6. PISA 2018 Global Competence Framework

Twenty-first century students live in an interconnected, diverse and rapidly changing world. Emerging economic, digital, cultural, demographic and environmental forces are shaping young people's lives around the planet and increasing their intercultural encounters on a daily basis. This complex environment presents both an opportunity and a challenge. Young people today must not only learn to participate in a more interconnected world but also appreciate and benefit from cultural differences. Developing a global and intercultural outlook is a process – a lifelong process – that education can shape (Barrett et al., 2014[1]; Boix Mansilla and Jackson, 2011[2]; Deardorff, 2009[3]; UNESCO, 2013[4]; 2014[5]; 2016[6]). This section presents the framework for how the Programme for International Student Assessment (PISA) measures global competence, or students' ability to interact with the wider world around them.

Introduction: The importance of an international global competence assessment

What is global competence?

Global competence is a multidimensional, life-long learning goal. Globally competent individuals can examine local, global and intercultural issues, understand and appreciate different perspectives and worldviews, interact successfully and respectfully with others, and take responsible action toward sustainability and collective well-being.

Can schools promote global competence?

Schools play a crucial role in helping young people to develop global competence. They can provide opportunities for young people to critically examine global developments that are significant to both the world at large and to their own lives. They can teach students how to critically, effectively and responsibly use digital information and social media platforms. Schools can encourage intercultural sensitivity and respect by allowing students to engage in experiences that foster an appreciation for diverse peoples, languages and cultures (Bennett, 1993[7]; Sinicrope, Norris and Watanabe, 2007[8]). Schools are also uniquely positioned to enhance young people's ability to understand their place in the community and the world and improve their ability to make judgements and take action (Hanvey, 1975[9]).

Why do we need global competence?

To live harmoniously in multicultural communities

Education for global competence can promote cultural awareness and respectful interactions in increasingly diverse societies. Since the end of the Cold War, ethno-cultural conflicts have become the most common source of political violence in the world, and they show no sign of abating (Kymlicka, 1995[10]; Sen, 2007[11]; Brubaker and Laitin, 1998[12]). The many episodes of indiscriminate violence in the name of a religious or ethnic affiliation challenge the belief that people with diverse cultures are able to live peacefully in close proximity, accept differences, find common solutions and resolve disagreements. With the high influx of immigrants in numerous countries, communities have to redefine their identity and local culture. Contemporary societies call for complex forms of belonging and citizenship where individuals must interact with distant regions, people and ideas while also deepening their understanding of their local environment and the diversity within their own communities. By appreciating the differences in the communities to which they belong – the nation, the region, the city, the neighbourhood, the school – young people can learn to live together as global citizens (Delors, 1996[13]; UNESCO, 2014[14]). While education cannot bear the sole responsibility for ending racism and discrimination, it can teach young people the importance of challenging cultural biases and stereotypes.

To thrive in a changing labour market

Educating for global competence can boost employability. Effective communication and appropriate behaviour within diverse teams are keys to success in many jobs, and will remain so even more as technology continues to make it easier for people to connect across the globe. Employers increasingly seek to attract learners who easily adapt and are able to apply and transfer their skills and knowledge to new contexts. Work readiness in an interconnected world requires young people to understand the complex dynamics of

globalisation, be open to people from different cultural backgrounds, build trust in diverse teams and demonstrate respect for others (British Council, 2013[15]).

To use media platforms effectively and responsibly

Over the past two decades, radical transformations in digital technologies have shaped young people's outlook on the world, their interactions with others and their perception of themselves. Online networks, social media and interactive technologies are giving rise to new types of learning, where young people exercise greater control over what and how they learn. At the same time, young people's digital lives can cause them to disconnect from themselves and the world, and ignore the impact that their actions may have on others. Moreover, while technology helps people to easily connect around the world, online behaviour suggests that young people tend to "flock together" (Zuckerman, 2013[16]) favouring interactions with a small set of people with whom they have much in common. Likewise, access to an unlimited amount of information is often paired with insufficient media literacy, meaning that young people are easily fooled by partisan, biased or fake news. In this context, cultivating students' global competence can help them to capitalise on digital spaces, better understand the world in which they live and responsibly express their voice online.

To support the Sustainable Development Goals

Finally, educating for global competence can help form new generations who care about global issues and engage in tackling social, political, economic and environmental challenges. The 2030 Agenda for Sustainable Development recognises the critical role of education in reaching sustainability goals. For example, in Target 4.7, it calls on all countries "to ensure, by 2030, that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development" (UNESCO, 2016, p. 19[17]).

Should we assess global competence?

Every school should encourage its students to try and make sense of the most pressing issues defining our times. The high demands placed on schools to help their students cope and succeed in an increasingly interconnected environment can only be met if education systems define new learning objectives based on a solid framework, and use different types of assessment to reflect on the effectiveness of their initiatives and teaching practices. In this context, the PISA assessment of global competence aims to provide a comprehensive overview of education systems' efforts to create learning environments that invite young people to understand the world beyond their immediate environment, interact with others with respect for their rights and dignity, and take action towards building sustainable and thriving communities. A fundamental goal of this work is to support evidence-based decisions on how to improve curricula, teaching, assessments and schools' responses to cultural diversity in order to prepare young people to become global citizens.

How do we assess global competence?

The global competence assessment in PISA 2018 is composed of two parts: a cognitive assessment and a background questionnaire. The cognitive assessment is designed to elicit

students' capacities to critically examine global issues; recognise outside influences on perspectives and world views; understand how to communicate with others in intercultural contexts; and identify and compare different courses of action to address global and intercultural issues.

In the background questionnaire, students will be asked to report how familiar they are with global issues; how developed their linguistic and communication skills are; to what extent they hold certain attitudes, such as respect for people from different cultural backgrounds; and what opportunities they have at school to develop global competence. Answers to the school and teacher questionnaires will provide a comparative picture of how education systems are integrating global, international and intercultural perspectives throughout the curriculum and in classroom activities.

Taken together, the cognitive assessment and the background questionnaire address the following educational policy questions:

- To what degree are students able to critically examine contemporary issues of local, global and intercultural significance?
- To what degree are students able to understand and appreciate multiple cultural perspectives (including their own) and manage differences and conflicts?
- To what degree are students prepared to interact respectfully across cultural differences?
- To what degree do students care about the world and take action to make a positive difference in other peoples' lives and to safeguard the environment?
- What inequalities exist in access to education for global competence between and within countries?
- What approaches to multicultural, intercultural and global education are most commonly used in school systems around the world?
- How are teachers being prepared to develop students' global competence?

Figure 6.1. The dimensions of global competence
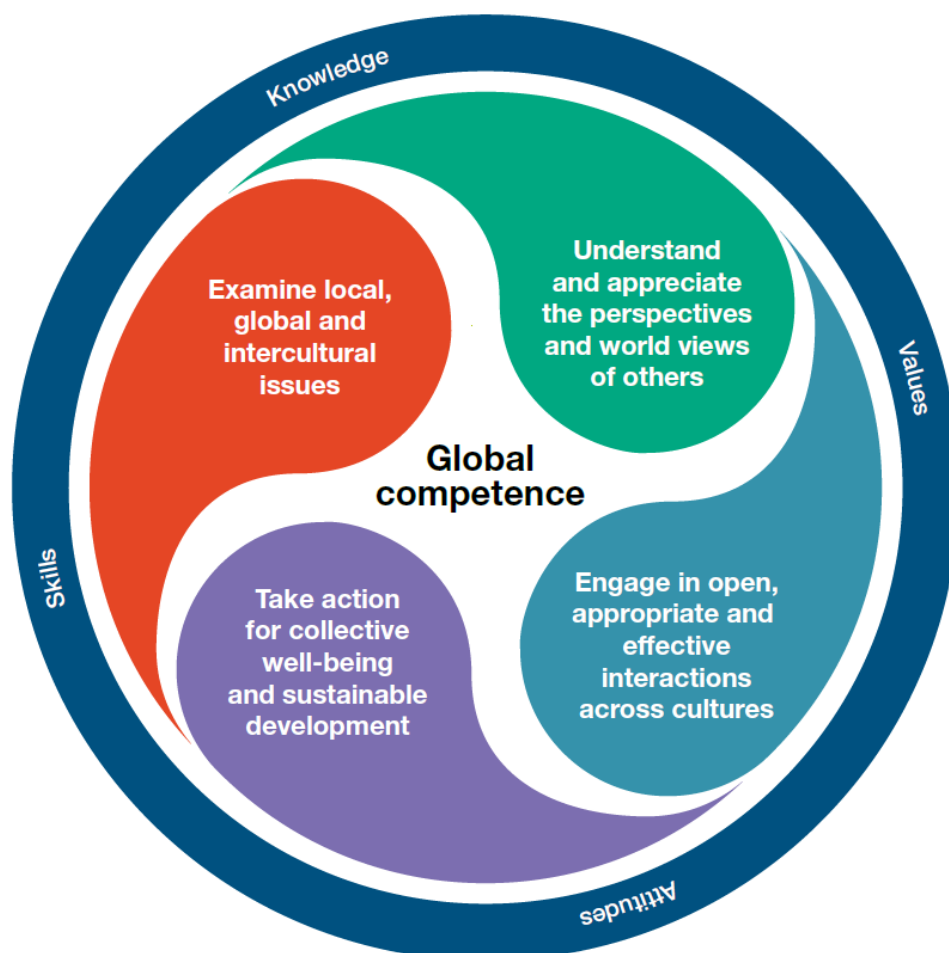
The building blocks of global competence – knowledge, skills, attitudes and values

The four dimensions of global competence[1] are supported by four inseparable factors: **knowledge, skills, attitudes and values**. For example, examining a global issue (dimension 1) requires *knowledge* of a particular issue, the *skills* to transform this awareness into a deeper understanding, and the *attitudes* and *values* to reflect on the issue from multiple cultural perspectives, keeping in mind the interest of all parties involved.

Effective education for global competence gives students the opportunity to mobilise and use their knowledge, skills, attitudes and values together while exchanging ideas on a global issue in or outside of school or while interacting with people from different cultural backgrounds (for example, engaging in a debate, questioning viewpoints, asking for explanations or identifying directions for deeper exploration and action).

A school community that wishes to nurture global competence should focus on clear and manageable learning goals. This means engaging all educators to reflect on teaching topics that are globally significant, the types of skills that foster a deeper understanding of the world and facilitate respectful interactions in multicultural contexts, and the attitudes and values that drive autonomous learning and inspire responsible action.

This section provides a general description of the content knowledge, skills, attitudes and values that individuals need in order to be globally competent. Policy makers, school leaders and teachers can refer to this section as they define strategies for teaching and assessing global competence. However, this description does not pretend to be conclusive or omni-comprehensive (other perspectives on global competence might put more emphasis on other important skills or attitudes, such as problem framing or emotional self-management). The definition and targeting of relevant skills and attitudes should also be adapted to the context in which the school operates.

Knowledge about the world and other cultures

Global competence is supported by knowledge of the global issues that affect lives locally and around the globe as well as by intercultural knowledge, that is, knowledge about the similarities, differences and relationships between cultures. This knowledge helps people to challenge misinformation and stereotypes about other countries and people, and thus counters intolerance and oversimplified representations of the world.

Global issues are those that affect all individuals, regardless of their nation or social group. They range from trade to poverty, human rights, geopolitics and the environment. Global issues reveal how different regions around the world are interconnected by shedding light on the diversity and commonality of their experiences (Boix Mansilla and Jackson, 2011[2]). For example, pollution in one place affects the ozone layer somewhere else; floods in agricultural areas not only ruin the local environment and economy, but also affect markets worldwide and drive waves of migration. Global issues are also local issues: they are global in their reach but local communities experience them in very diverse ways.

As global issues emerge when ecological and socio-economic interests cross borders, **intercultural issues** (situations) arise from the interaction of people with different cultural backgrounds. In this interaction, each party's way of thinking, believing, feeling and acting are interpreted by the other. This process can be smooth if there are not extreme differences between cultures and individuals are open to learning about and accepting those differences. But intercultural interactions can also face miscommunication and misunderstanding. In the worst cases, these misunderstandings degenerate into negative stereotypes, discrimination and violent conflict.

More than in other domains of knowledge, global competence requires engaging with controversial issues. Schools can provide a safe space in which students can explore complex and controversial global issues that they encounter through the media and their own experiences.

The list of relevant global or intercultural issues that can be introduced to children and young people in school is a long one. There have been recent attempts to systematise these complex sets of issues into a coherent sequence of lessons and learning materials at all curriculum levels (IBO, 2012[18]; Oxfam, 2015[19]; Reimers, 2017[20]). A curriculum should pay attention to the following four knowledge domains**: culture and intercultural relations**; **socio-economic development and interdependence**; **environmental sustainability**; and **global institutions, conflicts and human rights**. Teaching these four domains should highlight differences in opinions and perspectives, questioning concepts such as "truth" and "information". For example, while examining inequalities in economic development across the world, the teacher can explain that there are different interpretations of what development means and implies, inciting students to measure development according to different metrics.

The first key domain of knowledge for global competence relates to the manifold expressions **of culture and intercultural relations**, such as languages, arts, knowledge, traditions and norms. Acquiring knowledge in this domain can help young people become more aware of their own cultural identity, help them understand differences and similarities among and within cultures, and encourage them to value the importance of protecting cultural differences and diversity. As they engage in learning about other cultures and individual differences, students start to recognise multiple, complex identities and avoid categorising people through single markers of identity (e.g. black, white, man, woman, poor, rich). Students can acquire knowledge in this domain by reflecting on their own cultural identity and that of their peers, by analysing common stereotypes towards people in their community, or by studying illustrative cases of conflict or successful integration between cultural groups.

