May / June 2015

PME Newsletter

International Group for the Psychology of Mathematics Education

Message from PME President Barbara Jaworski

Welcome to PME 39

I am writing this message from Hobart, the capital of Tasmania in Australia, where the IPC is meeting is taking place to plan PME 39. Hobart is a spectacular location, being situated in a mountainous area at the mouth of the river Derwent. The PME 39 logo, with mountains and bridge, is clear to see in the nature as one arrives in Hobart, driving over the Derwent Bridge. From a viewpoint at the top of Mount Wellington, the whole area, with islands, peninsulas and isthmus, is set out panoramically far below. You will have the opportunity to see all of this for yourself during the conference.

Inside this issue

Message from the Editors

Welcome to our May / June 2015 Newsletter. In this issue we introduce PME 39 in Hobart, Tasmania, and provide a cordial invitation to PME 40, our 40th anniversary in Szeged, Hungary. As well as reports from the PME International Committee, and details of the next AGM (at PME 39), we encourage you to use the Announcements Forum on the PME website when you have items to announce.

We dedicate this issue to the contribution to PME of Sandy Dawson and draw attention to the endowment fund being established in his name for Mathematics Education and Ethnomathematics.

Enjoy reading the Newsletter! Take care.

Keith Jones (d.k.jones@soton.ac.uk) and Maike Vollstedt (vollstedt@math.uni-bremen.de)

Message from PME President Barbara Jaworski (continued)

The International Programme Committee (IPC) consists of 4 members of the IC, including the President, and 4 members of the Local Organizing Committee including the Chair of the conference. The Chair of PME 39 is Professor Kim Beswick. We have received 213 Research Reports (RR), 105 Short Oral (SO) proposals and 38 proposals for Poster Presentations (PP). All RRs have been sent out to 3 reviewers and the majority of the reviews received. We are hugely dependent on our reviewers and thank them most sincerely for their reviews. A major part of our meeting is to look at the reviews and make decisions about which reports will be accepted for the conference. The first step is to accept all RRs for which two reviewers recommend "accept". For all other reports we look carefully at what has been recommended by the three reviewers – where there are not three reviews someone in the team writes a third review. I am always impressed by the quality of this process and assure you that every paper is considered seriously before a decision is made. Proposals for SO or PP are reviewed by the IPC and decisions made on accept or reject. Again, such decisions are made very carefully. In some cases a SO proposal is recommended for Poster Presentation. Where a RR is not accepted for presentation it might be recommended as a Short Oral or Poster Presentation in which case a resubmission is required which is reviewed (at a distance) before acceptance. We also look carefully at proposals for Working Sessions, Discussion Groups Colloquia and Seminars. If you have any questions about any of this you are most welcome to contact me: b.jaworski @lboro.ac.uk.

By the time you read this, all decisions will have been made and communicated. The programme for the conference will be largely in place and the local team will be acknowledging registrations. Do feel free to contact them if you have any questions

- Scientific matters: scientific.pme39@utas.edu.au
- Registration and payment: registration.pme39@utas.edu.au
- Accommodation, excursion or travel: admin.pme39@utas.edu.au

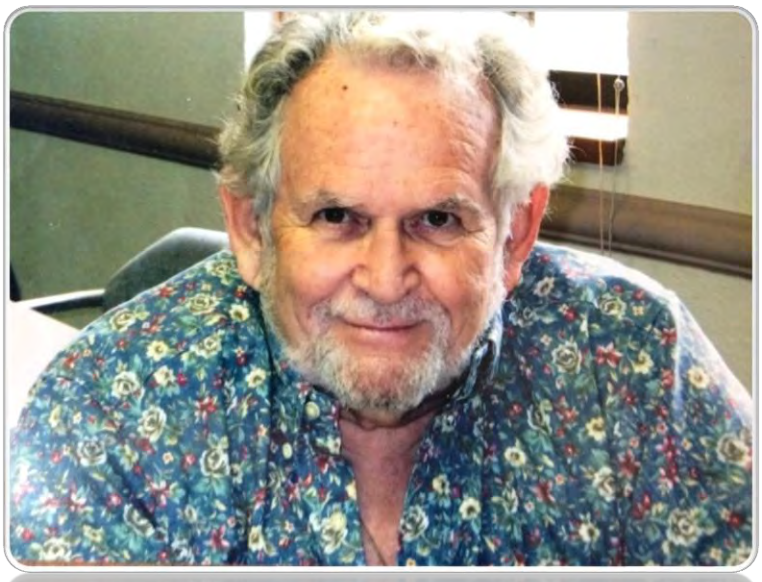
I look forward to meeting you again in Hobart.

Barbara Jaworski
April, 2015

Remembering Sandy Dawson

Obituary for Sandy Dawson

Contributed by Lorraine Barton



I am of the newer generation who will continue to lay down the path lit by Sandy Dawson. I first met Sandy at Simon Fraser University at a CMESG (Canadian Mathematics Education Study Group) meeting in 2010, where he presented as an elder, spoke of the history of CMESG, and described his journey and some of his work as a mathematics educator. He named his talk: "My journey across, through, over, and around academia: '...a path laid while walking...' ". My lasting impression of this first encounter with Sandy is that he so sincerely felt blessed to have been able to work in this beautiful place of Hawai'i and its Pacific island communities.

