

ICMI Study Programme Guidelines

1. Introduction

A major ICMI programme is the series of ICMI Studies. ICMI Studies are an essential component of ICMI activities. This set of activities was launched in the mid-80s and has acquired a growing importance and influence on the field. Each ICMI Study addresses a prominent issue, theme or topic of particular significance in contemporary mathematical education, and is conducted by an international team of leading scholars and practitioners in that domain appointed by the Executive Committee of ICMI. Built around an international conference, it is directed towards the preparation of a published volume. It is these Study volumes that constitute the New ICMI Study Series (NISS).

ICMI Studies are primarily scholarly works in mathematics education

Through ICMI Studies, ICMI serves the diversity of those who have a professional interest in mathematics education and thus belong to its community. ICMI Studies seek to be a source of inspiration for educational action through the presentation and careful analysis of insightful examples, paying attention to the diversity of educational contexts and cultures, to the diversity of social and economic conditions and means for mathematics education. An ICMI Study is not intended to be a handbook of more research in mathematics education, nor is it a conference proceeding or a collection of brilliant personal papers. It is a collective work where the expertise of individuals working in a particular theme is put at the service of the global community.

An ICMI Study is therefore an essential reference in a particular area of mathematics education for researchers, practitioners and policy-makers both inside and outside the mathematics education community. ICMI Studies are distinguished from other edited volumes by virtue of the international participation and processes engaged in producing the Study and its aim to give direction in a particular topic or issue on the basis of current knowledge and practices across a broad diversity of countries.

Drawing on an earlier commissioned review of ICMI Studies, critique of past ICMI study volumes and several past ICMI Executive Committee documents developed to assist those leading ICMI Studies, a comprehensive set of guidelines are presented for future ICMI studies¹.

2. The Aims of ICMI Studies

These ICMI study guidelines are intended to assist in distinguishing ICMI Studies as unique scholarly works, give greater clarity to editors and authors in preparation of these volumes; and improve the influence and impact of these important publications within and outside the mathematics education community.

ICMI Studies aim to:

- 2.1 provide a state-of-the-art expert reference on a particular theme, topic or issue;
- 2.2 contribute to knowledge, better understanding and resolution of the challenges that face mathematics education in diverse contexts;
- 2.3 focus on a theme, topic or issue of prominent current interest in mathematics education;
- 2.4 collectively reflect the great variety of concerns in the field of mathematics education;
- 2.5 facilitate multi- and interdisciplinary approaches, (including in cooperation with other bodies), to advance research and development in mathematics education;
- 2.6 bring together communities of international scholars representative of ICMI's diverse membership across regions and nationalities in addressing a particular theme, topic or issue in the production of a study volume;
- 2.7 disseminate scholarship in mathematics education - research; methodologies, theories, findings and results, practices, curricula - in a particular topic or issue under consideration;
- 2.8 pave the way towards the future by identifying and anticipating new research and development needs of mathematics education;
- 2.9 be of interest and a resource to researchers, policy and curriculum developers and analysts; and the broad range of practitioners in mathematics and education;
- 2.10 promote and assist discussion and action at the international, regional or institutional level.

3. ICMI Study programme terms of reference

The terms of reference serve to inform and guide the construction, conduct and publications of ICMI studies.

In the design and outputs of ICMI Studies:

- 3.1 the specified topic, theme or issue is engaged from multiple perspectives: theoretically; methodologically; empirically; analytically and contextually (institutional, national, regional or international);
- 3.2 a substantial critical review, a meta analysis or synthesis is provided with respect to the topic, theme or issue which may variously focus on: research, findings and results, methodologies, theories, policies, practices, etc. as appropriate;
- 3.3 attention is given to ensuring reasonable equitable representation of different levels of education, while noting that some topics or themes by their nature might involve an imbalance;
- 3.4 as a scholarly volume it speaks in the main to research communities but also addresses other communities such as practitioners at different levels, curriculum and policy developers attending to the discourses used;

