, teachers' support and school climate (OECD, 2019[117]) This is particularly relevant when students experience the effects of long-standing conflicts, and complex health, environmental and well-being challenges. Bouncing back from loss and defeat is essential for working productively towards solutions. And, thus, it is of particular importance that policy, school and curricula set an explicit goal towards equity and student well-being (OECD, 2021[118]); in particular, for students who may lack parental support, who have lost their parents, who are victims of child abuse or child neglect, or who need to provide care for their parents at the expense of their own learning and well-being.

How are attitudes and values connected to wider community and society?

Attitudes and values towards lifelong learning, starting from early childhood education and care

Positive attitudes and dispositions to learn have crucial relevance for developing a lifelong learning mindset in students. While individual attitudes and dispositions to learn largely develop early in life – starting in the home, and continuing through kindergarten and throughout the schooling years – the benefits carry on into adulthood (Tuckett and Field, 2016[119]). In fact, individuals who have positive learning attitudes are more likely to engage in further learning throughout life (OECD, 2021[120]).

The recent OECD *Measuring What Matters for Child Well-Being* report states that early caregiving experiences lead children to form internal working models, representing beliefs and expectations they hold about themselves, the social world and relationships (OECD, 2021[121]). Children who feel secure and safe in their environment enjoy higher self-esteem and self-confidence, and are able to self-regulate and be resilient. Insecurely attached children have difficulties self-regulating and managing stress, and are more likely to experience relationship difficulties in adulthood and encounter difficulties in rearing their own children (Howe, 2005[122]).

Early attachment security is found to influence measures of emotional health, self-esteem, agency and self-confidence, ego resilience, and social competence in interactions with peers, teachers, romantic partners and others (Suess and Sroufe, 2005[123]). Attachment security is also an important consideration in treating childhood health and behavioural difficulties and neurodevelopmental disorders (Rees, 2005[124]).

However, issues are often raised for children transitioning from the culture of early childhood education and care to the school culture, which is often moving more towards teacher-centred from child-centred, and more towards academic subject-area focus from interdisciplinary learning and well-being, for example. The OECD analyses on the transition suggest that the focus should be revisiting the vision, purpose and values of schooling and making schools ready for children, not children ready for school (OECD, 2017[125]).

Portugal ensures continuous learning across different levels of education through “clusters”. While the Portuguese curriculum frameworks are organised by age groups (OECD, 2020[2]); these curriculum frameworks can be interwoven by using a coherent theme from early childhood to young adolescence, for example, STE(A)M carefully designed for developmentally age-appropriate practices (Box 3.6).

Box 3.6. Curiosity and willingness to learn through STE(A)M from early years to high school: Alcanena Schools Cluster

Preparing students for a complex and unpredictable future is a concern assumed by Alcanena Schools Cluster. A vertical plan for STEM, along with a vertical plan for the development of socio-emotional skills, were designed for 3 to 18-year-olds, so as to complement the development of cognitive and socio-emotional skills. In preschool (3-5-year-olds), children have their first contact with science and technology. Curiosity and willingness to learn are encouraged within the Science XXS project, in partnership with the Life Science Centre. At the age of 3, children also take their first steps into the digital world through robotics and the Digital Kids project.

At primary school (6-9-year olds), students are invited to play the role of scientists for a week at the Life Science Centre, initiating scientific projects and epistemic knowledge. At the age of 10-11, STEM is extended to STEAM, as the schools believe the arts have a fundamental role in unveiling students’ skills, as well as their self-discovery. Thus, combining arts with sciences and technologies is essential at this age. That is the rationale for Alcanena Schools Cluster hosting artistic residencies, where three

artists from the cultural association *Materiais Diversos*, work on voice, movement, philosophy and fine arts in intersection with the core curriculum and the local environment.

From 12 to 18 years, the investigative path gains new breadth to respond to community problems through the establishment of partnerships between higher education institutions and universities and secondary education. Students develop interdisciplinary projects throughout the year. Challenging formal and/or informal learning situations are created to ensure that each student can develop their own potential, learn and assume their ability to transform themselves, the school and the community.

Epistemic knowledge goes hand in hand with interdisciplinary knowledge, with transformative competencies, attitudes, skills and values, with core and local curriculum. All territory is regarded as a source of learning. Therefore, community problems might involve a response to local problems; the presentation of challenges; the relocation of learning "outside the four walls", where curiosity and critical spirit are stimulated; the integration of technology as a constant, with resilience, empathy and creativity going hand in hand with information literacy and scientific literature. Learning takes place at innovative learning labs, such as the Future Classroom lab; Makerslab; Foodlab; Artslab; in the schoolyard; on a stage; in the mountains; at a factory; or at the Life Science Centre.

"To sum up, our STE(A)M strategy aims to create a sustained STE(A)M ecosystem which is developed in three different ways: at the level of interdisciplinary curriculum implementation; at the level of curriculum design with the creation of new subjects and timetables; at the level of partnerships, with universities, music schools, technological hubs and cultural organisations."

Source: Presentation by Ana Cohen, Alcanena Schools Cluster (Portugal) Principal at Education, Education 2030 Focus Group 4

Connections of attitudes and values in local and global communities with those of school ethos and aspirations

Community can play a significant role in shaping and reshaping the attitudes and values students aspire to. By encountering new cultures, learning about power (balance and rebalance), and discovering what it

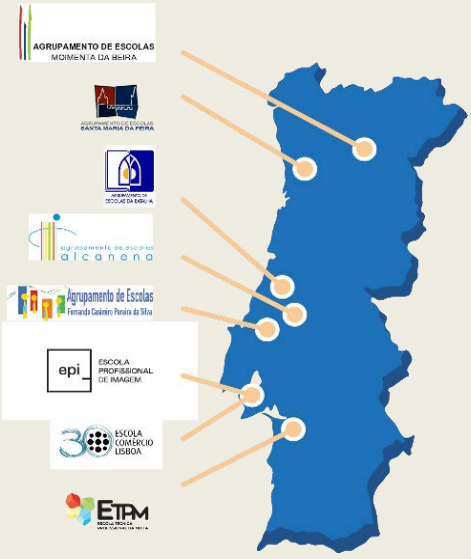
means to be a member of a society, students can find their communities to be a powerful source of values and attitudes education (Schultz, 1990[126]). Involving students within communities can be a solution to the long-time dichotomy between theory and practice that has always existed in the educational process (Schön, 1983[127]; Schön, 1987[128]).

Students who have participated in school-sponsored community service programmes describe their service experience as a critical turning point in shaping the direction of their educational programme, as well as of their future vocational choice. The opportunity to encounter the needs of their community in a structured way has helped lend focus to the rigorous study they undertake in their academic programme (Schultz, 1990[126]). Indeed, volunteering and collaborating with external members of society, such as associations or foundations, can provide opportunities to put into practice theoretical learning on values and attitudes.

In the spirit of learning in a wider ecosystem than simply that of the school context, schools are creating programmes and methods to link lessons and school life to post-school life. These approaches promote student autonomy and are designed to build power of choice and positive expectations regarding their school career, professional and personal futures.

The following stories are examples of programmes that link school education to broader, integrated and authentic learning. The competencies, including attitudes and values, learned through such programmes are believed to endure for life after-school. Box 3.7 illustrates how collective impact can be brought out by combining different approaches e.g. curriculum autonomy and flexibility, student profile development and monitoring, pedagogical framework, and collaborative partnerships e.g. among schools, vocational education and training, and higher education institutions.

Box 3.7. Portuguese PA National Schools Network – attitudes and values as part of Student Profiles



The Student Profile by the End of Compulsory Schooling (PA) is recognised as a reference for inclusive education and for responding to the challenges of the future. With curricular autonomy and flexibility, schools can build educational responses that lead to the development of knowledge, skills, attitudes and values, based on humanism.

The creation of the PA National Schools Network for sharing best practice allows the promotion of collaborative learning among different educational stakeholders (students, teachers, parents/guardians, companies and others). The network aims to identify and analyse possible solutions or innovative responses to the organisation and functioning of school and curriculum to develop the values, attitudes and transformative competencies that are defined in the Students' Profile (PA).

- **Who**: 8 schools: 5 public schools and 3 VET Schools
- **Why**: The Students' Profile by the End of Compulsory Schooling (PA) and Curricular Autonomy and Flexibility
- **How**: Network for sharing practice and promoting collaborative learning dynamics between different educational communities. Identification and analysis of possible solutions and

innovative responses for the organisation and functioning of the school and the curriculum in order to develop values, attitudes and transformative competences defined in PA

The PA network focuses on ensuring support to:

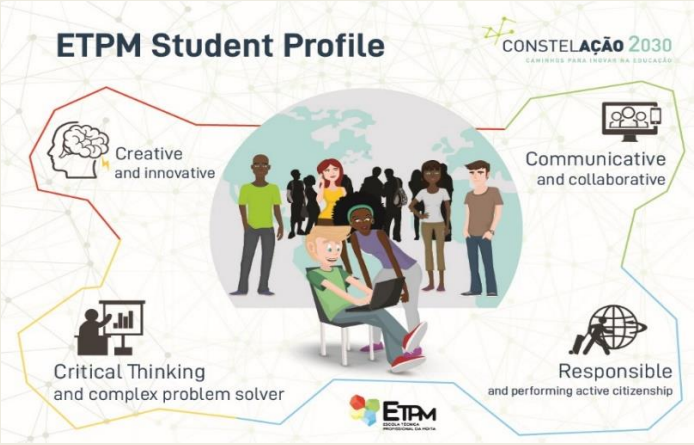
- shape a vision to guide innovation in school strategies;
- empower teachers and students to enable change;
- share experiences of innovative practices in the following dimensions:
  - curriculum design and implementation;
  - teaching and learning strategies and practices;
  - assessment and self-assessment OF learning and FOR learning;
  - learning environments that promote well-being;
  - future trends in teacher profiles;
  - digital skills structured and developed in a transversal way.

The Portuguese Schools Network defined the next steps:

- interaction between students from the eight schools of the network: providing learning experiences based on the curriculum;
- interaction between teachers from the eight schools of the network: providing immersive and collaborative experiences;
- approaching and co-operating with higher education institutions to develop more robust investigation/action research about teaching and learning practices implemented in the eight schools;
- themed forums, webinars and workshops for teachers, students and partners of the eight schools in the network with researchers and experts.

ESCOLA TÉCNICA PROFISSIONAL DA MOITA: Connecting schools through pedagogical framework

Escola Técnica Profissional da Moita (ETPM) provides Level IV vocational secondary education in seven professional areas. With more than 500 students and a pedagogical team of around 50 teachers, ETPM is part of the PA National Schools Network and has been implementing and monitoring its Pedagogical Innovation Framework (Constellation 2030) since 2016. This framework enables the co-construction of students' and educators' profiles to meet the current and future demands and challenges of the 21st century at the centre of the school's mission. It consists of the systematisation of interdependent relationships in a set of pedagogical dimensions that are critical for the co-construction of individual profiles, which then guide the school's transformative process.



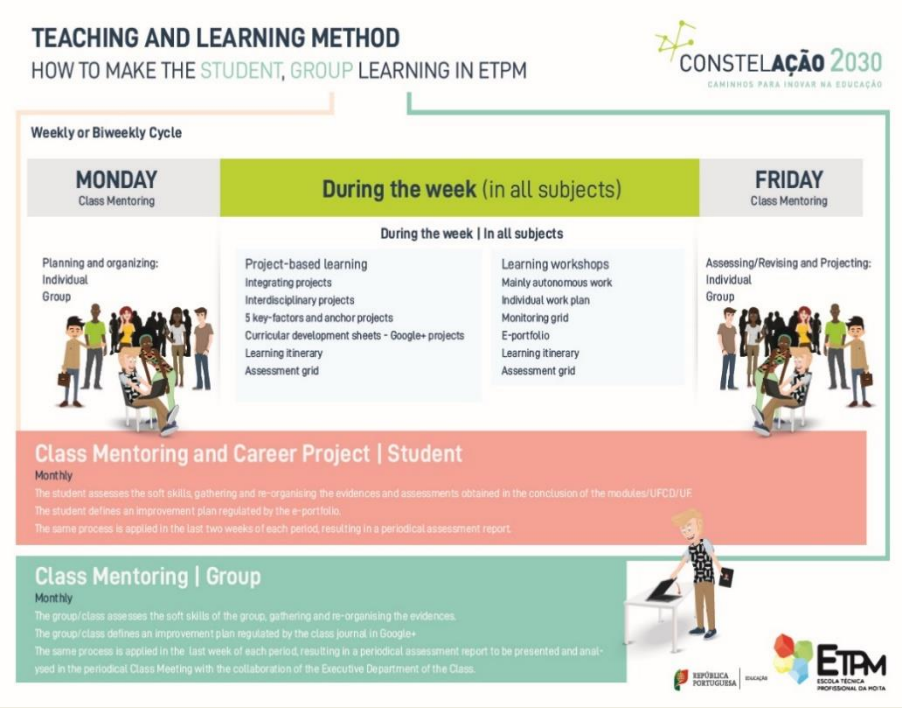
EPTM highlights the following:

1. The Career Projects programme:

What? The objective is to continue the lifelong learning projects of all students enrolled at ETPM, as they transition from basic education to secondary education and from there to post-school life. The process is monitored by a multidisciplinary pedagogical team of tutors, teachers, psychologists and professionals from partner companies. The Career Project programme is developed with all students during the 3-year cycle of the vocational course.

Why? It is intended to improve, for all students, the power of choice, autonomy, and expectations regarding their school career, and their professional and personal futures. The programme supports them in their development of conscious, flexible life and career projects, subject to change and updating throughout life. The programme promotes more hands on, intentional and meaningful training, enabling the pedagogical team to better understand the student, his/her potential, needs and ambitions.

How? The programme uses methods/practices that provide the foundations for vocational exploration and the consequent decision-making processes, organised in stages and fully integrated with the curriculum of the different subject areas. It builds learning paths that are personalised. The programme establishes a structured and intentional connection between the curriculum, the development of soft skills in the students' profiles and the domains of self-knowledge, self-regulation and self-efficacy.



2. Class Mentoring

What? It is a permanent bi-weekly mentoring process developed in all school learning groups. The objective is to establish routines for planning, self-assessment and co-assessment of learning, focused on the development of collaboration, communication, problem solving and critical and creative thinking in students. Class Mentoring is based on learning groups: the tutor (one of the teachers of the pedagogical team) and the students of that learning group. However, groups of students from different classes, courses and years are also formed according to the challenges and projects in which they are

engaged. These projects result from different curricular options that promote articulation among students for the design of integrated and multidisciplinary solutions.

Why? These routines aim to regularly mobilise students' effective participation in the options related to curriculum design and implementation, in the defining of learning situations, in the establishment of collaborative learning (peer) routines and in consistent processes of self-assessment and group assessment.

How? Results and impacts

In order to evaluate the results and impacts of the implementation of the framework in the development of the transversal skills provided in the PA on students and educators, ETPM implemented a system of self-assessment and quality assurance with the participation of all educators (principals, teachers, non-teachers, employers and guardians) and students.

Step 1 - Monitoring and self-assessment

1.1. Monitoring actions:

- Students: weekly, monthly, quarterly and annual self-assessment of the knowledge and skills of the PA and implementation of individual improvement and action plans (Class Tutorials and Notebook);
- Student groups: weekly, monthly, quarterly and annual co-evaluation and implementation of improvement and action plans for each learning group (Class Tutorials and group regulation instruments);
- Teachers, psychologists and professionals from partner companies: weekly working sessions of pedagogical teams in PDCA logic, promoting the articulation between the assessment of learning and transversal skills developed by students, and self-assessment process of students and groups of students, establishing a final collaborative design between students and teachers of individual and group improvement plans;

1.2. School self-assessment:

- Quarterly self-assessment of the evolution of school results. Indicators: success, attendance and dropout rates, inter- and multidisciplinary level approach to curriculum design and implementation. Design and implementation of quarterly and annual improvement plans.
- Annual self-assessment of school results obtained by students at the end of course cycle. Indicators: course completion and labour market integration rates, and students continuing studies.

Step 2 – Research and external evaluation

ETPM created and is implementing ProHUB – Research & Innovation for Vocational Education – which works as a research platform, exclusively dedicated to vocational education, located on campus. This platform connects professional education operators, higher education researchers, associations and companies from different professional sectors to develop research, monitoring and evaluation processes for innovative and transformative practices in vocational education.

“Our pedagogical innovation framework is being investigated and analysed, by higher education researchers in the area of educational sciences, educational psychology and neurosciences as well as actions for sharing and reflection that have been developed in other regional and national projects”.

Source: Presentation by Guilherme Rocha, Pedagogical Director of *Escola Técnica Profissional da Moita* (VET School).

Better engagement in community and conflict management

Embedding values and attitudes in curriculum has consequences for society as well as individuals (Harrison, Morris and Ryan, 2016[129]) by helping students develop a greater awareness of the wider community, and understanding of the impact of their attitudes and actions on that community (Farrer, 2010[130]). A qualitative study in the United States reported that a group of students receiving values education was able to demonstrate a deep understanding of conflict management, as reported by their teachers, education counsellors and administrators (Khoury, 2017[131])

The U.N. Sustainable Development Goals Indicator 4.7.1 is agreed as the "extent to which (i) global citizenship education and (ii) education for sustainable development are mainstreamed in (a) national education policies; (b) curricula; (c) teacher education; and (d) student assessment". As discussed in Chapter 1, the development of attitudes and values (e.g. "respect for people from other countries") are integral to "global citizenship education" and it is increasingly embedded in different subject learning, while countries/jurisdictions make different choices on the extent to which it will be integrated into curriculum and into which subject areas it is embedded. Furthermore, when it comes to actual classroom practice, careful design is required in order to boost student agency, e.g. ignite a sense of purpose in children and students discovering the global-local continuum. A school in Germany has a school culture based on UNESCO's four pillars of education and below is one student's experience of this approach (Box 3.8).

Box 3.8. A collaborative approach to developing student competencies and agency: Working towards SDGs from local perspectives

Elias is an 18-year-old student attending *Evangelische Schule Berlin Zentrum* in Germany. The school culture is based on UNESCO's four pillars of education – learning to know, learning to live together, learning to do, and learning to be – with attitudes and values integral to the pillars.

Elias' school values the participation of a range of education stakeholders and believes that this collaborative approach enables the school's learning community: students, teachers, parents/ guardians, social workers, facility and operations staff, the school board and external partners to come together to decide what the school community needs; and this is reflected in the topics taught and how the curriculum and timetable are designed.

Prioritising student voice in particular, the school holds “Life & Works Skills” workshops twice a year to listen to students' needs and determine how they can they can offer learning experiences relevant to these needs. Additionally, every student has a tutor – often a teacher – who Elias describes as a person the student can trust and who helps the student get through everyday life. Elias finds it particularly helpful for students who are preparing to graduate to have a tutor on their side. They can go to the tutor with questions, reflect on their progress, and identify areas where they are doing well and where they can improve. Together, students and teachers set goals for the second half of the school year, evaluating learning and anticipating the next steps of development.

In the same spirit of collaboration, students at Elias' school engage in project-based learning 2-3 times per year during what they call "Pulsar Project Week". Students form groups of 10-15 (depending the number of students interested in a particular topic), and every day of this week, they spend seven hours a day deep-diving into a topic of their choice and creating a project. This is an opportunity for interdisciplinary learning. Elias gives the example of students working on the topic of radioactivity: this project would incorporate the disciplines of biology, chemistry and physics. Other examples of recent project topics include gender identity, biodiversity, death and grief, and sports journalism. Students learn with each other, and with teachers and experts from the field. Each student can focus on a specific topic within the broader theme based on their interests; and they present their individual learning results however they choose, e.g. a film or podcast. Students can be creative; the main requirement is bringing something into the group project and reflecting on the work process after the Pulsar week, identifying what individuals and the group did well and what needs improvement.

Elias did a Pulsar project on the European economy for his politics class. The curriculum requires that students discuss the European Union, so he and his project partners chose to focus on the economy. They developed a simulation game to help people experience how the European economy works. One week was not enough to develop the game, so they took more time to fully develop this after the Pulsar Project Week. However, by the end of the week, what they did produce was an essay that was meant to inform future classes of the knowledge that Elias and his peers gained through the project.

