

Please complete the form below to help us work with you and your team. Where there have been no changes since you submitted a proposal feel free to cut and paste text into this document. Extend the boxes as necessary.

Funder: The Government of Australia, the Australian Department of Foreign Affairs and Trade (DFAT)

Number and title of review originally requested from funder:

Interventions, Practices, and Contextual factors Linked to Student Learning Outcomes in Indonesia: A Systematic Review

Title of review agreed at time of confirmed funding:

Interventions, Practices, and Contextual factors Linked to Student Learning Outcomes in Indonesia: A Systematic Review

Host organisation(s) for review team:

INOVASI (Innovation for Indonesia’s School Children), in partnership with the Indonesian Ministry for Education and Culture (MoEC)

Review team members			
Surname	First name	Email address*	Role
Nugroho	Dita	dita.nugroho@thepalladiumgroup.com	Classroom Research and Student Assessment Manager - INOVASI
Suryadarma	Daniel	daniel.suryadarma@thepalladiumgroup.com	Education Research Manager - INOVASI
Power	Lorna	lorna.power@thepalladiumgroup.com	Monitoring and Evaluation Manager - INOVASI
Rarasati	Niken	niken.rarasati@thepalladiumgroup.com	Research Officer - INOVASI
Wanita	Cici	cici.wanita@thepalladiumgroup.com	Teaching and Learning Officer - INOVASI
Burhan	Yendri Wirda	yendriburhan@yahoo.com	Sub-Unit Head - Center for Policy Research, MoEC
Silisabon	Simon	simonsilisabon@yahoo.com	Senior Researcher - Center for Policy Research, MoEC
Fujianta	Sisca	sisca.fujianita@kemdikbud.go.id	Researcher - Center for Policy Research, MoEC
Dyah	Catur	caturdyah@gmail.com	Researcher - Center for Policy Research, MoEC

Biantoro	Sugih	sugih.biantoro@gmail.com	Researcher - Center for Policy Research, MoEC
Perdana	Novrian Satria	nsp.kemdikbud@gmail.com	Researcher - Center for Policy Research, MoEC
Aden	Ihya	ihya_aden@yahoo.com	Researcher - Center for Policy Research, MoEC
Ridho	Rasyid	rasyidridho@gmail.com	Librarian -MoEC Library
Wicaksono	Hendro	hendrowicaksono@gmail.com	Librarian -MoEC Library

* We shall use these email addresses to register each person for accessing the Moodle web space for on-going support and EPPI-Reviewer

a) Situate the question in the literature, including describing the existing evidence and literature, estimated size and quality of the evidence base and your familiarity with it.

Thousands of meta-studies have been conducted in the field of education. Most prominently, John Hattie has published a synthesis of over 800 of these studies - a meta-meta-study - that are focused on student achievement. He ranked the size of the effects of various interventions and strategies on student learning outcomes. His findings have highlighted the importance of *student self- expectations*, the provision of *formative assessments* and *feedback*, *classroom discussion*, and *teacher-student relationships*, as well as specific teaching and learning approaches such as *response to intervention*, *reciprocal teaching* and *spaced practice* (Hattie, 2009). As most of the underlying studies were carried out in developed and English-speaking countries, however, Hattie himself has cautioned against the use of his findings in other contexts.

More recently, academics and development partner researchers have undertaken systematic reviews on learning outcomes in developing countries, and in 2015 the World Bank published an analysis of six of such reviews. They found that three categories of programs were recommended with consistency: *pedagogical interventions that tailor teaching to student skills* - including those that use *computer-assisted learning* - *repeated teacher training interventions* that are usually linked to other pedagogical interventions, and in certain contexts, strengthening *accountability* through contracts or performance incentives (Evans & Popova, 2015).

The World Bank analysis and underlying reviews largely considered studies that are experimental or quasi-experimental in nature. This means that the studies they considered either allocated interventions randomly or utilised another study design or statistical method to approximate a random allocation of a specific intervention. Meanwhile, the Hattie meta-review also incorporated studies that were observational in nature, looking at the practices and factors that influence learning outcomes more broadly rather than just the introduction of specific interventions.