The domain of **socio-economic development and interdependence** refers to the study of development patterns in different regions of the world, with a focus on the links and interdependences between societies and economies. Students can analyse, at different levels of complexity and in developmentally appropriate ways, the many forms of globalisation, such as international migration, transnational production, global brands and technologies. By doing so, students can start to make sense of how local, national and global processes jointly shape the development patterns of countries, and the inequalities in opportunities available to individuals.

Students need a solid foundation in environmental issues in order to promote and support sustainability. Learning activities in the domain of **environmental sustainability** help students understand the complex systems and policies surrounding the demand for and use of natural resources.

The fourth knowledge domain of global competence focuses on formal and informal **institutions** that support peaceful relationships between people and the respect of fundamental human rights. Students can learn how global institutions such as the United Nations were established, can reflect on the contested nature of global governance in a world with highly unbalanced power relationships, review causes of and solutions for current and historical conflicts between countries, ethnic or social groups, and examine spaces and opportunities for young people to play an active role in society, take responsibility and exercise their rights. Acquiring deep knowledge in this domain is instrumental for young people to develop values such as peace, non-discrimination, equality, justice, non-violence, tolerance and respect.

Box 6.1. Integrating global and intercultural issues in the curriculum

Research on global education tends to focus on social studies and foreign language classes, often in the upper grade levels (Gaudelli, 2006[21]; Karaman and Tochon, 2007[22]; Merryfield, 2008[23]; Myers, 2006[24]; Rapoport, 2010[25]; Suarez, 2003[26]). However the local, global and intercultural issues that students should learn about, in order to take responsibility for and act upon them, cut across education levels and academic disciplines (Gaudelli, 2003[27]; O'Connor and Zeichner, 2011[28]). For global education to move from abstraction to action, many advocates recommend integrating global issues and topics into existing subjects (Klein, 2013[29]; UNESCO, 2014[5]). In practice, several countries are pursuing a dual approach, where content knowledge related to global competence is both integrated into the existing curriculum and also taught in specific subjects or courses

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(e.g. human rights education). Students can come to understand local, global and intercultural issues across ages, beginning in early childhood when such issues are presented in developmentally appropriate ways (Boix Mansilla and Jackson, 2011[2]; UNESCO, 2015[30]).

The way that a teacher frames a topic in the curriculum can significantly shape its contribution to global competence. When framing a topic to explore with students, teachers may consider the ways in which this topic addresses local and global dynamics, and how it can enable students to understand broad global patterns and the impact on their local environment. For instance, a mathematics teacher might invite students to decide whether linear or exponential functions best fit the data on world population growth, or a music teacher may explore how today's hip hop is expressed differently around the world.

In order to avoid the risk that global education becomes a catch-all curriculum where everything fits, teachers must have clear ideas about the global and intercultural issues that they want students to reflect upon. Teachers need to collaboratively research topics and carefully plan the curriculum, giving students multiple opportunities to learn about a core set of issues that increase in complexity throughout their education (Gaudelli, 2006[21]). Professional learning communities can be highly effective to engage all teachers and to facilitate collaboration and peer learning. For example, Lee et al. (2017[31]) document how highly motivated teachers in Thailand followed a training course on global competence promoted by the Ministry of Education, and then created professional learning communities in their school to engage other teachers, helping them integrate global and intercultural topics in their courses and promoting school-wide projects.

Teaching about minority cultures in different subject areas requires accurate content about and comprehensive portrayals of ethnically and racially diverse groups and experiences. Curricula should promote the integration of knowledge of other people, places and perspectives into everyday activities in the classroom throughout the year (UNESCO, 2014[5]), rather than using a "tourist approach", giving students a superficial glimpse of life in different countries every now and then.

Textbooks and other instructional materials can also distort cultural and ethnic differences (Gay, 2013[32]). Teachers and their students should thus critically analyse their textbook and teaching resources, and compensate for inadequacies when necessary.

Connecting global and intercultural topics to the reality, contexts and needs of the learning group is an effective methodological approach to make them relevant to adolescents (North-South Centre of the Council of Europe, 2012[33]). People learn better and become more engaged when the content relates to them, and when they can see the parallels between many global issues and their immediate environment. For example, students can become aware of the risks related to climate change by studying the effects that natural phenomena (hurricanes, floods) have on their own community. Capitalising on local expertise and the experience of young people in culturally responsive ways is particularly relevant when teaching less privileged or immigrant youth (Suárez-Orozco, Suárez-Orozco and Todorova, 2008[34]).

Skills to understand the world and to take action

Global competence also builds on specific cognitive, communication and socio-emotional "skills". Skills are defined as the capacity to carry out a complex and well-organised pattern of thinking (in the case of a cognitive skill) or behaviour (in the case of a behavioural skill)

in order to achieve a particular goal. Global competence requires numerous skills, including **reasoning with information**, **communication skills in intercultural contexts**, **perspective taking**, **conflict resolution skills** and **adaptability**.

Globally competent students are able to **reason with information** from different sources, e.g. textbooks, peers, influential adults, traditional and digital media. They can autonomously identify their information needs, and select sources purposefully on the basis of their relevance and reliability. They use a logical, systematic and sequential approach to examine information in a piece of text or any other form of media, examining connections and discrepancies. They can evaluate the worth, validity and reliability of any material on the basis of its internal consistency, and its consistency with evidence and with one's own knowledge and experience. Competent students question and reflect on the source author's motives; purposes and points of view; the techniques used to attract attention; the use of image, sound and language to convey meaning; and the range of different interpretations which are likely for different individuals.

Competent students are able to **communicate effectively and respectfully** with people who are perceived to have different cultural backgrounds. Effective communication requires being able to express oneself clearly, confidently and without anger, even when expressing a fundamental disagreement. Respectful communication requires understanding the expectations and perspectives of diverse audiences, and applying that understanding to meet the audience's needs. Respectful communicators also check and clarify the meanings of words and phrases when they engage in an intercultural dialogue. Speaking more than one language is a clear asset for effective intercultural communication. Smooth communication in intercultural contexts is also facilitated by active listening, which means looking for not only what is being said but also how it is being said, through the use of voice and accompanying body language. Competent students are capable speakers who can use their body language and voice effectively when they discuss and debate global issues, express and justify a personal opinion or persuade others to pursue a particular course of action.

Perspective taking refers to the cognitive and social skills individuals need in order to understand how other people think and feel. It is the capacity to identify and take on often conflicting points of view or "stepping into someone else's shoes". Perspective taking does not only involve imagining another person's point of view but also entails understanding how various perspectives are related to one another. Understanding others' perspectives facilitates more mature and tolerant interpretations of differences among groups.

Competent students approach conflicts in a constructive manner, recognising that conflict is a process to be managed rather than seeking to negate it. Taking an active part in **conflict management and resolution** requires listening and seeking common solutions. Possible ways to address conflict include: analysing key issues, needs and interests (e.g. power, recognition of merit, division of work, equity); identifying the origins of the conflict and the perspectives of those involved in the conflict; recognising that the parties might differ in status or power; identifying areas of agreement and disagreement; reframing the conflict; managing and regulating emotions, interpreting changes in one's own and others' underlying emotions and motivation; dealing with stress, anxiety and insecurity, both in oneself and in others; prioritising needs and goals; and deciding on possible compromises and the circumstances under which to reach them (Rychen and Salganik, 2003[35]) (However, approaches to managing and resolving conflict may vary by societal expectations, so not all adhere to the steps outlined here).

Adaptability refers to the ability to adapt one's thinking and behaviours to the prevailing cultural environment, or to novel situations and contexts that might present new demands or challenges. Individuals who acquire this skill are able to handle the feelings of "culture shock", such as frustration, stress and alienation in ambiguous situations caused by new environments. Adaptable learners can more easily develop long-term interpersonal relationships with people from other cultures, and remain resilient in changing circumstances.

Box 6.2. Pedagogies for promoting global competence

Various student-centred pedagogies can help students develop critical thinking with regards to global issues, respectful communication, conflict management skills, perspective taking and adaptability.

Group-based co-operative project work can improve reasoning and collaborative skills. It involves topic- or theme-based tasks suitable for various levels and ages, in which goals and content are negotiated by all participants, and learners can create their own learning materials that they present and evaluate together. In order to co-operate effectively, learners need to feel safe and comfortable, and the task and its goals must be clearly set for them. Learners participating in co-operative tasks soon realise that in order to be efficient, they need to be respectful, attentive, honest and empathetic (Barrett et al., 2014[1]). Project work can effectively connect students within and across borders. For example, Global Cities has created a digital exchange program (Global Scholar) through which students in 26 countries are given the opportunity to work in classrooms across the world (Global Cities, 2017[36]).

Students can voice their differences, biases and culturally determined beliefs through organised discussions in the classroom. In order to stimulate discussion, a teacher typically uses a thought-provoking video clip, image or text (Costa and Kallick, 2013[37]). Students can then present supporting evidence, comment and express their differing points of view. Class discussion is, by nature, an interactive endeavour, and reflective dialogue engenders proactive listening and responding to ideas expressed by one's peers. By exchanging views in the classroom, students learn that there is not always a single right answer to a problem to be memorised and presented; they learn to understand the reasons why others hold different views and are able to reflect on the origins of their own beliefs.

Structured debates constitute a specific format of class discussion that is increasingly used in secondary and higher education as a way to raise students' awareness about global and intercultural issues, and to let them practice their communication and argumentation skills[2]. In this format, students are given instructions to join a team either supporting or opposing a polemic point of view, such as "the Internet should be censored" or "hosting the Olympics is a good investment". It is often helpful for students to articulate views that may be different from their own.

Service learning is another tool that can help students develop multiple global skills through real-world experience. This requires learners to participate in organised activities that are based on what has been learnt in the classroom and that benefit their communities. After the activities, learners are required to reflect critically on their service experience to gain further understanding of course content and enhance their sense of their role in society with regard to civic, social, economic and political issues (Bringle et al., 2016[38]). Service learning is strongly tied to the curriculum and differs from other types of educational experiences in the community and from volunteering. Through service learning, students

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not only "serve to learn," which is applied learning, but also "learn to serve" (Bringle et al., 2016[38]).

The Story Circle approach has been used in numerous classrooms around the world to let students practice key intercultural skills, including respect, cultural self-awareness and empathy (Deardorff, 2019, forthcoming[39]). The students, in groups of 5 or 6, take turns sharing a 3-minute story from their own experience based on specific prompts such as "Tell us about your first experience when you encountered someone who was different from you". After all students in the group have shared their personal stories, students then take turns briefly sharing the most memorable point from each story in a "flashback" activity. Other types of intercultural engagement involve simulations, interviews, role play and online games.[3]

Attitudes of openness, respect for people from different cultural backgrounds and global mindedness

Global competence embodies and is propelled by key dispositions or attitudes. Attitudes refer to the mind-set that an individual adopts towards a person, a group, an institution, an issue, a behaviour or a symbol. This mind-set integrates beliefs, evaluations, feelings and tendencies to behave in a particular way. Globally competent behaviour requires an attitude of **openness** towards people from other cultural backgrounds, an attitude of **respect** for cultural differences and an attitude of **global mindedness** (i.e. that one is a citizen of the world with commitments and obligations toward the planet and others, irrespective of their particular cultural or national background). Such attitudes can be fostered explicitly, through participatory and learner-centred teaching, as well as implicitly through a curriculum characterised by fair practices and a welcoming school climate for all students.

Openness toward people from other cultural backgrounds involves sensitivity toward, curiosity about and a willingness to engage with other people and other perspectives on the world (Byram, 2008[40]; Council of Europe, 2016[41]). It requires an active willingness to seek out and embrace opportunities to engage with people from other cultural backgrounds, to discover and learn about their cultural perspectives and how they interpret familiar and unfamiliar phenomena, and to learn about their linguistic and behavioural conventions. Another important characteristic of open learners is their willingness to suspend their own cultural values, beliefs and behaviours when interacting with others, and not to assume that their own values, beliefs and behaviours are the only possible correct ones. The attitude of openness towards cultural otherness needs to be distinguished from only being interested in collecting "exotic" experiences merely for one's own personal enjoyment or benefit. Rather, intercultural openness is demonstrated through a willingness to engage, cooperate and interact with those who are perceived to have cultural affiliations that differ from one's own, on an equal footing.

Respect consists of positive regard and esteem for someone or something based on the judgement that they have intrinsic worth. In this framework, respect assumes the dignity of all human beings and their inalienable right to choose their own affiliations, beliefs, opinions or practices. Being respectful of cultural differences does not require minimising or ignoring significant and profound differences that might exist between oneself and others, nor does it require agreeing with, adopting or converting to others' beliefs. Respect for others also has certain limits that are set by the principle of human dignity. For example, respect should not be accorded to beliefs and opinions or to lifestyles and practices which undermine or violate the dignity of others (Council of Europe, 2016[41]).

The concept of respect should be distinguished from the concept of tolerance. Tolerance may, in some contexts, simply mean enduring difference. Respect is a less ambiguous and more positive concept. It is based on recognition of the dignity, rights and freedoms of the other in a relationship of equality.

