

**A TOOL TO CAPTURE LEARNING EXPERIENCES DURING COVID-19:  
THE PISA GLOBAL CRISES QUESTIONNAIRE MODULE****OECD Education Working Paper No. 232**

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## *Abstract*

The global spread of COVID-19 has led to unprecedented disruptions in schooling around the world that have animated increased interest among policymakers, educators, researchers and the general public in knowing about how education systems have responded to the pandemic and how students' learning experiences have changed. The PISA Global Crises Module was developed to address this need. 62 student questionnaire items (grouped into 11 questions) and 68 school questionnaire items (grouped into 14 questions) were developed following a process that involved input from leading questionnaire development experts, PISA National Centres, as well as small-scale cognitive interview studies in three countries. While all countries were affected by the pandemic in some way, the module seeks to illuminate differential effects on student learning and well-being, and the degree of interruption or changes to education across different education systems. Governing bodies, organisations and researchers can use the instruments and the descriptions of the underlying constructs for adaptation and broader implementation.

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## 1. Introduction

Over the past two decades, PISA has offered rich data to inform stakeholders about developments and variations in educational outcomes and learning contexts across many countries and education systems. This working paper presents a new questionnaire module, the PISA Global Crises Module (GCM) that was developed for administration as part of the PISA 2022 assessments as well as for wider use by governing bodies, organisations and researchers<sup>12</sup>.

The GCM will shed light on the impacts of the COVID-19 pandemic on student learning and well-being, and the degree of interruptions or changes to education across participating education systems. This module will help assess the readiness and resiliency of students, schools and education systems in responding to educational disruptions and guide policy discussions around mitigating disruptions that might arise due to future global crises. 62 student questionnaire items (grouped into 11 questions) and 68 school questionnaire items (grouped into 14 questions) were developed through a process that involved input from leading questionnaire development experts, reviews by PISA National Centres, as well as small-scale cognitive interview studies in three non-English speaking countries. The country reviews and cognitive interview studies allowed questions to be iteratively refined across a rigorous and comprehensive development process.

This paper begins by outlining the educational challenges brought by the COVID-19 pandemic, with particular attention to recent research on the experiences and potential ramifications for students and schools. It then describes the goals of the GCM, discussing key considerations in the design of the module, and providing a high-level overview of the included constructs. The sections that follow then provide an in-depth look at the constructs used in the student and school questionnaires. Finally, the annexes offer further discussion on the development process, including technical details of the cognitive interviews and reviews by PISA National Centres, and present the complete pool of questions for both respondent groups.

### 1.1. Educational disruptions due to COVID-19

The global spread of COVID-19 in 2020 has led to unprecedented disruptions in schooling around the world. While the precise educational effects across countries will take years to evaluate, a report that the United Nations released in the early days of the pandemic estimated the scale of the disruption. It suggested that the closure of education institutions across 166 countries prevented nearly nine in ten of the world's student population from attending in-person classes (United Nations, 2020<sub>[1]</sub>). This estimation captures the known number of learners impacted by the closure of educational

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<sup>1</sup> Please note, the questions included in the GCM have not yet been administered in a Field Trial. The GCM will be administered in the 2021 Field Trial for PISA 2022. Based on data from the Field Trial, all or a subset of these questions will be used in the Main Survey. After the administration of these questionnaires for the Main Survey in 2022, the results are planned to be made available to the general public in December 2023.

<sup>2</sup> At the time of this paper being developed, PISA is exploring potential collaboration with other OECD education surveys as well as with a survey conducted by other organisation, aiming to integrate some parts of the GCM instruments into other studies. These include the PISA-based Test for Schools, the OECD Study on Social and Emotional Skills and the Responses to Educational Disruption Survey launched by the International Association for the Evaluation of Educational Achievement (IEA) and UNESCO.

institutions due to COVID-19. It is based on enrolment statistics at pre-primary, primary, secondary and tertiary education levels that are reported in the UNESCO Institute for Statistics Database (UNESCO. (n.d.), 2020<sub>[2]</sub>). Since it only includes countries with mandated country-wide closures, it does not account for learners impacted in countries with localised closures. The potentially long-term consequences of this loss in learning time has stimulated a surge in research aimed at providing policy makers and stakeholders with information about the scope of the challenges and possible strategies to mitigate their effects on student outcomes.

During the summer of 2020, the OECD released a report based on an international survey of education systems in 59 countries that captured their immediate obstacles to learning and the strategies being used to try to overcome them (Reimers, 2020<sub>[3]</sub>). Respondents included senior government officials, system-level administrators, school administrators and teachers. The authors emphasised that the closure of schools has led to a wide-spread reduction in instructional time for primary and secondary students, and that schools need to turn to alternative learning opportunities. They found that schools and governments have implemented a range of measures to mitigate the loss in instructional time, including the use of paper-based instructional packages, educational radio and television programmes, and online learning tools. As crucial as these interventions have been, respondents estimated that only half of their students were able to access all or most of their curriculum through remote learning alternatives. Reimers and Schleicher note that there may still be a silver lining to these findings: if efforts to expand education access are effective, then the actions taken during the pandemic may help build the capacity to improve educational equity in the post-pandemic world (Reimers, 2020<sub>[3]</sub>).

Despite this possible benefit, the disruption to schooling will likely have deleterious long-term consequences on today's students. Researchers at the World Bank Group published results from simulations developed to measure the impact of educational disruptions due to COVID-19 on students' learning and future earnings (Azevedo, 2020<sub>[4]</sub>). They found that school closures would likely lead to a decrease in student learning and potentially a 25% increase in the share of secondary students who are below the minimum level of proficiency in basic skills (PISA Level 2). They also concluded that affected primary and secondary students could face an average reduction of USD 872 per year in future earnings (Azevedo, 2020<sub>[4]</sub>). A study by the Brookings Institution likewise projected a loss in future earnings for students in the United States, which it estimated at USD 1 337 per student per year (Psacharopoulos, 2020<sub>[5]</sub>).

Another study found that, in the absence of effective remediations, losses to students' earnings are likely to persist across their entire lifetimes and could lead to an average of 1.5% lower annual GDP for the remainder of the century (Hanushek, 2020<sub>[6]</sub>).

Beyond these economic consequences, research has also suggested that educational disruptions due to COVID-19 may have adverse consequences for students' overall well-being. Researchers have warned that the closure of schools and guidelines to stay inside the home will have short- and long-term effects on students' physical and socio-emotional well-being, and are likely lead to increases in domestic violence, loneliness, depression, fear, panic, anxiety and substance use among students (Radwan, Radwan and Radwan, 2020<sub>[7]</sub>). Furthermore, these effects may be experienced disproportionately among the most vulnerable and marginalised students in local communities and exacerbate existing disparities observed within education systems



(UNESCO, 2020<sup>[8]</sup>)<sup>3</sup>. Research has also shown that gender bias often leaves parents with limited resources more likely to invest in the education of their male children over their female children, making female students more likely to drop out of school than their male peers (Shahidul, 2015<sup>[9]</sup>).

## 1.2. Effect of educational disruptions on student learning outcomes

The negative effects of educational disruptions on students have been well-documented even before the pandemic. Researchers have shown that prolonged breaks from schooling can impact performance in core subject areas. For example, Cooper et al. showed that the pause in instruction over summer break was detrimental to students' math and reading skills (Cooper, n.d.<sup>[10]</sup>). The effect on students appeared to correlate with income, with middle-class students exhibiting gains on grade-level equivalent reading tests over the summer and lower-class students exhibiting declines. These negative effects became more pronounced with increases in students' grade levels. The study traced these effects to disparate opportunities to practice and learn over summer. Other studies, however, have shown that learning gaps exacerbated by summer vacation in the United States can also be traced to differential familial and community influences, which also vary across socioeconomic levels (Alexander, 2007<sup>[11]</sup>).

Beyond the literature on student outcomes following school breaks, research on delivering educational services during emergency situations also shows that exposure to natural disasters tends to significantly lower student test scores and academic achievement ( (Andrabi, 2020<sup>[12]</sup>; Baez, 2011<sup>[13]</sup>; Ceyhan, 2007<sup>[14]</sup>); (Frankenberg et al., 2013<sup>[15]</sup>); (Thamtanajit, 2020<sup>[16]</sup>)). Studies on earthquake survivors have shown that those living closer to the fault line are likely to have lower academic scores (Andrabi, 2020<sup>[12]</sup>). A study that followed students who had survived an earthquake in Turkey found that, even six years after the event, those who were affected had lower educational attainment than their peers who did not experience the disaster (Ceyhan, 2007<sup>[14]</sup>). Another study that examined how severe flooding in Thailand impacted student outcomes found that affected students had significantly lower standardised test scores and educational attainment, with adverse effects most pronounced among younger students (Thamtanajit, 2020<sup>[16]</sup>). In addition to effects on student learning, disruptions in schooling also have broader impacts on student well-being. Schools serve not only as essential spaces for fostering students' intellectual growth, but also for supporting their socio-emotional development and overall well-being. Researchers studying the relationship between school disruptions and student well-being in the United Kingdom found that extended holidays can lead to increased anxiety, depression and loneliness among students (Morgan et al., 2019<sup>[17]</sup>). The effects are particularly pronounced among lower-income students, who tend to disproportionately experience social exclusion and isolation over summer break due to additional barriers to healthy and culturally rich activities compared to their wealthier peers (Blazer, (2011).<sup>[18]</sup>). Surveys of students in the United States during the COVID-19 pandemic indicate declines in self-reported emotional well-being during the week that most schools closed nationwide; feelings of social isolation have also been widespread, with about four in ten teens reporting that they felt "more lonely than usual" (Common Sense Media, (2020)<sup>[19]</sup>; Gilbert, (2020, April 29).<sup>[20]</sup>); School closures may also impact the well-being of many students who

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<sup>3</sup> Please note, while the GCM does not include questions that explicitly focus on students' well-being and emotional responses, the PISA core and optional questionnaires include a variety of questions focusing on constructs that can be used to illuminate relationships between students' experiences during the pandemic and relevant social and emotional variables.

rely on free or discounted meals that are regularly provided by their schools for food and nutrition (UNESCO, 2020<sup>[8]</sup>). Additionally, school closures have been associated with increases in young people's exposure to violence and sexual exploitation (Baytiyeh, 2018<sup>[21]</sup>; Werber, (2015, November).<sup>[22]</sup>). Early research suggests that the COVID-19 pandemic will likely increase children's vulnerability to domestic violence and abuse in the home. For example, an article published in a paediatrics journal noted physicians' concern that the closure of schools and heightened economic distress increases the risk of domestic violence and child neglect; the authors warn that "the COVID-19 school closures pose an imminent threat to child health and well-being" (Masonbrink, (2020).<sup>[23]</sup>).