Sources: Recording of the OECD Learning Compass 2030 workshop on the Anticipation-Action-Reflection Cycle, 2 November 2021, https://www.oecd.org/education/2030-project/teaching-and-learning/learning/learning-compass-2030/; Delors, J. et. Al (1996[132]), *Learning: the treasure within; report to UNESCO of the International Commission on Education for the Twenty-first Century*, UNESCO.

What do governments aspire to do to make systems more resilient at all levels?

The need to develop resilience has been a constant throughout phases of the COVID-19 pandemic. Education systems needed to respond to school closures, to the challenges of online, hybrid and distance learning as well as maintaining student and teacher well-being.

A recent study on tertiary education students in China and South Korea showed that online teaching and learning demonstrated resilience in students (Lee et al., 2021[133]). However, resilience is not an innate disposition or personality trait that emerges in a crisis, it can be a value developed through distance learning activities. Those involving group-based learning, such as discussion forums, are most effective when they include a level of teacher presence and teacher-learner interactions (Tsai, Ku and Campbell, 2021[134]; Bernard et al., 2009[135]; Naidu, 2021[136]).

Resilience has helped education systems to continue working effectively to find solutions to support distance learning and students' mental health issues related to isolation. Japan provides an example of this education system resilience, responding to the need to strengthen and prepare for potential or existing crises (see Box 3.9; IIEP-UNESCO (n.d.[137])).

Inciting the closure of schools for a long period of time, COVID-19 has accelerated education inequality, and increased achievement gaps between students who benefit from full-time schooling and tutoring in school and those who do not. Closures have also disadvantaged students who could not afford compensatory resources for the lack of access to school and those who lack sufficient equipment or internet connection at home to succeed in digitalised education. These kinds of disadvantages provide focus on the values of equality and equity as important curricula inclusions.

The attitudes and values in the learning ecosystem will be further elaborated in the forthcoming OECD Education 2030 publication, focusing on understanding curriculum change as part of a larger ecosystem change, scheduled to be published in 2022.

Box 3.9. Valuing student well-being as a response to COVID 19 in Japan

In March 2020, schools all over Japan closed due to the COVID-19 pandemic and the risk of infection. Then, in response to the government's declaration of an emergency in early April, more than 90% of schools closed again. In May 2020, the government lifted the declaration gradually, and in June 2020 almost all schools reopened. After reopening, Ministry of Education, Culture, Sports, Science and Technology (MEXT) took measures against infectious diseases, and at the same time took various measure to ensure students' learning in a healthy way. For example, MEXT published *New School Lifestyle: COVID-19 Infection Control Manuals and Guidelines for Schools*, detailing measures against infection that should be taken, and distributed to boards of education and schools nationwide. This guide highlighted the importance of continuing learning activities at schools while making efforts to minimise the risk of infection. In June 2020, MEXT also published *Guidelines for Sustainable School Management* and launched a policy package to ensure children's learning under COVID-19. In these guidelines and the policy package, MEXT showed the policy to ensure children's learning: to recover learning at schools by making staggered attendance schedules, etc. and that special measures can be taken when it is difficult to complete the scheduled curricula.

To provide schools across the country with the necessary human and material resources for ensuring effective learning, MEXT assigned large numbers of additional teachers, school support staff, and resources. MEXT has provided all elementary, junior high, and high schools nationwide with funding to support reopening in order to take quick, flexible countermeasures against COVID-19 and ensure quality learning. Under the GIGA School Program, MEXT is also accelerating the preparation of hardware, software, and personnel in an integrated way to realise 'one computer per student' at the earliest possible time, as well as to establish communication environments that connect to students' homes. Through these measures, MEXT will ensure that all children can learn via ICT even in emergency situations such as temporary school closures due to other crises, such as natural disasters or infectious diseases.

Sources: Ministry of Education, Culture, Sports, Science and Technology in Japan website https://www.mext.go.jp/en/mext_00006.html; Education in Japan beyond the crisis of COVID-19 September. 2020 -Leave No One Behind- https://www.mext.go.jp/en/content/20200904_mxt_kouhou01-000008961_1.pdf; Comprehensive Package for Ensuring Children's Learning in the COVID-19 crisis (in Japanese) https://www.mext.go.jp/content/20200605-mxt_syoto01-000007688_1.pdf; 2020 White Paper on Education, Culture, Sports, Science and Technology (in Japanese) https://www.mext.go.jp/content/20210720-mxt_soseisk01-000016965_1-1.pdf.

Note

[1] Academic resilience is defined as performing well in reading (top 25% in the country) despite being socio-economically disadvantaged.

References

aAdvantage Consulting Group (2018), *2018 National Values Assessment Provides Update on Singaporeans' Views about Society and their Workplace*, https://9524afe4-72a4-4c17-9836-375552aeb624.filesusr.com/ugd/cefd87_d6a14fe55e034728bfa94a2f84654d9f.pdf (accessed on 24 November 2021). [36]

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. 33-44, http://dx.doi.org/10.19030/JBER.V14I1.9554. [42]

Alsubaie, M. (2015), "Hidden curriculum as one of current issues of curriculum", *Journal of Education and Practice*, Vol. 6/33, https://files.eric.ed.gov/fulltext/EJ1083566.pdf (accessed on 14 September 2021). [4]

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, p. 39, http://dx.doi.org/10.1016/J.INVENT.2018.05.002. [41]

Anderson, R., M. Greene and P. Loewen (1988), "Relationships among Teachers' and Students' Thinking Skills, Sense of Efficacy, and Student Achievement", *Alberta Journal of Educational Research*, Vol. 34, pp. 148-165. [61]

Archambault, I., M. Janosz and R. Chouinard (2012), "Teacher Beliefs as Predictors of Adolescents' Cognitive Engagement and Achievement in Mathematics", *Journal of Educational Research*, Vol. 105/5, pp. 319-328, http://dx.doi.org/10.1080/00220671.2011.629694. [60]

Arthur, J. (2011), "Personal character and tomorrow's citizens: Student expectations of their teachers", *International Journal of Educational Research*, Vol. 50/3, pp. 184-189, http://dx.doi.org/10.1016/J.IJER.2011.07.001. [29]

Ashton, P. and R. Webb (1986), *Making a Difference: Teachers' Sense of Efficacy and Student Achievement*, Longman. [70]

Bandura, A. (1993), "Perceived Self-Efficacy in Cognitive Development and Functioning", *Educational Psychologist*, Vol. 28/2, pp. 117-148, https://www.itma.vt.edu/courses/tel/resources/bandura(1993)_self-efficacy.pdf (accessed on 14 September 2021). [73]

Bedford, O. and S. Chua (2018), "Everything also I want: An exploratory study of Singaporean Kiasuism (fear of losing out)", *Culture and Psychology*, Vol. 24/4, pp. 491-511, http://dx.doi.org/10.1177/1354067X17693831. [31]

Bempechat, J. (2004), *The Motivational Benefits of Homework: A Social-Cognitive Perspective*, http://dx.doi.org/10.1207/S15430421TIP4303_4. [106]

Bendikas, E. (2010), "Do Helicopter Parents Cause Life Turbulence For Their Offspring? Implications of Parental Psychological Control for College Students' Adjustment". [114]

Benninga, J. et al. (2016), "Character and Academics: What Good Schools Do", *Phi Delta Kappan*, Vol. 87/6, pp. 448-452, http://dx.doi.org/10.1177/003172170608700610. [50]

Benninga, J. et al. (2003), "The relationship of character education implementation and academic achievement in elementary schools", *Journal of Character Education*, Vol. 1/1, pp. 19-32. [49]

Berkowitz, M. and M. Bier (2007), "What Works In Character Education", *Journal of Research in Character Education*, Vol. 5. [53]

Bernard, R. et al. (2009), "A Meta-Analysis of Three Types of Interaction Treatments in Distance Education", *Review of Educational Research*, Vol. 79/3, pp. 1243-1289, http://dx.doi.org/10.3102/0034654309333844. [135]

Bernstein, B. (2000), *Pedagogy, Symbolic Control, and Identity: Theory, Research, Critique*, Rowman & Littlefield Publishers. [75]

Billingsley, B. et al. (2016), "How Students View the Boundaries Between Their Science and Religious Education Concerning the Origins of Life and the Universe", *Science Education*, Vol. 100/3, pp. 459-482, http://dx.doi.org/10.1002/SCE.21213. [76]

Billingsley, B. and M. Nassaji (2019), "Exploring Secondary School Students' Stances on the Predictive and Explanatory Power of Science", *Science and Education*, Vol. 28/1-2, pp. 87-107, http://dx.doi.org/10.1007/S11191-019-00031-7. [80]

Billingsley, B. et al. (2018), "A Framework for Teaching Epistemic Insight in Schools", *Research in Science Education*, Vol. 48/6, pp. 1115-1131, http://dx.doi.org/10.1007/S11165-018-9788-6/FIGURES/2. [81]

Billingsley, B. and M. Windsor (2020), "Thinking Like a Scientist in a Multidisciplinary Arena: The Case of Renoir's Painting", *School Science Review*, Vol. 101/376, pp. 19-24. [79]

Bray, M. (2007), *The shadow education system: Private tutoring and its implications for planners*, UNESCO: International Institute for Educational Planning (IIEP), Paris, https://www.researchgate.net/publication/44839572_The_Shadow_education_system_private_tutoring_and_its_implications_for_planners (accessed on 24 November 2021). [108]

Bronfenbrenner, U. (1979), *The Ecology of Human Development: Experiments by Nature and Design*, Harvard University Press. [13]

Brophy, J. (1983), "Research on the self-fulfilling prophecy and teacher expectations", *Journal of Educational Psycology*, Vol. 75/5, pp. 631-661, https://psycnet.apa.org/record/1984-05085-001. [86]

Bryan, C. et al. (2021), *Global Mindset Initiative Working Paper 2: Designing an Intervention to Motivate Growth Mindset-Supportive Teaching Practices*, https://ssrn.com/abstract=3911995. [28]

Bryk, A., E. Camburn and K. Louis (1999), "Professional community in Chicago elementary schools: Facilitating factors and organizational consequences", *Educational Administration Quarterly*, Vol. 35/SUPPL., pp. 751-781, http://dx.doi.org/10.1177/0013161X99355004. [18]

Bukowski, P. (2017), *Shadow Education within the European Union from the Perspective of Investment in Education*, Centre for Economic Performance, London School of Economics and Political Science. [109]

Burns, T. (2019), *Educating 21st Century Children: Emotional Well-being in the Digital Age*, OECD Publishing, https://doi.org/10.1787/b7f33425-en. [103]

Caprara, G. et al. (2006), "Teachers' self-efficacy beliefs as determinants of job satisfaction and students' academic achievement: A study at the school level", *Journal of School Psychology*, Vol. 44/6, pp. 473-490, http://dx.doi.org/10.1016/J.JSP.2006.09.001. [66]

Chapman, S., P. Wright and R. Pascoe (2016), "Arts curriculum implementation: "Adopt and adapt" as policy translation", *Arts Education Policy Review*, Vol. 119/1, pp. 12-24, http://dx.doi.org/10.1080/10632913.2016.1201031. [21]

Cheung, A. and P. Wong (2012), "Factors affecting the implementation of curriculum reform in Hong Kong: Key findings from a large-scale survey study", *International Journal of Educational Management*, Vol. 26/1, pp. 39-54, http://dx.doi.org/10.1108/09513541211194374. [22]

Chraif, M. and M. Anitei (2012), "Overload Learning, Attachment and Coping Styles Predictors of Mental and Physical Health of Teenage High School Students in Romania", *Procedia - Social and Behavioral Sciences*, Vol. 69, pp. 1842-1846, http://dx.doi.org/10.1016/J.SBSPRO.2012.12.135. [107]

Chua, C. (1989), "Kiasuism is not all bad", *The Straits Times*. [33]

Coburn, C. (2001), "Collective Sensemaking about Reading: How Teachers Mediate Reading Policy in Their Professional Communities", *Sage*, Vol. 23/2, pp. 145-170, http://dx.doi.org/10.3102/01623737023002145. [19]

Coburn, C. and J. Russell (2008), "District policy and teachers' social networks", *Educational Evaluation and Policy Analysis*, Vol. 30/3, pp. 203-235, http://dx.doi.org/10.3102/0162373708321829. [20]

Collinson, V. (2012), "Exemplary teachers: Teaching for intellectual freedom", *Pedagogies: An International Journal*, Vol. 7/2, pp. 101-114, http://dx.doi.org/10.1080/1554480X.2012.655885. [98]

Cornelius-Ukpepi, B., E. Edoho and R. Ndifon (2007), "Hidden curriculum, learning and the teaching of values", *West Africa Journal of Education Research*, Vol. 10, https://www.researchgate.net/publication/328807813 (accessed on 14 September 2021). [59]

Curriculum Corporation (2003), *Values Education Study: Final Report*, Australian Government Department of Education, Science and Training, http://www.curriculum.edu.au/verve/_resources/VES_Final_Report14Nov.pdf (accessed on 13 September 2021). [90]

Darling-Hammond, L. and C. Cook-Harvey (2018), "Educating the Whole Child: Improving School Climate to Support Student Success", *Learning Policy Institute*, http://dx.doi.org/10.54300/145.655. [44]

Delors, J. (1996), *Learning: The treasure within*, Report to UNESCO of the International Commission on Education for the Twenty-first Century. [132]

Duckworth, A. et al. (2010), "Deliberate Practice Spells Success: Why Grittier Competitors Triumph at the National Spelling Bee", *Social Psychology and Personality Science*, Vol. 2/2, pp. 174-181, http://dx.doi.org/10.1177/1948550610385872. [56]

Eccles, J. and A. Wigfield (2002), "Motivational Beliefs, Values, and Goals", *Annual Review of Psychology*, Vol. 53, pp. 109-132, http://dx.doi.org/10.1146/ANNUREV.PSYCH.53.100901.135153. [55]

Evans, L. (1998), *Teacher morale, job satisfaction and motivation*, Sage, Scientific Research Publishing. [67]

Fan, X. (2010), "Parental Involvement and Students' Academic Achievement: A Growth Modeling Analysis", *The Journal of Experimental Education*, Vol. 70/1, pp. 27-61, http://dx.doi.org/10.1080/00220970109599497. [100]

Farrington, C. et al. (2012), *Teaching Adolescents to Become Learners: The role of Noncognitive Factors in Shaping School Performance*, UChicago Consortium on School Research, Chicago. [45]

Feldlaufer, H., C. Midgley and J. Eccles (1988), "Student, Teacher and Observer Perceptions of the Classroom Environment Before and after the Transition to Junior High School", *The Journal of Early Adolescence*, Vol. 82/2. [83]

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, http://dx.doi.org/10.1111/J.1741-3737.2012.00987.X/ABSTRACT. [110]

Flay, B. and C. Allred (2010), *The Positive Action Program: Improving Academics, Behavior, and Character by Teaching Comprehensive Skills for Successful Learning and Living*, http://dx.doi.org/10.1007/978-90-481-8675-4_28. [92]

Georgiou, S., M. Ioannou and P. Stavrinides (2017), "Parenting styles and bullying at school: The mediating role of locus of control", *International Journal of School and Educational Psychology*, Vol. 5/4, pp. 226-242, http://dx.doi.org/10.1080/21683603.2016.1225237. [104]

Goddard, R., M. Tschannen-Moran and W. Hoy (2001), "A Multilevel Examination of the Distribution and Effects of Teacher Trust in Students and Parents in Urban Elementary Schools", *The Elementary School Journal*, Vol. 102/1, https://www.journals.uchicago.edu/doi/abs/10.1086/499690. [88]

Goodwin, R., P. Costa and J. Adonu (2004), "Social support and its consequences: 'Positive' and 'deficiency' values and their implications for support and self-esteem", *British Journal of Social Psychology*, Vol. 43/3, pp. 465-474, http://dx.doi.org/10.1348/0144666042038006. [93]

Gunnar, M. and L. Sroufe (eds.) (1991), *Competence, autonomy, and relatedness: A motivational analysis of self-system processes*, Lawrence Erlbaum Associates, Inc., https://psycnet.apa.org/record/1991-97029-002. [87]

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, p. 4881, http://dx.doi.org/10.12998/WJCC.V9.I19.4881. [40]

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://dx.doi.org/10.1080/0141192032000057401. [43]

Hamilton, R. et al. (2013), "Key Competencies in secondary school: An examination of the factors associated with successful implementation", *Teachers and Curriculum*, Vol. 13, http://dx.doi.org/10.15663/TANDC.V13I0.10. [23]

Harrison, T., I. Morris and J. Ryan (2016), *Teaching Character in the Primary Classroom*, Sage, London, http://dx.doi.org/10.4135/9781529714654. [129]

Hill, N. and D. Tyson (2009), "Parental Involvement in Middle School: A Meta-Analytic Assessment of the Strategies That Promote Achievement", *Developmental Psychology*, Vol. 45/3, p. 740, http://dx.doi.org/10.1037/A0015362. [101]

Ho, J. et al. (1998), "A preliminary study of kiasu behaviour - is it unique to Singapore?", *Journal of Managerial Psychology*, Vol. 13, pp. 359-370, http://dx.doi.org/10.1108/02683949810220015. [34]

Honig, M. (2006), *Complexity and New directions in education policy implementation: Confronting complexity*, The State University of New York, Scientific Research Publishing. [16]

Hoover-Dempsey, K. et al. (2010), "Parental Involvement in Homework", *Educational Psychologist*, Vol. 36/3, pp. 195-209, http://dx.doi.org/10.1207/S15326985EP3603_5. [102]

Ho, S., D. Munro and S. Carr (2020), "Kiasuism across Cultures: Singapore and Australia", in Lasry, J., J. Adair and K. Dion (eds.), *Latest Contributions to Cross-Cultural Psychology*, Routledge, http://dx.doi.org/10.1201/9781003077466-16. [30]

Howe, D. (2005), *Child Abuse and Neglect*, Red Globe Press. [122]

IIEP-UNESCO (n.d.), *Education system resilience*, http://www.iiep.unesco.org/en/our-mission/education-system-resilience (accessed on 14 September 2021). [137]

Jerald, C. (2006), "School Culture: "The Hidden Curriculum"", *Center for Comprehensive School Reform and Improvement*, http://www.centerforcsri.org (accessed on 14 September 2021). [5]

Kalimuthu, S. (2018), "An analysis of parents' attitude towards the learning orientation of higher secondary school students", https://www.lisbdnetwork.com/parents-attitude-and-beliefs-and-their-impact-on-child-development/ (accessed on 24 November 2021). [105]

Kanopka, K. et al. (2020), *What Do Changes in Social-Emotional Learning Tell Us About Changes in Academic and Behavioral Outcomes?*, Policy Analysis for California Education, https://edpolicyinca.org/publications/changes-social-emotional-learning (accessed on 24 November 2021). [47]

Khoury, R. (2017), "Character Education as a Bridge from Elementary to Middle School: A Case Study of Effective Practices and Processes", *International Journal of Teacher Leadership*, Vol. 8/2, pp. 49-67. [131]

Lambert, P. (2020), "The other learning essentials", *The Sydney Morning Helard*, https://todayspaper.smedia.com.au/smh/shared/ShowArticle.aspx?doc=SMH%2F2020%2F07%2F25&entity=Ar12403&sk=B325015E&mode=text. [89]

Lee, K. et al. (2021), "Student learning during COVID-19: It was not as bad as we feared.", *Distance Education*, Vol. 42/1, pp. 164-172, http://dx.doi.org/10.1080/01587919.2020.1869529. [133]

Lee, V. and S. Loeb (2000), "School Size in Chicago Elementary Schools: Effects on Teachers' Attitudes and Students' Achievement", *American Educational Research Journal*, Vol. 37/1, https://journals.sagepub.com/doi/abs/10.3102/00028312037001003. [84]

Lemoyne, T. and T. Buchanan (2011), "Does "hovering" matter? Helicopter parenting and its effect on well-being", *Sociological Spectrum*, Vol. 31/4, pp. 399-418, http://dx.doi.org/10.1080/02732173.2011.574038. [112]

Lerner (ed.) (1998), *The ecology of developmental processes*, Wildy & Sons. [8]

