

# Guidelines for conducting an ICMI Study

## What is an ICMI Study?

ICMI Studies are a central and influential activity of the International Commission on Mathematical Instruction since they were launched in the mid-80s. An ICMI Study addresses a theme of particular significance to contemporary mathematics education, and is conducted by an international team of leading scholars and practitioners. The team is appointed by the Executive Committee of ICMI and it is expected to conduct the Study according to the goals and operational steps described in the next sections. ICMI Studies seek to advance knowledge on a particular area and to put it at the service of the global community as a reference and as a source of inspiration for theory, research and practice. The ICMI Studies aspire to be of the highest scholarly quality, supported by evidence and available references. The Study can take a diversity of forms according to the theme of the Study, its specific aims, the state of development of research and educational realizations in the area at stake. Also, it can include possible collaborations with other cognate institutions or communities<sup>1</sup>.

## What are the goals of an ICMI Study?

- 1- To bring together international scholars (representative of diverse cultural contexts, perspectives, and backgrounds) to exchange knowledge, collectively reflect and discuss a specific theme, topic or issues in mathematics education.
- 2- To produce a substantial critical review, a meta-analysis or a synthesis of a particular domain;
- 3- To integrate and/or to contrast multiple theoretical, methodological, empirical and contextual perspectives on a the same theme;
- 4- To enhance state of the art knowledge, understanding and resolution of challenges faced by a certain domain of mathematics education in diverse contexts;
- 5- To consider and facilitate multi- and interdisciplinary approaches to advance research and development in mathematics education on a certain area
- 6- To envision, identify and anticipate future trends, challenges and needs in a certain domain;
- 7- To establish agendas for discussion and action at the international, regional or institutional level.
- 8- To provide a strong resource for researchers, curriculum developers, teacher educators, policy makers and practitioners of mathematics education;
- 9- To disseminate scholarship in mathematics education – research, methodologies, theories, findings and results, practices, and curricula;

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<sup>1</sup> See as example ICMI Study 18 on Statistics Education jointly organized by ICMI and IASE, ICMI Study 20 on Educational Interfaces between Mathematics and Industry jointly organized by ICMI and ICIAM.

## How to conduct an ICMI Study?

- Step 1: The Executive Committee (EC) of ICMI selects a **theme** based on proposals received or from its own initiative and decides to launch a Study. In selecting a theme for an ICMI Study, the EC will take into account that:
- the theme is of broad international interest;
  - there is sufficient substance in terms of research, literature and practice, in a diversity of contexts and cultures, to ensure productive work and to provide a coherent and useful vision of the theme at stake;
  - there exists a critical mass of scholars of renowned expertise in the theme who can provide leadership, vision and experience and are committed to invest the effort involved in the production of a Study.
- Step 2: The EC decides to launch a Study and appoints two **co-chairs** to lead it and agrees with them on the precise formulation of the theme and its goals.
- Step 3: The EC, in consultation with the co-chairs, appoints the **International Programme Committee (IPC)** of the Study (about 10 members), which on behalf of ICMI is responsible for conducting the Study. The IPC includes the Secretary-General as an ex-officio member and a member of the ICMI EC who is also a liaison person. Usually a country that is willing to host the corresponding Study Conference is identified concurrently with the appointment of the IPC. There is no commitment from the EC to include the proposer/s of an ICMI Study as co-chairs or members of the IPC of the Study they proposed.
- Step 4: The first task of the IPC is to produce a **Discussion Document (DD)** in which a number of key issues and sub-themes related to the theme of the Study are identified and described in a preliminary manner. The DD includes a call for papers on the theme and sub-themes of the Study and is widely distributed to the international community. A short version (about 1500 words) of the DD should be also prepared.
- Step 5: The IPC carefully reviews the papers submitted and makes a selection taking into account scholarly quality and relevance to the theme of the Study as described in the DD. The inclusion of submitted scholarly reviews of past work should also be considered. Emphasis will be given to bring together to the ICMI Study Conference both experts in the field and newcomers with promising work in progress, as well as to gathering representatives with a variety of backgrounds from different regions, traditions and cultures.
- Step 6: The **ICMI Study Conference** will take place within a year and a half from the dissemination of the DD in a location to be decided by the IPC. The conference will be a working forum on the theme of the Study organised around parallel workshops according to the subthemes previously established. Therefore, the number of invited authors will be limited (to around 100), which may result in inviting only one author per paper. **The ICMI Study Conference** will serve as the basis for the production of the Study Volume.