Global mindedness is defined by Hett, as cited in Hansen (2010[42]), as "a worldview in which one sees oneself as connected to the world community and feels a sense of responsibility for its members". A globally-minded person has concerns for other people in other parts of the world, as well as feelings of moral responsibility to try to improve others' conditions irrespective of distance and cultural differences. Globally-minded people care about future generations, and so act to preserve the environmental integrity of the planet. Globally-minded individuals exercise agency and voice with a critical awareness of the fact that other people might have a different vision of what humanity needs, and are open to reflecting on and changing their vision as they learn about these different perspectives. Rather than believing that all differences can be eliminated, globally-minded people strive to create space for different ways of living with dignity.

Valuing human dignity and diversity

Values go beyond attitudes: they transcend specific objects or situations. They are more general beliefs about the desirable goals that individuals strive for in life, reflecting modes of conduct or states of being that an individual finds preferable to all other alternatives. In this way, values serve as standards and criteria that people use both consciously and unconsciously in their judgements. They have a normative, prescriptive quality about what ought to be done or thought in different situations. Values therefore motivate certain behaviours and attitudes. For example, people for whom independence is an important value are triggered if their independence is threatened, feel despair when they are helpless to protect it, and are happy when they can enjoy it (Schwartz, 2012[43]).

Valuing human dignity and **valuing cultural diversity** contribute to global competence because they constitute critical filters through which individuals process information about other cultures and decide how to engage with others and the world. Individuals who cultivate these values become more aware of themselves and their surroundings, and are strongly motivated to fight against exclusion, ignorance, violence, oppression and war.

Education has a deep influence on the values of individuals. During their time at school, young citizens form habits of mind, beliefs and principles that will stay with them throughout their lives. This is why it is crucial to reflect on the type of education that best "cultivates humanity" (Nussbaum, 1997[44]). An education that encourages valuing dignity, human rights and diversity emphasises shared commonalities that unite people around the world, rather than the issues that divide them; provides learning experiences so that students see the world from many different perspectives, enabling them to examine their own thoughts and beliefs, and their society's norms and traditions; encourages people to understand the significance of another person's sufferings; and emphasises the importance of reasoning, careful argument, logical analysis, self-questioning, the pursuit of truth and objectivity.

While most people would agree that education should help students develop into human beings who care for and respect others (Delors, 1996[13]), deciding which values education systems around the world should promote is subject to debate. It is not easy to identify a core set of rights that are universally valid and interpreted in the same way everywhere and in every circumstance, as morals and social institutions vary across cultures and historical contexts (Donnelly, 2007[45]).

Article 1 of the Universal Declaration of Human Rights describes the constitutive elements of a minimum core of rights that can guide education around the world: *"All human beings are born free and equal in dignity and rights. They are endowed with reason and conscience and should act towards one another in a spirit of brotherhood"*. The article defines two basic foundations of human dignity: the first is that every human being possesses an intrinsic worth, merely by being human; the second is that this intrinsic worth should be recognised and respected by others, and certain forms of treatment by others are inconsistent with respect for this intrinsic worth. Individuals have a distinct moral obligation to treat each other in ways that are constrained by certain inviolable limits. Embracing this value often means helping others to protect what is most important to them in life.

The concept of respecting the fundamental right of human dignity is often associated with protection from discrimination. Clapham (2006[46]) has suggested that valuing the equality of core rights and dignity is comprised of four aspects: (1) the prohibition of all types of inhuman treatment, humiliation or degradation by one person over another; (2) the assurance of the possibility for individual choice and the conditions for each individual's self-fulfilment, autonomy or self-realisation; (3) the recognition that the protection of group identity and culture may be essential for the protection of personal dignity; and (4) the creation of the necessary conditions for each individual to have their essential needs satisfied. Nussbaum (1997[44]) has argued that a minimally just society must endeavour to nurture and support a core set of basic "capabilities", defined as opportunities for choice and action (e.g. being secure against violent assault; being able to imagine, to think and to reason; being able to love, to grieve, to experience longing, gratitude and justified anger, etc.). People from many different traditions, with many different conceptions of "good", can agree on these core capabilities as the necessary basis for pursuing a good life.

A controversial issue relates to the Western roots of the concept of human dignity and to the Western dominance in the discussion and definitions of human rights. However, deep reflections on human dignity can be found in several different countries and cultures. For example, the indigenous African concept of Ubuntu has a strong connection with the conceptualisation of human dignity in Western philosophy. Ubuntu generally translates as humaneness, and its spirit emphasises respect for human dignity, marking a shift from confrontation to conciliation (Mokgoro, 1995[47]). Box 6.3 discusses this further.

Box 6.3. Perspectives on global competence from different cultures

The literature, theories and frameworks on intercultural competence, global competence and global citizenship emerge predominantly from a Western, Euro-American context. However, related concepts exist in many countries and cultures around the world. One interesting perspective on global competence comes from South Africa and involves the concept of Ubuntu. There is much literature written about Ubuntu (Nwosu, 2009[48]; Khoza, 2011[49]; Khoza, 2011[49]), the core idea of which can be summarised by the Zulu proverb "Umuntu Ngumuntu Ngabantu", meaning that a person is a person because of others. Ubuntu can be used to illustrate a collective identity, as well as connectedness, compassion, empathy and humility. There are concepts similar to Ubuntu found in different cultures around the world, including in indigenous cultures in the Andes and in Malaysia. Collective identity, relationships and context (as affected by historical, social, economic and political realities) are all major emphases in other cultural discourses on global competence. In summarising some central themes across different cultures with regard to global

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competence, Deardorff (2011[50]) noted the following key elements: respect, listening, adaptation, relationship-building, seeing from multiple perspectives, self-awareness and cultural humility.

Even if the cultural context varies, the common core values of respecting human dignity is sufficiently robust to challenge the legitimacy of a wide array of systems that abuse their power against individuals and groups.[4] Abuses of power against vulnerable individuals are not unique to war-torn regions or fragile states. They can happen anywhere: neighbourhoods, offices or schools. Schools, in particular, are places where human dignity takes on a concrete meaning, because every student deserves equal justice, equal opportunity and equal dignity. Discrimination at school can be overtly displayed through xenophobic comments, bullying, name-calling, segregation and physical altercations. Discrimination can also be less apparent but still present in stereotypes, fear of others and unconscious reactions to or intentional avoidance of certain groups. Teaching youth to use human rights as a frame of reference for their behaviour can allow them to break down stereotypes, biases and discrimination, thereby improving the school environment and social relationships in the communities that schools serve.

Respecting human beings' core rights and dignity is, in most cases, compatible with respecting and valuing cultural diversity. Globally competent learners should not only have a positive attitude towards cultural diversity (the attitudes of "openness" and "respect" defined above), but should also value cultural diversity as an asset for societies and a desirable goal for the future. However, valuing cultural diversity has certain limits that are determined by the inviolability of human dignity (UNESCO, 2001[51]). The possible tension between valuing cultural diversity and valuing human rights can be solved by establishing a normative hierarchy between the two: valuing core human rights is more important than valuing cultural diversity, in cases where the two values are in conflict with each other.

Promoting the value of cultural diversity in education practice involves encouraging students to take actions to safeguard both tangible and intangible cultural heritage around the world, as well as actions to promote the rights of all people to embrace their own perspectives, views, beliefs and opinions (UNESCO, 2009[52]). It also means conveying the message to all students that their cultural heritage is important and enriches society.

Evaluating how much students care about and cherish the values of human dignity and cultural diversity is complex and therefore beyond the scope of this PISA assessment of global competence. However, the inclusion of values in this framework hopes to stimulate a productive debate on how education can shape children's development of an ethical decision-making framework grounded on human rights, while fully preserving the value of diverse opinions and beliefs. Acknowledging the importance of values in education does not mean promoting a uniform and fixed way to interpret the world; it rather implies giving students some essential references to navigate a world where not everyone holds their views, but everyone has a duty to uphold the principles that allow different people to co-exist and to prosper.

Box 6.4. Teaching attitudes and values related to global competence

Allocating teaching time to a specific subject dealing with human rights issues and non-discrimination is an important first step in cultivating values for global competence. But even more can be achieved by mainstreaming the principle of respect for human dignity

and for cultural diversity across all subjects. For example, teachers can use multi-ethnic and multicultural examples to illuminate general principles and concepts, or emphasise the contributions of people from different ethnic groups to our collective knowledge and quality of life. Teachers thus need to develop repertoires of culturally diverse examples, and the skills and confidence to use them fluidly and routinely in classroom instruction.

Values and attitudes are partly communicated through the formal curriculum but also through the ways in which educators and students interact, how discipline is encouraged and the types of opinions and behaviour that are validated in the classroom. For example, a history lesson on the American Civil War may emphasise valuing racial equality; however, if the teacher disciplines minority students more severely, he or she communicates a contradictory value system. It is likely that students will assimilate the culture of the classroom more readily than they will learn the curriculum. Therefore, recognising the school and classroom environments' influence on developing students' values can help educators become more aware of the effects that their teaching has on students. For example, a teacher might reconsider the seating plan of the classroom if he is hoping to promote racial and gender integration among his students.

Teachers can be instrumental in replacing stereotypes of minority and disadvantaged students with more positive ones. However, teachers often find it difficult to engage in open discussions about diversity and discrimination. Part of the problem is a lack of experience with people who are different, and the assumption that conversations about discrimination and ethics will always be contentious. Consequently, teachers may concentrate only on "safe" topics about cultural diversity, such as cross-group similarities, ethnic customs, cuisines, costumes and celebrations, while neglecting more troubling issues such as inequities, injustices and oppression (Gay, 2013[32]).

These difficulties can be overcome by giving educators access to continual professional development. Specific training programmes and modules can help teachers to acquire a critical awareness of the role that different subject and teaching approaches can play in the struggle against racism and discrimination; the skills to acknowledge and take into account the diversity of learners' needs, especially those of minority groups; and a command of basic methods and techniques of observation, listening and intercultural communication (UNESCO, 2006[53]).

The assessment of global competence in PISA

The assessment strategy

Assessing global competence in all of its complexity requires a multi-method, multi-perspective approach. The PISA 2018 assessment of global competence is a development in this direction, although clear challenges and limitations remain. The most salient challenge for the PISA assessment is that – through a single international instrument – it needs to account for the large variety of geographic and cultural contexts represented in participating countries. Students who perform well on a question assessing their reasoning about a global issue are likely to have some prior knowledge of the issue, and the type of knowledge students already have of global issues is influenced by their experiences within their unique social context. On the one hand, cultural variability in the tested population requires that the test material cannot be too biased towards a particular perspective, for example, the perspective of a student in a rich country who thinks about a problem in a poor country. Similarly, the test units should focus on issues that are relevant for 15-year-old students in all countries. On the other hand, leaning too much towards "cultural neutrality" in the design of scenarios and questions reduces the authenticity and relevance of the tasks. The test design is further limited by the time constraints of the assessment and the narrow availability of internationally-valid instruments that measure the behavioural elements of global competence.

Accounting for these limitations and challenges, the PISA 2018 global competence assessment has two components: 1) **a cognitive test** exclusively focused on the construct of *"global understanding"*, defined as the combination of background knowledge and cognitive skills required to solve problems related to global and intercultural issues; and 2) **a set of questionnaire items** collecting self-reported information on students' awareness of global issues and cultures, skills (both cognitive and social) and attitudes, and information from schools and teachers on activities to promote global competence.

**Figure 6.2. The PISA approach to assessing global competence**
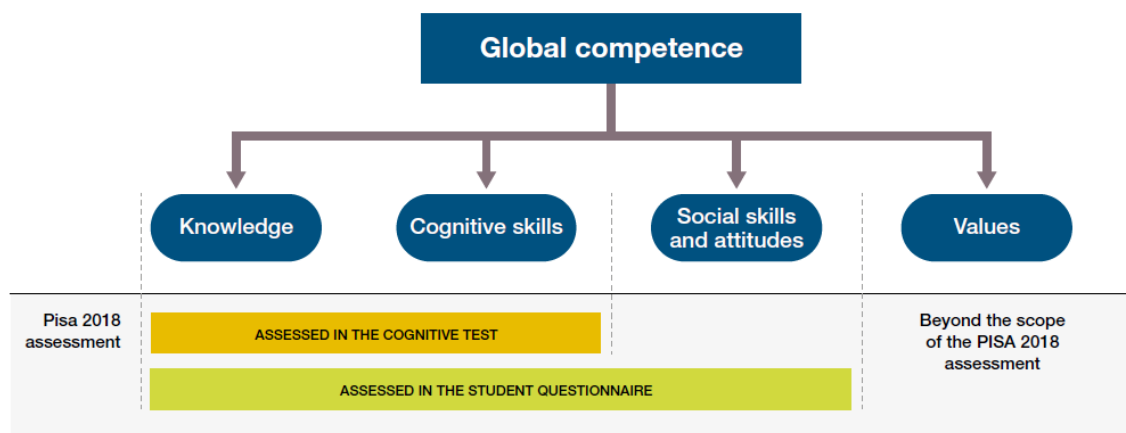
The reporting of the results will reflect the differences between these two assessment components. Students' answers to the questions in the cognitive test can be objectively scored as right (or partially right) or wrong, and can thus be presented on a scale. Given that the capacity to understand global or intercultural issues and situations can be developed at school, the PISA proficiency scale is expected to yield results that can be interpreted in

educational policy terms. For some of the questions measuring attitudinal or socio-emotional traits (e.g. "openness"), however, defining right or wrong answers is more controversial because the development of these traits and their contribution towards global competence might be non-linear (beyond a certain threshold, more "openness" may not necessarily be better). Measurement issues are also more acute in self-reported items, so ranking students or countries on the basis of students' responses to the questionnaire risks errors of misrepresentation and misinterpretation. For example, people from some cultural backgrounds tend to exaggerate their responses to typical questionnaire items based on a Likert-type scale (e.g. questions asking students whether they strongly disagree, disagree, agree or strongly agree with a statement), whereas others tend to take a middle ground (Harzing, 2006[54]). The responses to the questionnaire items will thus *not* be used to position countries and students on a scale. Instead, they will only be used to illustrate general patterns and differences within countries in the development of the skills and attitudes that contribute to global competence among 15-year-old students, as well as to analyse the relationship between those skills and attitudes and students' results on the cognitive test.