### 1.3. Distance learning as an opportunity

Distance learning has been used successfully to expand access to education during emergencies that prevent in-person school attendance, especially in settings marked by conflict (Creed, (2014).<sup>[24]</sup>; Davies, (2011).<sup>[25]</sup>; Morpeth, 2009<sup>[26]</sup>). One study examining the use of emergency remote teaching across Afghanistan, Bosnia and Herzegovina, Cambodia and Liberia found evidence that using radio and DVDs as instructional tools helped students across these countries access education during circumstances that prevented them from attending school (Davies, (2011).<sup>[25]</sup>). While the researchers note that quality concerns can limit the impact of remote learning, they conclude that remote learning can help alleviate problems with educational access if students are able to participate. Moreover, they conclude that emergency remote learning in all four countries helped mitigate disparities in educational access across rural and urban lines, while also teaching students important life skills (Davies, (2011).<sup>[25]</sup>).

A vast body of research has shown that the use of digital learning technologies is associated with learning gains ( (Clements, (2003)<sup>[27]</sup>); (Gonzales, McCrory Calarco and Lynch, 2018<sup>[28]</sup>); (Reisdorf, Triwibowo and Yankelevich, 2020<sup>[29]</sup>; Petko, (2017).<sup>[30]</sup> ). However, evidence suggests that learning technologies are most effective as supplements to other modes of teaching, rather than as replacements for more traditional approaches (Bettinger, 2020<sup>[31]</sup>; Education Endowment Foundation., 2019<sup>[32]</sup>). Moreover, research has shown that mere access to digital learning technologies is not necessarily related to higher student performance. Additional factors, such as how technologies are used for teaching and learning, including how teachers implement technologies to teach specific subject areas, have also been shown to impact the relationship between technology and student performance (OECD, 2015<sup>[33]</sup>).

Although remote learning can expand access to educational instruction, if students are able to participate, the closure of school buildings poses additional challenges. Schools straining to help teachers and students make remote learning a success may struggle to continue the provision of vital services for at-risk students, including remedial education, therapy and meals (Ishmael, (2020, March 16).<sup>[34]</sup>). Further, teachers must learn to effectively use new instructional tools and methods, devise accommodations for students who need them and support their students who may be facing significant mental or emotional challenges such as those brought on by a growing public health crisis (Winthrop, (2020, April 10).<sup>[35]</sup>). Students who lack the resources to use technology for instruction and who need to rely on paper-based lessons and assignments may fall behind their peers who have more reliable computer and internet access (Van Lancker, (2020).<sup>[36]</sup>). Regardless of whether they can participate in online lessons, students have become accountable for assuming an abnormal level of responsibility for learning: procuring necessary materials, maintaining a home environment conducive to school work and staying motivated to complete assignments during an acute global emergency.

The circumstances of the pandemic likewise present unique challenges for parents and guardians, who must assume additional responsibilities to help students complete assignments and learn new content.

## 2. Goals of the module

The PISA 2022 Global Crises Module includes questions for students and school administrators that measure new domain-general constructs aimed at capturing the diverse experiences of education stakeholders during the COVID-19 public health crisis. In alignment with the PISA 2022 context questionnaires framework (OECD., (2019).<sup>[37]</sup>) a construct refers to a theoretically defined conceptualisation of an aspect of human behaviour or an empirical phenomenon that is measured through empirical indicators. Constructs may be formative or reflective in nature. Formative constructs are formed through the measurement of one or more observable indicators (e.g., availability of resources, durations of learning experiences). In PISA, these constructs are typically captured by simple indices created through the arithmetic transformation or recoding of indicators. By contrast, reflective constructs typically are not directly observable and, therefore, are measured by indicators that reflect an underlying latent concept or phenomenon (e.g., levels of self-efficacy or support, feelings about learning). In PISA, these constructs are captured by scaled indices typically constructed through the use of item response theory scaling procedures (OECD., (2017).<sup>[38]</sup>).

Figure 1 lays out how the constructs in the GCM fit in with the PISA 2022 questionnaire framework taxonomy. The taxonomy distinguishes two overarching (vertical) dimensions and five (horizontal) policy focus areas, which are: student background; student beliefs, attitudes, feelings and behaviours; teaching practices and learning opportunities; school practices, policies and infrastructure; and governance, system-level policies and practices (OECD., (2019).<sup>[37]</sup>). Domain-specific constructs include constructs that demonstrate a relationship to students' academic achievement in the major domain of the current cycle (i.e., mathematics for PISA 2022) or hold power to explain broader outcomes in the major domain, such as students' educational career and post-secondary decisions (e.g., course enrolment, career decisions). General constructs include constructs that demonstrate relationships to students' academic achievement across multiple domains (e.g., feelings towards school, school infrastructure, subjective well-being, social and emotional characteristics), as well as students' economic, social and cultural status (ESCS), which is used to assess the equity of educational opportunities within and across educational systems.

As illustrated in Figure 1, all 26 constructs in the GCM are general in nature and cover four of the five policy focus areas. The constructs included in the student questionnaire aim to gather data about the type and duration of school closures; school support for remote learning; digital resources available for remote learning; challenges with self-directed learning; family support for self-directed learning; and students' subjective impressions of learning during school closures. The student questionnaire also gathers data about students' feelings of preparedness for future school closures. The school questionnaire includes newly-developed constructs that collect data from school administrators about the closure of their school building to students; their preparedness for the transition to remote learning; changes to curriculum and instruction; support and resources provided to students, teachers and parents; and support that schools may have received from other stakeholders, such as national education authorities or private donors. The school questionnaire also asks administrators to indicate their feelings of preparedness for future school closures. While these newly-developed constructs seek

to capture the educational interventions and experiences undergone around the globe in the midst of the COVID-19 pandemic, they also seek to advance the traditional goals of PISA by fostering policy-oriented, system-level assessments that produce internationally comparable data.

**Figure 1. Student and school questionnaire constructs included in each policy area**

	Student Background	Student Beliefs, Attitudes, Feelings, and Behaviours	Teaching Practices and Learning Opportunities	School Practices, Policies, and Infrastructure	Governance, System-level Policies and Practices
<b>Domain-specific Constructs</b>	A1	A2	A3	A4	A5
<b>General Constructs</b>	B1	B2 Feelings about learning at home Feeling of preparedness for future school closures Self-directed learning self-efficacy Subjective impression of learning during school closure	B3 Types of learning resources used while school was closed Problems with self-directed learning Awareness of Global Issues Family support for self-directed learning Type of digital device used for school work School closure resources Global Issues Curriculum School closure instruction School closure preparation, teacher resources	B4 Type/Duration of school closure School actions/activities to sustain learning School closure School closure preparation School closure attendance, school record keeping School closure communication Preparedness for digital learning Problems with provision of remote instruction School closure attendance, percentage absent School closure attendance, weekly Feeling of preparedness for future school closures	B5 School closure support

### 2.1. Focus on the closure of school buildings for students

Since this module aims to collect information about the educational responses to the pandemic, questions in this module target one of the most widely implemented educational responses: the closure of school buildings to students. During the item development process for this module, feedback received from a subset of participating PISA countries affirmed the relevance of school closures; a majority of these countries indicated that questions that ask about “school closure” are “highly relevant” to their education system.

However, feedback received from countries also showed the importance of finding the right phrasing to ensure that students and school administrators provide information about the same kind of event. Several countries noted that the term “school closure” could be interpreted to mean that instruction had ceased; that the school building was closed just to students; or that the school building was closed to all students and staff. Some countries reported instances of school buildings being closed to most students but open to students with special needs, to children of essential workers, or to those lacking computer access at home. Some countries also reported that their schools never closed but that schools had a period where they did not offer main instruction in the building. Although it is difficult to frame this issue in a way that represents the experiences of all students and school administrations who will participate in PISA, item developers, together with input from the PISA Questionnaire Expert Group, used the feedback provided by PISA National Centres to clarify the meaning of “school closure” to ensure

that respondents would interpret the phrase in a consistent way, provide responses that referenced the same kind of disruption and provide data about the most important dimensions of the educational disruption. Consequently, the student and school questionnaires frame “school closure” as the time that the school building was closed to the majority of students because of the COVID-19 pandemic.

This framing for “school closures” addressed concerns raised by countries that the concept of “school closure” should account for the continued delivery of instruction through distance learning while the school building remained closed. It also addressed concerns that, while their school buildings were closed to students, some school buildings remained open to teachers and staff to support the provision of remote instruction.