Lim, J. (2021), "MOE to reduce scope of exams in 2021, hire more school counsellors among moves to ensure students' mental well-being", *Today Online*, https://www.todayonline.com/singapore/moe-reduce-scope-exams-2021-hire-more-school-counsellors-ensure-students-well-being (accessed on 24 November 2021). [38]

Lovat, T. (2011), "Values education and holistic learning: Updated research perspectives", *International Journal of Educational Research*, Vol. 50/3, pp. 148-152, http://dx.doi.org/10.1016/J.IJER.2011.07.009. [91]

Lovat, T. and N. Clement (2008), "Quality teaching and values education: coalescing for effective learning", *Journal of Moral Education*, Vol. 37/1, pp. 1-16, http://dx.doi.org/10.1080/03057240701803643. [51]

Lovat, T., R. Toomey and N. Clement (eds.) (2010), *Re-visiting the "Quiet Revolution"*, Springer. [130]

Maphalala, M. and N. Mpofu (2018), "Embedding values in the South African curriculum: By design or default?", *South African Journal of Education*, Vol. 38/3, http://dx.doi.org/10.15700/SAJE.V38N3A1437. [1]

McLaughlin, M. (1990), "The Rand Change Agent Study Revisited: Macro Perspectives and Micro Realities:", *Educational Researcher*, Vol. 19/9, pp. 11-16, http://dx.doi.org/10.3102/0013189X019009011. [9]

Midgley, C., H. Feldlaufer and J. Eccles (1989), "Change in teacher efficacy and student self- and task-related beliefs in mathematics during the transition to junior high school", *Journal of Educational Psychology*, Vol. 81/2, pp. 247-258, https://psycnet.apa.org/record/1989-34691-001. [62]

Milyavskaya, M. et al. (2018), "Fear of missing out: Prevalence, dynamics, and consequences of experiencing FOMO", *Motivation and Emotion*, Vol. 42/5, pp. 725-737, http://dx.doi.org/10.1007/S11031-018-9683-5. [32]

Min, A. (2021), "Schools will provide diversity of skillsets and education pathways as MOE looks to re-examine teaching, testing: Chan Chun Sing", *Channel News Asia*, https://www.channelnewsasia.com/singapore/chan-chun-sing-moe-diversity-schools-education-2115116 (accessed on 25 November 2021). [39]

Mujis, D. and D. Reynolds (2000), "School Effectiveness and Teacher Effectiveness in Mathematics: Some Preliminary Findings from the Evaluation of the Mathematics Enhancement Programme (Primary)", *School Effectiveness and School Improvement*, Vol. 11/3, pp. 273-303. [63]

Murphy, M. et al. (2021), *Global Mindset Initiative Paper 1: Growth Mindset Cultures and Teacher Practices*, https://ssrn.com/abstract=3911594. [97]

Naidu, S. (2021), "Building resilience in education systems post-COVID-19", *Distance Education*, Vol. 42/1, pp. 1-4, http://dx.doi.org/10.1080/01587919.2021.1885092. [136]

New Zealand Ministry of Education (2017), *Te Whāriki: He whāriki mātauranga mō ngā mokopuna o Aotearoa (Early childhood curriculum)*, Ministry of Education, New Zealand. [7]

Newmann, F., R. Rutter and M. Smith (1989), "Organizational Factors that Affect School Sense of Efficacy, Community, and Expectations", *Sociology of Education*, Vol. 62/4, p. 221, http://dx.doi.org/10.2307/2112828. [74]

Odenweller, K., M. Booth-Butterfield and K. Weber (2014), "Investigating Helicopter Parenting, Family Environments, and Relational Outcomes for Millennials", *Communication Studies*, Vol. 65/4, pp. 407-425, http://dx.doi.org/10.1080/10510974.2013.811434. [111]

OECD (2021), *Adapting Curriculum to Bridge Equity Gaps: Towards an Inclusive Curriculum*, OECD Publishing, https://doi.org/10.1787/6b49e118-en. [118]

OECD (2021), *Beyond Academic Learning: First Results from the Survey of Social and Emotional Skills*, OECD Publishing, https://doi.org/10.1787/92a11084-en. [48]

OECD (2021), *Measuring What Matters for Child Well-being and Policies*, OECD Publishing, Paris, https://dx.doi.org/10.1787/e82fded1-en. [121]

OECD (2021), *OECD Skills Outlook 2021: Learning for Life*, OECD Publishing, Paris, https://dx.doi.org/10.1787/0ae365b4-en. [120]

OECD (2020), *Curriculum (re)design: A series of thematic reports from the OECD Education 2030 project - Overview brochure*, OECD Publishing, Paris, https://www.oecd.org/education/2030-project/contact/brochure-thematic-reports-on-curriculum-redesign.pdf (accessed on 16 September 2021). [15]

OECD (2020), *Curriculum (re)design: A series of thematic reports from the OECD Education 2030 project. Overview Brochure*, OECD, https://www.oecd.org/education/2030-project/contact/brochure-thematic-reports-on-curriculum-redesign.pdf. [12]

OECD (2020), *Curriculum Overload: A Way Forward*, OECD Publishing, https://doi.org/10.1787/3081ceca-en. [2]

OECD (2020), *What Students Learn Matters: Towards a 21st Century Curriculum*, OECD Publishing, https://doi.org/10.1787/d86d4d9a-en. [3]

OECD (2019), *Conceptual learning framework: Learning Compass 2030*, Future of Education and Skills 2030, http://www.oecd.org/education/2030-project/teaching-and-learning/learning/learning-compass-2030/OECD_Learning_Compass_2030_concept_note.pdf (accessed on 10 September 2021). [57]

OECD (2019), *OECD Learning Compass 2030: A Series of Concept Notes*, Future of Education and Skills 2030, https://www.oecd.org/education/2030-project/teaching-and-learning/learning/learning-compass-2030/OECD_Learning_Compass_2030_Concept_Note_Series.pdf. [82]

OECD (2019), *PISA 2018 Results (Volume I): What Students Know and Can Do*, PISA, OECD Publishing, Paris, https://dx.doi.org/10.1787/5f07c754-en. [117]

OECD (2019), *PISA 2018 Results (Volume III): What School Life Means for Students' Lives*, PISA, OECD Publishing, Paris, https://dx.doi.org/10.1787/acd78851-en. [58]

OECD (2017), *PISA 2015 Results (Volume III): Students' Well-Being*, OECD Publishing, https://doi.org/10.1787/9789264273856-en. [99]

OECD (2017), *Starting Strong V: Transitions from Early Childhood Education and Care to Primary Education*, Starting Strong, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264276253-en. [125]

OECD (2016), *PISA 2015 Results (Volume I): Excellence and Equity in Education*, PISA, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264266490-en. [78]

OECD (2013), *PISA 2012 Results: Ready to Learn (Volume III): Students' Engagement, Drive and Self-Beliefs*, PISA, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264201170-en. [54]

OECD (2013), *Synergies for Better Learning: An International Perspective on Evaluation and Assessment*, OECD Reviews of Evaluation and Assessment in Education, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264190658-en. [77]

Pajares, F. and L. Graham (1999), "Self-efficacy, motivation constructs, and mathematics performance of entering middle school students", *Contemporary Educational Psychology*, Vol. 24/2, pp. 124-139, http://dx.doi.org/10.1006/CEPS.1998.0991. [64]

Poh, B. (2018), "Commentary: A hyper-competitive culture is breeding severe test anxiety among many students", *Channel News Asia*, https://www.channelnewsasia.com/commentary/hyper-competitive-culture-breeding-severe-test-anxiety-among-799076 (accessed on 24 November 2021). [37]

Priestley, M. and G. Biesta (2013), *Reinventing the Curriculum: New Trends in Curriculum Policy and Practice*, Bloomsbury Academic. [26]

Rees, C. (2005), "Thinking about children's attachments", *Archives of Disease in Childhood*, Vol. 90/10, pp. 1058-1065, http://dx.doi.org/10.1136/ADC.2004.068650. [124]

Ross, J. (1998), "The antecedents and consequences of teacher efficacy", in Brophy, J. (ed.), *Advances in research on teaching*, JAI Press, Greenwich, CT. [68]

Ross, J., A. Hogaboam-Gray and L. Hannay (2001), "Effects of teacher efficacy on computer skills and computer cognitions of Canadian students in Grades K-3", *The Elementary School Journal*, Vol. 102/2, pp. 141-156, https://psycnet.apa.org/record/2001-05690-003. [72]

Schön, D. (1987), *Educating The Reflective Practitioner: Toward a New Design for Teaching and Learning in the Professions*, Jossey-Bass. [128]

Schön, D. (1983), *The Reflective Practitioner*. [127]

Schultz, S. (1990), "From isolation to commitment: The role of the community in values education", *New Directions for Student Services*, pp. 91-100, http://dx.doi.org/10.1002/SS.37119905009. [126]

Segrin, C. et al. (2012), "The Association Between Overparenting, Parent-Child Communication, and Entitlement and Adaptive Traits in Adult Children", *Family Relations*, Vol. 61, pp. 237-252, https://www.jstor.org/stable/41495180 (accessed on 24 November 2021). [113]

Shaw, K. (2017), *Hovering or Supporting: Do Parenting Behaviors Affect Their College-Offspring's Perseverance?*, Miami University, http://rave.ohiolink.edu/etdc/view?acc_num=miami1498148068465252 (accessed on 24 November 2021). [115]

Simmons, J. and J. MacLean (2016), "Physical education teachers' perceptions of factors that inhibit and facilitate the enactment of curriculum change in a high-stakes exam climate", *Sport, Education and Society*, Vol. 23/2, pp. 186-202, http://dx.doi.org/10.1080/13573322.2016.1155444. [27]

Singapore Advisory Council on Youth (1989), *Report of the Advisory Council on Youth*. [35]

Snyder, F. et al. (2009), "Impact of a Social-Emotional and Character Development Program on School-Level Indicators of Academic Achievement, Absenteeism, and Disciplinary Outcomes: A Matched-Pair, Cluster-Randomized, Controlled Trial", *Research on Educational Effectiveness*, Vol. 3/1, pp. 26-55, http://dx.doi.org/10.1080/19345740903353436. [94]

Soodak, L. and D. Podell (1993), "Teacher efficacy and student problem as factors in special education referral", *The Journal of Special Education*, Vol. 27/1, pp. 66-81, https://psycnet.apa.org/record/1993-39360-001. [71]

Spillane, J., B. Reiser and T. Reimer (2002), "Policy Implementation and Cognition: Reframing and Refocusing Implementation Research:", *Review of Educational Research*, Vol. 72/3, pp. 387-431, http://dx.doi.org/10.3102/00346543072003387. [10]

Spring, J. (2016), *Deculturalization and the struggle for equality: A brief history of the education of dominated cultures in the United States*, Routledge. [14]

Stipek, D. and D. Daniels (1988), "Declining perceptions of competence: A consequence of changes in the child or in the educational environment?", *Journal of Educational Psychology*, Vol. 80/3, pp. 352-356, https://psycnet.apa.org/record/1989-03246-001. [85]

Stringfield, S. et al. (1998), "Scaling Up School Restructuring in Multicultural, Multilingual Contexts: Early Observations from Sunland County", *Education and Urban Society*, Vol. 30/3, pp. 326-357, http://dx.doi.org/10.1177/0013124598030003004. [24]

Suess, G. and J. Sroufe (2005), "Clinical implications of the development of the person", *Attachment & Human Development*, Vol. 7/4, pp. 381-392, http://dx.doi.org/10.1080/14616730500365886. [123]

Tichnor-Wagner, A. (2019), "District agency in implementing instructional reform: A comparative case study of global education", *Journal of Educational Change 2019 20:4*, Vol. 20/4, pp. 495-525, http://dx.doi.org/10.1007/S10833-019-09346-2. [17]

Tichnor-Wagner, A. et al. (2018), "Studying Implementation within a Continuous Continuous-Improvement Process: What Happens When We Design with Adaptations in Mind?", *Teachers College Record*, Vol. 120/5, https://eric.ed.gov/?id=EJ1162823 (accessed on 14 September 2021). [11]

Tsai, C., H. Ku and A. Campbell (2021), "Impacts of course activities on student perceptions of engagement and learning online", *Distance Education*, Vol. 42/1, pp. 106-125, http://dx.doi.org/10.1080/01587919.2020.1869525. [134]

Tschannen-Moran, M. and A. Hoy (2001), "Teacher efficacy: Capturing an elusive construct", *Teaching and Teacher Education*, Vol. 17/7, pp. 783-805, http://dx.doi.org/10.1016/S0742-051X(01)00036-1. [69]

Tschannen-Moran, M., A. Hoy and W. Hoy (1998), "Teacher efficacy: Its meaning and measure", *Review of Educational Research*, Vol. 68/2, pp. 202-248, http://dx.doi.org/10.3102/00346543068002202. [65]

Tuckett, A. and J. Field (2016), *Factors and motivations affecting attitudes towards and propensity to learn through the life course*, Government Office for Science, UK, https://dera.ioe.ac.uk//29182/. [119]

Ulferts, H. (2020), *Why parenting matters for children in the 21st century: An evidence-based framework for understanding parenting and its impact on child development - OECD Education Working Paper No. 222*, OECD Publishing, Paris, https://www.oecd-ilibrary.org/education/why-parenting-matters-for-children-in-the-21st-century_129a1a59-en (accessed on 24 November 2021). [116]

Wasonga, T., D. Christman and L. Kilmer (2003), "Ethnicity, Gender and Age: Predicting Resilience and Academic Achievement among Urban High School Students", *American Secondary Education*, Vol. 32/1, pp. 62-74. [96]

Watson, M. (2006), "Long-term effects of moral/character education in elementary school: In pursuit of mechanisms", *Journal of Research in Character Education*, Vol. 4/1-2, pp. 1-19, https://go.gale.com/ps/i.do?p=AONE&sw=w&issn=15431223&v=2.1&it=r&id=GALE%7CA234791292&sid=googleScholar&linkaccess=abs (accessed on 13 September 2021). [95]

Weissberg, R. and J. Cascarino (2013), "Academic Learning + Social-Emotional Learning = National Priority", *Phi Delta Kappan*, Vol. 95/2, pp. 8-13, http://dx.doi.org/10.1177/003172171309500203. [46]

Witter, M. (2020), *Examining Multiple Dimensions of Teacher Quality: Attributes, Beliefs, Behaviours, and Students' Perceptions of Effectiveness*, http://minerva-access.unimelb.edu.au/handle/11343/258886 (accessed on 14 September 2021). [6]

Wohlstetter, P., D. Houston and B. Buck (2015), "Networks in New York City: Implementing the Common Core", *Educational Policy*, Vol. 29/1, pp. 85-110, http://dx.doi.org/10.1177/0895904814556753. [25]

Zins, J. et al. (eds.) (2004), *Building academic success on social and emotional learning: What does the research say?*, Teachers College Press. [52]

4 Challenges and strategies in embedding values

This chapter considers challenges countries/jurisdictions face when embedding values and attitudes into curriculum, as well as strategies to overcome them. It outlines such challenges as how to identify and select values and attitudes to include in curriculum design and how to build consensus on their inclusion; it also considers how to determine what localised curriculum should entail in the context of curriculum autonomy and flexibility, to be enacted through teacher agency, respecting teachers' own values and beliefs. The chapter outlines the range of strategies adopted by national/jurisdictional authorities to mitigate these impacts and to support introducing values and attitudes meaningfully into teaching and learning activities for a better future. Values and attitudes education needs to reflect the diverse cultural and social environments in which schools exist, so that curriculum designers can make appropriate connections between what is taught in schools and its application to the real world.

This chapter presents challenges and related strategies for teaching values and attitudes associated with three different levels of action and implementation. First, an analysis of challenges encountered, and strategies undertaken by countries/jurisdictions related to **curriculum redesign**; secondly, challenges and strategies related to the **school and its environment**; and thirdly, challenges and strategies related to **alignment with other policies**.

What are the challenges and strategies related to curriculum redesign?

Despite the prevalence of values and attitudes in educational priorities and curricular design, the questions of which values, whose values and how values should be embedded in curriculum – and therefore taught in schools – have been critical to consider in the design process. Choices may reflect political or ideological influences, may be intensely personal, or may not necessarily be broadly shared by stakeholders.

While the specific values deemed important for inclusion differ across countries, some common themes can be identified in the challenges experienced in redesigning curriculum to embed these values, and the strategies employed to overcome these challenges.

Countries reported that building consensus is key in bridging differences and minimising marginal influences. In so doing, countries reported challenges on four fronts: i) reaching agreement on whether values should be addressed as part of curriculum redesign; ii) building consensus on which values and attitudes should to be included in the curriculum; iii) even when agreement to include them is reached, the dissonance between values instilled through media and social media and those intended to be fostered through curriculum; and iv) harmonising values intended for inclusion in curriculum and changing values aligned with societal and economic changes.

Table 4.1. Challenges and strategies related to curriculum redesign

	Challenge/strategy	Countries/jurisdictions reporting this challenge/strategy
Challenges	Difficulty in building consensus on which values and attitudes to include in the curriculum and how they should be included	Australia, British Columbia (Canada), Ireland, Brazil, Viet Nam
	Dissonance between values instilled through media and social media and those intended to be fostered through curriculum	Chile, Ireland
	Difficulty in harmonising values intended in curriculum and changing values aligned with societal and economic changes	Chile, India
Strategies	Aligning values with national and international priorities	Australia, Chile, Ireland, Norway, Québec (Canada), India[1]
	Launching consultation processes to align with stakeholder views and support building consensus	Australia, Ireland, Norway, India, Viet Nam
	Articulating values and attitudes in cross-curricular competencies	Australia, British Columbia (Canada), Chile, Portugal, Norway, Brazil
	Embedding values into subject-specific content	Australia, Ireland, the Netherlands, Norway, Hong Kong (China), South Africa
	Creating specific subjects, such as character education or moral education	Ireland, Japan, South Africa
	Combining different approaches to mitigate difficulties in finding agreement and/or consensus	Australia, Estonia, Singapore
	Enhancing students' connection to communities and the social context	Japan, Hong Kong (China)

Note: 1. Responses for these countries/jurisdictions were submitted by independent researchers, not government administrations.
Source: Source: Data from E2030 PQC, findings from the research section.

The multiple influences of political parties, key educational stakeholders, social partners, parents, the media and social media, can be in opposition in shaping young people's attitudes and values. At the societal level, the rapidity of social and economic change requires renewal/regular reassessment of the values in the curriculum to remain current and avoid obsolescence. This desire for curriculum to be relevant and future-focused may contradict, for example, parental expectations about what students should learn at school. At the school level, the values espoused by the school and teachers' own values and views may have an impact on students' exposure to and acceptance of values.

Alignment is key to the successful strategies that countries/jurisdictions articulate have overcome the challenges of including values and attitudes in the curriculum. Alignment of local, national and international priorities with values and attitudes was reported by a significant number of countries. Similarly, alignment with key stakeholder views, and building consensus were other effective approaches used. Embedding values into subject-specific content and creating specific subjects to teach values are also common strategies. Countries can consider a combination of these approaches to address resistance to or differences of views in establishing values and attitudes in curriculum redesign and/or teaching and learning programmes. Finally, capitalising students' connection to communities and their social context is a way of making the theoretical teaching of values and attitudes a practical application to the real world.

Challenges to introducing values and attitudes into curriculum design

Difficulty in building consensus on which values and attitudes to include in the curriculum and how they should be included

In some countries, there can be resistance to the notion that values should be addressed as part of curriculum design. There is scepticism as to whether schools are adequately equipped to foster values learning, or a belief that schools and school curriculum are not the appropriate setting for values formation (this being the responsibility of parents, religious communities, etc.).

Even when there is agreement that values and attitudes should be embedded in curriculum, the question arises as to which or whose values should be included or excluded. A number of countries/jurisdictions, including Australia, British Columbia (Canada), Brazil and Viet Nam reported challenges associated with building consensus among diverse stakeholders on the values and attitudes that the curriculum would address and on how these should be addressed.

