R & D Funding Call 1

62nd IEA General Assembly meeting

25 – 27 October 2021

Thierry Rocher

Developing research and innovation

- Contributes to IEA's mission to provide a model for research in education and innovative approaches

- The Research and Development (R&D) Fund was developed to advance and improve the science and methodology of IEA and its studies

- Funding is drawn from a 3% overhead on participation fees across IEA studies

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Call 1: Thematic call

- Thematic call for research proposals on computer-based assessment

- Possible topics included, but were not limited to:
  - Transition from PBA to CBA, including overcoming obstacles for this transition
  - Collection and use of log and process data
  - Innovative assessment designs (e.g., interactive items, adaptive designs)
  - User-interface design and test-taking experience

- Released 3 March 2021 with submission deadline 3 May 2021

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Summary of proposals

- ## 17 proposals received in total
  - from universities, research institutes, and ministries
  - from the IEA network and beyond
  - including from international study centers, national study centers and IEA staff

- ## Tier I proposals: 4
  - 6-month duration, € 50,000 limit

- ## Tier II proposals: 13
  - 12-month duration, € 100,000 limit

Summary of review process

- All proposals assigned to at least two reviewers
  - One internal and one external reviewer recognized as experts on the respective topic

- In the case an identified reviewer declined, alternatives were contacted

- One proposal with conflicting reviews was sent to a third reviewer

- Top 5 proposals were sent to the Standing Committee for consideration

Funded Proposal 1

- **Title:** Validity and measurement properties in technology-enhanced items: A balancing act

- **Lead Researcher:** Saskia Wools, Cito

- This study aims to:
  - Evaluate the validity of results of international large-scale assessment programs that incorporate technology-enhanced items (TEIs), with special attention to comparability of results between countries.
  - Develop a general framework for technology-enhanced measurement and identify guidelines to specify what type of TEIs function psychometrically sound and under what conditions.

Funded Proposal 2

- **Title:** Understanding students' computational thinking strategies and test taking behaviors across countries using process data in ICILS 2018 with analytical approach

- **Lead Researcher:** Qiwei-Britt He, Educational Testing Service (ETS)

- This study aims to:
  - Identify and characterize profiles of students computational thinking (CT) strategies and test-taking behaviors by proficiency level.
  - Examine whether these CT strategies and behaviors are different across countries.
  - Assess whether CT strategies and behaviors are related to students' performance on computer and information literacy.

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Funded Proposal 3

- **Title:** Using neural network classification for the automated scoring of image response items in TIMSS 2023

- **Lead Researcher:** Lale Khorramdel, Boston College

- This study aims to:
  - Explore capabilities to train neural network models for the automated scoring of graphical responses using TIMSS 2019 and TIMSS 2023 field test data.
  - Explore whether this process can help facilitate additional stages of quality control after data collection.

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What went well

- Communication about the funding opportunity reached the appropriate audience and appears to be attractive.

- Many of the applications were relevant and high quality with a mix of applied and foundational approaches.

- Overall, reviewer feedback was detailed and helpful for committee members making decisions.

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Areas for improvement: The call

- Criteria for identifying out-of-scope proposals should be clear (e.g., that these will be screened but not reviewed).

- General information on "terms and conditions" should be specified and the call should clarify that these are *sponsored research grants* that need to have value for IEA and its studies (in contrast to unconditional grants).

- Additional information about the review process should be added to the call to ensure it is clear how reviewers will be assigned to proposals.

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Areas for improvement: The review process

- More time needs to be allocated to the review process.

- Reviewer forms should be changed to include clearly defined sections of information to be shared with the proposal authors so that reviewer feedback is more transparent.

Future calls

- Future calls could consider alternating between open and thematic calls.

- Proposed timeline for call 2:
  - 1 February – Call for proposals released
  - 1 April – Proposals due
  - 30 July– Proposals reviewed and awardees selected
  - 30 September – Contracts signed with awardees
  - GA meeting – Announcement of awardees, reports on insights from previous round

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Thank you!