How could I have known that I would also be working in this amazing place (also transplanted from British Columbia, Canada) to take on a mathematics education role here at the College of Education, University of Hawai'i? Though "retired", Sandy worked tirelessly to help mentor those of us who were newer scholars. Sandy once wrote about an Enactive Perspective for teaching and learning. He lived this practice while mentoring us, never slowing down to truly retire. Through his involvement with newer faculty members in various committees, Sandy mentored us as, together, we 'laid down our own path while walking'. It was through this work with Sandy that we learned of his rich connections with others around the world, and how deeply he respected others, and how others cherished Sandy. Though notably respected internationally, Sandy took the time to be with all of us in every moment. I remember how Sandy and Sandra both expressed how pleased and excited they were at the PME in Vancouver in 2014 to visit every evening with great family and friends. I have appreciated all of those moments, and I'm saddened that these opportunities have been cut so short. His legacy will continue here and globally as those of us most touched by Sandy's presence will continue to work to be inclusive and to connect with others through teaching and learning.

For more on how the University of Hawai'i marked Sandy's passing, together with details of the endowment fund being established in his name, please see: https://coe.hawaii.edu/about/news/2015/01/coe-bids-a-sad-farewell-to-professor-emeritus-sandy-dawson

Introducing Plenary Speakers

PME 39 Plenary Speakers Get Personal

We invited all PME 39 plenary speakers and plenary panel members to contribute to this issue by responding to the questions:

- How many PMEs have you attended?
- Where and when was your first PME?
- How does your research life connect with the conference theme: "Climbing Mountains, Building Bridges"

PME 39 Plenary Speakers

Johann Lithner

Professor in mathematics education, at Umea Mathematics Education Research Centre, Umea University, Sweden

First PME attended
I am reluctant to admit that I have not attended any PME conferences yet, but I am very glad to join PME 39.

Trying to climb the mountain of mathematics seems for many students to be joyful and rewarding, but also a journey with steep cliffs, treacherous gaps, wide ravines and tricky path choices. We often see the purpose of mathematics teaching as building bridges that take students over these hurdles, and also to take the students by their hands and lead them by the easiest paths. However, a large body of empirical and theoretical research shows that this is not always effective for long-term learning. The research that I carry out together with colleagues concerns how teaching and task design may help students to learn how to understand the terrain in order to construct their own bridges and make their own path choices.

Lyn D. English

Professor of STEM in Education, Queensland University of Technology, Australia

PME 39 Plenary Speakers (continued)

First PME attended
I have attended 13 PME conferences, the first being in Sydney in 1984.

Climbing Mountains, Building Bridges is a rich theme for exploring some of the "challenges, obstacles, links, and connections" facing mathematics education within the current STEM climate (Science, Technology, Engineering and Mathematics). My plenary talk first considers some of the issues and debates surrounding the nature of STEM education, including perspectives on its interdisciplinary nature. It is next argued that mathematics is in danger of being overshadowed, in particular by science, in the global urgency to advance STEM competencies in schools and the workforce. Some suggestions are offered for lifting the profile of mathematics education within an integrated STEM context, with examples drawn from modelling with data in the sixth grade.

Martin Simon

Professor of Mathematics Education, New York University, USA

First PME attended
1988 Vezprem, Hungary. Number of PME's: 17 (Hobart will be # 18)

My research focuses on understanding how individuals construct mathematical concepts and how to promote deep conceptual understanding. Humans have the inherent ability to make powerful abstractions. As mathematics educators, we must better understand this ability (process), so we can enlist it for the learning of key mathematical concepts. My earlier research was on the development of prospective and practicing teachers to teach for conceptual understanding.

My recent projects have focused on how students make mathematical abstractions through their mathematical activity in the context of mathematical task sequences. Through this research we have gained insight into the process by which students make abstractions and have developed principles for design of task sequences that foster intended abstractions. My plenary talk gives an overview of this work.

Oh Nam Kwon

Kwon, Oh Nam

Professor at the Department of Mathematics Education, College of Education, Seoul National University, Seoul, Korea

First PME attended
PME 25, Utrecht, 2001. Number of PMEs attended: 10

The main theme of my research centered on teaching and learning of undergraduate

PME 39 Plenary Speakers (continued)

mathematics in the context of bridging the gap between secondary mathematics and advanced mathematics. This encompasses interests in different ways to bridge the gap between in and out-of -school mathematics, between formal mathematics taught in classrooms and informal mathematics used in learners' personal experience by looking for ways connecting the two each other, and implementing these connecting instructional design approaches and evaluating their effectiveness. In particular, my research has addressed promoting student learning and supporting at higher education and mathematics teacher education in view of building bridges between educational practices and the teaching and learning of mathematics in school.

Announcement

12th International Conference on Technology in Mathematics Teaching – ICTMT 12

The 12th International Conference on Technology in Mathematics Teaching – ICTMT 12 is organized by the Faculty of Sciences and Technology of the University of Algarve. It is being held in Faro, Portugal, on June 24-27, 2015.