Finally, this module asks respondents about their aggregate educational experiences when main instruction was not offered in their school. Although some school buildings may have closed and re-opened multiple times during the course of the pandemic, respondents are not asked about individual incidents of school closure. To address concerns about respondents’ ability to recall information from what could be multiple periods of disruption, the module invites respondents to provide an overall picture of their experiences when their school building was closed to students due to COVID-19. This approach seeks to ensure the collection of accurate and high-quality data.

## **2.2. Differentiation between closures due to COVID-19 and those due to other reasons**

The questionnaires in this module ask explicitly about the closure of school buildings to students due to COVID-19 to ensure that respondents answer questions in reference to the same event. This specificity is crucial to ensure the international comparability of data. Given the diverse contexts in which these questionnaires are administered and the extended time period that the questions ask about, it is possible that respondents may experience the closure of their school building due to reasons unrelated to the COVID-19 pandemic, such as natural disasters or socio-political events. To ensure that the questionnaires collect the targeted data, respondents are asked to estimate the amount of time that their school building was closed due to COVID-19. They are also asked to estimate the amount of time that students did not go to school for learning in the classroom because their school building was closed “due to other reasons (e.g. a natural disaster, strikes or demonstrations, poor air quality)”. Respondents are instructed not to count scheduled school closures, such as holidays. These prompts allow the questionnaires to gather the targeted data while mitigating the collection of distortionary responses.

## **2.3. Focus on educational experiences during the crisis**

This module focuses specifically on educational responses to the COVID-19 pandemic. Other concerns related to the pandemic, such as specific questions about the health of respondents and their families related to PISA questionnaire framework policy area 1 (student background), fall outside the scope of this module and may be covered by other surveys and programmes. The selection of constructs for this questionnaire module looked to balance the need for robust data collection with sensitivity to privacy concerns. The constructs prioritised for inclusion were those with the highest policy relevance, suitability for the selected respondent groups and alignment with the goals of the Global Crises Module and the PISA programmes. Finally, to collect data about the period of time with the most extensive impact on student learning and well-being, the

content of this module focuses largely on student and school experiences during the period of school closures rather than the period when schools may have resumed normal operations, such as in-person learning.

For more information about the design of this module and for discussions about what was learnt through the item development and review processes, please see Development process of the global crises module

### 3. Description of student constructs

This section summarises the constructs used in the questionnaire for students in the PISA Global Crises Module. The number of items that are included in each student construct are presented in Table 3.1

**Table 3.1. Student questionnaire constructs and item counts**

Student Questionnaire Constructs	# Items in this Construct
Awareness of Global Issues	7
Type/Duration of School Closure	2
School Actions/Activities to Sustain Learning	8
Type of Digital Device Used for School Work	1
Subjective Impression of Learning during School Closure	1
Types of Learning Resources Used while School was Closed	8
Problems with Self-Directed Learning	8
Family Support for Self-Directed Learning	8
Feelings about Learning at Home	10
Self-Directed Learning Self-Efficacy	8
Feeling of Preparedness for Future School Closures	1

#### 3.1. Awareness of global issues (ST197)

Students are asked to rate their awareness of global issues (e.g., “Climate change and global warming”; “Causes of poverty”) on a four-point scale from least aware (“I have never heard of this.”) to most aware (“I am familiar with this and would be able to explain this well.”). The same question was included in the PISA 2018 Student Questionnaire. This trend item from PISA 2018 is included because it presents a range of global crises that will help further contextualise experiences during COVID-19 and can help illuminate changes in awareness over time.

#### 3.2. Type/duration of School closure (ST347)

Students are asked whether their school building closed to students for more than a week in the last three years due to COVID-19 and/or for another reason (such as a natural disaster or for political demonstrations). Students indicate the duration of the school closure by selecting from the following response options: “No”; “Yes, up to 1 month”; “Yes, more than 1 month and up to 3 months”; “Yes, more than 3 months and up to 6 months”; “Yes, more than 6 months and up to 12 months”; “Yes, more than 12 months”. Students who indicate that their school was not closed because of COVID-19 will not answer subsequent questions about school closures. This student question was newly developed for the PISA 2022 Global Crises Module.

Respondents are asked to aggregate the total amount of time that their school building was closed to students. Although some school buildings may have closed and re-opened multiple times during the course of the pandemic, in order to address concerns about respondents' ability to recall information from what could be multiple periods of disruption (please see the Cognitive interviews section of Annex A for more information about respondents' ability to recall this information), respondents are not asked about individual incidents of school closure. This approach seeks to ensure the collection of accurate and high-quality data.

### **3.3. School actions/activities to sustain learning (ST348)**

Students are asked how often someone from their school completed an activity to sustain their learning (e.g., “Sent me learning materials to study on my own”; “Checked in with me to ensure that I was completing my assignments”). Students indicate the frequency with which someone from their school completed each activity by selecting from four response options: “Never”; “A few times”; “About once or twice a week”; “Every day or almost every day”. Students who indicate that their school was not closed because of COVID-19 will not answer this question. This student question was newly developed for the PISA 2022 Global Crises Module. Items in this question are intended to be used to create a scaled index.

### **3.4. Type of digital device used for schoolwork (ST349)**

Students are asked about the type of digital device that they used most often for schoolwork (e.g., “My own laptop, desktop computer, or tablet”; “My own smartphone”) during the time when the school building was closed due to COVID-19. Students answer the question by selecting the response option that most closely describes the type of digital device that they used. Students who indicate that their school was not closed because of COVID-19 will not answer this question. This student question was newly developed for the PISA 2022 Global Crises Module.

### **3.5. Subjective impression of learning during school closure (ST350)**

Students are asked how much they believe they learnt each week while the school building was closed compared to a typical week when they attend school in person. Students select from three response options: “I learnt less when my school building was closed”; “I learnt about as much when my school building was closed”; “I learnt more when my school building was closed”. Students who indicate that their school was not closed because of COVID-19 will not answer this question. This student question was newly developed for the PISA 2022 Global Crises Module.

### **3.6. Types of learning resources used while school was closed (ST351)**

Students are asked to report how often they used specific learning resources (e.g., “Paper textbooks, workbooks, or worksheets”; “Online textbooks, workbooks, or worksheets”) while the school building was closed due to COVID-19. Students indicate the frequency that they used each learning resource by selecting from four response options (“Never”; “A few times”; “About once or twice a week”; “Every day or almost every day”). Students who indicate that their school was not closed because of COVID-19 will not answer this question. This student question was newly developed for the PISA 2022 Global Crises Module. Items in this question are intended to be used to create a scaled index.

### **3.7. Problems with self-directed learning (ST352)**

Students are asked to report how often they had specific problems with completing school work (e.g., “Problems with Internet access”; “Problems with finding a quiet place to study”; “Problems with motivating myself to do school work”) while the school building was closed due to COVID-19. Students indicate the frequency that they encountered each problem by selecting from four response options: “Never”; “A few times”; “About once or twice a week”; “Every day or almost every day”. Students who indicate that their school was not closed because of COVID-19 will not answer this question. This student question was newly developed for the PISA 2022 Global Crises Module. Items in this question are intended to be used to create a scaled index.

### **3.8. Family support for self-directed learning (ST353)**

Students are asked to report how often someone in their family provided specific kinds of learning support (e.g., “Help me create a learning schedule”; “Help me access learning materials online”) while the school building was closed due to COVID-19. Students indicate the frequency that someone in their family provided each specific kind of learning support by selecting from four response options: “Never”; “A few times”; “About once or twice a week”; “Every day or almost every day”. Students who indicate that their school was not closed because of COVID-19 will not answer this question. This student question was newly developed for the PISA 2022 Global Crises Module. Items in this question are intended to be used to create a scaled index.

### **3.9. Feelings about learning at home (ST354)**

Students are asked to rate their agreement with statements about how they feel about learning at home (e.g., “I felt lonely.”; “I enjoyed learning by myself.”) while the school building was closed due to COVID-19. Students indicate their agreement with each statement by selecting from four response options (“Strongly disagree”; “Disagree”; “Agree”; “Strongly agree”). Students who indicate that their school was not closed because of COVID-19 will not answer this question. This student question was newly developed for the PISA 2022 Global Crises Module. It was developed to follow the same four-point response scale design used for similar attitudinal constructs included in previous Main Survey student questionnaires, such as ST034 (Sense of Belonging) and ST265 (School Safety). Items in this question are intended to be used to create a scaled index.

### **3.10. Self-directed learning self-efficacy (ST355)**

Students are asked to rate their confidence about completing tasks related to self-directed learning (e.g., “Finding learning resources online on my own”; “Planning when to do schoolwork on my own”) if their school building closed again in the future due to COVID-19. Students rate their confidence by selecting from four response options (“Not at all confident”; “Not very confident”; “Confident”; “Very confident”). Students who indicate that their school was not closed because of COVID-19 will not answer this question. This student question was newly developed for the PISA 2022 Global Crises Module. Items in this question are intended to be used to create a scaled index.



### 3.11. Feeling of preparedness for future school closures (ST356)

Students are asked to rate how prepared they feel for learning on their own if their school building closed again for an extended period in the future. Students rate their preparation by selecting from five response options (“Not prepared at all”; “Not very prepared”; “Well prepared”; “Very well prepared”). Students who indicate that their school was not closed because of COVID-19 will not answer this question. This student question was newly developed for the PISA 2022 Global Crises Module.