- In **Australia,** when a national curriculum was in development, there was ongoing debate about which values and attitudes should be part of young people's education and what a national curriculum should require. In addition, there was discussion of the relationship among values, attitudes and disciplinary learning in curriculum design.
- **British Columbia (Canada)** indicated that the difficulty in defining certain values in a universally agreed way contributed to the challenge of assessing the values to be embedded in curriculum. For example, "respect for the environment" was a value on which opinions and definitions varied significantly, particularly in different regions of British Columbia, where the economy may depend, for example, upon natural resources.
- **Ireland** noted the influence patron bodies have on values a school might espouse. Primary schools in particular, which are largely faith-based, have a constitutional right to uphold the values representative of their ethos.
- Political groups in **Brazil** have influence in parliamentary decisions, and these groups have regularly lobbied to have legislation passed to include particular values and practices that are affiliated with religious, political and personal views.

- **Viet Nam** noted factors that arise in their context about not only what values should be embedded in curriculum but *how* they can be embedded, including the level of detail and the methodology to embed them in the curriculum.

Dissonance between values instilled through media and social media and those intended to be fostered through curriculum

Education systems often compete with other sources of influence on young people. For example, some countries/jurisdictions reported an increasing influence of social media on young people's values and views of the world. New and emerging media platforms sometimes promote values that contradict those in the curriculum. Young people may not always be well-equipped to look critically at the values promoted by media.

- **Chile** noted the pervasive influence of media and social media on young people. Models of behaviour and attitudes that are out of touch with local, social expectations have led to what was reported as "anti-values" (negative attitudes of a person or group of people to social rules).
- In an age in which children and young people are bombarded with information from a variety of sources, **Ireland** reflected the need for children to develop robust judgement in their use of the media, and to learn about and become aware of influencing strategies used in advertising. Ireland, therefore, prioritises learning to understand and practice equality, justice and fairness in school situations, so that students will be enabled to challenge prejudice and discrimination as they experience it in their own lives, for the present and into the future.

Difficulty in harmonising values intended in curriculum and changing values aligned with societal and economic changes

As societal values evolve with changing social, economic and environment priorities, curriculum designers need to reflect these changes in updated curriculum. Failure to do so may contribute to creating a disconnect between what students learn in school and the society in which they live and interact with others.

- In **Chile**, societal trends, such as the diminishing role of the family in forming values (e.g. due to parents working more) means that the education system has increasing responsibility for shaping the attitudes and values of children and young people.
- Changing global and socio-economic contexts have influenced **India**'s national education policy to affirm values of global citizenship and alignment to the United Nations' Sustainable Development Goals. This policy recognises that personal and societal values must be an integral part of education. The policy also includes an emphasis on moral and ethical reasoning that should be integrated in school, as well as in higher, education.

Strategies to overcome challenges to introducing values and attitudes into curriculum design

Aligning values with national and international priorities

- Not all countries specify values as a separate yet interrelated dimension of curriculum and even those that do, often have other instruments that guide the development of values and attitudes as outcomes of education. Documents such as constitutions, laws, regulations and curriculum guidelines (Table 4.2) complement explicit curriculum content.

International instruments such as those developed by the United Nations (UN) and the OECD are designed to provide advice and guidance to countries on broad economic and social policy. The values articulated

in these documents influence the educational goals and curriculum design in some countries/jurisdictions. The UN's Universal Declaration of Human Rights, the UN Charter and the UN Millennium Declaration articulate such values as equality, freedom, justice, dignity, solidarity, tolerance, peace, security, and sustainable development, and the OECD Global Competency Framework includes valuing human dignity and valuing cultural diversity as guiding principles for attitudes such as openness towards people from other cultures, respect for cultural otherness, global-mindedness, and responsibility.

Aligning values in the curriculum with those already enshrined in national or international legal instruments can negate the need to "start from scratch" when deciding on which values to include in curriculum. Such an approach may also add legitimacy or authority to the selection of values for inclusion, which may in turn help to build consensus among stakeholders.

Several countries/jurisdictions described aligning values with national policy documents and legal instruments, those not only related to education but also to broader social policies. 60% of countries/jurisdictions highlight documents that reflect national contexts, such as education acts, declarations and targeted strategies, as guiding sources of values education.

The national constitution is cited as a source of values to be included in educational outcomes in 21% of countries (such as Estonia, Finland, Japan, Korea, Mexico, the Netherlands, Poland and Brazil). These documents include values such as humanity, patriotism, respect and equality. Educational legislation and guidelines, such as those to advance inclusivity and respect for diversity in schools, are quoted by 10% of countries/jurisdictions (such as Chile, Hungary, Ontario (Canada) and South Africa).

- The **Australian** curriculum incorporates three dimensions (learning areas, general capabilities and cross-curriculum priorities) addressing values and attitudes identified in the 2008 Melbourne Declaration on Educational Goals for Young Australians and reaffirmed in the Alice Springs (*Mparntwe*) Education Declaration of 2019.
- **Chile** incorporates values and attitudes in legislated instruments (Law 20.609/2012 for measures against discrimination, Law 20.845/2015 for school inclusion and Law 20418/2010 for the right to receive education, information and guidance in terms of fertility regulation). Building on existing frameworks, starting with the 1994 National Commission for the modernisation of education and then those of 2005, 2009 and 2014, Chile has opted to explicitly incorporate values into the curriculum as transversal content.
- In **Norway**, schools develop their curriculum content based on the values in the Education Act, which sets out the overall objectives of education. Examples of values in the Norwegian curriculum are human dignity; identity and cultural diversity; critical thinking and ethical awareness; the joy of creating, engagement and the urge to explore; respect for nature and environmental awareness; democracy and participation.
- **Québec (Canada)** reported that the Policy on Educational Success embodies three major values: universality, accessibility and equity. This policy underpins education measures in Québec and must, therefore, be reflected in the strategies, action plans and activities implemented in schools, including the curriculum.
- Across **India**, more than 400 languages are spoken and 7 religions practised. Therefore, it is difficult to build consensus on national values and identity. However, the Constitution of India prescribes values that assume significance for all citizens, and these are articulated in curricular frameworks and textbooks. All policy documents and education acts must also be based on certain values that are reaffirmed when reforms occur.

Table 4.2. Places in which values are included, other than curriculum

Country/jurisdiction	Places in which values are included, other than in the curriculum
OECD	
Australia	Education Declaration
British Columbia (Canada)	Definition of the Educated Citizen in the Statement of Education Policy Order (Mandate for the School System)
Chile	General Education Law (Law 20370); National System of Quality Assurance and Inspection of Education at Nursery, Primary, Middle And High School Level (Law 20529); School Inclusion Law; Citizen Education plan for Schools recognised by the state (Law 20911); Norms on information, guidance and benefits in terms of regulation of fertility (Law 20.418); Sport Law (Law 19712); a number of regulations related to environmental respect, justice and heritage protection in the field of environmental, non-discrimination, social and cultural issues
Costa Rica	Fundamental Education Law, Article 2
Czech Republic	Education Act no 561/2004 - Section 2
Denmark	Act of the Danish public school; each subject has a set of overall "subject aims"; concept of competence in the curriculum (the Common Objectives); Instruction of 'The well-rounded development of the individual student*, Subjects booklet no. 47.
Estonia	Constitution of the Republic of Estonia; Universal Declaration of Human Rights; Convention on the Rights of the Child; basic documents of the European Union
Finland	Constitution of Finland, 11 June 1999 - Section 16; Basic Education Act 628/1998 - Section 2; Amendment 477/2003; Amendment 642/2010; Amendment 1139/2003; Amendment 1288/1999; Public Health Act (66/1972); Child Welfare Act (417/2007); Act on Co-operation in Respect of Rehabilitation Service (497/2003)
Hungary	Directive: Pupils with special educational needs (2012); Right to Education Act (2009); Digital Educational Strategy, 2016 target system
Ireland	The National Strategy on Education for Sustainable Development 2014 -2020 National Strategy on Literacy and Numeracy for Learning and Life 2011-2020 Digital Strategy for Schools 2015-2020
Japan	Constitution of Japan; Basic Act on Education; School Education Act
Korea	Constitution of The Republic of Korea (Constitution No. 10, Oct. 29, 1987), Framework Act on Education (Act No. 15950, Dec. 18, 2018), Character Education Promotion Act (Act No. 15233, Dec. 19, 2017), Career Education Act (Act No. 13336, jun. 22, 2015)
Lithuania	The Law on Education; The National Strategy "Lithuania 2030"; The State Education Strategy 2013-2022
Mexico	Article 3 of the Mexican Constitution
Netherlands	Constitution, laws on primary and secondary education (*Wet op het Primair Onderwijs, Wet op het voortgezet Onderwijs*)
New Zealand	General guidance material on NZC resource bank, *TMoA Whakapakehatanga* pages and The National Education Goals
Northern Ireland (United Kingdom)[1]	Education (NI) Order 2006 No. 1915 (NI 11) PART II Article 4
Norway	Objects Clause of the Education Act and in the Core curriculum – values and principles for primary and secondary education
Ontario (Canada)	Citizenship Education Framework; Stepping Stones: A Resource on Youth Development; Stepping Up; Ontario's Equity and Inclusive Education Strategy (policy programme and memorandum); Equity and Inclusive Education in Ontario: Guidelines for Policy Development and Implementation; *Équité et éducation inclusive dans les écoles de l'Ontario* - Policy Program Memorandum (PPM) 119
Poland	Act of December 14, 2016 - Education Law; the Constitution of the Republic of Poland; Universal Declaration of Human Rights; International Covenant on Civil and Political Rights; Convention on the Rights of the Child
Portugal	Students' Profile by the End of Compulsory Schooling; Decree-Law No. 55/2018; National Strategy for Citizenship Education
Québec (Canada)	Policy on Educational Success; Policy on the Evaluation of Learning
Scotland (United Kingdom)	Professional Standards for registered teachers
Sweden	School Act, Chapter 1, Sections 5 and 6
Turkey	Textbooks and teaching materials published by Ministry of National Education
United States[1]	(m)
Wales (United Kingdom)	(m)
Partner	

Argentina	National Education Law: National Education Act, Chapter 2
Brazil[1]	Constitution and National Education Guidelines and Framework Law
China	(n.a.)
Hong Kong (China)	Policy documents: Learning for Life Learning through Life: Reform Proposals for the Education System in Hong Kong (Education Commission, 2000); Learning to Learn: Life-long Learning and Whole-person Development (Curriculum Development Council, 2001); the Chief Executive's Policy Address (2000; 2001; 2018; 2020; 2021). Curriculum Review report: Optimise the curriculum for the future: Foster whole-person development and diverse talents (Task Force on Review of School Curriculum, 2020).
India[1]	Clause 29 (2a) of Right to Education Act (2009); National Curriculum Framework for Teacher education (2010)
Kazakhstan	Presidential Address on nationwide idea "*Mangilik el*" (President N. Nazarbayev's address to the People of Kazakhstan in January 2014)
Russian Federation	Order of the Russian Ministry of Education and Science of 06.10.2009 N 373; Order of the Russian Ministry of Education and Science of 17.12.2010 N 1897; Order of the Russian Ministry of Education and Science of 17.05.2012 N 413
Singapore	Ministry of Education's Framework for 21st Century Competencies and Student Outcomes; syllabuses for primary, secondary and pre-university Character and Citizenship Education
South Africa	Guidelines for Inclusive Schools, National Curriculum Statement Grades R - 12
Viet Nam	(m)

Note: 1. Responses for these countries/jurisdictions were submitted by independent researchers, not government officials; (m) information not available.
Source: Data from E2030 PQC, Item 1.2.1.2.

Launching consultation processes to align with stakeholder views and support building consensus

Countries/jurisdictions use a range of strategies to involve stakeholders in decision making and establish consultation processes or expert reviews to reach consensus on which values and attitudes to include in curriculum.

Rather than a central authority deciding and mandating which values are to be included in curriculum, countries such as Australia, Ireland, Norway and India have adopted a consensus-building approach. Stakeholder consultation has been undertaken as part of the decision-making process in a number of countries/jurisdictions, while in others, securing political agreement has been an important early step.

- In **Australia**, initial work on the Australian Curriculum was guided by the *Melbourne Declaration on Educational Goals for Young Australians* (December 2008), which emphasised the importance of learning areas, general capabilities and cross-curriculum priorities as the basis for a curriculum designed to support 21st century learning.
- **Ireland** has a centralised education system administered by the Department of Education and Skills, although there is significant localisation in terms of school ownership, trusteeship and management. The 1998 Education Act provides for partnership model to curriculum development. This process "front-ends" curriculum negotiations through representative structures involving the key partners in education. This process is supplemented by engagement and generation of research, extensive consultation and the building of networks of schools/teachers/experts in the field. This type of consultation led to a vision for curriculum that empowers learners to be confident in their national, cultural and individual identity, to be aware of their capability to achieve more and to take every opportunity that arises to be the best that they can be, as outlined in the policy document, CUMASÚ, Empowering through Learning, Action Plan for Education 2019'. Other consultations include, Education about Religions and Beliefs and Ethics (primary); The Review of Relationships and Sexuality Education (primary and post-primary) Consultation on Religious Education and Social, Personal and Health Education (post-primary).
- In **Norway**, consensus building involved having political agreement by parliament on the new overarching frame of the National Curriculum, prior to renewal of the curriculum. During the renewal

process, teachers and other professionals provided input and contributed at key points. All those with an interest in school curriculum content also had the opportunity to share their opinions and suggestions at different phases of the process, and in several hearings. This open and inclusive process was important in building consensus among teachers, in schools and other key stakeholders at the local and national levels.

- **India** advocates forming working committees of experts to support embedding a particular value or set of values in the curriculum. India has also found it useful to implement a bottom-up approach to consultation, so that voices of citizens from across socio-economic and educational backgrounds are taken into consideration when drafting new education policy. For the New Education Policy (2019), India put in place processes and systems to invite recommendations and feedback from individuals, institutions, organisations and groups of people across the phases of policy design. This process included people representing different educational ideologies and ideas, different cultural and social backgrounds, and different regions – a range reflecting the diversity of the nation.
- **Viet Nam** found it helpful to identify the principles that underlie the qualities it includes in the national curriculum by holding scientific seminars and collecting opinions from different stakeholder groups.

Articulating values and attitudes in cross-curricular competencies

As countries/jurisdictions developed strategies for inclusion of values and attitudes in the curriculum, they also needed to consider where values and attitudes are articulated, structurally, in curriculum design. The place of values and attitudes in curriculum design varies. Some curricula include values as part of student profiles, learning goals, learning outcomes or a set of core competencies as a domain or element of the overall curriculum framework.

These approaches to values and attitudes are the most commonly articulated by countries/jurisdictions in this study. For instance, in **Turkey**, cross-curricular values are explicitly highlighted in a table at the beginning of the curriculum, indicating that schools and teachers need to consider values as an integral part of their curriculum. In **Sweden**, values are expected to be embedded in teaching in all subjects, without appearing explicitly in subject-specific goals. In **British Columbia (Canada),** values are embedded in the core competencies, these competencies being one of three curriculum design elements; and in **Ireland,** values are headlined in the 24 Statements of Learning. In **Denmark**, subject aims list values to a limited extent, but values are an integral part of the concept of competence, in the Common Objectives of the curriculum. **Chile** also articulates values and attitudes in the Transverse Learning Goals (TLG).

Embedding values into subject-specific content

Some countries' curricula specify that values are to be part of teaching and learning planning across school subjects (Table 4.3). The Curriculum Content Mapping (CCM) project (see Chapter 2) identified how, in the curriculum of participating countries/jurisdictions, a particular set of values and attitudes are explicated in subject-specific content.

- In **Australia**, opportunities to develop values, as reflected in capabilities and priorities, are indicated in the content of each subject. Australia's involvement in the CCM project demonstrated too, that values and attitudes beyond those specified in the capabilities and priorities are explicit in subject-specific curriculum. Reflection, for instance, was embedded across all subjects of the curriculum.
- In **Ireland**, through curriculum specifications, learning outcomes describe the knowledge, skills, concepts, dispositions and values that children should know/be able to demonstrate at the end of a period of learning.

- In the **Netherlands,** core subject objectives for lower secondary education reflect values, such as an objective in physical education to "acknowledge the needs of others, show respect and care for each other".
- **Hong Kong (China)**, has been encouraging schools to adopt an approach of whole-school participation for values education implementation. Some schools may choose to develop their school-based curriculum related to values education/whole-person development.
- In **South Africa**, subject textbooks follow a value-informed accreditation system. Students are provided with opportunities to appreciate and understand the attitude and values associated with a particular subject.

Creating specific subjects, such as character education or moral education

In more than one-third of countries/jurisdictions, specific subjects address moral, ethical and/or citizenship education. This approach to a particular subject providing values education allows a strong focus on the designated values. **Ireland**, for instance, includes a Social, Personal and Health Education. **Japan** includes a Moral Education subject (with its own purpose-designed textbook) and supports this teaching by ensuring instruction time for it and by developing teaching training on moral education. **Singapore** also includes a subject on Character and Citizenship Education and provides guiding principles with examples of content, pedagogies and assessments for the subject. Another example is **Mexico**, which includes Civic Education and Ethics, where students have the opportunity to monitor the appropriation of values; and through the processes of evaluation between peers and self-evaluation, teachers promote in students the capacity to discuss and analyse the work done in class.

Combining different approaches to mitigate difficulties in finding agreement and/or consensus

Most countries/jurisdictions indicated that a combination of approaches was used to ensure that values and attitudes underpin curriculum and are implemented in teaching and learning programmes (Table 4.3).

- In **Australia**, values and attitudes are articulated in national education declarations (2008 and 2019) that underpin the curriculum. The values implicit in the goals of this declaration are articulated in capabilities and priorities that form two dimensions of a three-dimensional curriculum. The learning areas, the third dimension, also reflect the declaration's values. The subject Civics and Citizenship (Years 3-10) contains key concepts identified in the declaration, such as government and democracy, laws and citizenship, diversity and identity. History and Geography (Foundation - Year 10) include content related to human rights, dignity, environmental concerns, liveability of places; Technologies (Foundation-10) includes content related to ethical understandings and sustainable futures; Health and Physical Education (Foundation-10) includes developing respect, empathy and valuing diversity; and English (Foundation-10) includes the interpretation of texts being influenced by value systems.
- **Estonia** has core values stated in the national curriculum, as well as in general competencies, such as cultural and citizenship competence, and civics and citizenship education as stand-alone subjects.
- **Singapore's** Ministry of Education believes that values and attitudes among other competencies are not learned in a vacuum, but in specific contexts. The 21st-Century Competencies Framework emphasises the values of care, integrity, respect, resilience, responsibility and harmony. The curriculum also includes Character and Citizenship Education, and provides guiding principles with examples of content, pedagogies and assessments for the subject; teachers are also encouraged to address values across multiple subject areas, such as social studies, history and geography as well as in mathematics and science (Ministry of Education Singapore, n.d.[1]). Therefore, the

curriculum highlights that the core values at the centre of their learning framework are expected to be embedded into every subject.

Table 4.3 indicates that most countries/jurisdictions combine different approaches to embedding values into curriculum with a combination of specifying these within an element of the curriculum design, and/or in subject-specific content, and/or in purpose-developed subjects.

Table 4.3. Approaches used to embed values in the curriculum

	Articulating values and attitudes as part of core competencies	Embedding values into subject-specific content	Creating specific subjects associated with fostering values
OECD			
Australia	✓	✓	
British Columbia (Canada)	✓	✓	
Chile	✓	✓	✓
Costa Rica	✓		
Czech Republic	✓	✓	✓
Estonia	✓	✓	
Finland	✓	✓	
Ireland	✓	✓	
Japan	✓		✓
Korea	✓		✓
Lithuania	✓	✓	✓
Mexico	✓		✓
Netherlands		✓	
Northern Ireland (United Kingdom)[1]	✓		✓
Norway	✓	✓	✓
Ontario (Canada)		✓	
Poland		✓	
Portugal	✓	✓	✓
Sweden		✓	
Turkey	✓		
Partner			
Argentina	✓		✓
China (People's Republic of)		✓	
Hong Kong (China)	✓	✓	
India			✓
Kazakhstan	✓	✓	✓
Russian Federation			✓
Singapore	✓	✓	✓
South Africa		✓	
Viet Nam	✓	✓	✓

Note: 1. Responses for these countries/jurisdictions were submitted by independent researchers, not government officials.
Source: Preliminary data from PQC, item 1.2.2.