ICTMT provides a forum for researchers and practitioners to discuss and share best practices, theoretical know-how, innovation and perspectives on educational technologies and their impact on the teaching and learning of mathematics, as well as on research approaches.
The scientific programme is composed of plenary lectures, paper presentations, workshops and posters. Invited plenary speakers at ICTMT 12: Alison Clark-Wilson, United Kingdom; Manuel Santos-Trigo, Mexico; Nathalie Sinclair, Canada; Susana Carreira, Portugal.
More information available at the conference webpage: http://ictmt12.pt/
E-mail for contact: ictmt12@ualg.pt

PME 39 Plenary Panel Members

Helen Forgasz (Chair)

Professor at the Faculty of Education, Monash University, USA

First PME attended

First PME was in Valencia, Spain, 1996
I have attended ≈ 15 PME conferences since that time.

"Climbing Mountains, Building Bridges" are apt metaphors for my research endeavours. Equity is central to my work, gender equity in particular. Finding ways for all to climb the "mathematical" mountains requires recognition of the different paths and bridges that may be needed. Mathematics educators must provide opportunities for all to reach these heights without creating obstacles or blocks!

Mathematics has historically been viewed as a pursuit more suited to males than to females. If parents, teachers, and others hold differential expectations of children simply due their sex at birth, this can lead to boys having easier paths up the "mathematical" mountains.

The PME 39 plenary topic is "Grouping students by attainment is essential for their learning of mathematics". This is a contentious issue, with mixed research findings. A lively debate is anticipated. Grouping practices have the potential to provide differentiated pathways or to block paths for some in their attempts to scale the "mathematical" mountain peaks.

David Reid

Professor at the Department of Mathematics, University of Bremen, Germany.

First PME attended

My first PME was PME-16 in 1992 in Durham, New Hampshire, USA. I have attended about twelve PMEs in total (and about 5 PME-NAs that were not joint conferences with PME).

Schools often seek to fulfill conflicting goals. Two such goals are the preparation of expert specialists in specific subject areas, and the provision of a general education for all. The goal of preparing experts can be seen as helping them to climb mountains to the summit of their subject area, while general education builds bridges between people giving them common experiences and references on which to base communication and relationships. In mathematics education the tension between these goals is especially strong, and in many

PME 39 Plenary Speakers (continued)

schools students are grouped according to their past achievement in order provide an enriched environment for those climbing to the summit of mathematics, and to provide an appropriate level of instruction for all. It is not clear that grouping students by attainment is necessary to achieve these two goals, and in the Plenary Debate I will be arguing that grouping students by attainment is neither needed nor helpful in building bridges and climbing mountains.

Jinfa Cai

Professor of mathematics education and Director of Secondary Mathematics Education, Department of Mathematical Sciences, University of Delaware, USA.

First PME attended
The first PME conference is 1995 in Brazil. I have presented at 8 PME conferences.

Jinfa Cai is interested in how students learn mathematics and solve problems, and how teachers can provide and create learning environments so that students can make sense of mathematics. He received a number of awards, including a National Academy of Education Spencer Fellowship, an American Council on Education Fellowship, an International Research Award, and a Teaching Excellence Award. He was a visiting professor in various institutions, including Harvard University. He has served as a Program Director at the U.S. National Science Foundation and a co-chair of American Educational Research Association's Special Interest Group on Research in Mathematics Education (AERA's SIG-RME) (2010-2012). He will be chairing a plenary panel at the ICMI-13 in Germany in 2016. Currently, he is editing the Handbook for Research in Mathematics Education, to be published by the National Council of Teachers of Mathematics in 2016.

He has been selected to serve as the next Editor for the Journal for Research in Mathematics Education (2015-2020).

Kai-Lin Yang

Associate Professor at National Taiwan Normal University, Taiwan

First PME attended
2002 (PME 26), Norwich, United Kingdom, Number of PMEs attended: 7

Dr. Kai-Lin Yang is Associate Professor of the Department of Mathematics, National Taiwan Normal University. Her innovative contributions to mathematics education include developing a model of reading comprehension of geometry proof as well as a conceptual

PME 39 Plenary Speakers (continued)

framework for analysing textbooks from both constructive-empirical and dialectic perspectives of abstraction. She has published several papers in internationally prestigious journals, such as Educational Studies in Mathematics, For the Learning of Mathematics, International Journal of Science and Mathematics Education, Mathematical Education Research Journal, and ZDM. Her current research deals with students' reading comprehension of general geometric texts and teachers' critiques of mathematics textbooks.

The plenary panel on "Ability Grouping" will reflect on the necessaries of providing appropriate scaffolding for diverse learners in different settings, which is similar to building appropriate bridges for diverse climbers in different mountains.

Miriam Amit

Professor in the Department of Science and Technology Education, Director of the Kidumatica Project for Excellence and Creativity and the Academic leader of the University Program for Accessibly to Higher Education, Ben-Gurion University of the Negev, Israel

First PME attended

My first PME was in 1987 in Montréal.
I have attended about 20 PME meetings.

Research interests

- Fostering and developing excellence and creativity in gifted and talented students from all social strata, particularly underprivileged and minority children.
- Exploring mathematical thinking: critical thinking, probabilistic thinking, non-routine problem solving and mathematical modeling of real life situations.
- Teacher education, professional development and practical utilization of research in educational practice, policy and national and international assessment.
- Ethnomathematics – Social, cultural and moral aspects of mathematics (and science) education around the world, including gender, language, equity issues etc.