## 4. Description of school constructs

This section summarises the constructs used in the questionnaire for school administrators in the PISA Global Crises Module. The number of items that are included in each school construct are presented in Table 2.

**Table 2. School questionnaire constructs and item counts**

School Questionnaire Constructs	# Items in this Construct
Global Issues Curriculum	7
School Closure	2
School Closure Instruction	3
School Closure Resources	8
Problems with Schools' Capacity to Provide Remote Instruction	9
School Closure Communication; School Closure Encouragement of Parent or Guardian Involvement	10
School Closure Attendance, School Record Keeping	1
School Closure Attendance, Weekly	1
School Closure Attendance, Percentage of Students Who Did Not Attend Any Distance Learning Activities	1
School Closure Preparation, Teacher Resources	4
School Closure Support	5
School Closure Preparation	10
Preparedness for Digital Learning	6
Feeling of Preparedness for Future School Closures	1

### 4.1. Global issues curriculum (SC158)

School administrators are asked to indicate whether there is any formal curriculum for teaching specific global issues (e.g., “Climate change and global warming”; “Causes of poverty”) to PISA students. School administrators answer this question by answering either “Yes” or “No” for each global issue. This question was included in the PISA 2018 School Questionnaire. This trend item from 2018 was included because it presents a range of global crises that will help further contextualise experiences during COVID-19 and can help illuminate global issues-related curriculum changes over time.

#### **4.2. School closure (SC213)**

School administrators are asked the number of days that their school was closed to students due to COVID-19 and/or for another reason (e.g., a natural disaster, strikes or demonstrations, poor air quality). They report this information by filling in the total number of days that their school was closed to students in the last three years. School administrators who indicate that their school was not closed because of COVID-19 will not answer subsequent questions about school closures and will instead skip to the question about Preparedness for Digital Learning (SC155). This school question was newly developed for the PISA 2022 Global Crises Module.

#### **4.3. School closure instruction (SC214)**

School administrators are asked how instruction in their school was organised (e.g., “Classes were taught remotely using <digital devices>”; “Students were asked to complete classes on their own based on materials distributed to them”) during the time when the school building was closed to students because of COVID-19. School administrators report this information by selecting one of five response options: “None of the classes”; “Less than half of the classes”; “About half of the classes”; “More than half of the classes”; “All or almost all of the classes”. This question is only administered to school administrators who indicate in the question about School Closure (SC213) that their school was closed for one or more days because of COVID-19. This school question was newly developed for the PISA 2022 Global Crises Module.

#### **4.4. School closure resources (SC215)**

School administrators are asked whether their school made specific resources available (e.g., “Paper textbooks, workbooks, or worksheets”; “Recorded lessons or other digital material created by teachers from my school”) to students to support their learning during the time when the school building was closed to students because of COVID-19. School administrators report this information by selecting the response option “Yes” or “No”. This question is only administered to school administrators who indicate in the question about School Closure (SC213) that their school was closed for one or more days because of COVID-19. This school question was newly developed for the PISA 2022 Global Crises Module.

#### **4.5. Problems with schools’ capacity to provide remote instruction (SC216)**

School administrators are asked to what extent specific challenges (e.g., “Lack of access to <digital devices> among students”; “Shortage of teachers available to provide remote instruction”) hindered their school’s capacity to provide remote instruction during the time when the school building was closed to students because of COVID-19. School administrators provide this information by selecting one of four response options: “Not at all”; “Very little”; “To some extent”; “A lot”. This question is only administered to school administrators who indicate in the question about School Closure (SC213) that their school was closed for one or more days because of COVID-19. This school question was newly developed for the PISA 2022 Global Crises Module.

#### **4.6. School closure communication; school closure encouragement of parent or guardian involvement (SC217)**

School administrators are asked whether teachers in their school were asked to undertake specific actions related to communicating with students and parents to support distance learning (e.g., “Communicate with students through e-mail”; “Ask parents or guardians for their help with students’ distance learning”) during the time when the school building was closed to students because of COVID-19. School administrators report this information by selecting the response option “Yes” or “No”. This question is only administered to school administrators who indicate in the question about School Closure (SC213) that their school was closed for one or more days because of COVID-19. This school question was newly developed for the PISA 2022 Global Crises Module.

#### **4.7. School closure attendance, school record keeping (SC218)**

School administrators are asked whether their school kept track of students’ attendance in distance learning activities during the time when their school building was closed to students because of COVID-19. They report this information by selecting the response option “Yes” or “No”. This question is only administered to school administrators who indicate in the question about School Closure (SC213) that their school was closed for one or more days because of COVID-19. Administrators who answer “No” to this question will not answer subsequent questions about School Closure Attendance, Weekly (SC219) and Percentage of Students Who Did Not Attend Any Distance Learning Activities (SC220); they will instead skip to the question about School Closure Support (SC221). This school question was newly developed for the PISA 2022 Global Crises Module.

#### **4.8. School closure attendance, weekly (SC219)**

School administrators who report that their school kept track of students’ attendance are asked to approximate the percentage of students who attended distance learning activities in a typical week. They report this information by selecting the percentage range that best reflects their approximation: “None”; “1% to 10%”; “11% to 20%”; “21% to 30%”; “31% to 40%”; “41% to 50%”; “51% to 60%”; “61% to 70%”; “71% to 80%”; “81% to 90%”; “91% to 100%”. This question is only administered to school administrators who indicate in the question about School Closure Attendance, School Record Keeping (SC218) that their school kept track of students’ attendance in distance learning activities. This school question was newly developed for the PISA 2022 Global Crises Module.

#### **4.9. School closure attendance, percentage of students who did not attend any distance learning activities (SC220)**

School administrators who report that their school kept track of students’ attendance are asked to approximate the percentage of students who did not attend any distance learning activities. They report this information by selecting the response option that best reflects their approximation: “None”; “1% to 10%”; “11% to 20%”; “21% to 30%”; “31% to 40%”; “41% to 50%”; “51% to 60%”; “61% to 70%”; “71% to 80%”; “81% to 90%”; “91% to 100%”. This question is only administered to school administrators who indicate in the question about School Closure Attendance, School Record Keeping (SC218) that their school kept track of students’ attendance in distance learning

activities. This school question was newly developed for the PISA 2022 Global Crises Module.

#### **4.10. School closure preparation, teacher resources (SC221)**

School administrators are asked whether their school has provided specific resources to support teachers in providing remote instruction (e.g., “Regular check-ins with other teachers and staff”; “Professional development activities focused on how to provide remote instruction”) during the time that their school building was closed to students because of COVID-19. They report this information by selecting the response option “Yes” or “No”. This question is only administered to school administrators who indicate in the question about School Closure (SC213) that their school was closed for one or more days because of COVID-19. This school question was newly developed for the PISA 2022 Global Crises Module.

#### **4.11. School closure support (SC222)**

School administrators are asked to rate the extent that they felt that their school was supported by specific groups (e.g., “A national educational authority”; “Private donors”) during the time that their school building was closed to students because of COVID-19. They report this information by selecting one of four response options: “Not at all”; “Very little”; “To some extent”; “A lot”. Respondents may interpret support broadly to include any kind of assistance (i.e., financial support, volunteer support, etc.). This question is only administered to school administrators who indicate in the question about School Closure (SC213) that their school was closed for one or more days because of COVID-19. This school question was newly developed for the PISA 2022 Global Crises Module.

#### **4.12. School closure preparation (SC223)**

School administrators are asked whether their school has taken specific actions to prepare for remote instruction (e.g., “Adapting existing curriculum plans for remote instruction”; “Ensuring that students have access to <digital devices> for remote instruction”). They report this information by selecting one of three response options: “Yes, as a standard practice before the COVID-19 pandemic”; “Yes, in response to the COVID-19 pandemic”; “No”. This question is only administered to school administrators who indicate in the question about School Closure (SC213) that their school was closed for one or more days because of COVID-19. This school question was newly developed for the PISA 2022 Global Crises Module.

#### **4.13. Preparedness for digital learning (SC155)**

School administrators are asked to rate their agreement with statements about their school’s capacity to use digital devices to enhance learning and teaching (“Teachers have sufficient time to prepare lessons integrating digital devices”; “The school has sufficient qualified technical assistant staff”). School administrators indicate their agreement with each statement by selecting from four response options (“Strongly disagree”; “Disagree”; “Agree”; “Strongly agree”). This question was included in the PISA 2018 School Questionnaire and retains the same four-point response scale used previously.

#### 4.14. Feeling of preparedness for future school closures (SC224)

School administrators are asked to rate how prepared they feel their school is for providing remote instruction if their school building closed again for an extended period in the future. School administrators rate their school's preparation by selecting from five response options ("Not prepared at all"; "Not very prepared"; "Well prepared"; "Very well prepared"). This school question was newly developed for the PISA 2022 Global Crises Module.

### 5. Conclusion

The Global Crises Module joins a growing cast of evaluative tools that aim to capture student and school experiences during the pandemic. The unprecedented challenges facing students (increased risks to student learning, well-being, educational attainment and future earnings) and schools (strained resources and budgets and possibly lower student learning and achievement) have driven the development of assessment instruments that seek to capture the scope and efficacy of the educational responses to the public health emergency.

The GCM offers stakeholders a set of rigorously designed questions that were developed with input from leading questionnaire development experts, PISA National Centres, as well as small-scale cognitive interview studies in three non-English speaking countries. Additionally, they will be evaluated further in a future large-scale international Field Trial.