Enhancing students' connection to communities and the social context

Taking into account the diverse cultural, ethical, linguistic and social environments in which schools exist, it is important for curriculum designers to make connections between the values taught in school and their application in the real world. Ultimately, this can help students go beyond their classrooms to put values into practice in their own communities and in the wider global community.

A case in point is the use of service-learning activities, i.e. activities that encourage students to engage with others outside the immediate school environment. Community service programmes encourage students to develop social skills and provide opportunities to improve their self-confidence, self-efficacy and resilience, as well as their awareness and appreciation of diversity in society (Jenney, 2012[2]). Students gain greater ability to avoid risky behaviours (Berkowitz, Bier and McCauley, 2017[3]) and this may help close the achievement gap in lower-performing schools (Scales et al., 2006[4]).

Such forms of experiential learning can help students discover the intrinsic value of community service and develop service-oriented habits and behaviours.

- In **Japan**, schools routinely connect students with individual members of surrounding communities for learning purposes.
- Other Learning Experiences (OLE) is an integral part of the senior secondary curriculum in **Hong Kong**, alongside the core and elective subjects, to nurture students' values and attitudes. For example, through community service programmes, senior secondary students can better understand specific needs of different people in a broader social context, and clarify and reflect on the values embedded in personal and social issues.

What are the challenges and strategies related to the school and its environment?

Many countries/jurisdictions are exploring ways to give schools flexibility in curriculum design, including those aspects that incorporate attitudes and values. Giving schools greater flexibility is particularly important in ensuring that values from the local community are reflected in local curriculum. The learning content is then relevant to students' lives outside school (see Chapter 3). Such flexibility also allows teachers to include their own interpretations of values prioritised in teaching and learning programmes.

However, one of the challenges of giving schools flexibility to embed values relevant to their local contexts is that this invites variation in levels of quality and engagement among schools in designing and managing curriculum content on values. Another challenge found is that, in some cases, teachers' own values may conflict with those specified in the curriculum.

To avoid such variation, countries/jurisdictions reported strategies such as specifying the values that they would like students to develop in high-level overarching curriculum aims and purpose statements that can then frame design and planning. A similar approach included providing guidelines to schools on the type of values to embed and how – either as part of education legislation or in the national curriculum. Countries/jurisdictions also reported embedding values into subject-specific content, and providing incentives and encouraging schools to design values education content in their own programmes, for example, by giving awards for good design and implementation practices across schools.

Table 4.4. Challenges and strategies related to the school and its environment

	Challenge/strategy	Countries/jurisdictions reporting this challenge/strategy
Challenges	Variation in the levels of engagement among schools in designing and managing curriculum content on values	Ireland, New Zealand, Poland
	Dissonance between teachers' own values and beliefs and those values in the curriculum	India[1]
Strategies	Providing some general guidelines to schools on the type of values to embed and how, either as part of the education legislation or the national curriculum	Ireland, New Zealand, Hong Kong (China)
	Embedding values into subject-specific content	Norway, Japan, Hong Kong (China), Singapore
	Rewarding good design and implementation practices that promote values learning across different schools	Hong Kong (China)

Note:1. Responses for these countries/jurisdictions were submitted by independent researchers, not government administrations.
Source: Data from E2030 PQC, findings from the research section.

Challenges introducing values and attitudes into school and its environment

Variation in the levels of engagement among schools in designing and managing curriculum content on values

While countries/jurisdictions provide schools with some autonomy in designing and managing curriculum content on values, such flexibility may lead to varying implementation in schools. Some countries/jurisdictions encourage this variability in order to reflect local contexts and the school communities' values. Some countries, including Ireland, New Zealand and Poland, reported schools not incorporating values as much as anticipated. This may have been due to lack of awareness or understanding of what values education is.

- A particular challenge in **Ireland** is the tension between what the state might deem as appropriate values and what the patron bodies of schools might deem appropriate. Since the early 2000s, Ireland has moved towards an outcomes-based approach to curriculum development and specifications of design – learning is defined in terms of what students should be able to know and do at the end of a period of learning. Attitudes and values are embedded into the design specifications. To support effective implementation, a level of guidance is required for schools to ensure that the design specifications are realised for the learner.
- **New Zealand** faces several barriers to values implementation in schools. For example, findings from the New Zealand 2012 Teaching and Learning Research Initiative demonstrated that values acquisition in schools was affected by social challenges and a misalignment between the values held by schools and those held by the communities that they serve (Notman, 2012[5]). The project also demonstrated the need to establish a common understanding of values (for both teachers and learners) and a discourse to interpret them. To a certain extent, New Zealand encourages variability in the values determined for local implementation and the way they are implemented in each school, as the values should reflect the unique nature of each school and its community. The refresh of the National Curriculum (*New Zealand Curriculum* and *Te Marautanga o Aotearoa*) will make clearer the learning that cannot be left to chance.
- **Poland** notes that, while national school education policies are developed centrally, management and administration are decentralised. Schools in Poland have autonomy in creating and applying all documentation relevant to the teaching of values and attitudes. This approach means that there are discrepancies among schools in the scope and quality of teaching programmes incorporating values, and therefore in student outcomes related to developing attributes and competencies

associated with values education. Independent management of schools, which is a consequence of school autonomy, presents challenges to processes and planning of systemic solutions.

Dissonance between teachers' own values and beliefs and those values in the curriculum

Teachers' personal values and views can contradict the values promoted in curriculum. This may lead to the intended curriculum values being omitted or misinterpreted, intentionally or unintentionally, or a different set of values promoted. For instance, in India, while gender equality is a constitutional right reinforced in the curriculum, it was reported that some teachers may still discriminate against girls in sciences.

- In **India,** one reason why values, such as gender equity for example, need to be affirmed and made explicit in the curriculum is to counteract some alternative or opposing views within the system. India noted that some teachers hold views that do not align with the values in the curriculum. For example, a teacher who believes that boys are more able than girls in the disciplines of mathematics and engineering may not be able to model and teach the value of equity, enshrined in the Constitution, the curriculum framework and educational and other policies.

Strategies to overcome challenges of introducing values and attitudes into school and its environment

Providing guidelines to schools on the type of values to embed and how, either as part of legislation or in national curriculum

Some countries/jurisdictions provide schools with flexibility as to what and how to embed values in curriculum, to reflect their local context. Such a strategy helps to ensure the relevance of the values to the students' lives. Countries/jurisdictions such as New Zealand and Ireland provide some general guidelines to schools on the type of values to embed and how, either as part of the education legislation or in the national curriculum.

- **Ireland's** Education Act of 1998 and national curriculum make it clear that diversity and respect are valued. How these values are articulated and implemented in school curricula is left to schools, so that they can best reflect their context and meet their own needs.
- In **New Zealand**'s national curriculum, there are certain values for which schools develop curricula. Local and school curricula can embed values that reflect the diversity relevant to local communities. The relatively small number of values that New Zealand defines in the English-medium national curriculum is not definitive, and individual schools have the autonomy to decide to add others and outline expectations. Communities and their schools can jointly discuss how values are expressed in teaching and learning programmes.
- **Hong Kong (China)** has recently issued a curriculum framework on values education.

Embedding values into subject-specific content

In some countries/jurisdictions, values are integrated into subject-specific content, in either targeted, specific subjects or across all subjects (such as in Norway and Singapore). This can help guide subject-teachers to better understand how they can foster a set of attitudes and values in their own classrooms. This approach aims to address the uneven level of teacher understandings, or even remove teacher biases. As subject content is rarely "values-neutral" (see Chapter 1), such an approach makes explicit those values that may be implicit in content, thereby addressing varying levels of curriculum implementation across different schools and classrooms, as well as capitalising on opportunities to link content and values in a relevant and authentic way.

- In **Norway**, the reasons for and the purpose of learning are clarified and strengthened in the Curriculum Renewal, LK20, of the "Knowledge Promotion" reform that took effect in 2006. There is now a section in the curriculum for each subject on the relevance for learners' personal development and future participation in society and working life, as well as a section that defines the values and attitudes for that subject. The definition of competence in the new curriculum refers to reflection and critical thinking as part of developing attitudes and ethical judgement. Competence is defined as: "the ability to acquire and apply knowledge and skills to master challenges and solve tasks in familiar and unfamiliar contexts and situations", and it includes "understanding and the ability to reflect and think critically." In the curriculum for each subject, a section explains the relevance of the mapped values and attitudes, as well as the overall purpose of training in the subject for learners' personal development and future participation in society and working life.
- **Singapore** also embeds values across all subjects and provides evidence of how this is articulated in individual subjects, for example in mathematics. The syllabus highlights how values and attitudes can be integrated into mathematics by requiring teaching and learning activities to draw examples from prevailing and current events (Ministry of Education Singapore, 2000[6]). For example, a teacher may ask students to calculate body mass index (BMI), which is a task included in the personal environment theme detailed in the national curriculum. The mathematics syllabus suggests that BMI values be collated into a pictorial representation, and the class discuss impacts of obesity and potential ways of addressing the issue. This adds a values component about health and well-being to the study of mathematics (Wong, 2005[7]).

Rewarding good design and implementation practices that promote values learning across different schools

In order to minimise uneven implementation of curriculum relating to values and attitudes, **Hong Kong (China)** reported that it has formalised pathways to identify, reward and disseminate good teaching and learning practices. Since the 2016/17 school year, the Education Bureau of the Hong Kong Government has endowed an Outstanding Teaching Award for Moral Education, which encourages schools to plan and implement moral education through effective leadership, teaching and learning. This promotes positive outcomes in moral education in schools and nurtures positive values and attitudes among students. Awardees share their successful experiences in seminars for principals and teachers, and facilitate professional exchange among schools.

What are the challenges and strategies related to alignment with other policies?

The success of the extent to which values are embedded in curriculum depends on alignment with the pedagogical approaches and learning materials used to implement the curriculum. This alignment needs to extend to the assessment policies and practices used to measure the development of values in the curriculum. Countries/jurisdictions report a range of challenges that arise when values identified in curriculum are not aligned with other policies, practices and instruments. Some countries/jurisdictions experience challenges relating to misalignment with pedagogies, textbooks and learning materials. Challenges also arise when there is misalignment with assessment policies and practices, as values and attitudes are harder to assess than disciplinary content and teachers require specific support and training.

Misalignment between values, curriculum implementation and other policies, practices and instruments presents challenges to successful values education, and some countries/jurisdictions have taken specific actions to improve alignment. Approaches include teacher training on values education within their professional development; reviewing textbook content to reinforce alignment with the values promoted in the curriculum; developing local initiatives to train and support teachers on approaches to teaching values; taking a careful and considered approaches to defining the purpose, scope and instruments for assessing

values; and designing "strategic packages" or a suite of measures to support the implementation of values education and therefore the development of values in young people.

Table 4.5. Challenges and strategies related to alignment with other policies

	Challenge/strategy	Countries/jurisdictions reporting this challenge/strategy
Challenges	Misalignment of values with those in pedagogies, textbooks and learning materials	Ireland, Japan, India[1]
	Misalignment of values with those in assessment policies and practices	British Columbia (Canada), Portugal,
Strategies	Boosting teacher confidence and competence by articulating values education in teacher education and professional development	Australia, Finland, the United States
	Reviewing textbook content to align with the values promoted in curriculum	India[1], Hong Kong (China)
	Encouraging national and local initiatives to train and support teachers for pedagogies fit for purpose of instilling values	Japan, Portugal, Hong Kong (China)
	Carefully considering the methods of assessing core competencies, including attitudes and values, that would be fit for purpose	British Columbia (Canada), Chile, Japan
	Designing a "strategic package" or suite of measures to support the development of values	Portugal; Hong Kong (China)

Note: 1. Responses for these countries/jurisdictions were submitted by independent researchers, not government administrations.
Source: Data from E2030 PQC, findings from the research section.

Challenges in aligning curriculum with other policies

Misalignment of values in curriculum with those in pedagogies, textbooks and learning materials

Design and implementation of curriculum are affected by many contextual factors at different levels: at the micro- (teacher), meso- (school), exo-system (mass media and community programmes), macro- (governmental/societal), and chrono-system (time and change over time) (Bronfenbrenner and Morris, 1998[8]; McLaughlin, 1990[9]; Spillane, Reiser and Reimer, 2002[10]; Tichnor-Wagner et al., 2018[11]). Students and teachers are part of a complex ecosystem which includes the school, family and community, as well as cultural beliefs that shape expectations around skills, competencies and values, for example, that should be included in a curriculum. The considerations then of curriculum redesign can be influenced at all of these levels and are not independent of them. Curriculum redesign and implementation are complex processes that involve the intersection of multiple policy dimensions (i.e. goals, tools, documents, programmes and resources associated with the redesigned curriculum), people (i.e. students, parents, teachers, community members, school leaders, administrators and all those who play a role in designing and implementing curriculum), and diversity of place (i.e. the varied locations in which the curriculum is taught) (Honig, 2006[12]).[1]

Countries/jurisdictions can draw on the steering power of the curriculum to embed values and align the curriculum with other policies and instruments that support the holistic development of values in children. A policy framework in which values education may be addressed includes pedagogy, assessment and teacher education.

The extent to which values promoted in the curriculum are successfully fostered in student learning relates to the appropriateness of the pedagogical approaches adopted and to the learning materials that are utilised by teachers. Several countries/jurisdictions, including Japan, Ireland and India, have experienced

challenges related to misaligned teaching methods and textbook content, or have identified such misalignment as a risk in their contexts.

- In **Ireland,** there is a high degree of agency and independence in terms of schools' implementation of curriculum which can create tensions between national policy and its intent and how it is experienced in schools. There is no central control of textbooks and resources used by teachers, so there is a risk of misalignment between teaching and learning materials and curriculum intent in relation to values. The misalignment may be exacerbated where the school ethos and those values articulated in national policy differ in their interpretation. By way of example, schools' faith-based patron bodies have significant authority over school ethos. Particular beliefs espoused by these patron bodies can influence how aspects of the curriculum involving relationships and sexuality education, and the values and attitudes embedded in these curricula, are taught.
- Prior to 2015, moral education in **Japan** faced challenges related to a gap between the values and attitudes promoted in the curriculum and teaching practices in classrooms. Moral education aims to foster students thinking about how they live their own lives, and to make proactive decisions about living well with others. However, classes in moral education tended to be based on stories the feelings represented of main characters and required students to talk and write about these objectively. Documentation about effective methodology to support rich teaching and learning was not sufficiently shared with teachers. As a consequence, Japan enhanced moral education in the partial revision of the National Curriculum Standards in 2015. Moral education now provides students with more opportunities to consider and discuss relevant issues to their personal lives, independently in class.
- In **India**, it was noted that local political ideology may interfere with the values promoted in textbooks (e.g. gender equality, in terms of representation of girls in textbooks). To address this, the National Council for Educational Research and Training, together with state and sometimes district offices, developed contextualised curricula to address these value-specific challenges. For example, if social justice was highlighted as a significant value that needs to be embedded in teaching and learning programmes in particular states or districts, the state academic bodies together with district offices would address this value in their textbooks, as well as in curricula and teacher education programmes.

Misalignment with assessment policies and practices

Values can be difficult to measure, and challenges relating to the assessment of values have been noted in several countries/jurisdictions, including in Portugal. Defining a construct precisely is an important precursor to measuring it, and problems of definition in relation to some values present challenges to their assessment (see example from British Columbia (Canada)).

Misalignment can also occur when assessment policies and practices, designed to assess disciplinary knowledge and understanding, are used to measure values. In some countries/jurisdictions (for example, Portugal), teachers may be unfamiliar with the most appropriate methods and instruments to use to assess students' progress and development in relation to values (see Chapter 1).

- **British Columbia (Canada)** notes the difficulties associated with assessing values. The definition of values may not be precise, and one person's definition, of social responsibility for example, may not be shared by others. British Columbia (Canada) promotes its multiculturalism and this is reflected in curriculum values that incorporate respect for a range of beliefs. Moreover, British Columbia's educational ecosystem includes independent, faith-based schools. While these schools must teach the provincial curriculum, they have the flexibility to teach content with faith-based principles and perspectives incorporated. This kind of local variation needs to be taken into account when mandating and/or assessing particular values at the provincial level.

- **Portugal** noted a challenge for schools to assess attitudes and values in the area of citizenship in each of the curriculum's subject areas, and observed that teachers are not necessarily familiar with appropriate tools to measure values and attitudes, and may require professional learning support.

Strategies to overcome challenges in aligning curriculum with other policies

Boosting teacher confidence and competence by articulating values education in teacher education and professional development

When redesigning curriculum to embed attitudes and values, curriculum designers can anticipate that not all teachers will feel equally prepared for implementing as intended. Explicitly acknowledging the importance of aligning teacher education to these components of the curriculum sends an unambiguous message about the whole-child approach to the values and attitudes that underpin the curriculum. Including this acknowledgement in curriculum design may help guide teacher education providers to adapt their programmes to better support teachers in this task. It may also encourage local jurisdictions to prioritise relevant resources and professional development activities for teachers.

- One study analysing the impact of including values education in teacher professional development in **Australia** reports an increase in teacher confidence in building positive relationships with their students and a sense of fulfilment (Curriculum Corporation, 2003[13]), which can contribute to overall quality of teaching and learning in schools (Lovat and Clement, 2008[14]).
- Research conducted in the **Finland** and **the United States** suggests that teacher competence can foster purpose in young people (Bundick and Tirri, 2014[15]). The development of those competencies that reflect values and attitudes through teacher education and professional development can prove beneficial for students and teachers alike. More broadly, professional development practices that support teacher self-efficacy are likely to enable teachers to be more effective in teaching values education (Bray-Clark and Bates, 2003[16]). Teachers who feel more able and empowered to teach values are likely to do so more effectively.

Reviewing textbook content to align with the values promoted in curriculum

Research about hidden curriculum reveals how cultural and societal beliefs and values can be portrayed within textbooks and be covert in nature (Hickman and Porfilio, 2012[17]). For example, various studies into hidden curriculum and textbook content have examined how manifestations of gender inequality, gender stereotyping and cultural and political biases exist in textbooks through language, visual imagery, and the omission of key information such as historical facts in history textbooks (Loewen, 2018[18]; Shinabe, 2018[19]; Lee, 2014[20]).

- **Hong Kong (China)** has a textbook review process to ensure alignment of textbook content with the curriculum guides, including the knowledge, skills and values promoted in the curriculum.
- In **India**, to avoid propagating certain ideologies, there has been strong lobbying over the years to ensure the quality of textbooks. To reduce bias, experts are invited from across the country, and draft curricula and policies are developed, triangulated and piloted.

Encouraging national and local initiatives to train and support teachers for pedagogies fit for the purpose of instilling values

Pedagogy can be an effective tool in the teaching of values. Some methods, such as direct instruction, may not necessarily support students' understanding and application of attitudes and values. Internalising and learning values may require different approaches to help students experience and understand them.

An example of alignment of values with pedagogies is found in Japan. Moral education is an important dimension of education in the Japanese context. It has a place and time in the national curriculum and permeates teacher practice in all subjects with the provision of guidance about how values can be taught in classrooms (Bamkin, 2016[21]).

Practices that are considered effective for the teaching of values include role-modelling by teachers, role-playing by students, dramatic representations and mentoring (Berkowitz, 2011[22]; Gulati and Pant, n.d.[23]; Notman et al., 2012[24]; Thornberg and Oğuz, 2013[25]). Other examples which have been noted in Sweden and Turkey are that teachers embed values in social interactions (Thornberg and Oğuz, 2013[25]). Instead of making them stand-alone practices or activities, they are promoted in activities and actions between students and teachers. Values education can be an everyday practice rather than a stand-alone activity.

Other pedagogies to support values teaching relate to 'critical pedagogy'. Following Paulo Freire's theory in the 1960's (1993[26]), this pedagogy is based on the belief that teaching should be an opportunity for learners to critically examine power structures and patterns of inequality. Values underpinning Freire's pedagogical construct are equality, care and solidarity. Activities based on critical pedagogy principles include, for example, students inquiring into cultural and/or historical events leading to the language spoken and taught in a language class. The critical pedagogy approach may trigger students' critical thinking about and questioning of established moral principles, or students reflecting on and suggesting ways to use science to increase personal, societal and/or global well-being (Mehisto, forthcoming[27]).

