

21CS MAP Study Implementation

Framework for Estimating National Resources

This document has been developed to describe the staffing infrastructure and resources needed by countries in order to run IEA's 21CS MAP. National costs for running the study will, of course, depend on individual country costing structures. The major items to be taken into account when estimating costs are provided below.

National Study Centre

The National Study Center (NSC) will undertake the national tasks required to participate in the study. The NSC will be led by a National Research Coordinator (NRC) and include part-time research staff, with expertise in curriculum, familiarity with the target grades by subjects curricula, and expertise in 21st century skills (if available). A national advisory body might also be appointed to which the NRC could refer. Such a body can act as both a validation and dissemination mechanism and ensure that the National Study Center has access to the best advice.

Given the size and scope of the study, both the role of the NRC and researchers in the NSC can be part-time. The staff requirements are determined by the need to analyse target skills at grades 4 and 8, or their national equivalents, across three subjects in each country. The subjects to be analysed will be decided upon based on their commonality across participating countries. For more detail on NSC tasks, please refer to page 4 of this document.

Staffing

National Research Coordinator

The NRC plays a major role in all IEA studies, whether large-scale sample-based assessments or, in this case, a policy and curriculum study. The NRC is:

- the main contact in a country for the international study coordination;
- expected to attend or field appropriately qualified staff to attend international meetings;
- required to have excellent written and spoken English, IEA's working language and the language for conduct of all 21CS MAP international meetings;
- expected to have deep understanding of their country's curricular frameworks;
- preferred to have some familiarity with the 21st century skills domain.

The NRC is responsible for:

- establishing the NSC;
- overall management of the NSC;
- ensuring appropriately qualified personnel to complete the tasks are available;
- coordinating all expected study tasks according to agreed timelines.

NSC Staff

Across the NSC staff, there should be curricular expertise and familiarity with the target subjects, and with the curricular policy documentation. Familiarity with 21st century skills competencies and the national documentation on 21st century skills (if this exists) would be an advantage. The NSC staff should be able to contribute to the research work of 21CS MAP through their knowledge of and expertise in their curriculum. There will also be a small amount of administration required. Role allocation will vary in each country depending on NSC staffing capabilities and the local context (including financial resources).

Resourcing and Materials

21CS MAP Manuals

The 21CS MAP manuals, which will be prepared by the International Study Center and the Study Director, will comprise five parts: General Information, Skills Information, Mapping Guidelines, Explanatory and Illustrative Materials. The manuals should be used as guidelines for NSC activities, and can be used for training purposes of NSC researchers. The processes of curriculum analysis, coding of data, and data entry into the forms to be supplied, can be seen as three separate processes.

The curriculum analysis requires checking and reviewing the national curriculum (or the equivalent) for key terms and activities; coding requires assigning values or frequency counts to analyse results; and data entry requires saving the coding information into an electronic datasheet. Researchers may prefer to complete the first two processes with paper and pencil, while the final step does require the use of a downloadable or online form. Quality control mechanisms for the analysis, coding, and data entry will be provided as part of the manuals (and included in the second NRC meeting).

Translation

All materials will be supplied by the International Study Center (ISC) in English, and may need to be translated at the discretion and under the supervision of the NRC. The cost of completing translations, and conducting internal review and revision is borne by the NSC. All mapping data from National Centers is to be entered into the ISC supplied mapping forms, in English. The cost of reviewing and verifying back-translations of a short supplied list of technical terms will be borne by the International Study Centre.

While it is not possible to provide an exact word count for the 21CS MAP materials, we estimate that the manual parts will comprise approximately 50 pages. We therefore suggest that countries budget for translation costs of up to 35000 words, to include the manuals, survey form, and the list of technical terms. In addition, all country information and data to be entered into the survey will need to be translated into English prior to input.

Computing

The 21CS MAP materials will be delivered electronically. The NSC therefore needs internet access in order to complete the study. Any relatively new (less than 3 years old) computers with internet access and the Microsoft Office suite will meet the technical criteria to enable receiving materials, inputting data, and uploading mapped data. Both quantitative and qualitative data will need to be entered into the data collection package. In terms of national sourcing of the curricular information required to complete the mapping activity, the NRC may source printed or soft copy documentation, as locally available.

The number of computers needed will depend on how the NSC is organized and the workload distributed. For efficiency for example, the National Study Center could reasonably use one computer for each of the subject study areas. Other necessary equipment includes standard office supplies, mail and delivery services.

Travel

There are three meetings of the NRCs, which will ideally be held in different countries:

- The first meeting (estimated May 2021, Hamburg, Germany – date tbc) will provide country participants with the opportunity to contribute to review of the framework and the content of the 21CS MAP tools;
- The second meeting precedes the main mapping period and will be focused on preparation for sourcing documentation, skills analysis process, coding and data entry. Some countries may choose to send more than one person to this meeting (such as the NRC and a person with specific responsibility for skills mapping training and data management).
- The third meeting will provide participants with the opportunity to provide feedback on the draft International Report, and discuss implications of the findings.

It may be necessary to budget for some travel within-country depending on the proximity of main education offices to curriculum centers (if required), or training.

Reporting and Dissemination of the Results

The NRC should consider the costs of publishing the main report, a press conference for its release and/ or any other methods for disseminating the results (publications, briefs, infographics, conferences, workshops). IEA will produce some materials at the international level, such as infographics, that NRCs can translate and use for their activities (specifics to be determined).

National Study Center Tasks

The following is a summary of key tasks for completion by the NSC. Note that workload will vary at times due to timeline-bound sets of tasks. This list should help NRCs to identify the most appropriate NSC staff to contribute to the study.

Initial Documentation

- Provide the ISC with a list of 21CS that are valued and made explicit in policy and curriculum documentation;
- Provide the ISC with a list of the core and optional subjects available to students at 4th and 8th grade levels, or their equivalents.

Core Documents

- Source a list of formal ministry or education department documents from which the skills audit information will be derived;
- Contact relevant departments for access to relevant policy and curricular documents.

Materials Review and Preparation

- Contribute to the development of the 21CS MAP framework, overall design, survey structure, methodology and content through participation at NRC meetings and webinars and provide electronic feedback on materials as they are being developed;
- Pilot implementation by 1-2 countries and report on usability;
- Translate the 21CS MAP survey, if needed;
- Provide back-translations of key technical terms included in a list to be provided by the ISC to NRCs (estimated at no more than two pages).

Data Collection

- Prepare for data collection through the assembly of relevant documents and ensure access to necessary hardware, software and connectivity;
- Identify and train research staff who can check through (audit) the curriculum to identify skills presence;
- Train staff on the coding and data entry procedures;
- Complete the survey forms, and submit these to the ISC;
- Respond to the ISC's data queries within agreed timelines;
- Provide a structured report in English to the ISC, which describes the country's audit process and, but not limited to, associated issues;
- Resolve any technical data issues.

Reporting

- Review national summarized data and queries from the ISC within agreed timelines;
- Review summary report within agreed timelines;
- Review section of the international report that pertains to their country within agreed timelines;
- Work with the IEA communications team to support information dissemination;
- Conduct national analysis of the data (optional);
- Write a national report or communication materials (optional);
- Disseminate national report, in conjunction with the release of the international report but not before (optional).

It is estimated that data collection, coding and entry, reporting and NRC meetings will take close to 100 days. This estimate will vary widely depending on the structure of the country's curriculum and the organization of its key documents.