My research intersects with the theme of "climbing mountains, building bridges" on a number of levels. At the level of academic research, my work helps both students and their teachers climb mountains of knowledge and thinking to reach new cognitive and mathematical heights. The combined theoretical and applied nature of my research builds bridges between the two separate realms of theoretical research on one hand and practical implementation of education in schools on the other. Finally yet importantly, the social aspects of my work in mathematics education and on projects like Kidumatica and Access to Higher Education are focused on helping students climb the mountain of social inequity to reach greater academic and professional heights, and on building bridges between students from different social and cultural backgrounds.

Subscribing to ICMI News

International Commission on Mathematical Instruction

There are two ways of subscribing to ICMI News:

1. Click on www.mathunion.org/index.php with a Web browser and go to the "Subscribe" button to subscribe to ICMI News online.

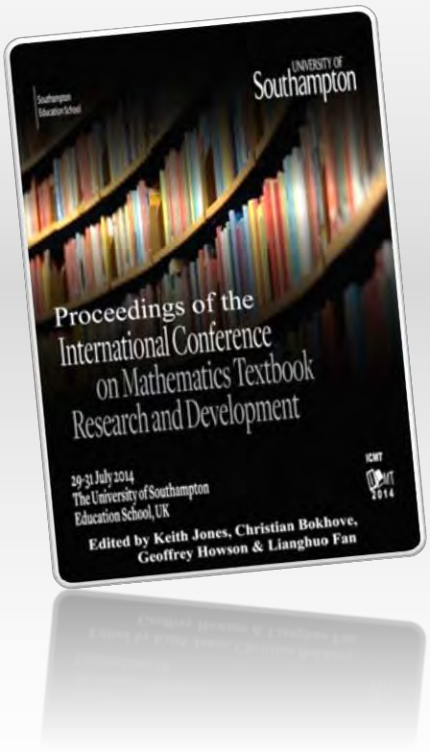
2. Send an e-mail to icmi-news-request@mathunion.org with the Subject-line: Subject: subscribe

In either case you receive an e-mail to confirm your subscription so that misuse will be minimized. ICMI will not use the list of ICMI News addresses for any purpose other than sending ICMI News, and will not make it available to others.

Previous issues of ICMI News can be seen at: www.mathunion.org/pipermail/icmi-news

Book Announcement

Proceedings of the International Conference on Mathematics Textbook Research and Development (ICMT-2014)



The *Proceedings of the International Conference on Mathematics Textbook Research and Development* (ICMT-2014) is published as a book of 586 pages; ISBN: 9780854329854 (electronic)

Comprising 94 papers from authors from around 30 countries, the proceedings are available for download from http://eprints.soton.ac.uk/374809/

The proceedings contain papers by Jeremy Kilpatrick, Michal Yerushalmy, Kenneth Ruthven, Ruhama Even & Michal Ayalon, Denisse Thompson & Sharon Senk, William H. Schmidt & Richard T. Houang, Christian Hirsch, Marc van Zanten & Marja van den Heuvel-Panhuizen, Lianghuo Fan, Jehad Alshwaikh & Candia Morgan, Christian Bokhove & Keith Jones, Leslie Dietiker, Gueudet Ghislaine, Birgit Pepin, Hussein Sabra & Luc Trouche, Barbro Grevholm, Moneoang Leshota & Jill Adler, Takeshi Miyakawa, Ida Ah Chee Mok, Jarmila Novotná & Petr Eisenmann, Janine Remillard, Hendrik van Steenbrugge & Tomas Bergqvist, Sebastian Rezat, Christopher Sangwin, Zalman Usiskin, Chronoula Voutsina, Jianbo Wang & Yiming Cao, and many others.

Information from the PME International Committee

The President Portfolio Group Report

Submitted by Guri A. Nortvedt, Norway

President: Barbara Jaworski

The President Portfolio group (PPG) has the following members for 2014-2015: Kim Beswick, Marta Civil, Barbara Jaworski, Guri A. Nortvedt, and Leonor Santos.

During the past months the PPG has taken part in the activities listed below. A fuller report will be presented during the AMG in Hobart.

1. A primary task for the PPG is to document policies formed in the past at the AGM or in IC meetings. This is an ongoing task.
2. PME has over the years build up a fund from our two main sources of income, the membership fees and the eventual surplus arising from conference fees from the organisation of the annual conference. Although a reserve fund should be kept, PME aims to spend any funds exceeding this amount on association activities. Sufficient capital should be retained to cover the following meeting and operations for the year but each year, consideration should be given to expenditure of some of the surplus. The PPG is working together with the TPG on a policy for how PME funds should be spent in order to benefit the PME community and foster inclusion at all levels of operation. This policy will be discussed at the IC meeting in the summer 2015 with the aim to finalize a policy that can be discussed at the AGM 2016. The proposed policy will be brought to the path to AGM in the spring of 2016.

3. The PPG is currently finalizing a proposal for standing orders to be used at the AGM. The finalized standing orders will be presented at the path to AGM early June to be decided on at the 2015 AGM.
4. The PPG is working on developing supporting guidelines for conference organisers regarding registration and payment.
5. The PPG is still working on guidelines for sponsorship. A draft sponsorship policy will be discussed at the IC meetings in 2015 with the aim to finalize a policy that can be discussed at the AGM 2016. The proposed policy will be brought to the path to AGM in the spring of 2016.
6. Fou-Lai Lin is currently acting as Ombudsman for the PME membership. The Ombudsman's role is to receive and handle concerns made by PME members.