The module includes 62 student questionnaire items (grouped into 11 questions) and 68 school questionnaire items (grouped into 14 questions). The student constructs focus on the type and duration of school closures, school support for remote learning, digital resources available for remote learning, challenges with self-directed learning, family support for self-directed learning, students' subjective impressions of learning during school closures and students' feelings of preparedness for future school closings. The school constructs focus on the type and duration of school closures, school preparedness for remote learning, changes to curriculum and instruction, resources and support provided to students, teachers and parents, and support that schools may have received from other stakeholders.

While a number of other topics could have been added to the module based on their importance in understanding how the pandemic has impacted students and schools, the administration of the module as part of the core questionnaires of PISA requires a focused approach that maximises opportunities to gather the highest priority data within the structure and scope of the PISA contextual questionnaires. Therefore, the constructs prioritised for inclusion were those with the highest policy relevance, suitability for the selected respondent groups and alignment with the goals and format of the GCM and the PISA programme.

This tool will allow researchers and education stakeholders to capture and report on some of the most pressing concerns and opportunities facing students and school administrators around the world as they confront the unique barriers to learning raised by COVID-19. It also strives to empower stakeholders with data that can be leveraged to address these barriers. Specifically, the GCM will help assess the differential effects of these disruptions on students and schools across countries, facilitate a broad evaluation of the lessons learnt from the educational responses to the public health crisis and identify ways to improve preparedness for future disruptions to schooling.

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## Annex A. Development process of the global crises module

The questions included in the current module are developed for a large-scale international Field Trial that will allow further evaluation before finalising the selection of questions that will be administered in the PISA 2022 Main Survey. The Global Crises Module questions were selected for inclusion in the Field Trial based on their performance in a comprehensive review process that is outlined in Figure 2. Development of the module began after initial guidance from the OECD and the PISA Questionnaire Expert Group (QEG), and a review of relevant literature. After the development of draft questions, PISA National Centres and the PISA QEG completed reviews of the school and student questionnaires and a cognitive interview study was undertaken for the student questionnaire. Simultaneously, a translatability assessment evaluated how accurately the revised questions could be translated into different language versions for administration in the countries and economies participating in PISA. After the results of the reviews and the cognitive interviews were aggregated, the QEG evaluated revisions made to both questionnaires. The OECD then reviewed the questionnaires to provide additional feedback about the prioritisation of questions and to recommend further revisions. Each of the steps in this development process allowed the questions included in this module to be systematically evaluated and iteratively refined to ensure the collection of relevant and high-quality data before the finalisation of the international versions of the questionnaires that will be administered in a Field Trial.

**Figure A A.1. Process for developing the field trial version of the global crises module**



## Expert group reviews

The PISA Questionnaire Expert Group (QEG), which consists of leading experts in educational policy, learning context assessment and methodology (see in Table 1.1 for a list of all QEG members), provided guidance about the content and overall direction of the module and reviewed draft questionnaires at several junctures in the item development process. In their reviews, the QEG evaluated the newly developed student and school questions for their policy relevance; their overall suitability for each respondent group; and their potential to yield meaningful data. Additionally, the QEG offered recommendations about how to best integrate the specific feedback gathered from cognitive interviews and country reviews to improve the measurement of constructs.

**Table 1.1. PISA questionnaire expert group members**

Name	Affiliation	Country
Hunter Gehlbach	Johns Hopkins School of Education	United States
Kit-Tai Hau	Chinese University of Hong Kong	Hong Kong
Therese Hopfenbeck	Oxford University Centre for Educational Assessment	United Kingdom
Nina Jude (Chair)	Leibniz Institute for Research and Information in Education	Germany
David Kaplan	Department of Educational Psychology, University of Wisconsin-Madison	United States
Jihyun Lee	School of Education at The University of New South Wales	Australia
Ricardo Primi	So Francisco University	Brazil
Wilima Wadhwa	ASER, Pratham Education Foundation, India	India

## Cognitive interviews

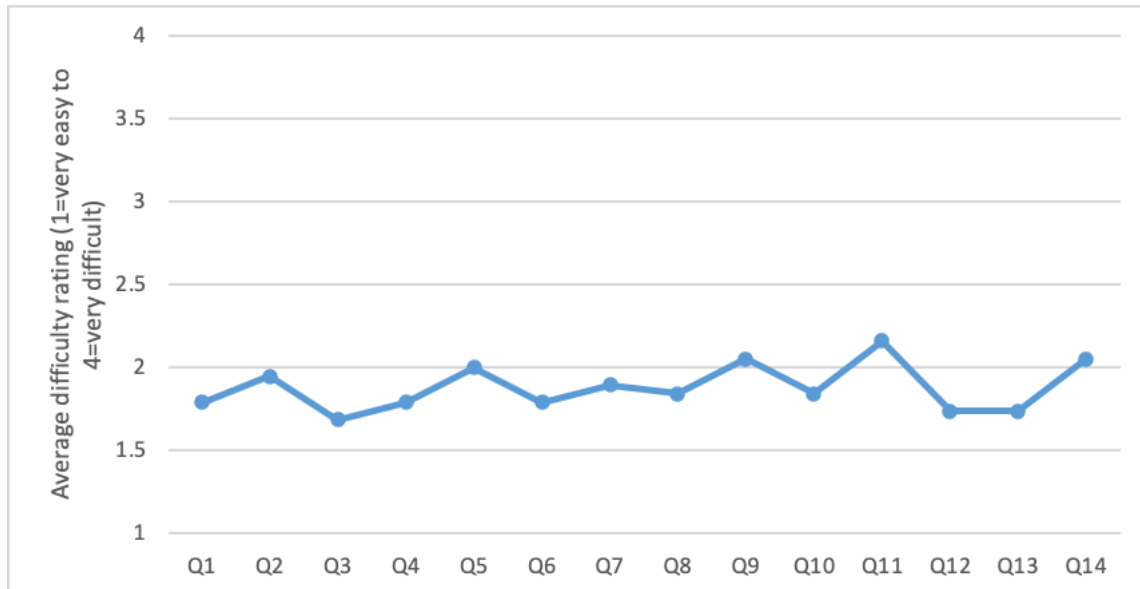
Initial drafts of all student items were screened in small-scale cognitive interview studies conducted in Brazil, India and Hong Kong, China to collect feedback from respondents representing diverse geographic, linguistic and cultural backgrounds. A total of 19 student respondents participated (six from Hong Kong, five from Brazil, eight from India). The gender breakdown of the respondent pool was nearly evenly distributed (nine males, ten females). Respondents ranged from 14 to 16 years of age; eight of the respondents were 15 years-old (the modal grade of students who participate in PISA). Overall, 11 of the respondents were from an urban location, while the remaining were from a rural location. Urban locations included Hong Kong and the states of Minas Gerai and Alagoas in Brazil. Rural areas included the states of Uttar Pradesh, Rajasthan, Chhatisgarh and Himachal Pradesh in India. Each of the 19 respondents also self-reported their socioeconomic status. There were ten respondents from socio-economically disadvantaged families, five from medium, and four from high.

The global health crisis resulted in different social distancing regulations across the three locations that impacted the format of the interviews. Cognitive interviews in Hong Kong, China were conducted through in-person meetings with students, following relevant social distancing protocols. In Brazil and India, cognitive interviews were conducted via virtual meetings with students to comply with local regulations and public health guidance.

The cognitive interview studies were conducted to determine students' comprehension of draft survey questions and to collect feedback from respondents about how the newly-developed questions might be improved. In addition to gauging students' understanding of items, respondents were probed about whether they found the question difficult to answer and whether they found anything confusing in the question. If so, students were asked to identify the specific parts of the question that were difficult or confusing so that

item developers could use those insights to revise items prior to the Field Trial. The average difficulty rating of each question is presented below in Figure 2.

**Figure 2. Average difficulty ratings of student questions during cognitive interviews**



Finally, the cognitive interview studies helped evaluate how far into the future students believed that they would be able to recall information that the new questions solicit. The cognitive interview studies captured the level of confidence that students had in their ability to provide accurate answers to the questions included in this module. This is especially relevant since the Field Trial will take place between 1 March 2021 and September 26 2021 and the Main Survey will be conducted between 1 March 2021 and 17 December 2022. Given that these wide testing windows will occur as much as two years after the initial wave of the pandemic in early 2020 and given that providing accurate responses to these survey questions can become more difficult as time passes, the cognitive interviews gathered data to evaluate students' confidence in their ability to recall the content included in this module.

The cognitive interviews yielded several insights that allowed the student questionnaire to be further refined. As shown in Figure 2, none of the questions were rated difficult (a rating of three) or very difficult (a rating of four) by students across the three locations. The results did show considerable variation in how long students perceived they would be able to remember the information from each question, ranging from "one day" to "forever". Most students felt that they would remember the school building closings for a long time, at least a few years, if not decades. Some students reported that – while they would remember the overall situation well – they would struggle to provide frequency information with the level of specificity included in the first draft set of questions. For this reason, the module seeks information on aggregate school closures rather than individual incidents of school closure. Although some school buildings may have closed and re-opened multiple times during the course of the pandemic, in order to address concerns about respondents' ability to recall information from what could be multiple periods of disruption, respondents are not asked about individual incidents of school closure.

