

Amsterdam, 28 September 2020

CALL FOR PROPOSALS

Call no. IEA 12/09-2020

IEA Research for Education Series:

Using IEA ICILS data to understand computer and information preparedness internationally

1. Introduction

The International Association for the Evaluation of Educational Achievement (IEA) invites proposals for creating a report based on secondary analysis of IEA data. The general theme for this report is the area of computer and information preparedness among adolescents internationally as informed by IEA's International Computer and Information Literacy Study (ICILS). The deliverable for this project will be an 80- to 150-page book, to be published by Springer as part of the IEA Research for Education series (see <https://link.springer.com/bookseries/14293>). The book will include, in addition to the main text, tables, graphs, cited references, and relevant appendix materials.

2. Study background and objectives

The importance of a digitally literate population is unequivocal. From day-to-day functioning (paying bills, booking travel, or doing consumer research) to developing skills for in-demand 21st century jobs, few areas of modern life are untouched by digital technology. More urgent than a longer-term human capital goal, the current global pandemic brings into sharp focus the need for students around the world to navigate adeptly learning in a virtual environment. Beyond the competencies necessary for engaging in learning virtually, access to hardware and stable internet is a problem even in industrialized countries. For example, roughly one-quarter of adults in the United States do not have broadband internet service at home (Pew Research Center 2019). From another perspective, Portugal reports lower than average rates of information technology adoption in schools, when compared to 27 European Union peers (Cruz-Jesus et al. 2016). The same research showed a substantial digital divide in Italy, particularly among high-school students. By contrast, Korea experiences the smallest

information technology gap between the richest and poorest (Sung-jin 2016). IEA's ICILS serves as a rich source of information for understanding issues around digital literacy and preparedness. In addition to the measurement of digital literacy, ICILS measures computational thinking. Further, the study produces a wealth of contextual information on home use of technology, how technology is used for teaching and learning, and the home environment, among other concepts. Finally, as a trend study, ICILS offers a perspective on information and computer literacy dating back to 2013. Taken together, ICILS data provide rich resources to better understand the way in which today's youth are prepared to assume their place as the next generation of workers and citizens.

3. Possible substantive topics

IEA welcomes proposals that address the topic of international digital literacy from different theoretical, curricular, and cultural perspectives. Competitive proposals should clearly describe the overarching framework, and provide well-defined research questions, and a detailed description of the proposed methods. Successful author teams are expected to provide exemplar syntax and data, so that readers can replicate and extend the analyses presented in the book.

Interesting aspects that could be explored in the report may include, **but are not limited to:**

- Which factors are associated with higher levels of computational thinking?
- Given cross-cultural differences in digital literacy, access, and uptake, how might educational systems expect to recover from the current COVID-19 pandemic?
- How do patterns of technology gaps (or access) differ across and within countries?
- Are there school and teacher factors that predict better digital competence?

4. Data

IEA's ICILS is the only international comparative study dedicated to studying the digital competence of young people in secondary education. In 2018, nationally representative samples of students from 12 educational systems participated in the study. In addition to an international assessment and survey on computer and information literacy, eight countries also took part in an optional computational thinking module. The various reports on ICILS provide a detailed overview of the study's results.¹

ICILS collects data on students' computer and information literacy and computational thinking in their eighth year of schooling. It further encompasses rich background information from students, teachers, principals, and ICT-coordinators about home and school contexts. In addition, national centers provide information about the respective national contexts.

¹ See <https://iccs.iea.nl/resources/publications.html>; http://pub.iea.nl/national_reports.html; and <https://iccs.iea.nl/resources/national-reports/>.



5. **General guidelines for proposal submission**

Proposals must be submitted in English.

Please ensure the proposal demonstrates familiarity with the proposed research by including a sound literature review. Ensure that the contribution of the proposed thematic report to this literature is explicit, especially in terms of its potential to expand the current state of research and knowledge.

When preparing a proposal, please clearly specify the research relevance and the policy relevance of the research questions and methods selected. This specification needs to expand on and augment or complement the outline ideas set out in this call for proposals.

The proposal must furthermore describe the general analytical framework that will guide not only analyses of the IEA data but also interpretation of the results of those analyses. The description of the framework must be such that it clearly shows how the proposed analysis will address the policy-relevant research questions. The description should therefore identify:

- (i) which IEA data (study, questionnaire items, indices, or constructs from questionnaires) you intend to use,
- (ii) any non-IEA data sources that will be included, and
- (iii) any additional data collection that is deemed necessary (such as system-level characteristics).

Please make sure that a clear and complete description of the types of quantitative or qualitative analyses to be used is included. The degree to which the methods are suited to answer the research question is an important evaluation criterion for all proposals.

In addition, the proposal must include a detailed timeline for all analyses and report-writing activities, and a well-considered budget proposal to complete the project.

When developing timelines, assume a start date of 1 January 2021 and an end date of 1 January 2022; the final manuscript of the book must be supplied to IEA for print production by 1 September 2021. Although there may be a certain degree of flexibility in the timeline, it must make provision for (i) submission of a complete draft report by 1 June 2021 for review by IEA, and (ii) time for subsequent revision and language editing of the report. The corresponding author must be available for consultation with Springer Publishers during the print production period.

Budgets must include the expected number of work days needed to complete each activity related to the project and a total budget in euros or US dollars. The total budget should not exceed 25,000 euros.

The call is open to all researchers, excluding teams from IEA International Study Centers. For the latter, direct assignments are possible.

The proposal should be no more than 10 pages in length.² Please also provide a short (500-word maximum) biographical note on each person in the team tendering for the project. Please highlight the relevance of each person's experience to the proposed activities.

IEA will review all proposals according to their methodological quality, research, and policy relevance, and budget. All tenderers will be informed of the outcome of these deliberations by early December 2018.

Proposals should be submitted by email to secretariat@iea.nl.

The deadline for proposals is 1:00 p.m., 10 November 2020.

References

- Cruz-Jesus, F., Vicente, M. R., Bacao, F., & Oliveira, T. (2016). The education-related digital divide: An analysis for the EU-28. *Computers in Human Behavior*, 56, 72–82. <https://doi.org/10.1016/j.chb.2015.11.027>
- Pew Research Center. (2019, June 12). Demographics of internet and home broadband usage in the United States. *Pew Research Center: Internet, Science & Tech*. <https://www.pewresearch.org/internet/fact-sheet/internet-broadband/>
- Sung-jin, C. (2016, February 29). Korea has "smallest digital divide" among major nations. *Korea Times*. http://www.koreatimes.co.kr/www/tech/2020/09/693_199287.html

² Times New Roman, Arial or similar, 12 point type, double spaced.