Global understanding is assessed in the PISA cognitive test by asking students to complete several test units. Each test unit is composed of one scenario (or case study) and various scenario-based tasks (see Figure 6.3). In a typical test unit, students read about a case and respond to questions (otherwise referred to as test items) that evaluate their capacity to understand its complexity and the multiple perspectives of the diverse actors involved. Each scenario will expose students to a range of different situations and test their capacity to apply their background knowledge and cognitive skills in order to analyse the situation and suggest solutions.

Figure 6.3. Elements of a typical PISA 2018 global competence test unit
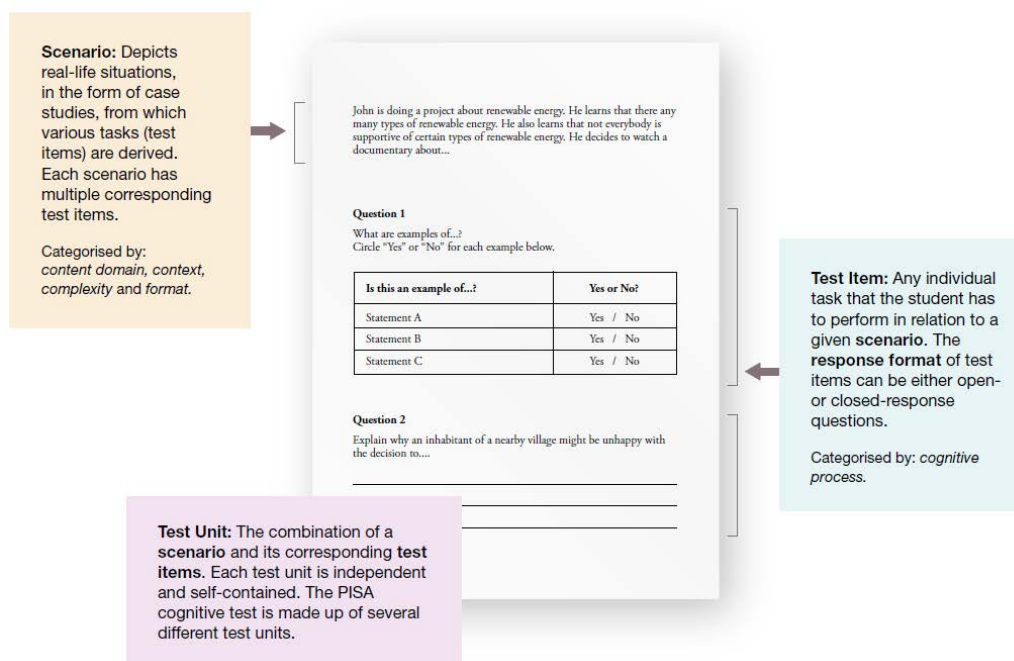
The cognitive skills demanded by global understanding are relevant measures of all four dimensions of students' global competence. Test items asking students to critically analyse

statements and information will provide relevant information about students' capacity to "examine global and intercultural issues" (dimension 1). "Understanding perspectives" (dimension 2) can be assessed through test items examining students' capacity to recognise different perspectives while being aware of one's own cultural lens and biases, as well as those of other people; consider the contexts (cultural, religious, regional) that influence these perspectives; and find possible connections or "common ground" across perspectives. Elsewhere, "engage in appropriate and effective interactions" (dimension 3) can be assessed through items testing students' capacity to understand communicative contexts and the norms of respectful dialogue. Finally, "take action for sustainability and well-being" (dimension 4) can be assessed by students' capacity to consider possible actions to global problems and weigh direct and indirect consequences.

The student questionnaire will provide complementary information on the attitudes, knowledge and skills that people need to navigate everyday life in globally and culturally competent ways, but whose measurement goes beyond the parameters of the PISA cognitive test. Self-reported skills and attitudes will be measured through Likert-type scales that have been selected on the basis of a review of empirical studies.

The cognitive test on global understanding

A short review of cognitive assessments in this area

Research in this area has predominantly been based on student self-reports, and only a few examples of cognitive assessments exist. In the Global Understanding Survey (Barrows et al., 1981[55]), the authors define global understanding as a sum of four components: (a) knowledge; (b) attitudes and perceptions; (c) general background correlations and (d) language proficiency. The knowledge domain in the Global Understanding Survey consisted of 101 multiple-choice questions that addressed international institutions, major historical events and trends, and legal and policy frameworks associated with 13 global themes.

Test items in the Global Understanding Survey addressed real-world issues. Students who reported regular news consumption scored higher on the test. However, the authors found only weak relationships between students' educational experiences – coursework, language study or study abroad – and their levels of international knowledge. The final report also recognised that the assessment provided only limited insights on the nature and development of global understanding.

The IEA Studies on Civic Education (Amadeo et al., 2002[56]) and the International Civic and Citizenship Study (Schulz et al., 2010[57]; Schulz et al., 2018[58]) are other relevant examples that could guide item development in PISA. The key research questions in the ICCS concern student achievement in civic and citizenship education and their disposition to engage with such issues. The ICCS measures the cognitive processes of knowledge, reasoning and analysis across four content domains: (a) civic society and systems, (b) civic principles, (c) civic participation, and (d) civic identities (Schulz et al., 2010[57]; Torney-Purta et al., 2015[59]). The item format combines multiple-choice and open-ended questions.

Some of the items in the ICCS measure students' ability to analyse and reason. Reasoning asks students to apply their knowledge and understanding of familiar concrete situations in order to reach conclusions about complex, multifaceted, unfamiliar and abstract situations (Schulz et al., 2010[57]).

Outside the context of global and civic education, an increasing number of assessments have attempted to measure students' capacity to evaluate information and think critically about problems.[5] In many of these tests, students read a short text and decide whether a series of statements related to the text are likely to be true or false. Some of these tests also include constructed response questions, where students need to develop logical arguments or explain how someone else's conclusions could be verified or strengthened. All these assessments emphasise reasoning, analysis, argumentation and evaluation (Liu, Frankel and Roohr, 2014[60]). These tests treat those skills as generic, while PISA will look at the application of these capacities in the specific context of global and intercultural issues.

The Global Integrated Scenario-Based Assessment of Reading (GISA), is another relevant reference for the PISA test (O'Reilly and Sabatini, 2013[61]; Sabatini et al., 2014[62]; Sabatini et al., 2015[63]). GISA assesses students' "global reading literacy ability", a multidimensional competence that requires students to not only use and process texts but also to employ other cognitive, language and social reasoning skills, as well as call upon their own knowledge, strategies and dispositions. Unlike traditional reading assessments that present students with a set of unrelated texts and no purpose for reading them, GISA uses a scenario-based approach with a carefully structured sequence of tasks. By employing scenarios that provide authentic contexts and purposes for reading, the assessment better reflects the cognitive processes that students engage in when confronted with real learning activities.

The GISA assessments also include collaborative activities. For example, test takers "interact" with simulated peers to identify errors, correct misconceptions and provide feedback. The members of the simulated interactions can state facts, present incorrect information, give their opinions and go off topic, just as people do in real life. Performance moderators such as background knowledge, self-regulatory strategies and motivation are also measured in GISA and are used to interpret the reading score.

Relatively few assessments of perspective-taking skills exist. One relevant example for the PISA test is the perspective-taking measure developed within the Catalyzing Comprehension through Discussion and Debate (CCDD) initiative.[6] This assessment is designed to assess students' ability to acknowledge, articulate, position and interpret the perspectives of multiple stakeholders in a social conflict, and provide solutions that consider and integrate their respective different positions. The assessment puts students in the shoes of an "advisor", who needs to address social conflicts that can occur in different contexts. In a sample assessment unit, test takers read a story about a student named Casey who is a victim of bullying, and are asked what they would recommend Casey should do, why, and what might go wrong with the recommendation. Students have to provide answers to these questions in the form of short, open responses.

Defining the construct of global understanding

Global understanding is a process that involves awareness of global issues and intercultural experiences. Access to information from around the globe and opportunities for intercultural encounters have greatly increased over the last decade, meaning that the majority of PISA students are exposed to a wide range of perspectives on global issues and intercultural experiences even if they do not actively search for them. However, access to information about the world and other cultures does not always go together with understanding. The oversimplification of complex knowledge is a significant contributing factor to deficiencies in learning (Spiro et al., 1988[64]), and is particularly frequent in the domain of global and cultural issues. Although misconceptions often arise from a lack of

information, they are compounded by the fact that initial and deeply held beliefs about how the world works are difficult to subsequently change. Given that humans learn by creating classification systems, a lack of new knowledge or experiences can lead to oversimplified categorisations and generalisations which, in turn, can result in prejudice and stereotyping. However, misconceptions also arise even when students are exposed to appropriate information but absorb this information in a passive way, without reflecting on its deeper meaning or using the information to adjust their prior beliefs.

Students need to use knowledge and skills simultaneously in order to develop global understanding (Figure 6.4). If a student does not know much about a certain issue, they will find it difficult to identify flaws in texts, consider multiple perspectives, communicate in rich ways or consider the consequences of actions related to the issue in question (Willingham, 2008[65]). However, knowledge alone of intercultural and global issues without understanding adds little value. One can know, and continue to judge and dismiss superficially (Williams-Gualandi, 2015[66]). Understanding is the ability to use knowledge to find meaning and connections between different pieces of information and perspectives.

The cognitive processes that support global understanding

For analytical and assessment purposes, this framework distinguishes four interrelated cognitive processes that globally competent students need to use in order to fully understand global or intercultural issues and situations:

1. The capacity to **evaluate information, formulate arguments and explain complex situations and problems** by using and connecting evidence, identifying biases and gaps in information and managing conflicting arguments.
2. The capacity to **identify and analyse multiple perspectives and world views**, positioning and connecting their own and others' perspectives on the world.
3. The capacity to **understand differences in communication,** recognising the importance of socially appropriate communication conventions and adapting communication to the demands of diverse cultural contexts.
4. The capacity to **evaluate actions and consequences** by identifying and comparing different courses of action and weighing these actions against one another on the basis of short- and long-term consequences.

Globally competent students should thus be able to perform a wide variety of tasks utilising different cognitive processes. The first of these cognitive processes requires students to be able to reason with evidence about an issue or situation of local, global and intercultural significance; search effectively for useful sources of information; evaluate information on the basis of its relevance and reliability; synthesise information in order to describe the main ideas in an argumentative text or the salient passages of a conversation; and combine their background knowledge, new information and critical reasoning to build multi-causal explanations of global or intercultural issues.

Furthermore, a solid understanding of a global or intercultural problem also requires recognising that one's beliefs and judgements are always contingent upon one's own cultural affiliations and perspectives. Students should therefore be able to recognise the perspectives of other people or groups and the factors that might influence them, including their access to information and resources. Students need to be able to explain how perspectives and contexts shape human interactions and interpretations of events, issues or phenomena.

Globally competent students should also identify ways to manage conflicts that emerge from communication problems, by analysing communicative contexts and conventions and recognising markers of respect.

Finally, students demonstrate their level of global understanding when they can evaluate different courses of action, propose solutions and consider the immediate and indirect implications of actions. The last constitutive cognitive process of global understanding therefore involves the ability to draw sound conclusions from the information one possesses and acquires.

Different types of tasks can test students' level of proficiency in applying each of these interrelated cognitive processes to a global or intercultural issue. For example, students can be asked to select the most reliable among a selection of different sources of information about an issue; they can evaluate whether a statement is valid and based on evidence; they can be asked to summarise and explain an issue or situation, or choose among possible summaries; they can be asked to identify passages of a media message transmitting negative stereotypes or making hasty generalisations; they can identify the different stakeholders in a case and list the possible contextual and cultural drivers of their respective positions; they can identify what passages in a conversation demonstrate a clear ignorance of intercultural communication approaches; or they can be asked to list or select the possible consequences of a proposed course of action for solving a problem.