The President Portfolio Group Report (continued)

However, the responsibility to take actions to secure fairness lies with the PPG. By May 15 2015 no matters have been reported to the PPG.

For many of the items on the list, further activity will be necessary before each case can be brought to either the IC or the AMG for a decision.

Oslo, May 18 2015, for the PPG,
Guri A. Nortvedt

The Vice-President Portfolio Group Report

Submitted by Stefan Ufer, Germany

The Vice-President Portfolio Group (VPPG) consists of Stefan Ufer, Germany (Vice-President); Csaba Csíkos, Hungary; Masakazu Okazaki, Japan; and Wim van Dooren, Belgium

The focus of the Vice-President's Portfolio subgroup (VPPG) of the IC is the scientific activity of PME. Since August 2014, the VPPG has been working on several topics. In this report we will present some of them. In some cases, these carry forward the work of the VPPG in the previous year.

Descriptions of Presentation Formats

On the IGPME web site, in the first announcements for each conference, and on the conference web sites, you usually find a short text about each presentation format (Research Reports, Oral Communications, Discussion Groups, etc.) that informs you about the main guidelines and processes for submission of a proposal for this presentation format. Past experiences from Conference Organization have uncovered some frequent problems with several submissions. To prevent these problems in the future, we rewrote and restructured these texts to make the information more accessible. Moreover, we composed submission checklists for each contribution type, which were directly linked from the submission forms to highlight the most important things that should be checked before submitting a contribution. While the submission checklists were already in place for PME39 in 2015, the new description texts could not be finalized before submission was opened,

The Vice President Portfolio Group Report (continued)

so that we will publish them on the IGPME web site in summer 2015.

Reviewing guidelines
Peer reviewing is one of the most important responsibilities we have as PME members. In the past, we noticed that the Research Report reviews within PME show some variation in terms of what is focused, how different aspects are weighted and how the decisions are justified. To give PME members a better orientation of what is expected from them, we rewrote and restructured the reviewer information on the IGPME web site. Moreover, we included additional information and guiding questions within the reviewing form. We also addressed the difference between empirical and theoretical contributions more clearly. We hope this information will be helpful for the PME reviewers in the future.

Colloquium – a new presentation format
Implementing a decision by the AGM, Wim van Dooren has finalized the concept for this new presentation format. You are invited to join with your colleagues and submit joint Colloquia for future PME conferences. More information will be included on the IGPME web site.

Early Researchers' Day
Also following a decision of the AGM, it was decided to implement an Early Researchers Day again before PME39. Nuria Planas (Spain) as a PME representative and Wim van Dooren from the VPPG took over the responsibility to assist the local organizers in Hobart in the organization of this event. Planning was based on a detailed analysis of the evaluation of the PME38 ERD done by Stefan Ufer and Wim van Dooren. For the PME39 ERD, we have about forty applications and we are looking forward to a stimulating and fruitful event. Other ongoing activities of the VPPG included negotiations with future conference hosts (Stefan Ufer), the PME pre-submission support programme (Csaba Csikos) and dealing with small changes in scientific policy (for example, extending the length of working session and discussion group papers to two pages).

Stefan Ufer
Vice-President of IGPME

The Treasurer Portfolio Group Report

Submitted by Olive Chapman, Canada

The Treasurer Portfolio Group responsibilities include: managing the financial transactions of IGPME (e.g., making payments and deposits, responding to financial queries, issuing confirmations), maintaining records, advising on fiscal questions from present and future conference organisers, and preparing annual financial reports. Current members of the TPG are Olive Chapman

The Treasurer Portfolio Group Report (continued)

(Canada), Treasurer of IGPME, Keith Jones (UK) and Stanislaw Schukajlow-Wasjutinski (Germany).

The only new news to report is about our change in bank. We have now obtained a bank account in the UK with Barclays Bank. We are in the process of closing the accounts with Nordea Finland. This change was necessary because of changes to the Finnish laws that require us to conduct business in Finland to continue to hold the account there.

IGPME continues to be financially strong. We continue to collect information from conference Chairs to determine the minimum amount of money the organization should hold to guaranty covering its normal operating expenses in case of a situation that results in no income in a year and covering conference expenses in case of a "catastrophic event" that leads to an untimely cancellation of a conference.

The Secretary Portfolio Group Report

Submitted by Michal Tabach, Israel

Michal Tabach, Israel (Secretary); Stephen Hegedus, USA; Anke Lindmeier, Germany; Oh Nam Kwon, South Korea

The Secretary Portfolio Group (SPG) is responsible for facilitating communication within PME and for keeping records of all PME activities. Last year, Michal Tabach was elected Secretary of PME, with three more members to complete the group: Stephen Hegedus (former PME Secretary), Anke Lindmeier, and Oh Nam Kwon.

The SPG has been working on various projects throughout the year which are of interest for the larger PME community:

PME Review Process

Last year we have started to analyze the PME review process, based on responses of Research Reports authors on their reviewers' comments. For two years now (based on contributions to PME37 and PME38) we have analyzed all reviewers' comments and feedback from contributors on how useful these comments were. This has been an informative activity and we will be presenting more formal results at PME39, which will hopefully help guiding contributors and reviewers in the future. In addition, under the

The Secretary Portfolio Group Report (continued)

guidance of Anke Lindmeier, we have proposed a seminar activity that will take place during PME39: *Reviewing for the PME - A primer for (new) reviewers*.