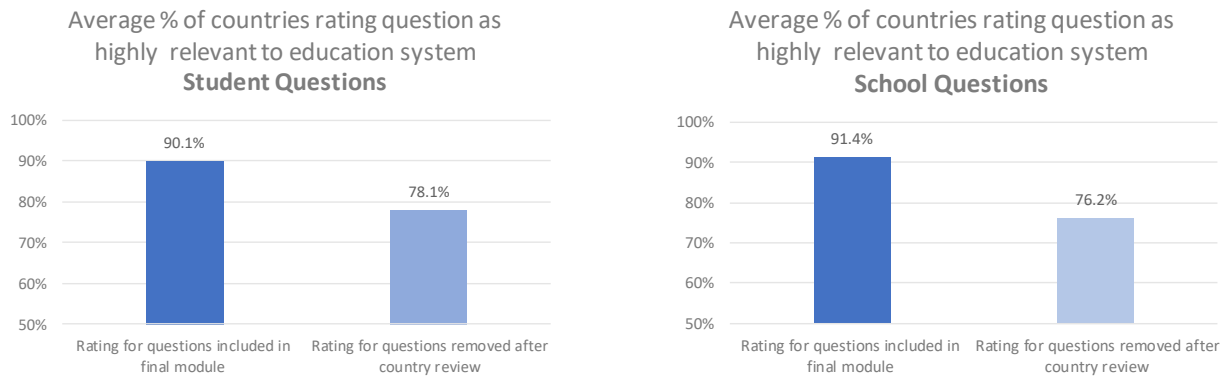
Based on these results, questions included in the initial draft of the student questionnaire were simplified or removed if students found them confusing, too specific, or too unlikely to be able to accurately recall the requested information.

While the questions designed for school administrators were not sent to cognitive interviews, results from the student cognitive interviews were also used to identify potential areas of improvement for the school questionnaire items. Both the student and school questions were evaluated in a comprehensive country review process.

## Country reviews

The country review process for student and school questionnaires gathered information from PISA National Centres that confirmed the general applicability of newly-developed questionnaire items across participating countries and that identified ways that these items might be refined prior to administration. Countries participating in PISA 2022 completed a form to facilitate a comprehensive review of the draft items developed for administration as part of the Global Crises Module. The review form asked each country or economy's PISA Centre to evaluate each item in the pool according to a set of predetermined criteria. Reviewers were asked to rate the relevance of the question for their education system on a scale of "high," "moderate," or "low" relevance. Then, they reviewed the appropriateness of each question for each respondent group by entering a "Yes" or "No" response to a question about whether they believed that respondents in their country would be able to answer the respective question. They were also asked to review the questions for any concerns regarding cultural sensitivity or bias, data privacy regulations, any anticipated translation issues and whether national adaptations would be needed. They were then asked to rate the overall acceptability of the question for inclusion in the PISA 2022 Field Trial by selecting one of three ratings: "Acceptable as is", "Acceptable with modifications", or "Unacceptable." Finally, they were invited to provide any additional comments or concerns that might improve the material. Item developers aggregated the responses collected from each country for each question and used this feedback to further refine all questions included in both the student and school questionnaires.

A total of 46 PISA National Centres submitted complete country reviews of both questionnaires, which represents 53% of the PISA National Centres participating in PISA 2022. Results indicated overall high interest among National Centres in almost all draft questions in the module. Countries stressed the importance for questions to explicitly mention COVID-19 and to focus on refining the concept of school building closures. Some countries also raised concerns that echoed the findings from the cognitive interviews that some 15 year-olds may not be able to recall too many details about what happened in schools in 2020. This feedback was used to further refine the questions included in the initial draft questionnaires. The country reviews also led to another key insight that was used to improve the questionnaires: the percentage of countries that rated questions as highly relevant to their education systems. As Figure 3 shows, this helped determine which questions were included in each questionnaire and which questions were removed after the country reviews.

**Figure 3. Average % of countries rating question as highly relevant to their education system**

From the total of 15 student questions and 24 school administrator questions that were originally developed, a revised and shortened pool of 11 student questions and 14 school administrator questions totalling 62 items and 68 items, respectively, will be administered in the PISA 2022 Field Trial. The pretesting process identified a number of questions from the initial draft of questionnaires that needed to be removed from consideration for administration in the Field Trial in order to address feedback received during the country review and expert review processes and in order to accommodate other questions more likely to yield accurate and relevant data. For example, student questions that sought to collect information on respondents' resilience and affect during school closure, satisfaction with remote learning and about instruction after schools reopened were removed from the module. Likewise, several questions for school administrators about the decision-making process around the closing and reopening of schools, the resumption of in-person instruction after school re-opening and questions about the impact of the pandemic on school funding were also removed. All items in the final Field Trial questionnaires are presented in GCM student item and GCM school items.

## Annex B. GCM student item

**Figure B.1. Awareness of global issues (ST197)**

ST197      **How informed are you about the following topics?**

*(Please select one response in each row.)*

		<i>I have never heard of this.</i>	<i>I have heard about this but I would not be able to explain what it is really about.</i>	<i>I know something about this and could explain the general issue.</i>	<i>I am familiar with this and I would be able to explain this well.</i>
ST197Q01HA	Climate change and global warming	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
ST197Q02HA	Global health (e.g. epidemics)	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
ST197Q04HA	Migration (movement of people)	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
ST197Q07HA	International conflicts	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
ST197Q08HA	Hunger or malnutrition in different parts of the world	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
ST197Q09HA	Causes of poverty	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
ST197Q12HA	Equality between men and women in different parts of the world	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>

**Figure B.2. Type/duration of school closure (ST347)**

ST347

**In the last three years, was your school building ever closed for more than a week because of the following reasons?**

*Do **not** count the time that your school was scheduled to be closed for school holiday or vacations.*

*If you changed schools during the past three years, please count the time across all schools you attended.*

*If your school had to close and reopen multiple times, please count all closing times.*

*(Please select one response in each row.)*

	No	Yes, up to 1 month	Yes, more than 1 month and up to 3 months	Yes, more than 3 months and up to 6 months	Yes, more than 6 months and up to 12 months	Yes, more than 12 months
ST347Q01JA Because of COVID-19	<input type="checkbox"/> 01	<input type="checkbox"/> 02	<input type="checkbox"/> 03	<input type="checkbox"/> 04	<input type="checkbox"/> 05	<input type="checkbox"/> 06
ST347Q02JA For another reason (e.g. a natural disaster, strikes or demonstrations, air pollution)	<input type="checkbox"/> 01	<input type="checkbox"/> 02	<input type="checkbox"/> 03	<input type="checkbox"/> 04	<input type="checkbox"/> 05	<input type="checkbox"/> 06

**Figure B.3. School actions/activities to sustain learning (ST348).**

**ST348 During the time when your school building was closed because of COVID-19, how often did someone from your school do the following things?**

*(Please select one response in each row.)*

		<i>Never</i>	<i>A few times</i>	<i>About once or twice a week</i>	<i>Every day or almost every day</i>
ST348Q01JA	Sent you learning materials to study on your own	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
ST348Q02JA	Sent you assignments	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
ST348Q03JA	Uploaded material on a learning management system or school learning platform (e.g. <Blackboard <sup>®</sup> >, <Edmodo <sup>®</sup> >, <Moodle <sup>®</sup> >, <Google <sup>®</sup> Classroom <sup>™</sup> >)	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
ST348Q04JA	Checked in with you to ensure that you were completing your assignments	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
ST348Q05JA	Offered live virtual classes on a video communication program (e.g. <Zoom <sup>™</sup> >, <Skype <sup>™</sup> >, <Google <sup>®</sup> Meet <sup>™</sup> >, <Microsoft <sup>®</sup> Teams>)	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
ST348Q06JA	Asked you to submit completed school assignments	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
ST348Q07JA	Gave you helpful tips about how to study on your own	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
ST348Q08JA	Checked in with you to ask how you were feeling	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>

Note: Students who said their school building never closed due to COVID-19 will be routed in the digital delivery system to automatically skip this question



Figure A B.4. Type of digital device used for schoolwork (ST349).

ST349 **During the time when your school building was closed because of COVID-19, which of the following <digital devices> did you use most often for your school work?**  
(Please select one response.)

ST349Q01JA	My own laptop, desktop computer, or tablet	<input type="checkbox"/> <sub>01</sub>
ST349Q01JA	My own smartphone	<input type="checkbox"/> <sub>02</sub>
ST349Q01JA	A <digital device> that was also used by other family members	<input type="checkbox"/> <sub>03</sub>
ST349Q01JA	A <digital device> that my school gave or lent me	<input type="checkbox"/> <sub>04</sub>
ST349Q01JA	I did not have any <digital device> for my school work.	<input type="checkbox"/> <sub>05</sub>

Note: Students who said their school building never closed due to COVID-19 will be routed in the digital delivery system to automatically skip this question.

Figure A B.5. Subjective impression of learning during school closure (ST350).

ST350 **During the time when your school building was closed because of COVID-19, how much did you learn each week compared to a typical week when you go to school in person?**  
(Please select one response.)

ST350Q01JA	I learnt less when my school building was closed.	<input type="checkbox"/> <sub>01</sub>
ST350Q01JA	I learnt about as much when my school building was closed.	<input type="checkbox"/> <sub>02</sub>
ST350Q01JA	I learnt more when my school building was closed.	<input type="checkbox"/> <sub>03</sub>

Note: Students who said their school building never closed due to COVID-19 will be routed in the digital delivery system to automatically skip this question

**Figure A B.6. Types of learning resources used while school was closed (ST351).**

**ST351**      **During the time when your school building was closed because of COVID-19, how often did you use the following learning resources?**

*(Please select one response in each row.)*

		<i>Never</i>	<i>A few times</i>	<i>About once or twice a week</i>	<i>Every day or almost every day</i>
ST351Q01JA	Paper textbooks, workbooks, or worksheets	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
ST351Q02JA	Digital textbooks, workbooks, or worksheets	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
ST351Q03JA	Real-time lessons by a teacher from my school on a video communication program (e.g. <Zoom™>, <Skype™>, <Google® Meet™>, <Microsoft® Teams>)	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
ST351Q04JA	Real-time lessons by a private tutor on a video communication program (e.g. <Zoom™>, <Skype™>, <Google® Meet™>, <Microsoft® Teams>)	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
ST351Q05JA	Learning material my teachers sent via <SMS> or <WhatsApp™>	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
ST351Q06JA	Recorded lessons or other digital material provided by teachers from my school	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
ST351Q07JA	Recorded lessons or other digital material from other sources (e.g. <Khan Academy®>, <Coursera®>)	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
ST351Q08JA	Lessons broadcast over television or radio	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>

Note: Students who said their school building never closed due to COVID-19 will skip this question

Figure A B.7. Problems with self-directed learning (ST352).