Few Indonesian studies were included in the above reviews. The 11 primary studies within the reviews included in the World Bank's report that were conducted in Indonesia examined the effects of access improvement, nutritional supplementation, school governance and resources, including teacher characteristics. A review that includes a broader range of study designs and specifically targets local and grey literature will be able to complement and compare those findings with the effects of classroom teaching and school practices.

The review team, made up of researchers from INOVASI and MoEC, are familiar with and have contributed to the relevant body of Indonesian literature, particularly through studies that were donor- or government-funded. This review will only focus on studies that have been conducted in Indonesia to synthesise research evidence and explore the factors

that are most important in improving Indonesian students learning outcomes in terms of literacy and numeracy.

b) Please describe the limitations of the systematic review, including issues of evidence type, issues resulting from different methodological approaches to studies and issues arising from contextual challenges. [Up to 300 words].

To the best of the review team members' knowledge, this is the first systematic review on education outcomes that is specifically focused on Indonesia. Consequently, there are no particular guidelines and pre-defined controlled terms for searching in Indonesian repositories. To overcome this issue, the review team will develop a search strategy that consist of detailed search terms. We will also review the reference lists and bibliographies of included studies to find a related literatures that that the keywords have not been covered in the search strategy.

The review team recognises that there may be a limited number of high-quality relevant studies in published and peer-reviewed journals, both internationally and nationally. We expect to rely heavily on searching grey literature, through searching databases of and contacting donors, government agencies, local research institutes and other relevant organisations.

c) Review Questions

This review will investigate factors that are linked to literacy and numeracy outcomes among Indonesian primary and junior secondary school. Specifically, the review will address the following questions;

1. How have students learning outcomes in terms of literacy and numeracy been studied in Indonesia?
2. What is the effect of interventions, practices, or contextual factors on elementary and junior secondary students' literacy and numeracy learning outcome?
3. How do these factors interact with each other in contributing to student learning outcomes?

d) Methodology

Search strategy

The searching process will target literatures in published journals or Indonesian university these repositories as well as 'grey' literature. The search strategy is adapted according to the sources of search. In an electronic databases, the team utilise Boolean logic to combine the search concepts. The concepts are divided into four groups which are learning factors, learning outcomes, basic education, and population. Where possible, Boolean logic will still be used in institutional websites or repositories. Otherwise, a search-by-subject or hand-searching method will be applied. The two other strategy will be citation chasing and contacting relevant groups and researchers.

Inclusion and exclusion criteria

A common approach to clarifying a systematic review inclusion and exclusion criteria is to address the population, intervention, control or study design, and outcomes of interest (PICO). For this review:

Population: in line with the focus of INOVASI as a program, the review will focus on studies involving Indonesian students in basic education (that is, Grades 1 to 9) in the formal education system (which includes primary schools or SD/MI and junior secondary schools or SMP/MTs).

Interventions: the review will include studies that examine the role of policy and program interventions, practices within the classroom, school and community, as well as home and community contextual factors that affect students.

Control: the review will include studies with experimental, quasi-experimental and observational (both with pre- and post-testing as well as single-time that use control variables to compare groups) designs that meet a pre-determined set of quality inclusion criteria.

Outcomes: the review will include studies that link the above factors to student learning outcomes, measured using an assessment of literacy or numeracy.

Based on the above parameters, studies' titles and abstracts will be screened for inclusion based on the following criteria:

- a. The study was conducted in Indonesia;
- b. The study includes students in primary and/or junior secondary schools;
- c. The study includes student learning in literacy and/or numeracy as an outcome of interest;
- d. The study measures student learning quantitatively.

Considering the target population of this review, the team will conduct the searches in both Indonesian and English to target studies that are written in either language.

Quality assessment

Quality of the papers will be assessed according to a critical appraisal checklist adapted from the Joanna Briggs Institute (JBI). The quality assessment does not lead to the exclusion of the studies. Rather, it is used to categorise the qualities of included studies. These classifications will be used both to describe the state of research into this topic, as well as the weighting of evidence in the meta-analysis component of this review.