Figure 6.4. The relationship between the cognitive test of global understanding and the dimensions of global competence
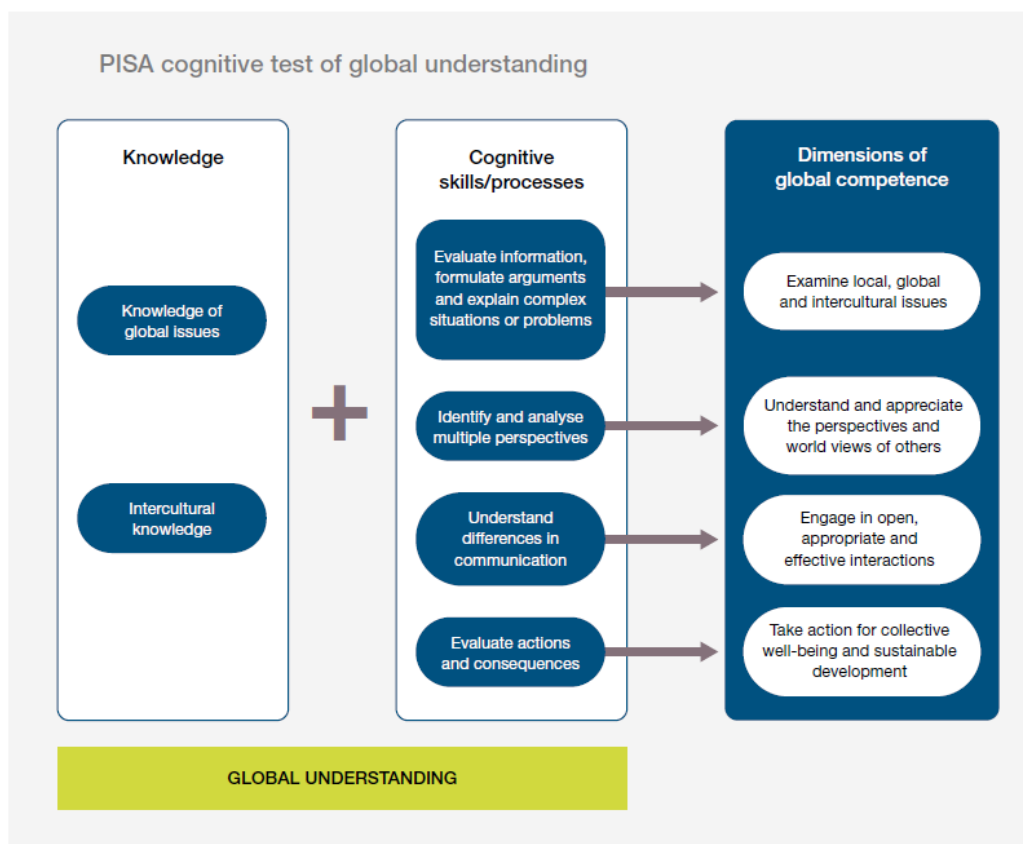
While all four cognitive processes are important indicators of a globally competent individual's skills, the test items in the PISA 2018 global competence assessment are not expected to cover all four cognitive processes in a balanced way. In particular, creating test items that validly measure students' understanding of communication norms and differences (process 3) is especially complex and might require a longer period of development and validation. This cognitive process is thus expected to be less represented than the other three in the 2018 PISA test.

Table 6.1 describes students' abilities at basic, intermediate and advanced levels of development of the four typologies of cognitive processes that constitute global understanding, the cognitive facet of global competence.

Table 6.1. Typologies of cognitive processes by level in the PISA 2018 test of global competence

Cognitive process	Sub-category	Basic	Intermediate	Advanced
1. Evaluate information, formulate arguments and explain complex situations or problems	**Selecting sources (range)**	The student prefers using sources stemming from her own cultural context without having an apparent strategy to search, select or differentiate between sources.	The student searches for and selects sources stemming from geographic and cultural contexts (region, language, perspective) beyond her own. She can also search for and select more than one source type (e.g. newspapers, publications, personal testimonies, government reports). However, no concrete strategy beyond a commitment to use different sources is apparent.	The student is able to frame the search systematically in a way which enables identifying the nature and extent of information needed to address the issue. She selects sources purposefully drawing on contexts and types that will inform her understanding of the issue at hand.
	Weighing sources (reliability and relevance)	The student takes the information at face value without considering contextual factors (author, geo-perspective, cultural context), or source kind. She cannot yet detect clear bias or inconsistencies. The student does not weigh the sources' relevance vis-à-vis the topic or claim at hand.	The student weighs sources for their relevance vis-à-vis the topic or claim at hand. The student also considers contextual factors that can inform her evaluation of a source's reliability. She can detect clear biases and inconsistencies, yet she shows a rather binary view of reliability ("biased"-"non-biased").	The student pays attention to contextual factors to establish a source's reliability and relevance. She understands the significance of different sources' perspectives, can distinguish between the communicative intentions of sources and claims (facts, opinions, propaganda), evaluate whether the assumptions or premises are reasonable and well-grounded in evidence, and identify assumptions or claims that reveal stereotypes.
	Employing sources (reasoning with evidence)	The student views the use of sources as a simple, unproblematic matter of copying and pasting information into an argument.	The student understands the need for multiple sources but uses a mechanistic approach when including sources in an argument (e.g. two "pro"- two "against" sources).	The student recognises the provisional nature of evidence and that multiple arguments can stem from similar sources. The student can consider

Cognitive process	Sub-category	Basic	Intermediate	Advanced
				evidence to explore and meet counterarguments. She can also address conflicting claims or sources.
	Describing and explaining complex situations or problems	The student can produce short summaries of information or perspectives. Summaries read as a string of information with little substantive organisation. The student is not yet capable of classifying the information.	The student can describe the issue/situation at hand in ways that connect larger concepts (e.g. culture, identity, migration) and simple examples. She can order content in a way that supports others' understanding of the issues.	The student can describe the issue/situation at hand in ways that connect larger concepts (e.g. culture, identity, migration) and relevant examples. She can develop and express clear, sound and effective arguments synthesising and connecting information provided in the task and information she acquired in or outside of school.
2. Identify and analyse multiple perspectives and world views	**Recognising perspectives and world views**	The student has a simplistic view of perspectives: one person, one perspective. She cannot yet explain the source of the perspective. The student views context as either irrelevant or as deterministic ("context as destiny"). She views perspectives (cultural, religious, linguistic) as relatively fixed, bounded or impermeable markers of a person's identity and world view. The student views an individual's identity as predominantly one category (such as nationality or religion). The student does not consider herself as having a distinct cultural perspective or world view and rather believes that what she knows is "the norm".	The student can identify different actors and points of view on an issue. The student begins to recognise that differences in perspectives or world views are rooted in cultural, religious, socio-economic, regional and other backgrounds, and that she also holds a particular view of the world. The student cannot yet articulate how multiple perspectives relate to one another. Differences in perspectives or world view start to be seen as rooted in cultural, religious, socio-economic, regional and other backgrounds. .	The student can describe and interpret multiple perspectives and world views. The student understands that perspectives are rooted in cultural, religious, socio-economic, regional and other backgrounds, and she understands how someone's geographic and cultural context can shape how that person sees the world. She also understands that an individual's identity is complex (one can be at once a girl, a daughter, a farmer, and a citizen). She can articulate relationships among perspectives, placing the perspectives in a broader encompassing frame (e.g. when the student sees that two classmates from different ethnic groups fight because of cultural prejudices, she understands that their relationship reflects broader tensions in today's society).

Cognitive process	Sub-category	Basic	Intermediate	Advanced
				The student views herself as holding perspectives and blind spots. She understands that her perspective is informed by her context and experiences and that others may perceive her in ways that may differ from the way she sees herself.
	Identifying connections	The student does not recognise connections among human beings apart from physical connotations and evident cultural markers. The student does not recognise the impact that actions have on others and sees individuals from different cultures or contexts as distant or exotic, who think and behave differently and who do not share similar rights or needs.	The student recognises that people from different cultures share most basic human rights and needs (e.g. food, shelter, work, education, happiness). She understands the meaning of these rights or needs and some of the ways in which they can be met.	The student appreciates common human rights and needs and reflects on individual, cultural or contextual differences critically, understanding the obstacles that individuals and societies may confront (economic inequality, unequal power relations, violence or unsustainable conduct) in affirming their rights to diversity and well-being. She also understands that universal human rights leave considerable space for national, regional and cultural individuality and other forms of diversity, and that they allow individuals and groups to pursue their own vision of what consists of a good life as long as their choices do not impede others' core human rights.
3. Understand differences in communication	**Understanding communicative contexts and respectful dialogue**	The student does not yet understand how to effectively and appropriately communicate based on audience and context. Specifically, she does not recognise cultural norms, interactive styles, expectations or levels of formality in a given social and cultural context and audience. The student is not yet able to observe, listen actively or interpret social and contextual clues such as body language, tone, diction, physical	The student is aware of her way of communicating and attempts to make that communication fit the context. The student can identify some interactive styles, expectations, or levels of formality in a given social and cultural context but cannot yet calibrate her language and communication choices accordingly. The student can respond to breakdowns in communication (for example, by requesting	The student is aware of her own styles of communication and understands that effective and appropriate communication must be adapted to audience, purpose, and context. Specifically, she is sensitive to nuances in cultural norms, interactive styles, expectations and levels of formality of a given social and cultural context and audience. She listens actively, observes carefully and gathers insight, including social and cultural

Cognitive process	Sub-category	Basic	Intermediate	Advanced
		interactions, dress code or silences. The student is surprised by any breakdowns in communication and lacks a communicative repertoire that can resolve or prevent such breakdowns.	repetitions or reformulations) but does so very tentatively.	clues that inform her communicative choices. The student can break down his or her messages, providing re-statements, revisions or simplifications of her own communication. She employs linguistic devices such as avoiding categorical claims, connecting to what others said, sharing questions and puzzles, and acknowledging contributions in ways that advance civil and reciprocal dialogue.
4. Evaluate actions and consequences	**Considering actions**	The student considers one course of action as obvious and unproblematic. For example, when presented with a problem about industrial pollution, her immediate conclusion would be "just close all polluting factories".	The student understands that multiple courses of action are possible and necessary to address an issue/situation or contribute to the well-being of individuals and societies. She can identify directions for future investigations if the available evidence is insufficient for reaching conclusions about the best course of action.	The student demonstrates an ability to identify and evaluate different courses of action to solve an issue/situation. She weighs these actions against one another, for example, by looking at precedents, considering and evaluating available evidence, and assessing the conditions that may make actions possible.
	Assessing consequences and implications	The student understands the implications of simple actions in linear terms without weighing multiple actions and implications or considering unintended consequences.	The student understands the most likely immediate consequences of a given position or course of action, and can assess how these consequences compare with available alternative positions/views.	The student considers the immediate and indirect consequences or implications of different possible actions and decisions. She can weigh short- and long-term consequences as well as short-range and spatially distant consequences. The student also considers the possibility of unintended consequences as a result of actions.

Content of the test units

A typical test unit is based on a scenario that focuses on one global or intercultural issue and presents different perspectives on the issue. Scenarios are often used as teaching tools, and their use in the test units can yield useful evidence for education policy and teachers as they encourage students to think logically and systematically.

A scenario-based design in an international assessment assumes that it is possible to identify a set of "big issues" that all young people should learn about, regardless of where they live or their socio-cultural background. However, an exact delimitation of relevant

content for the scenarios is difficult because global and intercultural issues are in constant evolution. Nonetheless, Table 6.2 outlines four content domains and their related subdomains, which can be considered relevant for all students. Every scenario in the PISA cognitive test can therefore be categorised according to one of these content (sub-) domains.

Table 6.2. Content domains and subdomains of the scenarios

Content Domain 1: Culture and intercultural relations
Subdomain 1.1: Identity formation in multicultural societies
Subdomain 1.2: Cultural expressions and cultural exchanges
Subdomain 1.3: Intercultural communication
Subdomain 1.4: Perspective taking, stereotypes, discrimination and intolerance
Content Domain 2: Socio-economic development and interdependence
Subdomain 2.1: Economic interactions and interdependence
Subdomain 2.2: Human capital, development and inequality
Content Domain 3: Environmental sustainability
Subdomain 3.1: Natural resources and environmental risks
Subdomain 3.2: Policies, practices and behaviours for environmental sustainability
Content Domain 4: Institutions, conflicts and human rights
Subdomain 4.1: Prevention of conflicts and hate crimes
Subdomain 4.2: Universal human rights and local traditions
Subdomain 4.3: Political participation and global engagement

Test developers should aim for a balanced coverage of the four content domains across the different units that constitute each 1-hour cognitive test, favouring scenarios that cut across multiple content domains. The test units should privilege stimulus material that is familiar and relevant to 15-year-olds in order to facilitate students' engagement with the task. The risk associated with sensitive topics (e.g. a case study on hate violence against minorities may be sensitive for a student from a minority group) should be carefully assessed and minimised during the design of the scenarios and related test items. The combination of appropriate media, such as texts, comic strips and photography, can increase the quality and relevance of the scenario for students, reducing the reading load and increasing students' engagement with the tasks. It is also important to avoid scenarios which present a stereotypical representation of certain identities or cultural groups, and could thus further contribute to single stories and prejudice.

As well as varying by content, the scenarios in each test unit can vary by context. For example, they can refer to the personal context of the student (situations relating to the self, family and peer groups), to their local context (wider social networks, neighbourhood, city or country) or to a global context (life across the world, as experienced through exposure to the media and participation in social networks). For example, in the personal context of student interaction within a multicultural classroom – whereby such a classroom encompasses not only differences in national backgrounds but also in gender, religion, socio-economic background and so on – students can be assessed on their intercultural communication and understanding skills (cognitive processes 2 and 3, and content domain 1). Scenarios that incorporate histories of conflicts or positive cultural exchanges in multicultural neighbourhoods (local context) can serve as useful background for test items assessing students' understanding of the challenges of social integration with their local community; scenarios in which students are required to analyse global news in or work remotely on a project with students in a different country can tap into a wide variety of content domains and cognitive processes.