PME Conference Proceedings

The effort to scan and upload all past proceedings to IGPME website is nearly completed. As it was the case during the last two conferences, PME members will have access to the upcoming PME39 proceedings as a downloadable, searchable PDF. For this year's conference, printed proceedings have to be ordered – the default is a PDF version. Nevertheless, the print-on-demand service is available through lulu.com for members who do not wish to travel with the proceedings. However, this service has differing costs based on where you are located in the world. We appreciate very much feedback on the quality of this service.

Due to copyright issues we can only make proceedings prior to 2013 accessible to current PME members. However, future PME proceedings will be available for any register member of PME.

Documentation

The SPG is responsible for keeping PME documentations in order. We are engaged in updating these documents as an ongoing effort, in producing new documents when necessary, and where possible simplifying them. For example, we have been concerned with documenting information on how to set-up the conference management system Coonftool for the benefit of the conference chair.

PME Homepage

Our homepage is growing every year. All relevant information about PME as organization and about PME conferences is available there. We keep the homepage up to date and encourage you to use the different channels for communication within the PME community.

Michal Tabach
Secretary of IGPME

Aerial view of Hobart City, Tourism Tasmania and Alastair Brett

PME 39 AGM Agenda (Draft)

Submitted by Bettina Roesken-Winter, Germany (PME Administrative Manager)

1. Opening of the meeting
2. Adoption of the agenda
3. Adoption of the minutes of the 2014 AGM held in Vancouver, Canada
4. Elections
5. Portfolio Groups reports
6. Treasurer report
7. Proposal for new Presidential election procedure
8. Operating rules
9. New conference presentation formats
10. Other items
11. Brief report on future conferences

A Call for IC Nominations

Submitted by Barbara Jaworski (PME president), Stefan Ufer (PME Vice President) and Michal Tabach (PME Secretary)

Main decisions on PME as an international organization are made by those PME members who attend the Annual General Meeting (AGM) each year during the conference. To run PME over the year, prepare and implement AGM decisions and do most of the everyday work, PME has an International Committee (IC) of 16 elected members. Each year, during the AGM meeting, four new nominees are elected for four years by the members present.

Being a part of the IC is a great opportunity to contribute to PME organization. The IC needs persons who want to bring their knowledge, skills and some of their time to shape PME and help that we keep our scientific community "at the edge". The work on the IC involves taking part in the IC meetings one day before, some hours during and one day after the PME conferences, and to contribute to the work in one of the four IC portfolio groups over the year:

- The Presidents' Portfolio group which mainly deals with PME policy issues
- The Vice Presidents' Portfolio group which is mainly responsible for PME scientific issues
- The Secretaries' Portfolio group which mainly takes care of communication within PME
- The Treasurers' Portfolio group which is responsible for PME financial affairs

We encourage you to take part and become an influential member in our community. It

A Call for IC Nominations (continued)

involves some (sometimes hard) work, but it is also an interesting and gratifying experience.

Here is how to stand for the IC: You need to fill in the application form (http://www.igpme.org/index.php/organization/international-committee) to introduce yourself and your involvement in PME. This form must be signed by yourself and two researchers who support your application. You hand this form to the PME Administrative Manager (Bettina Roesken-Winter) at least 24 hours before the start of the AGM. You and your supporters should be present at the AGM, one of your supporters will be asked to introduce you shortly before the election starts.

The main restriction for becoming part of the IC is that at most three members from one country are allowed on the IC at any time. A list of current and past IC members can be found under http://www.igpme.org/index.php/organization/international-committee. The current IC would be very happy to welcome researchers from all countries, in particular also from countries which are currently not strongly represented within PME.

Since not enough candidates to stand for IC could be found in 2014, the IC does currently consist of only 15 members (plus the president). So, we are in need for support and our hope is to elect five motivated and supporting new members during the conference in Hobart. Consider standing for the IC, we would be happy to welcome you!

Barbara Jaworski (PME President)
Stefan Ufer (PME Vice President)
Michal Tabach (PME Secretary)

Additional Reports from Previous PME Conferences

Mathematics Textbooks Research Continued

PME 37 Working Session 2, Post-Session Report

The session was ran by Barbro Grevholm, University of Agder, Norway, Lianghuo Fan, University of Southampton, United Kingdom, and Sebastian Rezat, University of Paderborn, Germany

The starting point was the view that textbooks in its widest sense are the most frequent tools in mathematics teaching and must be considered influential. The overall goal of the Working Session was to outline future directions and to develop a research agenda for textbook research.

Part 1

The focus of part 1 was on different theoretical frameworks and methods that have been used in textbook research. The background to the WS is the creation of a Nordic network for research on mathematics textbooks from 2006 inside the Nordic Graduate School in Mathematics Education. The network ran a Discussion Group PME30 in 2006, and following that event carried out further work. Several doctoral and master students worked on textbooks studies and in 2011 the Nordic network got funding from NordForsk to carry on the work (Grevholm, 2011).

The first theoretical framework explored related to the TIMSS framework, the so called tripartite model with intended, implemented and achieved curriculum (Valverde et al, 2002, p.13). In this model textbooks are seen as the potentially implemented curriculum. Next a framework developed and used in the network was exposed (see Figure 1 below).

A third theoretical framework, the socio-didactical tetrahedron was also introduced and explored (Rezat & Sträßer, 2012).