Box 4.1 illustrates a local initiative re-examining the goals of education with a special attention to attitudes and values.

Box 4.1. Local initiative in Delhi, India "Happiness Curriculum"

In 2018, the Dalai Lama launched the "Happiness Curriculum", an initiative that challenges traditional pedagogies and practices by holding that the purpose of education is to foster confident, mindful, responsible, and happy individuals who collectively build a happy and harmonious society. This curriculum was an important step in Delhi's Government of the National Territory's goal of building a humanist approach to education.

Key features of a Happiness Class

A Happiness Class engages students in a range of ideas, values, stories, and activities that encourage to discuss their views, share experiences, and reflect on their actions. It aims that the classroom is an open, non-judgemental, safe space for students to think deeply about their own and others' feelings, to identify their emotional needs and to be cognizant of their responses to life's circumstances. There are no textbooks or notebooks for the students, no examinations and no homework. Teachers have a handbook for each grade and its major components are mindfulness, stories, activities and expressions.

A team approach to its development

The curriculum is based on co-existential thought (Madhyasth Darshan) propounded by philosopher A. Nagraj, and on the pillars of happiness and aligns with the guidelines of the National Curriculum Framework 2005. It was designed by a team of professionals including mentor teachers and psychologists from the Directorate of Education, officials from State Council of Educational Research and Training, Delhi, and partner organisations like Abhibhavak Vidyalaya, the Circle of Life, Dream a Dream, Blue Orb and Labhya Foundations.

Learning outcomes of the Happiness curriculum

- students being mindful and attentive;

- students developing critical thinking and reflection;
- students developing socio-emotional skills like empathy, trust, resilience, better communication;
- students becoming confident and happy individuals.

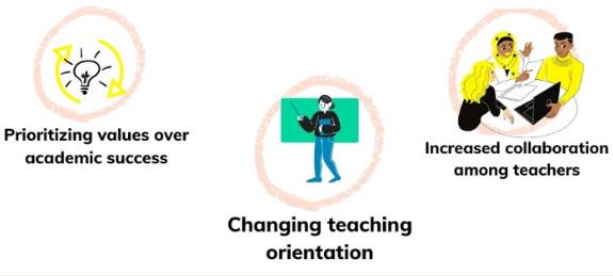
A peek inside a Happiness Class

The Curriculum has been catering to students from Nursery to 8th grade, all of whom experience a 40 minute happiness class each day; happiness teachers benefit from the curriculum by practicing it daily along with their students.

Testimonials and Impact

Brookings Institution, in partnership with Dream a Dream, conducted a pilot study in 2019 to design an assessment tool for the Happiness Curriculum. The report reflects the following impacts on teachers and students.

Impact on Teachers



Impact on Students

Happiness during the COVID-19 pandemic

During the pandemic, the Delhi Government ensured that students remained connected with and benefitted from the Happiness curriculum even when schools were shut down. As students, parents and teachers were processing the range of emotions – grief, anxiety, stress – the importance of the happiness classes increased significantly. Family Happiness classes were live-streamed on YouTube and students were encouraged to do mindfulness and other happiness activities with their parents and siblings at home. Happiness curriculum is a stepping-stone towards establishing a better, positive and vibrant society with happy individuals.

"There is a tremendous change that I see in myself ever since the Happiness classes started in my school. I used to find it impossible to express myself. In the last one year, I have come a long way. Not only do I enjoy studies and play. I have also discovered my creative side. My mind is full of exciting ideas. I recently surprised my friends by making necklaces for them." – Ganga, Class VII, Student

"I am noticing a lot of change in my daughter since she started attending the Happiness class. Earlier she rarely spent time with me and was glued to the phone and TV. But now she not only spends time with me but also helps me with housework. She shares all the stories that are told to her in the Happiness class. And she shares many anecdotes from school. It feels good to connect with her and share her happiness."– Geeta and Meenakshi, Parents

Source: Amit Kumar Sharma, Vikram Ghandeeswaran Narayanan, Vishal Talreja, Dream a Dream, India; Photo credits: Delhi Government.

Countries/jurisdictions have methods and strategies to train teachers for pedagogical change. When redesigning curriculum to embed attitudes and values, curriculum designers can anticipate that not all teachers will feel equally prepared for this content. Explicitly acknowledging the importance of aligning teacher education to these components of the curriculum sends an unambiguous message about the whole-child approach to the values and attitudes that underpin the curriculum. Values education can be incorporated into innovative training practices. Teachers are not only knowledge-acquisition facilitators, they also have to consider the moral impact on their students, as they play a crucial role in developing learners' capacity to become responsible citizens (Muthigani, 2019[28]). For them to become enablers of values and attitudes, they need to be exposed to training in which teacher educators "display behaviours reflective of moral virtues such as fairness, honesty and adhere to professional codes of conduct." (Lumpkin, 2008[29]).

Muthihani (2019[28]) proposed a four-point strategy which can be considered to make values training for future primary school teachers effective:

1. Educational planners and policy makers need to develop guidelines for teacher trainers. These guidelines should have objectives that are values-specific.
2. Professional development of lecturers (teachers' trainers) should be considered by educational planners so that lecturers can enhance their skills in values development.
3. A mechanism should be established between teacher training schools and primary schools (and the schools to which the trainees are posted) so that lecturers are able to evaluate whether their graduates are teaching values as outlined in the curriculum.
4. The management of primary teacher training schools should work closely with the lecturers to create an environment that gives trainees the opportunity to practice values learned during their training.

Countries/jurisdictions recognised that not all teachers feel equally prepared to teach values and, thus, have developed a range of initiatives to support pedagogy and practice. These include national and local authorities developing localised teaching materials (**Japan**); taking a "train-the-trainer" approach and

assigning a specialist teacher mentor per school (**Portugal**); creating teacher networks on values education and on-site support for curriculum design and implementation at the school level **(Hong Kong (China)).**

Peer-learning, sharing classroom-level practices, using online platforms as means of communication and sharing exemplar materials and Massive Open Online Courses (MOOCs) are successful initiatives noted by the following countries/jurisdictions:

- In **Japan**, to enhance development of moral education, MEXT provided support for teacher training by local government authorities using local teaching materials. Training is conducted in each prefecture for teachers who are then expected to supervise implementation of moral education. In addition, good practice in relation to moral education classes is provided online.
- **Portugal** targets training with one teacher assigned per school who co-ordinates the Citizenship Strategy at the school level, so that there will be, ultimately, a total of 810 mentors. This approach aims to increase consistency in the quality of implementation. Portugal has reinforced this initiative in its professional development offering with a series of Massive Open Online Courses (MOOCs) linked to the inclusion of values in curriculum.
- To enhance the professional leadership of teachers in implementing values education, **Hong Kong (China)** introduced the Learning Circle of Values Education in the 2012/13 school year. On-site support in curriculum planning and teaching is provided to schools by seconded teachers and Education Bureau staff. To facilitate teachers' professional development, peer-learning sessions and open classes are organised annually for participating schools to share their experiences.

Carefully considering the methods of assessing core competencies, including attitudes and values, that would be fit for purpose

While countries/jurisdictions recognise the need to assess or monitor students' development of the values and attitudes that are prescribed by curriculum, methods that have worked well to assess competencies may not be the most appropriate for assessing values. As a result, a number of countries/jurisdictions have adopted alternative strategies to assess or monitor student progress in the development of values. These include student self-assessment (**British Columbia (Canada)),** monitoring school programmes (**Chile**) and excluding results of the assessment of students in Moral Education in junior high school and high school entrance examinations (**Japan**).

- One of the approaches taken by **British Columbia (Canada)** has been to focus on students' self-assessment of core competencies. Students reflect on their own development as educated citizens through self-assessment. Students reflect on how they believe they have demonstrated values, rather than the assessment being based on teacher observations of students' values and beliefs.
- In **Chile**, the Ministry of Education and the Education Quality Agency ensure the continuous and periodic evaluation of the educational system in schools. The evaluations are based on performance standards, learning standards and other indicators of educational quality, and these include the development of values among students in schools. To complement the evaluation of students' achievement on learning standards, indicators measure aspects which reflect students' values such as academic self-esteem and school motivation; school climate; citizenship participation and training; and gender equity.
- In **Japan,** the subject Moral Education uses different assessment standards to accommodate the nature of the subject relative to other subjects in the curriculum. The assessment of students in Moral Education is not conducted using numerical standards used for other subjects, but through qualitative written descriptions, and this assessment is not considered in junior high school and high school entrance examinations. Given the importance that stakeholders place on entrance

examinations in Japan, this measure serves to ease students' anxiety that teachers' assessments of their morality may be subjective and would have impact on entrance examination results.

Designing a "strategic package" or suite of measures to support the development of values

A few countries recognised the difficulty to bring impact with a single intervention such as curriculum and thus, strategically, combine different measures to streamline or embed the development of attitudes and values into other initiatives that are highly relevant to such objectives, e.g. citizenship education, student profile as found in **Portugal**; and teacher education, development of textbooks and materials, in **Hong Kong (China**).

- **Portuga**l has a National Strategy for Citizenship Education (ENEC) which sets out a whole-school approach to citizenship education. The approach combines a subject called 'Citizenship and Development', mandatory for students in lower secondary education, with schools' autonomy to incrementally put in place a sequenced set of activities to develop knowledge, skills and attitudes around citizenship education for each school year. This facilitates interconnection between curriculum and citizenship education, as well as engagement at the school and community levels. To achieve this, students are encouraged to develop and participate actively in projects that promote fairer and more inclusive societies within the context of democracy, respect for diversity and the defence of human rights. The general upper secondary school diploma is expected to include information regarding the impact of citizenship projects on school and on community life. In addition, schools also develop a Student Profile by the End of Compulsory Schooling, which is humanist-based, which defines the principles, vision, values and competencies students are expected to have developed by the time they graduate from upper secondary education. This strategy was piloted in schools in 2017 and has been gradually generalised from the 2018/19 school year onwards.
- **Hong Kong (China)** has put in place a series of support measures on values education, including the provision of a values education curriculum framework, organising ongoing teacher professional development programmes, developing teaching and learning resource packages for schools' use, and a textbook review process to ensure the alignment between the intended values promoted in the curriculum framework and textbook content, as well as recommendations for textbook publishers to include the latest curriculum updates (including those on values education) in their textbooks.

Note

[1] Research to be developed in our forthcoming Ecosystem Approach to Curriculum Redesign and Implementation (Title to be Determined).

References

Bamkin, S. (2016), "Moral education at Japanese elementary school", https://www.researchgate.net/publication/327464461_Moral_education_at_Japanese_elementary_school (accessed on 15 September 2021). [21]

Berkowitz, M. (2011), "What works in values education", *International Journal of Educational Research*, Vol. 50/3, pp. 153-158, http://dx.doi.org/10.1016/J.IJER.2011.07.003. [22]

Berkowitz, M., M. Bier and B. McCauley (2017), "Toward a Science of Character Education: Frameworks for Identifying and Implementing Effective Practices", *Journal of Character Education*, Vol. 13/1, pp. 33-51. [3]

Bray-Clark, N. and R. Bates (2003), "Self-Efficacy Beliefs and Teacher Effectiveness: Implications for Professional Development", *Professional Educator*, Vol. 26/1, pp. 13-22. [16]

Bronfenbrenner, U. and P. Morris (1998), "The ecology of developmental processes", in Damon, W. and R. Lerner (eds.), *Handbook of child psychology: Theoretical models of human development*, John Wiley & Sons, Inc. [8]

Bundick, M. and K. Tirri (2014), "Student perceptions of teacher support and competencies for fostering youth purpose and positive youth development", *Applied Developmental Science*, Vol. 18/3, pp. 148-162, http://dx.doi.org/10.1080/10888691.2014.924357. [15]

Curriculum Corporation (2003), *Values Education Study: Final Report*, Australian Government Department of Education, Science and Training, http://www.curriculum.edu.au/verve/_resources/VES_Final_Report14Nov.pdf. [13]

Freire, P. (1993), *Pedagogy of the Oppressed*, Continuum International Publishing Group, New York, London. [26]

Gulati, S. and D. Pant (n.d.), *Education for Values in Schools – A Framework*, National Council of Educational Research And Training, Sri Aurobindo Marg, New Delhi, http://www.ncert.nic.in/departments/nie/depfe/Final.pdf (accessed on 15 September 2021). [23]

Hickman, H. and B. Porfilio (2012), *The New Politics of the Textbook. Problematizing the Portrayal of Marginalized Groups in Textbooks*, Springer. [17]

Honig, M. (2006), *Complexity and New directions in education policy implementation: Confronting complexity*, The State University of New York, Scientific Research Publishing. [12]

Jenney, T. (2012), "Cultivating Character Through Community Service: Community Service as a Predictor of College Student's Pro-Social Character Development", *SSRN*, http://dx.doi.org/10.2139/SSRN.2002826. [2]

Lee, J. (2014), "A hidden curriculum in Japanese EFL textbooks: Gender representation", *Linguistics and Education*, Vol. 27, pp. 39-53, https://doi.org/10.1016/j.linged.2014.07.002. [20]

Loewen, J. (2018), *Lies My Teacher Told Me: Everything Your American History Textbook Got Wrong*, New Press. [18]

Lovat, T. and N. Clement (2008), "Quality teaching and values education: coalescing for effective learning", *Journal of Moral Education*, Vol. 37/1, pp. 1-16, http://dx.doi.org/10.1080/03057240701803643. [14]

Lumpkin, A. (2008), "Teachers as role models. Teacher character and moral values", *JOPERD*, Vol. 79/2. [29]

McLaughlin, M. (1990), "The Rand Change Agent Study Revisited: Macro Perspectives and Micro Realities:", *Educational Researcher*, Vol. 19/9, pp. 11-16, http://dx.doi.org/10.3102/0013189X019009011. [9]

Mehisto, P. (forthcoming), "Critical pedagogy: Fostering learner engagement, critical thinking and language learning", in *Teaching Foreign Languages in Secondary School - A Practical Guide*, Routledge, London. [27]

Ministry of Education Singapore (2000), *Mathematics syllabus: Lower secondary*, https://www.moe.gov.sg/docs/default-source/document/education/syllabuses/sciences/files/2007-mathematics-%28primary%29-syllabus.pdf (accessed on 11 July 2021). [6]

Ministry of Education Singapore (n.d.), *21st Century Competencies*, https://www.moe.gov.sg/education-in-sg/21st-century-competencies (accessed on 15 September 2021). [1]

Muthigani, A. (2019), "Values Development in Teacher Trainees: Implications for Lecturers in Primary Teacher Training Colleges in Kenya", *Educational Planning*, Vol. 26/2, pp. 47-54. [28]

Notman (2012), "Implementing Vaues in the Curriculum: Fours years on", *Set 2012*, pp. 41-49. [5]

Notman, R. et al. (2012), *Integrating values in the New Zealand Curriculum: Caught or taught?*, http://www.tlri.org.nz/sites/default/files/projects/9292-summaryreport_0.pdf. [24]

Scales, P. et al. (2006), "Reducing Academic Achievement Gaps: The Role of Community Service and Service-Learning", *Journal of Experiential Education*, Vol. 29/1, pp. 38-60, http://dx.doi.org/10.1177/105382590602900105. [4]

Shinabe, N. (2018), "Revealing a hidden curriculum in educational discourses: A study of the representation of Europe and Asia in Spanish and Japanese school textbooks", *Discourse and Society*, Vol. 29/6, https://doi.org/10.1177%2F0957926518802963. [19]

Spillane, J., B. Reiser and T. Reimer (2002), "Policy Implementation and Cognition: Reframing and Refocusing Implementation Research:", *Review of Educational Research*, Vol. 72/3, pp. 387-431, http://dx.doi.org/10.3102/00346543072003387. [10]

Thornberg, R. and E. Oğuz (2013), "Teachers' views on values education: A qualitative study in Sweden and Turkey", *International Journal of Educational Research*, Vol. 59, pp. 49-56, http://dx.doi.org/10.1016/J.IJER.2013.03.005. [25]

Tichnor-Wagner, A. et al. (2018), "Studying Implementation within a Continuous Continuous-Improvement Process: What Happens When We Design with Adaptations in Mind?", *Teachers College Record*, Vol. 120/5. [11]

Wong, K. (2005), *Add cultural values to mathematics instruction: A Singapore initiative*, http://ww1.math.nus.edu.sg/events/AMC/papers-invited/Wong-KY.pdf. [7]

5 Lessons learned from embedding values in curriculum

This final chapter outlines the lessons learned and some unintended consequences of embedding values education in curriculum design. These include: 1) the acknowledgement that values and attitudes may be indirectly "caught" rather than directly taught; 2) the need to support school leaders and teachers to reconcile tensions among values which may vary among societal norms, school ethos, parental expectations and students' own beliefs; 3) the need to acknowledge the integrity of subject content as well as the association between subject content and real-life contexts; 4) the importance of awareness of risks and opportunities in messaging through media; 5) the need to make conscious efforts to reflect student voice; 6) the multidimensional considerations to consider when measuring attitudes and values. Research gaps are also suggested to further consolidate the knowledge base on values curriculum.

Chapter 1 articulated that, despite the range of values and attitudes that countries/jurisdictions would like to see embedded in student learning, there is a degree of commonality across the categories of personal, social, societal and human values and attitudes seen as desirable. These values and attitudes reflect, by and large, those prioritised by national curriculum frameworks and dominant social groups (e.g. respect, diversity, responsibility, human dignity, tolerance, democracy, equality, integrity, self-awareness, justice). Chapter 2 explored how these attitudes and values are highly relevant for the future and are embedded in subject-specific curriculum, and Chapter 3 explored how students can develop values and attitudes informally and non-formally, outside the formal instruction through curriculum.

The strategies introduced in Chapter 4 (Challenges and strategies in embedding values) are examples of responses from countries/jurisdictions related to addressing the challenges of embedding values in curriculum. While the strategies offer insights, some countries/jurisdictions have reported experiencing outcomes that were not anticipated when implementing these strategies, which added further complexity to embedding values in curriculum.

The following lessons learned are based on actual experiences. The list could be used as a checklist to reflect on the current state of play and to consider whether similar unintended consequences that peer countries/jurisdictions have experienced resonate.

Six lessons learned from unintended consequences of embedding values in curriculum

1. Acknowledge that some values are “caught”, “sought” and “aspired to” – rather than directly “taught”;
2. Prepare and support schools and teachers to be able to reconcile the tension and dilemmas involved with values and attitudes;
3. Reassure teachers by preserving the integrity of subject-area content and appropriately addressing values in their learning contexts;
4. Be aware of risks and opportunities in messaging through social media;
5. Make conscious efforts to reflect student voice;
6. Consider not only validity and reliability, but also authenticity, feasibility, sustainability, costs and scalability when assessing attitudes and values.

Lesson 1. Acknowledge that some values are “caught”, “sought” and “aspired to” – rather than directly “taught”

Chapter 3 (Cultivating positive attitudes and values in a learning ecosystem) illustrated where and how students develop attitudes and values, and Chapter 4 (Challenges and strategies in embedding values) addressed the complexities from embedding values and attitudes in curriculum design to monitoring their place in the experienced curriculum in the classroom. There are growing expectations for schools to address values in curriculum design, to enrich students’ learning experience and their school life as well as life outside and beyond school. A learning-ecosystem approach to curriculum design and implementation is of critical importance because it recognises that curriculum does not occur in a vacuum but needs to reflect the complex inter-relationships of the ecosystem’s components.

The embedding of values in curriculum is a contested space, as it often needs to accommodate political, philosophical and ideological differences. Despite the challenges, countries/jurisdictions are increasingly articulating a specific set of values in their curriculum. They often include, reflect or reinforce values articulated in international declarations, national legislation or in the views of dominant social groups. The intent of such articulation is to promote behaviours that are underpinned by an agreed set of values, to

support students to learn to act as responsible citizens within their school community as well as in the wider community.