Complexity of the test units

The effective use of the assessed cognitive processes (described in Table 6.1) is intimately tied to the content knowledge the students have of the issue or situation they are asked to work on. While the cognitive skills of analysing and evaluating information are intrinsically general in nature, global and intercultural issues present their own specific challenges that require knowledge of the world and of cultural differences. For example, only those students who have some degree of knowledge of the consequences of climate change can fully understand conflicting positions in a debate on the reduction of carbon emission in cities. Similarly, if a student does not know anything about an issue, they will find it difficult to consider the issue from multiple perspectives. Background content knowledge is considered, in this framework, as an important facilitator of the cognitive processes that students activate when asked to reflect about the particular case study presented in a test unit.

When students read a piece of text or follow a conversation presented in the scenario of each test unit, their understanding is constrained by, on one hand, the content and complexity of the material in the scenario, and on the other hand, by the development of the cognitive processes necessary for global understanding. The cognitive demand of individual test units is therefore defined both by the level of content knowledge and cognitive skills that students need to activate in order to solve the tasks. In more demanding test units, the student must generally contribute information from his or her own knowledge about the content domain that is not explicitly stated in the scenario.

Table 6.3 sets out the categorisations of complexity of the test units, according to the level of content knowledge and general reading skills required by the scenario and test items. Although general language decoding and comprehension skills are not integral components of global competence, the language used in the test scenarios and items will inescapably influence the difficulty of test units. Highly complex language thus needs to be avoided to reduce the risk that the test results become heavily influenced by differences in text decoding and language comprehension skills. As for domain-specific content knowledge, the requirement of prior exposure to relevant information and intercultural situations is an important driver of a test unit's difficulty, and thus of students' performance on the cognitive test.

Table 6.3. Dimensions and levels of complexity of the scenarios

Levels of complexity	Domain-specific knowledge	Percentage of scenarios	General knowledge (text and language)	Percentage of scenarios
Low	The topic analysed in the test unit is familiar to the vast majority of students. Very limited prior knowledge of the topic/issue is required from students to understand what the unit requires.	Around 40%	The scenario is framed in very simple language, without technical words or expressions that are typical of a certain socio-cultural or demographic group.	Around 60%
Medium	Most students regularly hear about the topic/issue but they are not necessarily familiar with all its aspects. Students who have had some exposure to the	Around 40%	The language in the scenario is familiar to the majority of 15-year-old students. The choice of words is typical of communication addressed to non-specialist audiences. Differences in communication styles across groups are minimised whenever fictional conversations	Around 30%

Levels of complexity	Domain-specific knowledge	Percentage of scenarios	General knowledge (text and language)	Percentage of scenarios
	topic/issue in or outside of school can be expected to perform better on the unit.		are used as scenarios. Single texts are internally coherent and multiple texts are clearly connected.	
High	Most students have heard about the topic/issue but, given its complexity, only a minority of students can be expected to be familiar with the content of the unit. Students who have had some exposure to the topic/issue in or outside of school can more easily engage with the test unit and are expected to perform significantly better.	Around 20%	The scenario is framed in more complex language that is typical of formal writing or professional conversation, and can include a limited amount of content-specific or technical vocabulary. Communication between actors in the scenario can reflect differences in communication styles among groups, although most students are expected to be able to follow the conversation and understand its overall meaning (no jargon or convoluted phrasing is used).	Around 10%

International asymmetries in a student's opportunity to learn the subject matter are probably more important in an assessment of global competence than in assessments of more traditional subjects, such as science or mathematics. This is because only a minority of schools already consciously include global education in their curriculum, and the content of global education varies significantly across countries. Moreover, the learning process of global competence takes place within a context that extends far beyond the classroom: an important factor determining the extent to which students know about global issues and other cultures can be traced to the varying socio-cultural environments in which they live and learn. Learning for global competence is a cultural activity, not just because it is partly acquired through social interactions but also because the process is influenced by the way in which specific cultural groups interpret the world and transmit information.

These asymmetries in content knowledge are expected to matter for performance in the test. However, the design of the test makes the PISA cognitive assessment fundamentally different from a knowledge quiz. Firstly, no test item directly assesses factual knowledge (for example, an item would not ask students to specify the increase in global temperature reported in the last International Panel on Climate Change report). Secondly, only a minority of test units will require students to have a high level of background knowledge of global and intercultural issues (Table 6.2). While background content knowledge assists students' understanding of the scenario, performance on the test should mainly reflect students' capacities to use their reasoning and perspective-taking skills to connect their general knowledge of global issues to new and unanticipated problems and situations. The test design mitigates international asymmetries in students' opportunity to learn background content knowledge because it asks students to work on several short test units in different content domains. Test takers from a given socio-cultural context will thus likely have more background knowledge on some areas, but not on others.

Format of the scenarios

The scenarios used in the test should reflect the variety of contexts and roles in which students can learn about global issues or explore the complexity of intercultural interactions. The authenticity and relevance of the tasks are critically important to stimulate a sufficient level of engagement with the test. The scenarios can be designed using the following four formats that assign a particular role to the student, providing a clear purpose to engage in the task:

1. Students as researchers
2. Students as reporters
3. Students as mediators or team-members
4. Students as debaters

In the first format – students as researchers – the test takers are asked to imagine that they are enrolled in a course at their school and that they need to submit a collaborative research paper with other fellow students at the end of the school term. In this scenario, the student has to examine information from web searches or from inputs from other students on the team. This format tests multiple types of cognitive processes: students' capacity to select information can be assessed by presenting them with multiple results from web queries and asking them to select the one that is most appropriate to the research; students' perspective-taking abilities can be assessed by asking them to examine the causes of a misunderstanding or conflict between two members on the research team.

The second format presents performance tasks that students should solve by acting as reporters: the scenario asks students to put themselves in the shoes of a journalist who wants to write an article about a piece of news he or she has heard. The text in this type of scenario typically takes the form of an extract from a newspaper or from social media where the main elements of a case are presented. A first question or set of questions typically verifies whether the students understand the message, can assess the quality and credibility of information reported in the source, and can reason beyond the text by questioning possible motivations and subjective interpretations of the information by the author. The scenario then develops as students are asked to search for their own information and sources, such as by asking students to identify which stakeholders they would like to interview and/or selecting relevant questions to ask different actors in order to better understand their actions and perspectives. This type of scenario can assess all the cognitive processes in the framework, and works particularly well for assessing students' capacity to select, use information and assess the validity of information. The investigative nature of the tasks should be sufficiently stimulating and realistic for most students.

'Students as mediators/team-members' scenarios ask students what they would suggest to moderate or solve a conflict in their school or neighbourhood. The text typically takes the form of a conversation, where two or more actors have a conflict over an issue. The questions ask students to identify who is involved in the situation, how the different stakeholders are likely to feel, think and react, and why they think and react in this way, based on the relationships between characters and their social and cultural characteristics. The test-taker can also be asked to generate or identify possible solutions that consider the interests of all or most parties. This type of scenario can effectively test students' ability to acknowledge, articulate, position and interpret multiple stakeholders' perspectives in a given social conflict, and provide solutions that consider and integrate these different positions.

Finally the 'student as debater' scenarios require test takers to develop arguments and compare different perspectives on an issue in the form of a debate. The scenario typically provides some background information on the issue that students can use for their responses. The questions in the scenario ask the students to develop (or select) arguments for their side, and address and rebut the arguments put forth by their opponent's side. If properly transposed to an assessment format, the debate format can stimulate students' engagement and give them the opportunity to demonstrate their grasp of thinking and communication skills.

This description of scenario formats is not exhaustive, and other types of scenarios can be explored during the test development process.

Response format

The form in which the evidence is collected – the response format – varies according to the cognitive process that is assessed and the chosen format of the scenario. Various response formats can require different skills. For example, closed and multiple-choice response items depend more on decoding skills, because readers have to eliminate incorrect responses, when compared to open-constructed response items (Cain and Oakhill, 2006[67]).

As in any large-scale assessment, the range of feasible item formats is limited to some combination of open and closed response questions. However, contextualised open-response items are particularly relevant for this assessment as they ask the learner to assemble relevant, abstract, conceptual and case-specific knowledge components for a problem-solving task (Spiro et al., 1988[64]). Open-response items were already used and validated in the ICCS's International Cognitive Test (Schulz et al., 2010[57]), NAEP Civics (National Assessment Governing Board, 2010[68]) and in the United Kingdom's GCSE examination in Citizenship Studies (UK Government Department for Education, 2014[69]). The open-response items are scored using rubrics, or scoring guidelines that include detailed qualitative descriptions of performance standards (Andrade, 2005[70]; Popham, 1997[71]; Popp, Ryan and Thompson, 2009[72]; Stellmack et al., 2009[73]; Thaler, Kazemi and Huscher, 2009[74]).[7] Most units in the test should include at least one question with an open-response format.

Moderators of performance: reading comprehension, attitudes and values

Certain individual factors that are not explicitly assessed in the PISA cognitive test may nonetheless moderate students' performance. In the 2018 iteration of the test, the scenarios are mostly based on written texts, despite efforts to efficiently integrate texts and images. The capacities that students need in order to perform well on the global competence test therefore overlap to a certain extent with those required for reading literacy, because the PISA definition of reading literacy has progressively put more emphasis on students' capacities to analyse, synthesise, integrate and interpret multiple texts (OECD, 2016[75]). However, this framework identifies a set of perspective-taking and reasoning abilities that clearly go beyond reading proficiency, and focuses on the application of these abilities to specific content areas (global and intercultural issues). The specificities of global issues and intercultural relations contribute to defining and determining the cognitive processes and skills employed in the tasks.

It will be possible to measure and partially account for the correlation between reading skills and global understanding as students tested in global competence in 2018 will also be tested in reading. Thus, individual students' and countries' results on the assessment could be compared before and after accounting for their performance in reading.

Attitudes can facilitate global and intercultural understanding at the affective level, and can thus act as moderators of performance in the cognitive test. Some examples of attitudes that support the practice and development of cognitive skills with respect to global competence are a curiosity about other cultures; inquisitiveness with regard to a wide range of global issues; conscious efforts to remain well-informed about current events at the local and global level; a positive and respectful regard of cultural differences; and a desire to do something about global problems that threaten the needs and freedoms of current and future generations (global mindedness). These attitudes will not be measured directly in the

cognitive test. However in the contextual PISA questionnaire, students will report the extent to which they agree with a series of statements related to such attitudes (see Section 3.3). The triangulation of the results of the cognitive test and the self-reported information from the questionnaire will provide relevant evidence on how attitudes support global and intercultural understanding.

Arguably, the most complex issue for the operationalisation of this assessment framework relates to a clear definition of the way in which values affect global and intercultural understanding. While values are an integral part of global competence, the PISA cognitive test does not assess values. The proposed test asks students to reflect on the validity and consequences of statements, and to elaborate their own conclusions about a specific issue or situation.

This issue requires a careful choice of the test questions that can be included in the international cognitive assessment. Students could be asked to evaluate statements that are clearly right or wrong on the basis of objective criteria, because they adhere to or contradict agreed scientific or historical evidence. However, the questions in the cognitive test should not aim at assessing students on their ethics and opinions, but rather on their capacity to recognize and explain the complexity of a case and the multiplicity of possible positions. For example, in a hypothetical scenario describing the case of a father who steals in order to feed his starving children, the students would not be asked to conclude whether or not the action deserves a given punishment; instead, students would be asked to demonstrate an understanding that the law may in some cases and under certain perspectives collide with basic human needs, and to identify/explain the possible risks and uncertainties of establishing ad-hoc exceptions to the law.

Self-reported information in the student questionnaire

In addition to the results of the cognitive assessment, the reporting on global competence in PISA 2018 will include country- or sub-population-level information on students', school principals', teachers' and parents' responses to questionnaire items.

For socio-emotional skills and attitudes, finding the right method of assessment is arguably more a stumbling block than deciding what to assess. It is essentially not possible to define scales for self-reported attitudes and skills that are always completely valid. The strategy adopted in PISA 2018 has privileged the use and adaptation of scales that have already been validated in other empirical assessments.

The most common problem with assessing self-reported skills and attitudes is that of social desirability. Attitudes, in particular, are related to self-image and social acceptance. In order to preserve a positive self-image, students may be tempted to answer questionnaire items in a way that they believe is socially acceptable. Self-reported scales that measure attitudes towards race, religion, sex, etc. are particularly affected by social desirability bias. Respondents who harbour a negative attitude towards a particular group may not wish to admit, even to themselves, that they have these feelings. In a study of attitudes towards refugees, Schweitzer et al. (2005[76]) found that social desirability bias accounted for 8% of the variance in attitudes.

A large number of Likert-type scales appear in the literature on civic and democratic attitudes and a number of them are related to global competence as defined in PISA.[8] The Global-Mindedness Scale, for example, was developed in order to "measure attitudes of students related to their sense of connection to, interest in and responsibility for the global community and the behaviours associated with this perspective" (Hett, 1993[77]). The items

in the scale addressed both beliefs and behaviours: for example, students were asked to report the extent to which they agreed with the statement "I tend to judge the values of others based on my own value system".

Following this literature, the student questionnaire in PISA 2018 includes multi-statement items using Likert-type methods. These items are based, as much as possible, on pre-existing work, taking into account issues of testing time and question sensitivity and adapted as best as possible to the reality of 15-year-old students. The questions and items on global competence that were included in the PISA 2018 student questionnaire are available on line (www.oecd.org/pisa). These questions are a subset of a larger set of material that was field trialled across all countries participating in PISA. In the transition from the field trial to the main study, some questions were deleted and some scales were shortened in order to save testing time, all the while still ensuring the proper coverage of this framework and preserving the psychometric validity of the scales. The longer questionnaire tested in the PISA field trial and the field trial analysis of the psychometric quality of the material are both available upon request.