- Step 7: The **Conference Proceedings** will be prepared by the IPC to include all the accepted papers and the invited plenary activities. The proceedings will be published online on the ICMI website and will have an ISBN number, so that it will become a publication to be cited.
- Step 8: Following the ICMI Study conference, an **ICMI Study Volume** will be edited by the co-chairs with the assistance of the IPC. The character of the volume is rather unique to ICMI studies and usually it is different from proceedings, edited books and handbooks (see section below on "Considerations for conducting an ICMI Study"). The ICMI Study Volume appears as a book in the New ICMI Studies Series (NISS) whose general editors are the President and the Secretary-General of ICMI. The volume should include:
- an Executive Summary (2-4) pages to capture concisely the key themes and conclusions of the Study, and to be of interest also to a general audience.
  - Chapters collectively and consensually produced by each of the groups (under the guidance of their co-leaders, who are members of the IPC) integrating the outcomes from the parallel workshops of the ICMI Study Conference.
  - Co-chairs may wish to include a commentary chapter written by a renowned international scholar who was not part of the process of the Study and can offer an external perspective to enrich the spectrum of the volume.
  - References, subject and names indices.
- Step 9: The **dissemination** of the ICMI Study volume will be conducted in five parallel channels:
- The volume is usually launched during an ICME Conference and announced in ICMI publications and promoted in mathematics education forums worldwide.
  - An ICMI Study Practitioners' Guide should be prepared either as a section of the volume or as a stand-alone document. This Guide should include succinct implications drawn from the Study that can be implemented by curriculum designers, teacher educators, teachers and other practitioners engaged in the teaching and learning of mathematics.
  - An ICMI Study Policy Guide will be prepared by the co-chairs as a stand-alone document (2-4 pages) addressed to policy makers and to other relevant decision-makers. It should include operational and implementable recommendations.
  - In order to facilitate its dissemination among the mathematical community, the co-chairs, in collaboration with the ICMI liaison person, will prepare a feedback document (about 4000 words) synthesising the main issues and results of the Study.
  - In order to facilitate its dissemination among the general public, the co-chairs in collaboration with the IMU Secretariat will prepare an ICMI Study Media Release (about 400 words), in jargon-free language and highlighting conclusions of general interest. ICMI will support its translation to several languages.

Step 10: There are several possible ways to **follow-up** an ICMI Study. One possible way would be post-Study meetings (2-3 years after publication of the volume) to review its influence, update conclusions etc. Co-chairs are encouraged to think creatively in order to ensure a long lasting influence of the study. Approximately 10 years after an ICMI Study is published, a follow-up or review may be made of the topic or issue that was the main focus of the Study.

## **Important considerations for conducting an ICMI Study**

Timeline: Upon acceptance of their role, the co-chairs should propose and commit themselves to a timeline (not exceeding 3-4 years up to the publication of the ICMI Study Volume).

Budget: In order to conduct an ICMI Study, there are two main expenses to be taken into account: the pre-conference meeting of the IPC (travel expenses, accommodation, food, facilities) and the ICMI Study Conference (expenses similar to any other international conference, e.g. travel expenses for plenary presenters, accommodations, facilities, etc).

Upon acceptance of their role, the co-chairs should be fully aware of the following financial aspects:

- IPC members should make all attempts to seek funding for their expenses from their home institutions (or from elsewhere). If required, ICMI will cover the lowest economy airfare and accommodation for the duration of the meeting in individual cases of need.
- The ICMI Study Conference must be self-funded. ICMI can contribute, upon request, up to 5000 Euros (subject to the financial stability of the organisation at the time of the request) to be spent for supporting travel expenses of participants in the conference. However, if the conference makes a profit, ICMI will expect reimbursement of its support.
- ICMI will be in charge of the agreements with the publishers as well as the negotiations of its terms.

ICMI is very grateful to the scholars worldwide who voluntarily invest time and efforts to be part of the IPC. ICMI recognizes and highly values the generosity of the academic institutions which allow their faculty members to pursue this international endeavor on top of their obligations.