Participants in the Working Session were invited to work in three groups to compare and evaluate the theoretical frameworks for textbook research. Factors that influence textbooks and factors influenced by textbooks were explored as well as their links and connections. What are the similarities and differences of the different frameworks and which one should be used in what situation? What are the most characteristic methods used and how can they be developed? Participants agreed that teachers are a factor affecting the implementation of the curriculum in classroom. In countries with centralized educational systems also for curriculum and textbooks, teachers usually use textbooks much in their classroom teaching and they follow the textbooks closely.

Textbooks are expected to assist pupils'

Mathematics Textbooks Research Continued

PME 37 Working Session 2, Post-Session Report (continued)

understanding of mathematics and offer explanations that are helpful for both teachers and pupils. Analysis of content is needed from many aspects; mathematical, social, linguistic, learning theoretical, and relevance. The textbooks need to be used in more efficient ways. Specific questions that came up were: What is the influence of cultural aspects? Are new demands coming up because of the multicultural classrooms in many countries? Are textbooks research based?

It is meaningful to study how textbooks are used in different countries and the reasons for it. Comparative studies and studies with content analysis are still needed. Teachers' maturation in their teaching experience will have an impact on how they use textbooks in their teaching, and in general; the more experience the teachers have in teaching, the less dependence they have on textbooks.

The future of textbooks was a controversial issue. ICT was seen to substitute traditional textbooks in the long run. It was questioned if digital resources can take responsibility for the whole curriculum as textbooks do. At the moment the research on the implementation of ICT is rather local. Regarding the fact that there are online resources called (e-)textbooks the question was raised what defines a "textbook".

Part 2

The overall goal of this part of the Working Session was to outline future directions and to develop a research agenda for textbook research. What reasons are there to believe that textbook research has opportunities to influence the development of new textbooks? What could justify further efforts to make textbook research more efficient and influential?

A presentation of short summary from session 1

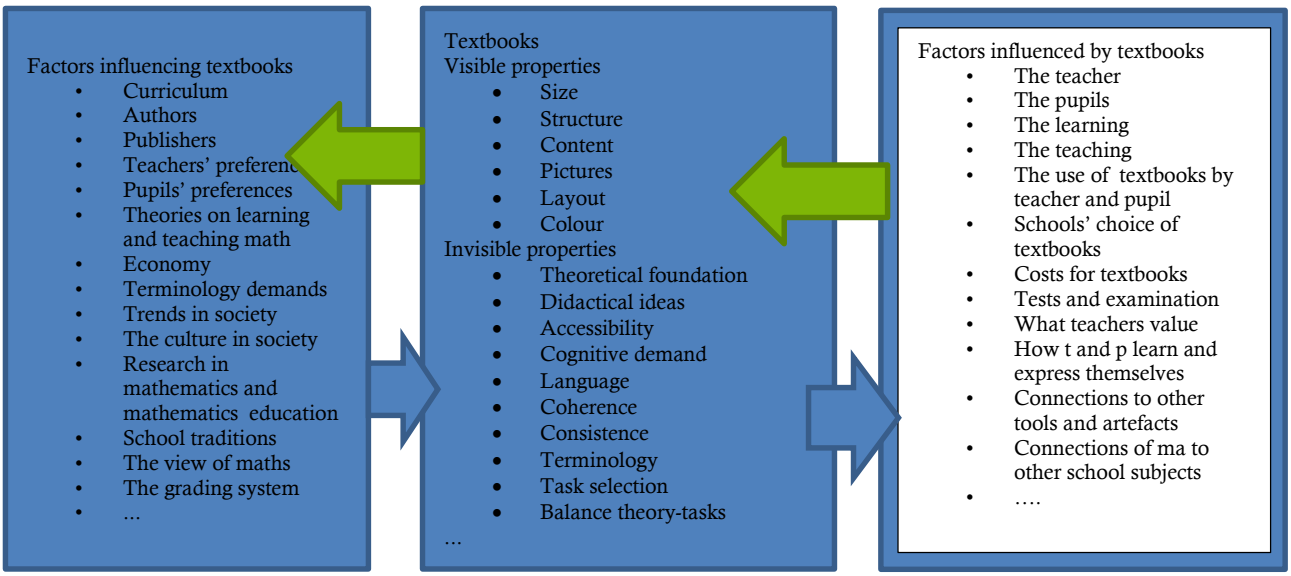


Figure 1: Theoretical model of factors related to issues on textbooks in mathematics and their influences (Grevholm, 2012).

Mathematics Textbooks Research Continued

PME 37 Working Session 2, Post-Session Report (continued)

was given for the service of new-comers. A third theoretical framework for research on mathematics textbooks was introduced together with questions from the paper at ICSMT (Fan, 2011). Now a panel debate with Susanne Prediger, Rudolf Sträßer, and the organizers of the WS took place.

Concerning the future of textbooks the question of the medium as such does not seem to be the most vital, but the focus is on the content and of the way the content is organized and used. ICT is likely to offer dynamic and interactive ways of content representation. These advantages have not been taken up seriously so far. Most e-textbooks are simply an electronic version of the traditional printed textbook. The development needs to be observed and researched.