The analysis of the responses to these items is expected to support the future development of questions on attitudes and behavioural or emotional skills that might be included in future rounds of PISA. Future work beyond 2018 might also consider integrating other methods for measuring attitudes and "soft skills" that are less prone to social-desirability bias.

Self-reported knowledge and skills

Self-reported knowledge of global and intercultural issues

A first set of questions in the student questionnaire covers the dimension of knowledge of global and intercultural issues. One question in the PISA 2018 questionnaire asks students to report how easily they could perform a series of tasks relating to global issues, such as explaining how carbon dioxide emissions affect global climate change. Another question asks students to report how familiar they are with different global issues, such as climate change and global warming, global health and migration.

Self-reported ability to communicate in multicultural contexts

A second set of questions refers to the linguistic, communication and behavioural skills that are required to communicate with other people, to manage breakdowns in communication and to mediate between speakers of different languages or cultures. Students' progression in this component can be evaluated according to their proficiency in a foreign language and through their self-reported ability to handle communication with people from other cultural backgrounds and in unfamiliar contexts.

Self-reported data on foreign language proficiency can be used to examine the relationships between acquiring a second language and measured levels of global understanding or positive dispositions toward other countries and cultures. Such an investigation could have several relevant policy implications for both language teaching efforts and curricular programmes aimed at increasing the level of students' understanding of global issues.

The student questionnaire for PISA 2018 reports how many languages students and their parents speak well enough to be able to converse with others. The questionnaire also includes one question asking the students the extent to which they would explain things

very carefully, check understanding or adapt their language when talking in their native language with people whose native language is different.

Self-reported adaptability

Research on intercultural communication has developed and validated several items and scales on adaptability and flexibility. For example, the Intercultural Effectiveness Scale of Portalla and Chen (2010[78]) includes self-reported measures of behavioural flexibility, such as the level of agreement with the statement "I often act like a very different person when interacting with people from different cultures". The PISA 2018 question includes one multi-statement question on adaptability, asking students how they deal with challenging interactions with people from other cultural backgrounds. The six items in the question were adapted from validated scales in Martin and Rubin (1995[79]) and Dennis and Vander Wal (2010[80]).

Self-reported perspective taking

As in the case of adaptability, there are several scales on perspective taking and on empathy that have been specifically designed for adolescents and reviewed for the PISA questionnaire. These include the Index of Empathy for Children and Adolescents (Bryant, 1982[81]), the empathy subscale from the Children's Behaviour Questionnaire (Rothbart, Ahadi and Hershey, 1994[82]), the Interpersonal Reactivity Index (Davis, 1980[83]), the Basic Empathy Scale (Jolliffe and Farrington, 2006[84]), and the Adolescent Measure of Empathy and Sympathy (Vossen, Piotrowski and Valkenburg, 2015[85]). In the PISA student questionnaire, one question comprised of five items assesses perspective taking. The five items have been adapted from Davis (1983[86]) and are expected to form a unidimensional construct.

Self-reported attitudes

Self-reported openness toward people from other cultural backgrounds

The PISA questionnaire includes one question assessing students' "interest in learning about other cultures". The question assesses a student's desire or willingness to learn about other countries, religions and cultures. The four items included in the question have been adapted from different sources, such as Chen et al. (2016[87]) and Mahon and Cushner (2014[88]).

Self-reported respect for people from other cultural backgrounds

One question in the PISA questionnaire asks the students to report to what extent they feel they respect and value other people as equal human beings, no matter their cultural background. The five items were adapted from the Council of Europe (2016[89]), Munroe and Pearson (2006[90]), Lázár (2012[91]), and Fritz et al. (2002[92]).

Self-reported global mindedness

The PISA questionnaire includes one question on global mindedness. The six items in the question are expected to assess the following facets of global mindedness: sense of world citizenship (item 1), responsibility for others in the world (items 2, 4 and 6), sense of inter-connectedness (item 3) and global self-efficacy (item 5).

Questionnaire items on strategies, pedagogies and attitudes to teach global competence

The PISA 2018 questionnaire will provide information on innovations in curricula and teaching methods aimed at preparing students for global citizenship. Two questions focus on the curriculum. One question asks principals and teachers whether the curriculum includes global topics such as climate change and global warming, global health or migration. Another question asks principals and teachers whether the formal curriculum refers to global competence skills and dispositions, such as communicating with people from different cultural backgrounds or countries, or openness to intercultural experiences.

A second set of questions focuses on educators' beliefs and practices. One question asks principals to report on their teachers' general beliefs about how the school should handle ethnic diversity. A second enquires about specific practices for multicultural learning at the school level, such as teaching about the beliefs, customs or arts of diverse cultural groups that live in the country, or encouraging students to communicate with people from other cultures via the internet and social media.

Two questions in the PISA teacher questionnaire enquire about teachers' level of preparation to respond to different student communities, potentially through different teaching strategies. One question provides information as to whether a teacher has studied intercultural issues or received training in pedagogical methods to teach effectively in multicultural environments. Another question will provide information about teachers' self-efficacy in coping with the challenges of a multicultural classroom and adapting their teaching to the cultural diversity of students.

The student questionnaire also provides information on teachers' behaviours from the perspective of the students. One question, in particular, asks students to report whether they think that their teachers treat students from all cultural groups with equal respect.

Conclusions

How education systems respond to growing economic interdependence, cultural divides, new digital opportunities and calls for sustainability will have a significant impact on the well-being of all members of the communities they serve. All people, in both diverse and homogenous communities, are called upon to challenge cultural stereotypes, reflect on the causes of racial, religious and hate violence, and participate in the creation of respectful, integrated and sustainable societies.

Achieving global competence through education will require significant changes in the classroom: changes concerning what students learn about the world and other cultures, the opportunities they have to practice what they learn, and how teachers support this learning by working with diverse students. Some national curricula now put an emphasis on education for sustainable development and intercultural education. Many teachers also encourage students to analyse and reflect on the root causes of global issues, and share ideas on possible solutions. However, progress has been uneven and good practices have not been shared sufficiently at the international level.

The conceptual framework for global competence, and the approach that PISA will take for its first international assessment in 2018, described in this document, will offer the first comprehensive overview of education systems' success in equipping young people to address global developments and collaborate productively across cultural differences in their everyday lives. The data will provide insights on which policy approaches to global

education are most commonly used in school systems around the world, and on how teachers are being prepared to promote global competence. Education systems will thus learn from each other about how to best adapt curricula, promote innovative teaching methods and adjust teachers' initial education and training so as to facilitate the development of global competence.

The results of the assessment can also stimulate innovation at the level of individual schools as they seek effective approaches to enhance their students' global competence. A broad range of learning activities in the classroom can in fact influence students' global competence and involve teachers in all subject areas, although to differing degrees. These may include role-playing activities that allow students to take on different perspectives, discussions on prejudice and discrimination, or project-based activities that encourage students to analyse and reflect on the root causes of global issues.

No single assessment can fully account for the complexity of global competence as a learning goal. Importantly, the PISA approach reflects the needs and the constraints of a large-scale international assessment. It is thus no substitute for formative assessments of global competence at the classroom and school level. More efforts, beyond 2018, will be needed to build on the lessons learnt from this initiative to further improve the measurement of the constructs defined in this framework. The most challenging, but perhaps most urgent endeavour will be to experiment with and evaluate new methods to further improve the measurement of the socio-emotional, attitudinal and value dimensions of global competence.

Notes

[1] The discussion of knowledge, attitudes, skills and values in this section draws upon the conceptualisation of these components provided by the Council of Europe (2016[41]) which was developed through an extensive process. It involved auditing 101 existing conceptual global, intercultural and civic competence schemes. The basic values, attitudes, skills, knowledge and understanding throughout the schemes were then identified, and a set of criteria identifying the core values, attitudes, skills, knowledge and understanding was established. Next, a first draft of the resulting model was produced and academic experts, education practitioners and policy makers reviewed and endorsed the model. It was then fine-tuned and finalised, taking into account the experts' feedback. Full details of the development process can be found in Council of Europe (2016[41]).

[2] See the web platform "idebate.org" and Schuster and Meany (2005[93]) for resources on debates in school education.

[3] For examples of specific activities to use in the classroom, see (Anna Lindh Foundation, 2017[95]; Berardo and Deardorff, 2012[96]; Council of Europe, 2015[97]; Fantini, 1997[98]; Seelye, 1996[99]; Storti, 2017[100]; Stringer and Cassiday, 2009[106]).

[4] Here system is used in a broad sense to include not just states and markets, but also husbands, parents, officials, landowners, social authorities etc. In other words, all those who have power and can use it to control or interfere in people's lives.

[5] Measurement instruments of critical thinking include the Ennis–Weir Critical Thinking Essay Test (Ennis and Weir, 1985[101]), Cornell Critical Thinking Test (Ennis, Millman and Tomko, 1985[102]), ETS HEIghten™ Critical Thinking Assessment (Liu, Frankel and Roohr, 2014[60]; Liu et al., 2016[103]) and the Halpern Critical Thinking Assessment (Halpern, 2010[104]).

[6] See http://ccdd.serpmedia.org/ for more information.

[7] (Doscher, 2012[105]) explores the validity and reliability of two rubrics for the Global Learning Initiative at Florida International University (FIU). The rubrics referred to two case studies measuring university students' global awareness and perspectives. The rubrics yielded scores that reliably measured students' global learning outcomes. Students who attended global learning courses scored significantly higher on the performance tasks than students who did not attend such courses.

[8] Likert scales involve a series of statements to which respondents indicate agreement or disagreement on, for example, a 4- or 5-point response scale.

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Annex 6.A. Illustrative examples of scenarios for the cognitive assessment of global understanding

This section presents several examples of tasks that students might be asked to complete in the PISA global competence assessment. They are provided for illustrative purposes only. They have not been prepared nor verified by the professional test developers who are responsible for developing the cognitive instruments for PISA 2018. No fully developed test items are included among these examples. The questions and their answer keys below were meant to guide the development of both multiple choice and open response items.

Are global temperatures rising?

Content domain: 3. Environmental Sustainability (3.1: Natural resources and environmental risks)

In her science class, Mei reads a research article that was featured in the daily press. The author of the article uses the following graph to argue that popular claims about a rise in global temperatures are not supported by the data. In fact, global temperatures were lower in 2011 and 2012 than in 2008 and 2009.

Annex Figure 6.A.1. Global temperature
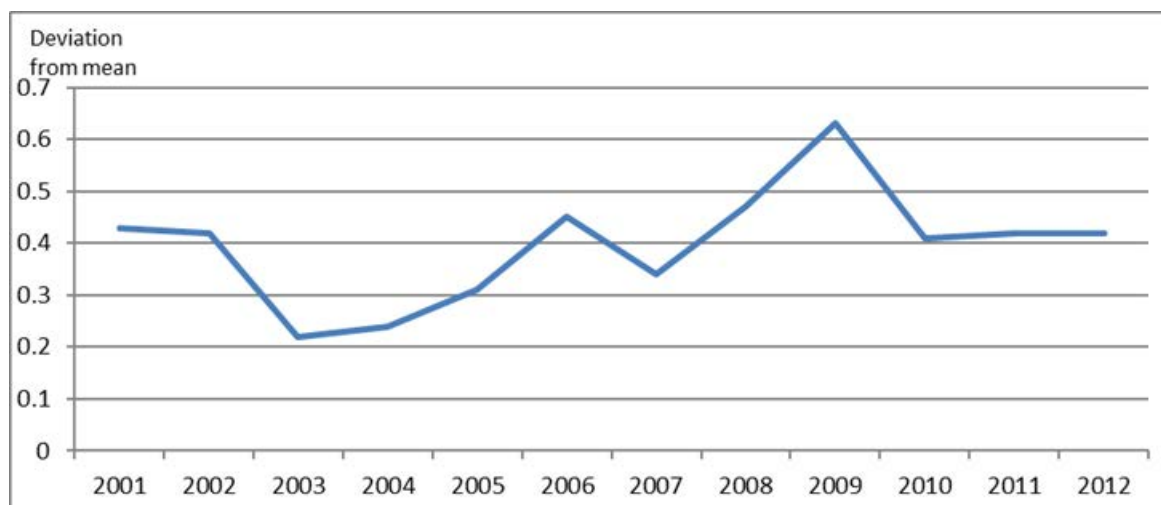
Mei's teacher asks the class to have a look at another chart she produced from the same source of data in the article.

Annex Figure 6.A.2. Global temperature
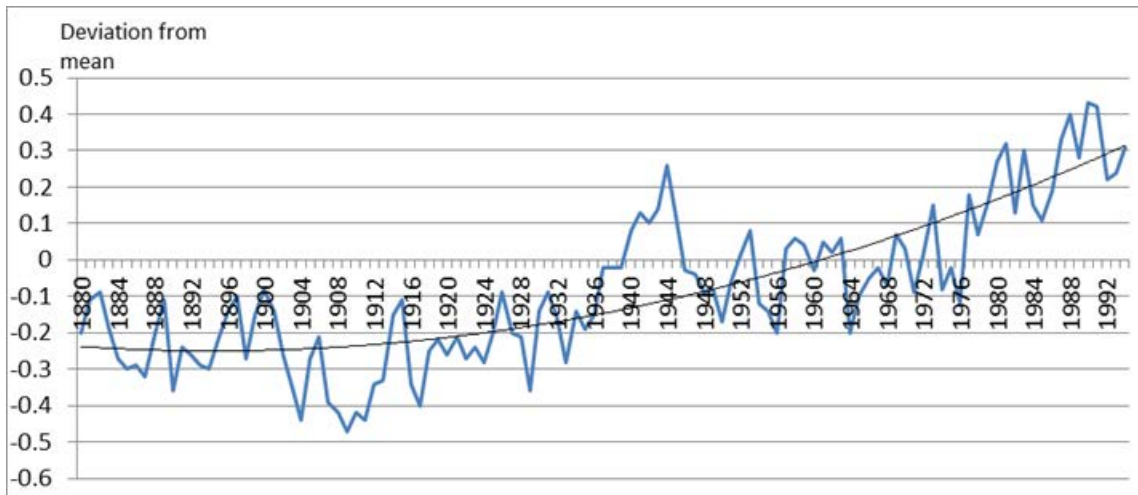
Question: What can you infer about the validity of the article's claim by comparing the two charts?