**ST352**      **During the time when your school building was closed because of COVID-19, how often did you have the following problems when completing your school work?**

*(Please select one response in each row.)*

		<i>Never</i>	<i>A few times</i>	<i>About once or twice a week</i>	<i>Every day or almost every day</i>
ST352Q01JA	Problems with access to a <digital device> when I needed it	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
ST352Q02JA	Problems with Internet access	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
ST352Q03JA	Problems with access to school supplies (e.g. paper, pencil)	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
ST352Q04JA	Problems with finding a quiet place to study	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
ST352Q05JA	Problems with finding time to study because I had household responsibilities	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
ST352Q06JA	Problems with motivating myself to do school work	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
ST352Q07JA	Problems with understanding my school assignments	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
ST352Q08JA	Problems with finding someone who could help me with my school work	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>

Note: Students who said their school building never closed due to COVID-19 will be routed in the digital delivery system to automatically skip this question

**Figure A B.8. Family support for self-directed learning (ST353).**

**ST353**      **During the time when your school building was closed because of COVID-19, how often did someone in your family do the following things with you?**

*(Please select one response in each row.)*

		<i>Never</i>	<i>A few times</i>	<i>About once or twice a week</i>	<i>Every day or almost every day</i>
ST353Q01JA	Help you with your school work	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
ST353Q02JA	Ask you what you were learning	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
ST353Q03JA	Help you create a learning schedule	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
ST353Q04JA	Help you access learning materials online	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
ST353Q05JA	Check whether you were completing your school assignments	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
ST353Q06JA	Explain new content to you	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
ST353Q07JA	Help you find additional learning resources	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
ST353Q08JA	Teach you additional topics not part of your school assignments	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>

Note: Students who said their school building never closed due to COVID-19 will be routed in the digital delivery system to automatically skip this question

Figure A B.9. Feelings about learning at home (ST354).

**ST354**

**To what extent do you agree or disagree with the following statements about the time when your school building was closed because of COVID-19?**

*(Please select one response in each row.)*

		<i>Strongly disagree</i>	<i>Disagree</i>	<i>Agree</i>	<i>Strongly agree</i>
ST354Q01JA	I felt lonely.	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
ST354Q02JA	I enjoyed learning by myself.	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
ST354Q03JA	My teachers were available when I needed help (e.g. through virtual office hours, email, chat).	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
ST354Q04JA	I felt anxious about school work.	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
ST354Q05JA	I was motivated to learn.	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
ST354Q06JA	I fell behind in my school work.	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
ST354Q07JA	I improved my skills in using <digital devices> for learning purposes.	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
ST354Q08JA	My teachers were well prepared to provide instruction remotely.	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
ST354Q09JA	I was well prepared to learn on my own.	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
ST354Q10JA	I missed sports and other physical activities organised by my school.	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>

Note: Students who said their school building never closed due to COVID-19 will be routed in the digital delivery system to automatically skip this question

**Figure A B.10. Self-directed learning self-efficacy (ST355).**

**ST355**      **How confident do you feel about doing the following things if your school building closes again in the future?**

*(Please select one response in each row.)*

		<i>Not at all confident</i>	<i>Not very confident</i>	<i>Confident</i>	<i>Very confident</i>
ST355Q01JA	Using a learning management system or school learning platform (e.g. <Blackboard®>, <Edmodo®>, <Moodle®>, <Google® Classroom™>)	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
ST355Q02JA	Using a video communication program (e.g. <Zoom™>, <Skype™>, <Google® Meet™>, <Microsoft® Teams>)	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
ST355Q03JA	Finding learning resources online on my own	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
ST355Q04JA	Planning when to do school work on my own	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
ST355Q05JA	Motivating myself to do school work	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
ST355Q06JA	Focusing on school work without reminders	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
ST355Q07JA	Completing school work independently	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
ST355Q08JA	Assessing my progress with learning	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>

Note: Students who said their school building never closed due to COVID-19 will be routed in the digital delivery system to automatically skip this question

**Figure A B.11. Feeling of preparedness for future school closures (ST356).**

**ST356 Overall, how prepared do you feel for learning on your own if your school building closed again for an extended period in the future?**  
*(Please select one response.)*

ST356Q01JA	Not prepared at all	<input type="checkbox"/>	01
ST356Q01JA	Not very prepared	<input type="checkbox"/>	02
ST356Q01JA	Well prepared	<input type="checkbox"/>	03
ST356Q01JA	Very well prepared	<input type="checkbox"/>	04

Note: Students who said their school building never closed due to COVID-19 will be routed in the digital delivery system to automatically skip this question

## Annex C. GCM school items

**Figure C.1. Global issues curriculum (SC158)**

SC158 **Is there any formal curriculum for the following topics in <national modal grade for 15-year-olds>?**  
*(Please consider national, state, regional, or school policies.)*

*(Please select one response in each row.)*

		<i>Yes</i>	<i>No</i>
SC158Q01HA	Climate change and global warming	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>
SC158Q02HA	Global health (e.g. epidemics)	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>
SC158Q04HA	Migration (movement of people)	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>
SC158Q07HA	International conflicts	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>
SC158Q08HA	Hunger or malnutrition in different parts of the world	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>
SC158Q09HA	Causes of poverty	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>
SC158Q12HA	Equality between men and women in different parts of the world	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>



Figure C.2. School closure (SC213)

SC213 **In the last three years, approximately how many school days was your school building closed to students because of the following reasons?**

*Please count the time that your school was closed to the majority of students. Do not count the time that your school was scheduled to be closed for school holiday or vacations.*

*If your school had to close and reopen multiple times, please count all closing times.*

*(Please enter a number for each response. Enter "0" (zero) if the school building was not closed to students.)*

SC213Q01JA Number of school days closed because of COVID-19: \_\_\_\_\_01

SC213Q02JA Number of school days closed for another reason (e.g. a natural disaster, strikes or demonstrations, air pollution): \_\_\_\_\_01

Figure C.3. School closure instruction (SC214).

SC214 **During the time when your school building was closed to students because of COVID-19, how was instruction in your school organized?**

*(Please select one response in each row.)*

		<i>None of the classes</i>	<i>Less than half of the classes</i>	<i>About half of the classes</i>	<i>More than half of the classes</i>	<i>All or almost all of the classes</i>
SC214Q01JA	Classes were taught remotely using <digital devices>.	<input type="checkbox"/> 01	<input type="checkbox"/> 02	<input type="checkbox"/> 03	<input type="checkbox"/> 04	<input type="checkbox"/> 05
SC214Q02JA	Students were asked to complete classes on their own based on materials distributed to them.	<input type="checkbox"/> 01	<input type="checkbox"/> 02	<input type="checkbox"/> 03	<input type="checkbox"/> 04	<input type="checkbox"/> 05
SC214Q03JA	Classes were cancelled and not replaced by remote instruction.	<input type="checkbox"/> 01	<input type="checkbox"/> 02	<input type="checkbox"/> 03	<input type="checkbox"/> 04	<input type="checkbox"/> 05

Note: School administrators who said their school building never closed due to COVID-19 will be routed in the digital delivery system to automatically skip this question

Figure C.4. School closure resources (SC215).

**SC215**      **During the time when your school building was closed to students because of COVID-19, did your school make the following resources available to students to support their learning?**

*(Please select one response in each row.)*

		<i>Yes</i>	<i>No</i>
SC215Q01JA	Paper textbooks, workbooks, or worksheets	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>
SC215Q02JA	Digital textbooks, workbooks, or worksheets	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>
SC215Q03JA	Real-time lessons by a teacher from my school on a video communication program (e.g. <Zoom™>, <Skype™>, <Google® Meet™>, <Microsoft® Teams>)	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>
SC215Q04JA	Recorded lessons or other digital material created by teachers from my school	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>
SC215Q05JA	Recorded lessons or other digital material created by others outside of school	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>
SC215Q06JA	Additional instructional resources for students with special learning needs	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>
SC215Q07JA	Additional instructional resources for students whose <heritage language> is different from <test language>	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>
SC215Q08JA	Lessons broadcast over television or radio	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>

Note: School administrators who said their school building never closed due to COVID-19 will be routed in the digital delivery system to automatically skip this question

Figure C.5. Problems with schools' capacity to provide remote instruction (SC216).