The broader ecosystem needs to acknowledge that students learn **formally**, **informally** and **non-formally**.[1] Students learn inside and outside school, from the interactions that occur in their relationships, with their teachers, peers, parents, and with individuals and social groups within their community. These learnings may not, necessarily, represent a coherent, shared or aligned set of values and attitudes. Indeed, they may be at odds with one another. Students need to learn to evaluate and make sense of values when modelled by those around them as part of their day-to-day interactions inside and outside school. In other words, there are direct and indirect influences on students' learning in relation to values.

These influences reflect discussion on values being "caught", "sought", and "aspired to" rather than directly "taught" (see section on hidden curriculum in Chapter 3). Inevitably, there are values that are implicitly "caught" by students that are not explicitly in lesson plans or explicitly taught by teachers. Teachers and parents often "seek" to foster a certain set of values or seek to cultivate an ethos in school or influence the behaviours at home. Students also often 'aspire to' values based on their role models' behaviours (e.g. peers, elder siblings, parents, teachers).

When implementing subject-specific curriculum that embeds values, teachers need to be culturally responsive and competent to be aware that what they do and how they act, what they talk about, as well as which words they choose to use, can influence their students' beliefs, values and behaviours. Teachers are not simply transmitters of the curriculum, but rather shapers of their students' learning, including their mindsets, behaviours, values and attitudes. They are also shapers of their students' well-being, as their own often-taken-for-granted assumptions and beliefs may be different to those of their learners and could, at times, have unintended consequences for some students. As indicated in Chapter 4, teachers need to be supported to adopt an adaptive and inclusive approach to teaching, in accordance with students' needs, personal traits, as well as cultural, economic and social backgrounds.

In this regard, teachers are often referred to as "designers" of their students' learning environment. Therefore, teachers can support students to become self-aware, make sense or find meaning of learning in a wider context in the ecosystem in which they live and learn. In doing so, it is of critical importance for teachers to recognise individual differences among students, in particular, for vulnerable students and students at risk. When it comes to curriculum design, the Universal Design for Learning (UDL) approaches can be considered; for UDL, please see the E2030 curriculum analysis report, *Adapting Curriculum to Bridge Equity Gaps: Towards an Inclusive Curriculum* (OECD, 2021[1]). This helps students to develop a sense of self-directed learning, which can take place anywhere, anytime, as lifelong learners.

Lesson 2. Prepare and support schools and teachers to be able to reconcile the tension and dilemmas associated with values and attitudes

Due to the contested nature of embedding values in curriculum, particularly where communities and schools have varying perspectives on values, some countries/jurisdictions give schools autonomy and flexibility to localise this content, as long as schools comply with national or jurisdictional curriculum frameworks. Localisation of curriculum is not unique to values education, and many country/jurisdiction curricula allow for and encourage the teaching, learning, and assessment of knowledge, skills, attitudes and values to reflect local needs and contexts. Providing schools with agency in relation to what, how, when and where values are taught, learned and assessed supports the reconciliation of tensions and dilemmas between differences in perspectives.

This strategy, however, where responsibility for embedding values in the curriculum is left to the professional judgement of teachers, comes with the risk of making the school or classroom environment less inclusive of values articulated in curricular or national goals. While respecting teacher agency and autonomy in this way, varying outcomes for students may be an unintended consequence.

In addition, teachers may also be faced with alternative views – parents who see the teaching of values as the domain of the family and/or faith settings and not appropriate for schools to address, at least in terms of formal curriculum. Countries reported that values and attitudes in relation to religious beliefs, cultural differences with immigrant and refugee children, and moral and sexual education were areas where contested views occurred. There may be teachers who feel uncomfortable teaching and transmitting values to which they do not necessarily adhere. Anticipating teachers' needs to reconcile such tension and dilemmas in countries/jurisdictions where teachers are given autonomy, it is critical to prepare and support them through teacher education programmes, professional development activities, and demands-driven support programmes

School leaders also require significant support and guidance in the process of embedding values in the curriculum, both in managing the tensions that may arise and in understanding the extent to which variation in embedding values is appropriate.

While there is no one-size-fits-all approach to embedding values in curricula, some key principles highlighted in the literature include:

- curricula should reflect the complexity represented in the community by their diverse student populations, recognising the contested – political, policy and technical – nature of curriculum discussions and developments (Gay, 1994[2]; Gecan and Mulholland-Glaze, 1993[3]; Cline and Necochea, 1996[4]);
- schools choose, from core values set in national curriculum, those that are most pertinent in their context (Cline and Necochea, 1996[4]).

More rigorous research is needed to understand how to direct the focus of political, philosophical and ideological discussions back to "what students need to be able to do" and help to reconcile tensions and competing demands among stakeholders. For example, some countries compiled national databases of national and international documents, including those articulating ethical principles, and shared these with the wider public to raise awareness. This stimulated discussions among stakeholders and helped create a shared understanding about attitudes, behaviours and values in their countries. This has also helped to co-ordinate and improve the teaching of ethics, including by supporting schools throughout the country with various pedagogies and methodologies to support values development.

Lesson 3. Reassure teachers by preserving the integrity of subject-area content and appropriately addressing values in their learning contexts.

When countries/jurisdictions decide to articulate values in curriculum design, some reported that they created some stand-alone subjects to teach values (e.g. moral education and ethics). However, a common concern is that any addition to the number of subjects impacts on curriculum crowding and takes time away from other subjects.

The concept of competency implies more than just the acquisition of knowledge and skills; it involves the mobilisation of knowledge, skills, attitudes and values to meet complex demands, which in turn contributes to individual development and well-being (Keyes, 2002[5]). A number of countries/jurisdictions use the strategy of embedding values and attitudes as components of core competencies that make up key elements of curriculum frameworks, so that values can be embedded across the curriculum rather than in stand-alone subjects.

Such an approach also helps establish understanding among stakeholders that the fostering of these values and attitudes is part of students' formal learning, rather than entirely left to family matters, to ensure societal well-being and social cohesion.

Furthermore, focusing on a whole-student approach to competency development supports rethinking and redefining student success, articulating students as the intended beneficiaries of curriculum reform as well

as embracing the concept of well-being as an integral part of reform (see Chapter 1). However, some countries/jurisdictions reported that some teachers see a competency-based curriculum which includes values, as an unnecessary responsibility and beyond what they understand to be the content of their subject. Guidance is required to support teachers to preserve the integrity of subject-area content and to appropriately address values in their learning contexts.

Lesson 4. Be aware of risks and opportunities in messaging through social media

Media management is part of an important strategy for policy makers to manage curriculum change. Television, journals, blogs, online articles and other evolving social media can create new expectations about curriculum change among the general public. Media reports can make judgements based on individual school circumstances and make generalisations, which may not reflect the entire schools', teachers', parents' and students' experiences of curriculum change.

Academics and parent bodies often share their views to the media. However, supportive opinions rarely make the news, and it is often negative press (newspapers, blogs, social media groups) that influences mainstream opinion. Media, increasingly social media, can prompt widespread tensions when it comes to differences of opinion or conflicts of interest in relation to curriculum redesign.

Embedding values in curriculum is a sensitive issue, which may contribute to diverging attitudes on curriculum design. Contributing to polarisation, the media can make the adoption of curriculum reforms and change even more challenging for curricular authorities. Strategies to counter curriculum design influence by the media have included purpose-driven, government-led websites, to which schools and principals can contribute, sharing constructive feedback and best practice approaches among stakeholders.

Media influences all members of society who have a stake in education – school leaders and teachers, parents, students and the broader school community. By recognising that media forms part of the larger learning ecosystem, countries/jurisdictions need to develop strategies to manage messaging about curriculum redesign.

Lesson 5. Make conscious efforts to reflect student voice

Students' real-life experiences, their expectations, and their voices are often underestimated or neglected, i.e. not heard. Conscious efforts are needed to hear their voices. When the intent of curriculum change is underpinned by students' interests, aspirations and ideals, and appropriately shared with students themselves, they may wish to express their opinions related to their experiences. Students may share the importance of values in their personal development and their concerns such as stress, overload and other matters they wish to have addressed. Such open sharing could help build strong, wide and authentic stakeholder leverage for planned change.

However, issues remain despite the fact that 196 countries have either ratified or signed the UN Convention on the Rights of the Child. For example, Article 12 (e.g. "the right to be listened to") is not always fully understood, or practised by teachers, school leaders and other adults working in school, or by parents at home.

It is important to raise the awareness of teachers and school leaders and provide opportunities for them to listen to student voice, find the balance among different voices, at times needing to reconciles tensions and dilemmas, and adjust their curriculum and lesson plans accordingly so as to accelerate curriculum change towards being more student agency-oriented, dynamic and inclusive. Such opportunities can be provided through, for example: teacher education, professional learning, or any other support programmes.

For parents, as discussed in Chapter 3, possible tensions arise when parental expectations, beliefs, and interests are, understandably at times, not exactly the same as those of their children. Dilemmas can arise

from trying to strike a balance between parental aspirations for children and children's own aspirations for future. In the context of developing students' attitudes and values through formal or hidden curriculum, it is of utmost importance to create a safe environment where students can speak about their true selves. In other words, their voices should be authentic, not assumed voices in which students consciously or unconsciously assume what they should say in accordance with what their teachers or parents or friends think. This is particularly important for students to feel a sense of ownership of their own life and for them to own their learning.

Student voice can also be affected by systems or cultures, e.g. in some countries where there are high-stakes exams (such as a matriculation exam or university entrance exam), the systems of assessment and evaluation can be conducive to distortion of student voice. Both systemic and cultural barriers need to be removed to let authentic student voice out, so that the attitudes and values students inherently embrace can become visible, whereby teachers and parents can value students' agency and competency development, including attitudes and values.

Lesson 6. Consider not only validity and reliability, but also authenticity, feasibility, sustainability, costs and scalability when assessing attitudes and values

When embedding values and attitudes in curriculum, significant public concerns relate to how to measure, document and provide evidence about processes paving the way to learning outcomes of such curriculum. There are many decisions countries/jurisdictions need to make with regards to assessment of values and attitudes, e.g. how to measure them, how to document and use the results of any assessment, how students' results should be reported, etc.

Debates always exists within the field of educational measurement in relation to different measures that may impact validity and reliability, different outcomes of summative or formative assessment, as well as different approaches to curriculum intentions and assessment possibilities (Orpwood, 2014[6]; Corrigan, Gunstone and Jones, 2013[7]). This is even more significant when considering assessing values and attitudes, as they are harder to define and more ambiguous than knowledge or skills (Lamprianou and Athanasou, 2019[8]).

To overcome difficulties associated with these types of measures there have been decades of efforts to creating an integrated taxonomy, a common language to measure, for example, social and emotional skills. Figure 5.1 shows "domains and manifestations of socio-emotional competences" (DOMASEC), a metrics that has been developed to align language across different frameworks, such as Big Five and CASEL, with the aim of offering conceptual clarity and to help identify and classify constructs, and (where applicable) to assess and measure social and emotional competences (Schoon, 2021[9]). In 2021, the OECD published *Beyond Academic Learning: First Results from the Survey of Social and Emotional Skills*, describing how students' social and emotional skills relate to individual, family and school characteristics and set out policy implications (OECD, 2021[10]). The survey uses the Big Five model for the conceptual framework for assessment.

In **Indonesia**, after a 2013 curriculum change in elementary schools, teachers started implementing the "authentic assessment" method, an evaluation that reflects student learning, achievement, motivation and attitudes on instructionally-relevant activities (O'Malley and Pierce, 1996[11]; Kurniawati, Nurviyani and Halimah, 2015[12]). Research conducted in 2015 on its implementation revealed that the most used 'authentic techniques' to conduct this type of assessment were observation and journal assessment (Kurniawati, Nurviyani and Halimah, 2015[12]). However, the researchers found three main challenges to observation:

1. the number of students: observation of attitudes and behaviours is challenged by a large number of students in a class;

2. students' participation: not all students have the confidence to participate orally and interact with peers demonstrating their attitudes, making it impossible to assess them;
3. time limitation: authentic assessment needs sufficient time to be well-developed (Kurniawati, Nurviyani and Halimah, 2015[12]).

Figure 5.1. Domains and manifestations of socio-emotional competences (DOMASEC)

Domains/manifestations	Examples of prototypical competences	Examples from other frameworks			Basic psychological needs
		Big Five	CASEL	Other (see Explore SEL)	
Self-orientation					**Autonomy**
Affect	Self-esteem	Neuroticism		• Happiness	
Cognition	Self-concept		Self-awareness	• Self-efficacy • Self-reflection • Identity	
Behavior	Self-regulation	Conscientiousness	Self-management	• Self-control • Emotion regulation • Stress regulation	
Other-orientation					**Relatedness**
Affect	Empathy			• Compassion	
Cognition	Perspective taking		Social awareness	• Trust • Tolerance • Respect for others	
Behavior	Cooperation	Extraversion agreeableness	Relationship skills	• Connection • Caring • Pro-social behavior • Leadership	
Task-orientation					**Competence**
Affect	Value/ Interest			• Zest • Passion	
Cognition	Foresight	Openness	Responsible decision making	• Optimism • Purpose • Inquisitiveness • Imagination/creativity	
Behavior	Task-performance			• Persistence/effort • Initiative • Innovation	

Source: Schoon, (2021[9]), *Towards an Integrative Taxonomy of Social-Emotional Competences*.

When assessing a whole-student development, including attitudes and values, it is important to consider not only validity and reliability but also how authentic the assessment is, which attitudes and values are feasible for inclusion, and whether it is practicable and sustainable, considering the scale, time and resources required.

Thanks to emerging new technologies, different methods have been developed to assess students' views and socio-emotional skills (Schoon, 2021[9]; Duckworth and Yeager, 2015[13]; Abrahams et al., 2019[14]). For example, computer-based problem scenarios (Rausch, Kögler and Seifried, 2019[15]), interactive computer games (Day et al., 2019[16]), or opportunistic measures derived from observing and coding the behaviours of individuals engaged in standardised assessment programmes (Zamarro et al., 2018[17]) can be used to balance the strengths and limitations of self-reports and direct assessments of social-emotional competences (Schoon, 2021[9]).

When it comes to embedding attitudes and values into curriculum and, as a consequence, measuring attitudes and values, it is important to strike a balance between recognising the complex realities of "what's measured is treasured" and cultivating a new culture of "what's important but not measured still is treasured". Box 5.1 and Box 5.2 present such cases where changes are being introduced to assessment methods and practices, in line with curriculum change.

Box 5.1. Japan: Examples of current assessment methods valuing students' experience

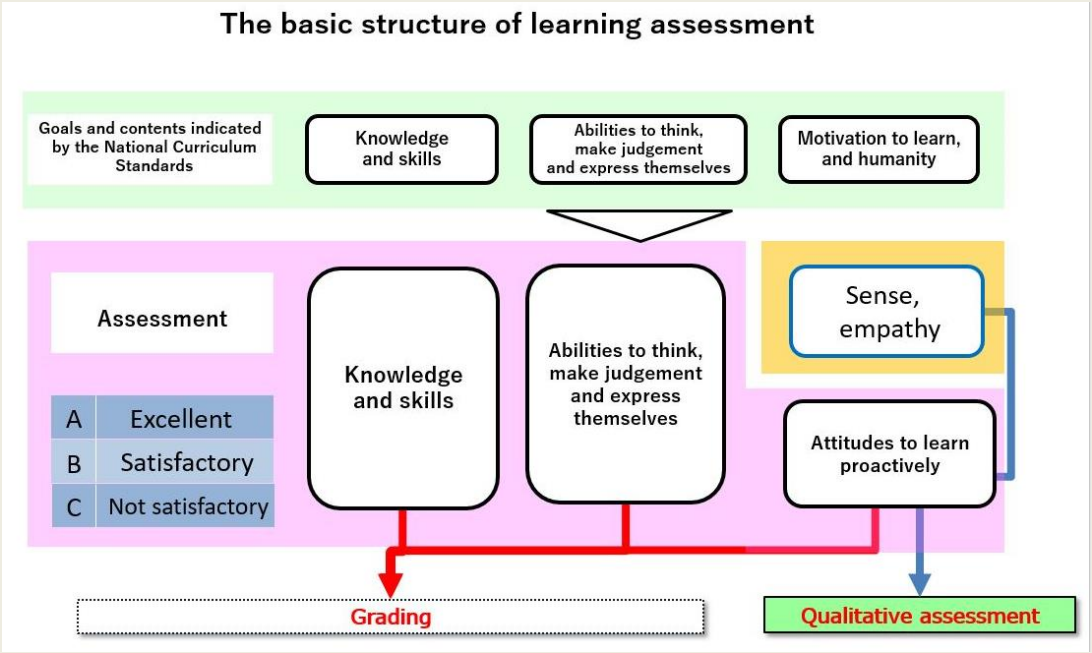
Three types of changes in relation to assessment alignment with the National Curriculum Standards revision in Japan

Japan revised the new National Curriculum Standards for kindergarten, elementary, lower secondary, upper secondary and special needs schools from 2017 to 2019. Discussion around the National Curriculum Standards revision emphasised that the revision should be introduced alongside changes to assessment to ensure a more coherent, effective and efficient alignment.

1. Learning assessment

Teachers used to provide results of learning assessment in an end-of-semester report, but learning assessment has changed along with the revision of the National Curriculum Standards. Past practice included reporting on four viewpoints ("interest, motivation and attitude"; "the ability to think, to make decisions and to expressthemselves"; "skills"; and "knowledge and understanding"), but their relationship with the National Curriculum Standards was unclear. Through the implementation of the new National Curriculum Standards, three assessment viewpoints were introduced which are fully aligned with the three competencies fostered through National Curriculum Standards.

Aspects of two of the three competencies and assessment viewpoints, "knowledge and skills" and "ability to think, make judgement and express themselves" are fully aligned. On the other hand, "motivation to learn and humanity", is distinguished into a part which should be assessed using grades (an assessment viewpoint of "attitude to learn proactively"), and a part which should not be graded, related to sense and empathy.



2. National assessment

In Japan, national assessment consists of two parts – a main, cohort assessment and a secondary, sample assessment; the main assessment targets all students (approximately 2 million students) and is conducted every year; and the secondary assessment is for a sample of students (100 000 students), and is conducted approximately every three years.

These two parts have different policy aims. The aim of the main, annual cohort assessment is to provide feedback for each Board of Education (BoE), school, teacher and student, which is why it targets all students. The questions are considered to be useful indicators for teachers of the concepts in the national curriculum. After the implementation of the assessment, almost 90% of primary schools and 80% of lower secondary schools used the questions from the national assessment to inform improvement of teachers' pedagogy and training at school. The assessment works not only to assess student achievement but also to inform teacher practices on what the national curriculum emphasises. On the other hand, the sub-part, which involves a sample of student cohort, is to inform national/local governments about changes over time and to support their policy making. The main part of the assessment started in 2007, whereas the sub-part was introduced later, in 2013, and in 2016, item response theory (IRT) was introduced to guarantee more accurate analysis over years.

Currently, the Ministry of Education (MEXT) is discussing changes to the national assessment framework. MEXT is considering whether there should be two equally important "main parts", but which have different aims. MEXT is also accelerating digitalisation at schools through an initiative called the "GIGA school project", which aims to strengthen school ICT networks and provide each student with a digital device. As part of the GIGA school project, MEXT is planning a gradual shift in assessments from paper-based testing (PBT) to computer-based testing (CBT). The assessment for the sample of students will shift to CBT from 2024, followed by the all-student assessment's shift to CBT from lower secondary school from 2025 as quickly as possible. Following that, primary schools will also move to CBT. MEXT plans to assess students' knowledge, technical skills, and cognitive and non-cognitive skills with more accuracy and provide more timely feedback with these changes.

3. University entrance examinations

In recent years, the government has been leading discussions on potential reform to university entrance examinations. Traditionally, university entrance examinations have not necessarily been designed to evaluate the abilities cultivated in high school education or those needed to study in future university education. This was thought to be the cause of a gap between the National Curriculum Standards for upper secondary schools and university entrance examinations. As entrance examinations have been considered high-stakes, it is natural that secondary teachers consider entrance examinations to be more important than the National Curriculum Standards for upper secondary schools, and these perceptions by teachers and students were thought to be a disincentive to the smooth implementation of the new National Curriculum Standards.

