

Terms of Reference for Policy Brief

The Case for Inquiry-based Science Education (IBSE)

A consultant is required to produce a policy brief of approximately 8000 words on the topic “Supporting the Case for Inquiry-based Science Education (IBSE)”.

The consultant should hold a PhD in a field of the sciences or social sciences, with at least five years of subsequent professional experience (demonstrated by publications) in fields such as science education, science literacy, science outreach, international science, science for development, science policy, etc. Analytical and data presentation skills, along with a high level of English are also required. Candidates should also be able to demonstrate background knowledge of science and inquiry-based science education (IBSE).

Background

Inquiry-based science education (IBSE), sometimes referred to as ‘learning by doing’ is considered the optimal way for schoolchildren to not only learn scientific concepts, but also to develop skills such as questioning and analyzing information and teamwork. However, despite being promoted for many years by academies of science and other organizations, in many countries the IBSE teaching modality has not gained traction.

IBSE can be especially relevant in low- and middle-income countries, where science education is often poorly addressed. However, improving the roll-out of IBSE would require buy-in from ministers of education, etc.

The Global Council of IAP’s Science Education Programme (www.interacademies.org/education/overview) has recognised the importance of IBSE.

However, literature that pulls together evidence for the benefits of IBSE is scattered. For this reason, IAP aims to produce a succinct ‘Policy Brief’ that brings together such evidence and makes the case for countries (especially low- and middle-income countries) to invest in IBSE systems and training teachers in IBSE methodologies.

Scope of the Policy Brief

The policy brief should cover the following aspects:

- (1) The concept of Inquiry-based Science Education (IBSE) – definition, and perhaps a brief history.
- (2) A review of peer-reviewed literature and other reports that provide evidence for the impact of IBSE on children’s understanding of and engagement with science, improvement of their science literacy, and other benefits. While it is likely most examples would be drawn from the global North, an important component of this section will be sourcing equivalent examples from the global South.
- (3) A section covering issues such as gender equity and/or effects of IBSE on girls versus boys.
- (4) The final section should produce key recommendations for policymakers that would encourage them to invest in promoting IBSE in their countries, including through the training of teachers in implementing IBSE in their classrooms.

Timeline

Submission of first draft of policy brief	Month 1
Completion of internal review	Month 2
Submission of final draft of policy brief	Month 5
Sign-off on final report	Month 6

Payment

The full payment for the completed commissioned report is USD 8 000. This amount will be paid in instalments as follows:

USD 2 000 - upon signing the contract

USD 2 000 – upon approval of the first draft by members of the IAP SEP Global Council

USD 4 000 - upon acceptance of a final report

Candidates wishing to apply should send their CV with a covering letter:

to iap@twas.org by Monday 21 December