Synthesis approach

To answer the review questions, this systematic review will employ a mixed-methods approach and consist of three components:

1. A *methodology review* of the way existing studies linked interventions, practices and contextual factors to outcomes and how they measured student learning outcomes. This will produce a map of the tools that have been utilised to study learning in Indonesia, in varying contexts within the country.
2. A *meta-analysis* of the effects of interventions, practices and contextual factors on student learning outcomes in included studies. This will be used to produce a comprehensive picture on the range of factors that are correlated to learning in Indonesia, allowing for comparisons between the effect sizes of different types of factors.
3. A complementary *narrative review* examining the included studies qualitatively to draw out lessons on the mechanisms behind effective interventions and reasons for differences in effects within an intervention. This will produce information on how different circumstances and settings interact with the interventions, practices and contextual factors discussed in the meta-analysis.

While the meta-analysis and narrative review will direct attention to the types of approaches that have been known to work in improving Indonesian student learning for the program and its stakeholders, the methodology review in particular will also allow INOVASI to fine-tune its own methodological approaches.

e) Experience of systematic reviewing

Name	Experience
Dita Nugroho	Systematic review of the use of large-scale assessments in education policymaking in developing countries (2012, funded by DFAT, reviewed by EPPI), extended to Asia-Pacific (2013, funded by UNESCO Bangkok/NEQMAP); Literature reviews on a range of education policy topics in developing countries.
Daniel Suryadarma	Literature searches and reviews on education economics, evaluation economics, and policy evaluation
Sugih Biantoro	Systematic review on preservation of Indonesian cultural heritage (MoEC).

f) Communications plan and user engagement

The review will be conducted in a participatory manner, in addition to adhering with the principles of conducting a systematic review. In June 2016, INOVASI has established a review team that includes INOVASI research staff, staff from MoEC's Research and Development Body (Balitbang), as well as external experts and specialists in meta-analysis and qualitative synthesis. In doing so, INOVASI intends to also support MoEC's increased focus on utilisation of existing research in order to feed them into the policy making process.

In addition to a formal final report, the review team will also produce summary and illustrative materials to communicate the review's findings to the broader public. These products will be communicated through INOVASI's and MoEC's existing and planned channels of communications and user engagement, including respective organisation's websites, social media platforms, in-person forums and events.

Timetable (some review methods do not include these stages in this order)			
Stage of review	Weeks	Start date	End date
Preparation			
Set-up review team, undertake training	2	13-Jun-16	24-Jun-16
Development			
Refine questions, develop search strategy	2	27-Jun-16	8-Jul-16
Write protocol, initiate contact	3	11-Jul-16	29-Jul-16
Data Collection and Analysis			
Set-up database, conduct search, request data	5	15-Aug-16	16-Sept-16
Screening of studies	2	19-Sep-16	30-Sep-16
Extract, check, and finalise data	4	3-Oct-16	28-Oct-16
Analyse and synthesise studies	3	31-Oct-16	18-Nov-16
Writing and Dissemination			
Presentation and review of early results	2	21-Nov-16	2-Dec-16
Draft final report	2	5-Dec-16	16-Dec-16
Overall duration of review	27		16-Dec-16

Do you have any particular concerns about preparing this review?

One concern in preparing the review is availability of access to subscription-based materials. INOVASI will mitigate this through partnerships with universities, contact with authors and establishing a process of purchasing full-text materials that have been deemed relevant based on their title and abstract, and cannot be obtained in other ways. As part of the main body of literature of interest will come from Indonesian databases, we will contact relevant organisations for subscription access.

We also need to balance our intention of strong user engagement on this review and any scheduling issues that may arise from working with a government agency. In order to provide a flexible working arrangement, the review team will utilise online and mobile platforms to communicate between members and share review materials and tasks (current avenues used are Whatsapp for communication, Dropbox for file sharing and Covidence for the management of review tasks).

Do you have any particular requests for support when preparing this review?

The review team would like to schedule biweekly teleconferences with EPPI-Centre as the review progresses, to troubleshoot issues and answer any technical questions on the conduct of a systematic review. Additionally, the review team would like the support of an EPPI-Centre expert in peer reviewing key outcome documents from the review. While the EPPI-Centre representative will act as the methodological expert, we also nominate the following subject matter experts to be part of the peer review group: Petra Lietz (Australian Council for Educational Research, on INOVASI Research Reference Group), Robert Sparrow (Wageningen University, on INOVASI Research Reference Group) and John Hattie (University of Melbourne).