- 3.5 is of the highest scholarship quality, supported by evidence, data, and references from published and accessible sources, and clearly indicating with justifications when using other document sources such as national reports, policies etc.;
- 3.6 contains a balance of review, critique and reflections of past work; current research and developments; as well as innovations in theories, methodologies, their applications, practices; research questions and contexts;
- 3.7 provides for collaborations across boundaries of language; culture; regions (north-south/east-west); and developed-developing countries;
- 3.8 endeavours to include authors and topics, themes or issues in ways that allows for participation by under-represented groups such as from developing countries or non-English speaking contexts;
- 3.9 are representative of and/or reflects the diversity and expertise of the ICMI membership community;
- 3.10 are cutting-edge, relevant, contemporary and comprehensive in their content

4. ICMI Study Programme Process

The process of developing an ICMI Study follows a series of steps.

4.1 The Executive Committee of ICMI decides upon a theme. The decision to launch an ICMI Study is taken by the ICMI EC on the basis of a proposal it receives or from its own initiative.

4.2 A proposal for an ICMI study is sent to the ICMI Secretary-General and is typically a document which:

- explains in a few pages the theme and the rationale for the study;
- provides some evidence with reference to how the conditions and terms of reference for an ICMI Study are expected to be met;
- suggests names for potential chairs or co-chairs, and makes clear that a strong international IPC team can be built.

4.3 In selecting a theme for an ICMI Study, the ICMI EC would consider general evidence that:

- the theme of the Study is of interest to a broad international community of those involved in mathematics education
- there is sufficient substance in terms of research, literature and practice, in a diversity of contexts and cultures, for making the effort of synthesis and reflection that a Study entails possible and productive,
- such a synthesis can be achieved and provide a useful and coherent vision of the theme at stake,
- individuals with strong scientific reliability in the chosen theme, quality of leadership, and a vision in line with the ICMI vision regarding ICMI Studies exist

for supporting the project and are ready to engage in it with the commitment it implies for the duration of such a project.

4.4 An ICMI Studies can take a diversity of forms according to the theme of the Study, the precise aims given to it, the respective state of development of research and educational realizations in the area at stake.

4.5 An ICMI Study can also include possible collaborations with other cognate institutions or communities¹.

4.6 In the process of deciding on a theme for an ICMI Study, the ICMI EC appoints a chair or two co-chairs of the Study and in collaboration with the chair(s), the precise theme and goals of the Study are spelt out.

4.7 The ICMI EC, in consultation with the 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.

4.8 From the moment the IPC is in place, it takes charge of the ICMI Study. The first task of the IPC is to produce a Discussion Document 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 Discussion Document is widely disseminated internationally to solicit papers from the field (through the ICMI website, Affiliate groups, ICMI networks, and the *ICMI Bulletin*) to contribute to the Study. From these submissions, invitations are issued to a limited number of participants (up to 100 but varies considerably) to attend an international conference constituting a working forum that investigates the theme of the study. Particular emphasis is given to bringing 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.

4.9 ICMI contributes to the dissemination of the Discussion Document, the organization of the Study Conference and the preparation of the ICMI Study volume. The whole process is followed and supported by the ICMI Secretary-General as the ex-officio member of the IPC.

4.10 There is no set budget for an ICMI Study as it is expected to a large extent to be self-funded. In particular, the conference needs to be planned and organized to be fully financed, for instance, by obtaining sponsorship and levying conference fees. ICMI provides its full cooperation and name to assist all attempts to raise sponsorship. The other major expense (apart from the voluntary time of the Co-Chairs, IPC and Study

¹ 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.

volume authors) is the IPC meeting. IPC members will make all attempts to find funding from their own institutions or grants to travel to the IPC meeting; and the host of the meeting may raise funds for local expenses. ICMI will assist in any costs not covered in this way. It is recognised that some members of an IPC will be in a better position than others to fund themselves. This consideration, however, should not be part of any decision as to who to invite onto the IPC, nor for individuals as to whether they will accept.

4.11 The entire ICMI Study programme process typically stretches over a period of about three to four years per study.

5. The ICMI Study Volume

5.1 Beyond the productive interaction and collaborations occasioned by the ICMI Study conference, its main product is a research volume, synthesising the results of the conference and presents a state-of-the-art expert report on the Study theme. It is important to emphasize, however, that an ICMI Study Volume is a carefully structured and edited book, and not a conference proceedings.