Question classification: *1. Evaluate information, formulate arguments and explain complex situations or problems (1.2: weighing sources).*

Answer key: *The author's claim is not based on solid evidence. The author should have considered a longer time frame to analyse* changes in global temperatures.

The teacher tells the class that the research in the article was financed by a major oil corporation. She also explains that some companies that hire researchers to perform a study require the researchers to sign a nondisclosure agreement before they are funded, by which researchers waive their right to release any results independently.

Question: What is a possible consequence of allowing unregulated sponsoring of scientific research by industrial companies?

Question classification: *4. Evaluate actions and consequences (4.2 Assessing consequences and implications)*

Answer key: *If not properly regulated, some financing might result in a "funding bias", due to the fact that a researcher might be induced to support the interests of the sponsor.*

A talented player

Content domain: 1. Culture and intercultural relations (1.4 Perspective taking, stereotypes, discrimination and intolerance).

Last week-end your team lost because a foreign-born player decided to walk away from the game after putting up with racial insults by the visiting team's fans for almost one hour, forcing your team to play 10 against 11. One of your friends was at the stadium, and told you that the player should have gone on with the game, and not have let the insults get to him.

Question: What could have prevented the player leaving and destabilising his team?

Question classification: *4. Evaluate actions and consequences (4.1 Considering actions)*

Answer key: Clear regulations enforced by the referee in which he or she suspends a match whenever he/she hears racial insults, disqualifying the team whose supporters perpetrate racist acts.

As you keep talking about the player who left the game, you realise that both you and your friend have never used his real name but always referred to him as "the Animal". This is the nickname he got from the press after his first game with your team. The captain of your team, who is also the captain of your national team, is nicknamed "the Brain".

Question: What is a possible consequence of the choice of nicknames?

Question classification: 4. Evaluate actions and consequences (4.2 Assessing consequences and implications)

Answer key: It can reinforce a belief that national players are smart, hardworking, team players while foreign players are athletes who get by on their natural gifts.

A song in Quechua

Content domain: 1. Culture and Intercultural Relations (1.1 Identity formation in multi-cultural societies)/ 4. Institutions, conflicts and human rights (4.3 Political participation and global engagement)

In a YouTube video that reached over 2 million viewers, Renata Flores sings in Quechua, her native language, to Michael Jackson's "The Way You Make Me Feel" against the backdrop of ancient Inca ruins. Renata is an activist participating in a project called *'Las juventudes tambien hablamos Quechua'* (The youth, we speak Quechua too).

Question: What messages do you think Renata is trying to convey?

Question classification: 2. Identify and analyse multiple perspectives (2.1 Recognising perspectives and contexts)

Answer keys: She wants to combat young people's perceptions of the indigenous language as unhip and backwards. She wants to revive her culture and combat uniformity.

Several other initiatives are trying to revive disappearing languages. For example, one of the top Internet search engines has launched a version in Quechua and the New South Wales Government of Australia has proposed legislation for protecting and reviving Aboriginal languages. However, keeping alive a disappearing language is not an easy task.

Question: Which factors, among the following, can contribute to the disappearance of languages?

Question classification: 1. Evaluate information, formulate arguments and explain complex situations or problems (1.4 Describing and explaining complex situations or problems)

Answer keys: Young people from minority groups who think that speaking their heritage language is not cool; lack of Aboriginal and indigenous language teachers; few disappearing languages have written grammar and dictionaries that people can use to learn them.

Annex 6.B. Description of possible topics for the scenarios of the cognitive test

This annex lists global and intercultural issues that can be used as reference topics to develop scenarios in the cognitive test. It is implied in this list that these complex topics have to be developmentally appropriate for 15-year-old and sufficiently engaging.

Culture and intercultural relations

This content domain relates to the manifold expressions of cultural diversity, such as languages, arts, knowledge, traditions and norms. Acquiring knowledge in this domain can help young people recognise that perspectives are shaped by multiple cultural influences, better understand differences among cultures, and value the importance of protecting cultural differences.

Identity formation in multi-cultural societies

This subdomain focuses on how young people develop their cultural identity in multicultural communities and interconnected societies. Scenarios in this content area can describe: situations where minority individuals and/or migrants must navigate between minority ethnic (home) culture and majority national (peer group and school-academic) cultures; young citizens' rights and responsibilities in different societies; complex views of identity (national, gender, religious); ideas of culture as fixed and determined versus dynamic and permeable; expectations of how adolescents should behave in and outside of school; causes of supportive and conflicting relationships between teachers and students in multicultural classes; relationships with parents, family and community networks in different cultures; tensions between cultural celebrations and attempts to affirm larger cultural identities; understanding of power and privilege within a society; distinction between collective and individual cultural orientations and the different value judgements which can arise from these. Scenarios may also address how young people construct and respond to digital identities. It will be important for these scenarios to address the multiple, complex identities held by individuals so that they do not perpetuation the "single story" identity.

Cultural expressions and cultural exchanges

This subdomain focuses on issues related to preserving the world's cultural capital (e.g. language, arts and traditions) and the relationships between dominant and non-dominant cultures. Scenarios in this content area can describe: expression of different cultures in a globalised world; significance of cultural diversity; public policies to protect and promote the diversity of language and other cultural expressions; school initiatives to encourage learning and appreciating different cultural traditions; different perspectives on what development means and on how countries should support other countries' development; designing art and cultural education programmes in schools; new technologies' role in providing access to cultural expressions; diversity of public media (access, content and language); convergence of people's *habits* and *consumption* patterns and how transnational ideas (e.g. hip hop, meditation) are culturally appropriated in local contexts and/or fused with other cultural practices to form hybrid cultures. Scenarios could include recognising cultural elements or messages within such expressions.

Intercultural communication

This subdomain focuses on what students can learn about the complexity of communicative processes involving individuals from different cultural backgrounds. Scenarios in this area can represent situations where: diverse audiences interpret different meanings from the same information; two or more people fail to understand each other because they follow different communication norms; individuals explore the idea that languages sometimes encode meanings which can be difficult to access in other languages; multicultural settings such as schools, community organisations, or workplaces become more effective as colleagues/peers adjust their communication styles; people fail to understand each other because of different non-verbal communication styles (especially given that more is often communicated nonverbally than through spoken word); individuals adapt (or fail to adapt) their communication style to different contexts (academic/informal neighbourhood/online settings); individuals seek to communicate while not sharing a language. These situations can be within informal contexts to which 15-year-olds may better be able to relate such as conflict on a sports team, within a friend group, in welcoming a new student (even from within the same country but different background), and so on.

Perspective taking, stereotypes, discrimination and intolerance

This subdomain refers to what students can learn about social/cultural understanding and perspective taking as well as the nature, manifestations and impact of cultural prejudices and ways to combat these. Scenarios in this subdomain can reproduce texts, media messages or conversations that: exhibit some explicit or implicit cultural bias against some groups; describe how individuals adjust and suffer as a result of cultural prejudices; show how people correct their stereotypes as they acquire new information about the others. Common expressions of prejudice and oversimplification include: gender or socioeconomic-based stereotyping about what students can achieve in different subjects; gender or racial biases while selecting applicants for a job; perceptions about certain groups' predispositions to violence and crime; stereotypes about indigenous cultures; intolerance towards sexual inclinations; religious stereotypes. The scenarios may invite students to identify, articulate, explain and position different cultural perspectives. They may ask students to engage with these discrimination cases and manage dilemmas associated with conflicting value systems. Specifically, this could be a conversational exchange in which a biased remark is made and the respondent must determine how to respond.

Socio-economic development and interdependence

This domain focuses on economic links between local, regional and worldwide levels and looks at how these links influence opportunities around the globe and across social or cultural groups. Students who acquire an advanced level of knowledge in this domain more easily understand how people, places and economies are strongly interrelated, and are aware that economic policies and choices made at any level have consequences at all levels, individual to global.

Economic interactions and interdependence

This subdomain focuses on the connections and interdependencies of economic systems at multiple levels. Some examples of scenario topics framed in this subdomain are: transnational production of everyday goods (cell phones, clothing); financial liberalisation, contagion and crisis; capital flow directions and instability; the emergence of global

corporations; impacts of low-cost travel and shipping on local economic systems; technological investments and technology exchanges; wage differences and foreign investments; and the impact of job migration on countries.

Human capital, development and inequality

This subdomain focuses on the relationship between economic integration and social development. Examples of topics in this subdomain include: inequality in education, trends in income inequalities between and within countries; economic integration and reducing poverty; developing sustainable tourism; changes in employment opportunities in the face of global automated production and computerisation; impact of immigration on employment and wages; education mobility and brain drain.

Environmental sustainability

This content domain focuses on the complex systems surrounding the demand for and use of natural resources. Students who are more exposed to this area learn about the main drivers that deplete the planet's natural environment, and better understand how improving the quality of life should be pursued without damaging the planet for future generations.

Natural resources and environmental risks

In this subdomain students learn about the main environmental risks facing our planet and about the ecological interdependence of the natural world. The environmental risks considered in this subdomain are widespread, concerning both developed and developing countries, and cause harm to people who have not voluntarily chosen to suffer their consequences, requiring public authority regulation. In most cases, these risks cannot be assessed precisely, and can be evaluated differently in different contexts and social terms. A partial list of these risks include: climate change; air pollution and related health risks; pollution and over acidification of the oceans; soil degradation; desertification and drought; population growth and unsustainable urbanisation; natural disasters; glacier mass balance; contamination from pesticide residues; loss of biodiversity on the planet; access to clean, fresh water; overfishing, clearing of forests. With any of these topics, it will be important to select ones that are most relevant to 15-year-olds, such as clean water and air pollution, since everyone needs to drink water and go outside.

Policies, practices and behaviours for environmental sustainability

This subdomain focuses on what policy makers and individuals can do to reduce resource depletion and better manage environmental risks. Scenarios in this subdomain can ask students to reflect on tools and instruments (e.g. standards, taxes, subsidies, communications campaigns, education) put in place to encourage sustainable consumption and production; how environmental risks are communicated in the media; how governments weigh the risks of the depletion of natural resources when making choices of economic policy; what role non-government organisations have in forming the public opinion about environmental issues and changing policies; trade-offs between development and environmental concerns and differences in how sustainable development is understood and political responsibilities allocated in different countries and contexts.

Institutions, conflicts and human rights

This content domain focuses on the formal and informal institutions supporting peaceful relationships between people and the respect of fundamental human rights. Students can learn how global institutions such as the United Nations have developed, can be asked to reflect on the contested nature of global governance in a world with highly asymmetrical power relationships, review factors and solution of current and historical conflicts between countries, ethnic or social groups, and examine spaces and opportunities for young people to play an active part in society and exercise their rights and responsibilities.

Prevention of conflicts and hate crimes

This subdomain relates to institutions and strategies for managing, resolving and preventing violent conflicts. Relevant conflicts include international wars, civil wars, ethnic or religious conflicts and hate crimes against particular groups. Scenarios in this area can expose students to different interpretations about the causes of a particular violent conflict; present different historical reconstruction of conflicts driven by competition over scarce natural resources or by economic competition between countries; encourage them to analyse strategies for managing, resolving and preventing conflicts; ask them to think about why some conflicts are more difficult to resolve than others; let them reflect on the psychological preconditions that might be necessary for reconciliation between conflicting parties (e.g. willingness to admit that one's own group has perpetrated unacceptable acts, etc.); make them examine the role of non-violent protests in social and political change, conflicting definitions of social justice, and contrasting arguments about the conditions for lasting peace and greater social cohesion.

Universal human rights and local traditions

This subdomain includes human right education and scenarios can refer to key documents such as the Universal Declaration of Human Rights or the UN Convention on the Rights of the Child. students might be asked to reflect on the reasons why some people's rights are denied (e.g. why gender inequalities in access to education persist); enquire about the political, legal, socio-cultural, religious and economic factors that can undermine human rights in particular contexts; analyse opposing arguments and evidence about the universality or relativity of human rights; reflect on the obligations of states in relation to human rights and/or on the means to protect oneself which are available to citizens; reflect on rights that are in conflict with one another and how to resolve such conflicts.

Political participation and global engagement

This subdomain refers to the opportunities young people across the world have to express their voice and make a difference in local or global contexts. Scenarios in this area can describe real experiences of young people who have taken action to improve peoples' living conditions in their own or other communities, or who are evaluating which actions they can take on a social, civic or political issue. The situations presented in the scenarios can also describe practical difficulties young people face when they start volunteering, such as lack of knowledge about the people they wish to help, recognising their limits in taking action as an individual, backlash, discouragement and fatigue. This subdomain also includes issues related to how young people are exposed to political propaganda and develop their political opinions.