MEXT decided to integrally reform high school education, university education, and university entrance examinations that connect the two. Based on the discussions on university entrance examinations, the National Centre for University Entrance Examination, which is a test-provider of a national, common test for university entrance, has tried to introduce new types of questions that are aligned with the conceptual framework of the National Curriculum Standards. For example, aspects of authentic learning have been introduced in many test items. It is expected that the change of test items will, together with the changes to the National Curriculum Standards for upper secondary schools, have a positive impact on secondary education.

Sources: Central Council for Education (2019[18]), "児童生徒の学習評価の在り方について (About the ideal way of learning evaluation of children)"; National Center for University Entrance Examinations (2021[19]), "Reiwa 3 (2021)".

Box 5.2. Assessment at the Amala Foundation (UK-based): Developing competency portfolios

"At Amala, we use the Mastery Transcript Consortium platform to build our transcripts and for students to display examples of their work to potential pathway providers.

Our approach involves the award of credits. Each credit corresponds to a competency that we believe, as an organisation, will support students in developing their agency. These are outlined in the Amala Competency Framework. Each competency is broken down into discrete, identifiable success indicators. Students are awarded credit when they reflect upon an artefact (any product from taking action) produced through applying knowledge, skills, attitudes and/or values in a real-life situation.

As part of the reflection, students articulate how the artefact demonstrates progress towards meeting a success indicator that they have identified to be relevant. This can be done using an evidence template, through a reflective conversation with the facilitator, or some other method determined by the student and/or facilitators. A facilitator then determines whether to award the credit or not (usually by answering the question: has the student demonstrated the use of knowledge, skills, attitudes and values to make progress towards the success indicator?).

Artefact Title e.g. Meditation Journal

Student: Delete all text in blue

Name:

Context: In this section, briefly introduce the context of the artefact. This might include things like that course it is associated with and the task you were asked to complete. Keep this section brief (around 3-5 bullet points). You might like to use the sentence starters that are given:

- This work was completed as part of…[insert some context like the course this work is associated with]
- In completing this work, I was trying to…

Artefact: The item you link to here is what will potentially be uploaded to the transcript later on (once you have selected the artefacts you are most proud of). You might like to use the sentence starter below.

- The main product from this work is [add a link to your artefact]

Reflection: Answer **at least one** question from product, process, impact. Answering these questions will help the reader understand the artefact better and your role in creating it better. It will also support you in learning more deeply from the experience. You might like to delete the questions when you are done and make this section look more like a paragraph(s).

An advantage of this approach is that students have ownership over the artefacts they use. For example, a student may have produced an in-depth report from a 10-week project where they used human-centred design to investigate an issue in their community. They might reflect on this and articulate how it demonstrates they can "analyse community problems" and submit this reflection, along with the artefact, for review by a facilitator. A student may use this in-depth artefact for more than one competency. The facilitator will look at the report through the lens of the competency being evidenced and determine whether the student has successfully articulated their capabilities in this competency, and offer feedback on the artefact itself. This will support the student in, for example, developing their project reporting skills. In another example, a student may have documented a particular experience where they behaved in a certain way. This reflection on an experience would become an artefact and could be linked to a competency through a more metacognitive reflection.

Once credit is awarded, students can decide which evidence used to award that credit is uploaded to their digital portfolio on the Mastery Transcript Consortium platform. They can choose to change this evidence at a later date if they produce something they are prouder of later on in the programme. All work submitted is given feedback. If students fail to meet the credit criteria, then they are given clear and specific feedback as to how to make progress towards meeting the criteria. If the student is awarded credit, then they are given some "even better ifs" to help them improve their work and more importantly, learn for the next time they apply their knowledge, skills, attitudes and values to a real-life situation.

This process is the main form of summative assessment at Amala and for all intents and purposes, we use it formatively as well."

Source: Louie Barnett, Education Lead, Amala Education

Reciprocal and circular approach to formative assessment – multiple-layered, connected co-agency

"Being part of Amala Education has been an enriching and fulfilling experience on a personal and professional level. I work as a learning facilitator for a high school diploma program that targets conflict-affected students who dropped out of school in their home country such as Eritrea, Iraq, Jordan, Somalia, Sudan and Syria. The curriculum contains a variety of interesting topics such as: **social entrepreneurship**; **peacebuilding**; and **maths for change**.

The content of the courses triggers us and the students to be curious, ask questions and be open to learning new things from different parts of the world. Moreover, we as facilitators have the flexibility to implement what activities we see fit our own context.

Another part of my work at Amala that has helped my development is the coaching sessions, so every team member at Amala has their own coach, who are educators from the UWCSEA East and volunteering to provide these sessions. We meet on a regular basis to share the challenges that we face inside and outside the classroom, we start brainstorming what strategies could be implemented in our context to improve learning, experiment with these strategies and then provide feedback. These coaching sessions have fuelled me with the energy I need to support my students. It made me realise that education is a deep ocean that you keep discovering its secrets and challenges and you never reach its bottom.

To further support our professional growth, we also have *learning walks*, in which each facilitator walks into the class of another facilitator whether physically or virtually with the purpose of observing the strategies used by the facilitator and how they manage the class. Then the facilitators have a post-learning discussion, where they share thoughts and feedback to improve. For example, in my recent learning-walk I was aiming to see how effective my paraphrasing skills were inside the class and I identified the success indicators to that (paraphrasing what the student shared, making sure that I understood them correctly by asking them directly and encouraging other students to paraphrase their colleague's words), so I recorded a part of the class in which I was facilitating a discussion among the students, then the observer watched it and we had a discussion on how I succeeded on applying paraphrasing based on the success indicators I mentioned, and what could be improved."

Source: Rania Dadoul, Facilitator, Amala Education.

Research gaps: What is still unknown about attitudes and values in curriculum?

Curriculum development that incorporates values has received some treatment in literature, but knowledge gaps remain (Berkowitz, Battistich and Bier, 2008[20]). While it may be feasible to examine particular pedagogical techniques or features of values in curriculum, it is a challenge to examine the processes, assessment methods, and consequences of embedding values in curriculum and how these may have an impact on the diversity of students' and teachers' expectations of outcomes. Highlighted below are some selected issues that require further research:

How attitudes and values are "taught"', "caught"', "sought" or "aspired to"

Research is unclear as to the best way to ensure that values are outcomes of curriculum. Research and practice have shown that there are some effective strategies to different teaching and learning approaches. These include role-modelling, experiential learning and explicitly targeted tasks to convey and teach values; but there is limited research that has compared the effectiveness of different pedagogical approaches to values learning. The roles played by a student's community – parents, family, peers and teachers – warrant further investigation. A more systematic investigation, contrasting various methods, is warranted in order to provide robust evidence relating to how values are directly taught or indirectly caught, sought, and aspired to and, finally, internalised and appropriated by learners.

How to manage national processes of negotiation and consultation in incorporating attitudes and values in curriculum

The processes of incorporating attitudes and values in a national curriculum, like all aspects of curriculum redesign, are characterised by negotiation and consultation with administrators, policy makers, teachers, parents, and other key stakeholders. Case studies are needed to define successes, challenges, and the strategies that countries have undertaken in negotiating their successful inclusion. Identifying stumbling blocks and ways to productively engage stakeholders are steps in ensuring that attitudes and values can be incorporated effectively and appropriately.

In addition, the process of incorporating these competencies could contribute to issues of time lag in curriculum design – the delay between updated design and the knowledge needed. Studies of time lag could consider how incorporating values can be done effectively. Incorporating attitudes and values in curriculum is underpinned by considerations in relation to reconciling tensions between global and local values, as well as appreciating commonalities and synergies. Neither research nor theory has addressed this issue. Countries/jurisdictions need to consider and acknowledge, in incorporating attitudes and values in curriculum, whether these reflect national, regional or local priorities, or broader global values. Ensuring that students understand these nuances would be another important contribution to research in values in education.

How to embed attitudes and values in curriculum in connection with the development of knowledge and skills

Embedding attitudes and values in curriculum does not necessarily mean that students will actually develop these attributes. Differences in perspectives and conflicting influences can mitigate the outcomes of well-designed programmes. Research from education and developmental psychology may provide theoretical insights into how to best embed values and how this should be customised (Darling-Hammond et al., 2019[21]; Eccles, 1999[22]).

How to assess attitudes and values taught

Although there is some research on assessment of attitudes and values (Poetker, 1977[23]; Meenatchi and Baskaran, 2016[24]), there is limited evidence as to how best to assess what has been learned, in particular, in terms of "whole child" development, encompassing all aspects of well-being and learning, including both cognitive and socio-emotional skills. Assessment can determine what learning has occurred during the learning process, can provide feedback to students and/or teachers throughout the learning process; and can serve as a reflective or learning tool. Attitudes and values do not necessarily lend themselves to assessment using traditional methods of measurement. Curriculum redesign could include a variety of assessment methods that suggest how teachers and students could incorporate approaches that ensure that not only students' academic development, but also their development as human beings, are measured. Diary entries, discussions with teachers and peers, debates, mind maps, role-playing, interviews and self-evaluation, volunteer and service activities have been cited among strategies to encourage students to reflect on attitudes and values (Bird and Markle, 2012[25]; Durlak et al., 2007[26]; Berkowitz and Bier, 2007[27]). For example, mandatory assessments in Sweden include self-evaluations at the primary level. Questions such as: "How do you feel when you are going to: …explain something so that others understand; …say what you think about..." prompt students to think about responsibility towards self and others. National tests are based on national curriculum content and are consequently a way of supporting curriculum implementation in Sweden (Nusche et al., 2011[28]). In a study on values education processes in Turkish elementary schools, strategies reported as being most used to teach and/or assess values included: using visual materials to support concepts; teachers as role models; transferring of values; supportive correcting of behaviours; caregiving; developing perspectives; giving guidance; and purpose-developed presentations. In this same study, outside the classroom, teaching and evaluation of values were explored throughout activities such as field trips; social responsibility projects; and preparing bulletin boards (Kaya and Ekşi, 2021[29]). Self-assessment is a tool used to improve well-being and change behaviours. For example, activities that engage students to think about values that they bring to their community, especially when paired with sharing with a peer, provide opportunities for self-reflection and learning from others (The Jubilee Centre for Character & Virtues, n.d.[30]). Changes in behaviours, such as through volunteering or acts of civic engagement, can be can recorded as measures of learning (Berkowitz and Bier, 2007[27]). However, it is not clear whether some of these innovative techniques are more effective than others and warrants further research.

Note

[1] **Formal learning** is organised and structured, and has learning objectives. From the learner's standpoint, it is always intentional: i.e. the learner's explicit objective is to gain knowledge, skills and/or competences. Typical examples are learning that takes place within an initial education and training system or workplace training arranged by an employer. It may be referred to as formal education and/or training or, more accurately, education and/or training in a formal setting. **Informal learning** is never organised, has no set objective in terms of learning outcomes and is never intentional from the learner's standpoint. Often may be referred to as learning by experience or just, experience. The concept is that the simple fact of existing, constantly exposes the individual to learning situations, at work, at home or during leisure time for instance. **Non-formal learning** may be organised and can have learning objectives. The advantage of this intermediate concept between formal and informal learning lies in the fact that such learning may occur at the initiative of the individual but also happens as a by-product of more organised activities, whether or not the activities themselves have learning objectives. In some countries, adult learning falls into the category of non-formal learning; in others, most adult learning is formal. Non-formal learning therefore provides some flexibility between formal and informal learning, and should be strictly defined to be operational, by being mutually exclusive, and avoid overlap with other learning. (OECD, 2018[31])

References

Abrahams, L. et al. (2019), "Social-emotional skill assessment in children and adolescents: Advances and challenges in personality, clinical, and educational contexts", *Psychological Assessment*, Vol. 31/4, pp. 460-473, https://psycnet.apa.org/record/2019-12709-001. [14]

Berkowitz, M., V. Battistich and M. Bier (2008), "What works in character education: What is known and what needs to be known", *Handbook of Moral and Character Education*, pp. 414-431, https://www.researchgate.net/publication/297371130_What_works_in_character_education_What_is_known_and_what_needs_to_be_known (accessed on 14 September 2021). [20]

Berkowitz, M. and M. Bier (2007), "What Works In Character Education", *Journal of Research in Character Education*, Vol. 5. [27]

Bird, J. and R. Markle (2012), "Subjective well-being in school environments: promoting positive youth development through evidence-based assessment and intervention", *The American Journal of Orthopsychiatry*, Vol. 82/1, pp. 61-66, http://dx.doi.org/10.1111/J.1939-0025.2011.01127.X. [25]

Cline, Z. and J. Necochea (1996), "An effective character education model for a diverse student population", *Educational Forum*, Vol. 60/2, pp. 165-173, http://dx.doi.org/10.1080/00131729609335119. [4]

Corrigan, D., R. Gunstone and A. Jones (2013), *Valuing Assessment in Science Education: Pedagogy, Curriculum, Policy*, Springer Netherlands, http://dx.doi.org/10.1007/978-94-007-6668-6. [7]

Darling-Hammond, L. et al. (2019), "Implications for educational practice of the science of learning and development", *Applied Developmental Science*, Vol. 24/2, pp. 97-140, http://dx.doi.org/10.1080/10888691.2018.1537791. [21]

Day, J. et al. (2019), "Towards Escalable ntegrative Assessment of Children's Self-Regulatory Capabilities: New Applications of Digital Technology", *Clin Child Fam Psychol Rev.*, Vol. 22/1, pp. 90-103, https://pubmed.ncbi.nlm.nih.gov/30737606/. [16]

Duckworth, A. and D. Yeager (2015), "Measurement matters: assessing personal qualities other than cognitive ability for educational purposes", *Educational Researcher*, Vol. 44, pp. 237-251, https://psycnet.apa.org/record/2015-22150-004. [13]

Durlak, J. et al. (2007), "Effects of positive youth development programs on school, family, and community systems", *American Journal of Community Psychology*, Vol. 39/3-4, pp. 269-286, http://dx.doi.org/10.1007/S10464-007-9112-5. [26]

Eccles, J. (1999), "The development of children ages 6 to 14", *Future of Children*, Vol. 9/2, pp. 30-44, http://dx.doi.org/10.2307/1602703. [22]

Education, C., E. Subcommittee and C. Subcommittee (2019), *児童生徒の学習評価の在り方について (About the ideal way of learning evaluation of children)*, Central Council for Education, https://www.mext.go.jp/component/b_menu/shingi/toushin/__icsFiles/afieldfile/2019/04/17/1415602_1_1_1.pdf (accessed on 25 November 2021). [18]

Gay, G. (1994), *At the Essence of Learning: Multicultural Education*, Kappa Delta Pi, West Lafayette, IN, https://files.eric.ed.gov/fulltext/ED386410.pdf (accessed on 14 September 2021). [2]

Gecan, C. and B. Mulholland-Glaze (1993), "The Teacher's Place in the Formation of Students' Character", *Journal of Education*, Vol. 175/2, pp. 45-57, https://eric.ed.gov/?id=EJ488879 (accessed on 14 September 2021). [3]

Kaya, Ç. and H. Ekşi (2021), "Values Education Processes in Turkish Elementary Schools: A Multiple Case Study", *International Journal of Psychology and Educational Studies*, Vol. 8/1, pp. 1-13, http://dx.doi.org/10.17220/IJPES.2021.8.1.389. [29]

Keyes, C. (2002), "The Mental Health Continuum: From Languishing to Flourishing in Life", *Journal of Health and Social Behavior*, Vol. 42/2, pp. 207-222, https://www.researchgate.net/publication/11278728_The_Mental_Health_Continuum_From_Languishing_to_Flourishing_in_Life. [5]

Kurniawati, N., V. Nurviyani and S. Halimah (2015), *The practices and challenges in implementing attitude assessment in authentic assessment of curriculum 2013 at elementary school*, 1st International Conference of Elementary School Teachers, Universitas Negeri, Jakarta, https://www.researchgate.net/publication/317078820_THE_PRACTICES_AND_CHALLENGES_IN_IMPLEMENTING_ATTITUDE_ASSESSMENT_IN_AUTHENTIC_ASSESSMENT_OF_CURRICULUM_2013_AT_ELEMENTARY_SCHOOL (accessed on 14 September 2021). [12]

Lamprianou, I. and J. Athanasou (2019), "Assessment of Attitude and Behaviour", in *A Teacher's Guide to Educational Assessment*, Brill, http://dx.doi.org/10.1163/9789087909147_015. [8]

Meenatchi, K. and D. Baskaran (2016), "Commitment of Teachers in Assessing Values and Attitudes Descriptors Towards CCE", *National Conference on "Value Education Through Teacher Education"*, Vol. 1/2, http://ijariie.com/AdminUploadPdf/Value_Crisis__Youth_unrest__Value_oriented_education_c1254.pdf. [24]

National Center for University Examinations (2021), *Reiwa 3 (2021)*, National Center for University Entrance Examinations, Tokyo, https://www.dnc.ac.jp/about/center_gaiyou/shupanbutsu.html (accessed on 25 November 2021). [19]

Nusche, D. et al. (2011), *OECD Reviews of Evaluation and Assessment in Education: Sweden*, OECD Publishing, Paris, https://www.oecd.org/sweden/47169533.pdf. [28]

OECD (2021), *Adapting Curriculum to Bridge Equity Gaps: Towards an Inclusive Curriculum*, OECD Publishing, Paris, https://dx.doi.org/10.1787/6b49e118-en. [1]

OECD (2021), *Beyond Academic Learning: First Results from the Survey of Social and Emotional Skills*, OECD Publishing, Paris, https://www.oecd.org/education/ceri/social-emotional-skills-study/beyond-academic-learning-92a11084-en.htm (accessed on 15 September 2021). [10]

OECD (2018), "The Future of Education and Skills Education 2030.", https://www.oecd.org/education/2030/E2030%20Position%20Paper%20(05.04.2018).pdf. [31]

O'Malley, J. and L. Pierce (1996), *Authentic Assessment for English Language Learners: Practical Approaches for Teachers*, Longman. [11]

Orpwood, G. (2014), "Valuing assessment: assessing values", *Assessment in Education: Principles, Policy & Practice*, Vol. 21/4, pp. 500-502, http://dx.doi.org/10.1080/0969594X.2014.952265. [6]

Poetker, J. (1977), "Techniques for Assessing Attitudes and Values", *The Clearing House*, Vol. 51/4, pp. 172-175, http://www.jstor.org/stable/30184966. [23]

Rausch, A., K. Kögler and J. Seifried (2019), "Validation of Embedded Experience Sampling (EES) for Measuring Non-Cognitive Facets of Problem-Solving Competence in Scenario-Based Assessments", *Front Psychol*, Vol. 10, https://pubmed.ncbi.nlm.nih.gov/31178807/. [15]

Schoon, I. (2021), "Towards an Integrative Taxonomy of Social-Emotional Competences", *Frontiers in Psychology*, http://dx.doi.org/10.3389/FPSYG.2021.515313. [9]

The Jubilee Centre for Character & Virtues (n.d.), *Character Education*, https://www.jubileecentre.ac.uk/432/character-education (accessed on 15 September 2021). [30]

Zamarro, G. et al. (2018), "Comparing and validating measures of non-cognitive traits: Performance task measures and self-reports from a nationally representative internet panel", *Journal of Behavioral and Experimental Economics*, Vol. 72, pp. 51-60, https://www.sciencedirect.com/science/article/pii/S2214804317301349. [17]

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Embedding Values and Attitudes in Curriculum

SHAPING A BETTER FUTURE

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, other 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 summarising existing literature, examining trends in curriculum change with challenges and strategies, and suggesting lessons learned from unintended consequences countries experienced with their curriculum reforms.

This report highlights how clearly articulated and experienced values and attitudes can support students' positive lifelong learning outcomes and promote a more equitable and just society. Despite the variety of values espoused in national curricula, there is an emerging trend in prioritising values that enhance well-being and learning across different countries. This report acknowledges that incorporating values and attitudes in curriculum design and implementation does not come without its challenges – values and attitudes can be intensely contested constructs. However, it also examines the desire by authorities to see curriculum reflecting future-focused goals to improve society as a stronger imperative for countries/jurisdictions than the challenges presented. This report offers strategies that can support effective design and implementation.

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