SC216

**During the time when your school building was closed to students because of COVID-19, to what extent was your school's capacity to provide remote instruction hindered by the following issues?**

*(Please select one response in each row.)*

		<i>Not at all</i>	<i>Very little</i>	<i>To some extent</i>	<i>A lot</i>
SC216Q01JA	Lack of access to <digital devices> among students	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
SC216Q02JA	Lack of access to <digital devices> among teachers	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
SC216Q03JA	Lack of access to the Internet among students	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
SC216Q04JA	Lack of access to the Internet among teachers	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
SC216Q05JA	Lack of learning management systems or school learning platforms (e.g. <Blackboard <sup>®</sup> >, <Edmodo <sup>®</sup> >, <Moodle <sup>®</sup> >, <Google <sup>®</sup> Classroom <sup>™</sup> >)	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
SC216Q06JA	Lack of educational materials for distance learning (e.g. textbooks, workbooks, worksheets, instructional videos)	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
SC216Q07JA	Difficulty getting in touch with students while school buildings were closed	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
SC216Q08JA	Shortage of teachers available to provide remote instruction	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
SC216Q09JA	Lack of experience in providing remote instruction among teachers	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>

Note: School administrators who said their school building never closed due to COVID-19 will be routed in the digital delivery system to automatically skip this question

**Figure C.6. School closure communication; school closure encouragement of parent or guardian involvement (SC217).**

**SC217 During the time when your school building was closed to students because of COVID-19, were teachers in your school asked to do the following things?**

*(Please select one response in each row.)*

		<i>Yes</i>	<i>No</i>
SC217Q01JA	Communicate with students through written notes or letters	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>
SC217Q02JA	Communicate with students through email	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>
SC217Q03JA	Conduct virtual office hours or meetings with students	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>
SC217Q04JA	Answer students' questions over the phone	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>
SC217Q05JA	Initiate calls to students (e.g. phone, <Skype <sup>TM</sup> >)	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>
SC217Q06JA	Ask parents or guardians for their help with their child's distance learning	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>
SC217Q07JA	Initiate communications (e.g. email, phone, <Skype <sup>TM</sup> >) with parents or guardians about their child's progress	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>
SC217Q08JA	Provide information to parents or guardians about how to help their child with school work	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>
SC217Q09JA	Keep track of students' attendance in distance learning activities	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>
SC217Q10JA	Keep track of students' completion of distance learning assignments	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>

Note: School administrators who said their school building never closed due to COVID-19 will be routed in the digital delivery system to automatically skip this question

**Figure C.7. School closure attendance in distance learning activities, school record keeping (SC218).**

SC218 **During the time when your school building was closed to students because of COVID-19, did the school keep track of students' attendance in distance learning activities?**

*(Please select one response.)*

SC218Q01JA Yes \_01

SC218Q01JA No \_02

Note: School administrators who said their school building never closed due to COVID-19 will be routed in the digital delivery system to automatically skip this question

**Figure C.8. School closure attendance in distance learning activities, weekly (SC219).**

**SC219**      **During the time when your school building was closed to students because of COVID-19, approximately what percentage of students attended distance learning activities in a typical week?**

*(Please select one response.)*

SC219Q01JA	0%	<input type="checkbox"/>	01
SC219Q01JA	1% to 10%	<input type="checkbox"/>	02
SC219Q01JA	11% to 20%	<input type="checkbox"/>	03
SC219Q01JA	21% to 30%	<input type="checkbox"/>	04
SC219Q01JA	31% to 40%	<input type="checkbox"/>	05
SC219Q01JA	41% to 50%	<input type="checkbox"/>	06
SC219Q01JA	51% to 60%	<input type="checkbox"/>	07
SC219Q01JA	61% to 70%	<input type="checkbox"/>	08
SC219Q01JA	71% to 80%	<input type="checkbox"/>	09
SC219Q01JA	81% to 90%	<input type="checkbox"/>	10
SC219Q01JA	91% to 100%	<input type="checkbox"/>	11

Note: School administrators who said their school building never closed due to COVID-19 will be routed in the digital delivery system to automatically skip this question

**Figure C.9. School closure attendance in distance learning activities, percentage of students who did not attend any distance learning activities (SC220).**

**SC220**      **During the time when your school building was closed to students because of COVID-19, approximately what percentage of students did not attend any distance learning activities?**

*If your school closed multiple times because of COVID-19, please provide the approximate mean percentage across all instances.*

*(Please select one response.)*

SC220Q01JA	0%	<input type="checkbox"/>	01
SC220Q01JA	1% to 10%	<input type="checkbox"/>	02
SC220Q01JA	11% to 20%	<input type="checkbox"/>	03
SC220Q01JA	21% to 30%	<input type="checkbox"/>	04
SC220Q01JA	31% to 40%	<input type="checkbox"/>	05
SC220Q01JA	41% to 50%	<input type="checkbox"/>	06
SC220Q01JA	51% to 60%	<input type="checkbox"/>	07
SC220Q01JA	61% to 70%	<input type="checkbox"/>	08
SC220Q01JA	71% to 80%	<input type="checkbox"/>	09
SC220Q01JA	81% to 90%	<input type="checkbox"/>	10
SC220Q01JA	91% to 100%	<input type="checkbox"/>	11

Note: School administrators who said their school building never closed due to COVID-19 will be routed in the digital delivery system to automatically skip this question

**Figure C.10. School closure support (SC221).**

**SC221**      **During the time when your school building was closed to students because of COVID-19, were the following resources used to support teachers in providing remote instruction?**

*(Please select one response in each row.)*

		<i>Yes</i>	<i>No</i>
SC221Q01JA	Regular meetings with other teachers and staff	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>
SC221Q02JA	Online platforms and tools for self-directed or collaborative learning (e.g. online forums, discussion boards, professional communities)	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>
SC221Q03JA	Tools that help teachers develop remote instruction plans (e.g. digital lesson planners, compiled resources and guides offered by organisations)	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>
SC221Q04JA	Professional development activities focused on how to provide remote instruction	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>

Note: School administrators who said their school building never closed due to COVID-19 will be routed in the digital delivery system to automatically skip this question



**Figure C.11. School closure preparation, teacher resources (SC222).**

SC222

**During the time when your school building was closed to students because of COVID-19, to what extent did you feel your school was supported by the following groups?**

*(Please select one response in each row.)*

		<i>Not at all</i>	<i>Very little</i>	<i>To some extent</i>	<i>A lot</i>
SC222Q01JA	A national educational authority	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
SC222Q02JA	A regional educational authority	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
SC222Q03JA	A local educational authority	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
SC222Q04JA	Students' parents or guardians	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
SC222Q05JA	Private donors	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>

Note: School administrators who said their school building never closed due to COVID-19 will be routed in the digital delivery system to automatically skip this question

**Figure C.12. School closure preparation (SC223).**

SC223		<b>Has your school taken any of the following actions to prepare for remote instruction?</b>		
(Please select one response in each row.)		<i>Yes, as a standard practice before COVID-19</i>	<i>Yes, in response to COVID-19</i>	<i>No</i>
SC223Q01JA	Training teaching staff on the use of video communication programs (e.g. <Zoom™>, <Skype™>, <Google® Meet™>, <Microsoft® Teams>) for remote instruction	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>
SC223Q02JA	Training students on the use of video communication programs (e.g. <Zoom™>, <Skype™>, <Google® Meet™>, <Microsoft® Teams>) for remote instruction	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>
SC223Q03JA	Preparing digital material for remote instruction (e.g. reorganising existing resources, designing new resources)	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>
SC223Q04JA	Preparing paper-based material for remote instruction (e.g. reorganising existing resources, designing new resources)	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>
SC223Q05JA	Adapting existing curriculum plans for remote instruction (e.g. modifying course requirements, sequence of lessons, grading policies)	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>
SC223Q06JA	Preparing digital materials for assessing student learning via online assessment (e.g. quizzes, tests)	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>
SC223Q07JA	Compiling instructional resources for parents or guardians to support their child’s learning outside the school	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>
SC223Q08JA	Ensuring that students have access to <digital devices> for remote instruction	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>
SC223Q09JA	Ensuring that teaching staff have access to <digital resources> for remote instruction	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>
SC223Q10JA	Preparing a plan for transitioning students and teachers from classroom-based instruction to remote instruction	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>

Note: School administrators who said their school building never closed due to COVID-19 will be routed in the digital delivery system to automatically skip this question

Figure C.13. Preparedness for digital learning (SC155)

SC155

**To what extent do you agree with the following statements about your schools' capacity to enhance learning and teaching using <digital devices>?**

*(Please think of different kinds of <digital devices> such as for example desktop computers, portable laptops, tablet computers, or interactive whiteboards.)*

*(Please select one response in each row.)*

		<i>Strongly disagree</i>	<i>Disagree</i>	<i>Agree</i>	<i>Strongly agree</i>
SC155Q06HA	Teachers have the necessary technical and pedagogical skills to integrate <digital devices> in instruction.	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
SC155Q07HA	Teachers have sufficient time to prepare lessons integrating <digital devices>.	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
SC155Q08HA	Effective professional resources for teachers to learn how to use <digital devices> are available.	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
SC155Q09HA	An effective online learning support platform is available.	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
SC155Q10HA	Teachers are provided with incentives to integrate <digital devices> in their teaching.	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>
SC155Q11HA	The school has sufficient qualified technical assistant staff.	<input type="checkbox"/> <sub>01</sub>	<input type="checkbox"/> <sub>02</sub>	<input type="checkbox"/> <sub>03</sub>	<input type="checkbox"/> <sub>04</sub>

**Figure C.14. Feeling of preparedness for future school closures (SC224)**

SC224      **Overall, how prepared do you feel your school is for providing remote instruction if your school building closed to students for an extended period in the future?**  
*(Please select one response.)*

SC224Q01JA	Not prepared at all	<input type="checkbox"/> _01
SC224Q01JA	Not very prepared	<input type="checkbox"/> _02
SC224Q01JA	Well prepared	<input type="checkbox"/> _03
SC224Q01JA	Very well prepared	<input type="checkbox"/> _04