5.2 The final outcome of an ICMI Study is a [Study Volume](#), appearing in the [New ICMI Studies Series \(NISS\)](#)² under the general editorship of the President and the Secretary-General of ICMI. The editors of the ICMI Study normally form a subset of the IPC, with the Chair(s) as the editor(s)-in-chief.

5.3 Occasionally an ICMI Study may result, in addition to the Study Volume, in other types of publications (conference proceedings, special issues of journals, etc.).

6. ICMI Study Dissemination and Publicity

Each ICMI Study volume will be launched and widely disseminated. It is publicised and marketed to improve and extend its impact beyond the mathematics education research community to policy and decision-makers, practitioners and to advance the public understanding of the particular theme in mathematics education. Guidelines are provided for the various complementary documents to the ICMI Study itself.

Each ICMI Study Volume will have a(n):

6.1 An ICMI Study Executive Summary:

This will be a short (2-4 pages) document that stands alone or is a section in the volume. It should be addressed to the mathematics education community at large, and therefore needs to be written carefully and without jargon so that

² In order to make the NISS volumes more accessible, [a special discount is offered to members of the ICMI community](#) purchasing the volumes for personal use. Through the project of the [ICMI Digital Library](#), launched jointly by ICMI and IMU, all the ICMI Study Volumes will be made freely available on the web. Information is available on the ICMI website on [current ICMI Studies](#) as well as on [past ICMI Studies](#).

it concisely captures the key themes and finding of the study, is interesting, readable and to the point. It is primarily for those who work in an area different from the Study, but still in mathematics education. Many of these people will likely read only this Summary.

It is not a media document, but might be used as the basis for one. Nor is it simply a list of recommendations, though it may include some of these. It may, or may not, be included in the book (if it is close to what is in the introductory sections). It should be possible to publish it separately when needed.

6.2 ICMI Study Media Release

A Media Release will be prepared and be used to launch each Study Volume to make more of a “splash”, and to enable ICMI to coordinate a worldwide release (possibly in conjunction with an appropriate conference). The audience for the Media Release is the general public, through the news media.

The document will be no more than one page/500 words and will be written in a form that is readable by the general public. It will be explicit, clear and jargon-free; include a short paragraph explaining what an ICMI Study is; describe the theme and context of the Study; mention the main conclusions of the Study (not the functioning of the Study), and highlight one or two results that are likely to be of interest to the general public.

The ICMI Permanent Office will assist in the preparation of the the Media Release, but it would be useful for the Study Co-Chairs to prepare a draft to form the basis of the document. This draft needs to highlight (preferably in bullet points) the key ideas that the public need to be informed about the topic of the Study. The draft will be needed by the Permanent Office at least one month prior to publication of the Volume. ICMI will arrange that this document is produced in several languages and sent to ICMI representatives in each country for further dissemination. It may also be released for use in more specialised mathematics education or teacher forums.

6.3 ICMI Study Policy Guide

This will be a short document that stands alone and would draw out the implications of the Study for policy. It would be 2-4 pages and addressed to, not just the community, but to government policy makers, curriculum designers, and relevant decision-makers and wider community that impact mathematics education. It should provide guidance, possibly in the form of recommendations, but more likely in the form of identifying issues from the Study that need to be addressed in curriculum development, and indicating how that might happen. It can be assumed that this community is familiar with mathematics education themes and discourses.

The intention is for ICMI to have a stronger ‘voice’ world-wide, and demonstrating that the Studies are a major contribution to thinking about mathematics education.

6.4 ICMI Study Practitioners’ Guide

This may be a section in the Study volume or a separate document that is written in a form that is accessible to the target audience. It succinctly draws out the implications of the Study that is specifically relevant for practice in the teaching and learning of mathematics.

7. ICMI Study Follow-Up and Review

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.

ⁱ This document was compiled by Renuka Vithal (31 Dec 2012) with grateful thanks and acknowledgement of a range of documents and contributions from: ICMI EC members and meetings (2010-2012); ICMI website; Michele Artigue; Bill Barton; Jaime Silva; Geoffrey Howson; and Lerman-Xu Review