Research agenda

The development of e-textbooks and research on these in mutual relations of all kinds.
Development of e-textbooks that really take advantage of the possibilities of ICT and studies of their effect.
Continued comparative studies and studies based on content analysis from different aspects.
More research attention needs to be paid to the role of textbook developers, policy makers, curriculum specialist, teacher educators and evaluators in the process of textbook development, adoption and use, and how they interact with each other. Development should be based on research but the development processes should also be researched.

Future research on mathematics textbooks should aim for a more integrated view on reading and learning from textbooks.

Conclusions

The discussion shows that the importance of textbooks in mathematics teaching and learning is widely recognized, and researchers are increasingly aware of the need to conduct further research in a broad range of areas on mathematics textbooks.

Future PME-conferences can organize sessions or other opportunities for presenting individual research studies focusing on textbooks, particularly in relations to psychology of mathematics teaching and learning.

References

Fan, L. (2011). Textbook research as scientific research: Towards a common ground for research on mathematics textbooks. *ICSMT*. Shanghai, China.

Grevholm, B. (2011). Network for research on mathematics textbooks in the Nordic countries. *Nordic Studies in Mathematics Education*, 16 (4), 91–102.

Grevholm, B. (2012). Theoretical framework for research on textbooks, 20121008 http://textbookstudy.files.wordpress.com/2013/05/theoreticalframework.pdf

Rezat, S., & Sträßer, R. (2012). From the didactical triangle to the socio-didactical tetrahedron: artifacts as fundamental constituents of the didactical situation. *ZDM*, 44(5), 641-651.

Valverde, G. A., Bianchi, L. J., Wolfe, R. G., Schmidt, W. H. & Houang, R. T. (2002). *According to the book. Using TIMSS to investigate the translation of policy into practice through the world of textbooks*. Dordrecht: Kluwer Academic Publishers.

PME 38 Working Session Report: A Discussion on Virtual Manipulatives

Organizers: Patricia S. Moyer-Packenham, Utah State University, USA, and Jennifer M. Suh, George Mason University, USA

Presenting Participants
Lyn English (Australia), Kate Highfield (Australia), Ingemar Holgersson (Sweden), Azadeh Jamalian (Canada), Ulrich Kortenkamp (Germany), Silke Ladel (Germany), Berner Lindström (Sweden), Taylor Martin (United States), Helen Osana (Canada), Serkan Ozel (Turkey), & Stephen Tucker (United States)

In addition to the presenting participants and the organizers, there were 26 participants in this working session representing the following countries: Australia, Canada, Germany, Greece, Israel, Sweden,

Turkey, and the United States.

Researchers in this working session explored theoretical rationales and concepts to better understand virtual manipulatives (VMs) as resources/tools for mathematics learning and development. Main questions discussed by participants in the group included:

- What terminology and frameworks help researchers communicate about virtual manipulatives work?
- What big ideas can we glean from the research being conducted worldwide?
- In what ways does research on concrete manipulatives and other visualizations inform the work on VMs?
- What methods are researchers using and what research questions are important to our collective field studying the impact of VMs on achievement and affect?
- How do we advance research on VMs as these dynamic objects move from web-based environments to hand-held, touch-screen and augmented platforms?

During the 2-day working session, each of the Presenting Participants gave a brief 5-8 minute overview of a key idea in research on virtual manipulatives. These brief overviews were followed immediately by discussion among the participants in the session. The following short presentations were the focus of these overviews: Larkin (iPad apps); Highfield (interactive technologies); Martin (refraction game), Ladel & Kortenkamp (VMs); Lindström & Holgersson (Fingu iPad game); Durmus, English & Osana (manipulative use); Namukasa (VMs frameworks); Ozel (design of VMs); Tucker (app affordances); and Jamalian (manipulatives interacting with apps).

The discussions demonstrated a shared interest by the researchers worldwide in the study of

PME 38 Working Session Report:

A Discussion on Virtual Manipulatives (continued)

manipulatives and virtual manipulatives for mathematics teaching and learning. Although researchers in different parts of the world and different fields use different terminology to describe these objects, including online math objects, digital objects, math cognitive tools, online math applets and virtual manipulatives, there was a shared interest among the group in research on these dynamic objects for constructing mathematical knowledge.

A representative from Springer Publishing was in attendance during the two working session days and spoke with the group organizers about writing a book with the tentative title: International Perspectives on Learning Mathematics with Virtual Manipulatives. The group organizers are currently working on developing a proposal to be submitted to Springer Publishing Company in early 2015. The goal is to develop this book in 2015 with Moyer-Packenham as Editor. The proposed book will contain multiple chapters from international authors on the topics discussed during the PME Working Session.

Tasmanian devil (Sarcophilus harrisii),
Bonorong Wildlife Park, Tourism Tasmania and Rob Burnett

PME 40, 3-7 August 2016, Szeged, Hungary

Call for Group Activity Proposals for PME 40

Submitted by Stefan Ufer, Germany

What characterizes the spirit of scientific conferences in general, and PME conferences in particular is the opportunity to engage in discussion and collaborative work with colleagues from different countries and with differing research perspectives. PME conferences offer several different kinds of opportunities to support this.

Usually, researchers from different countries jointly propose these activities to bring in a variety of perspectives. Of course it is very helpful to prepare your joint proposal during the PME conference in the preceding year. In the following I would like to draw your attention to the main possibilities PME conferences offer to engage in collaborative discussion and work and how you can propose such an activity. More information of the profile of each activity and on the submission process is available on the IGPME web site.

Discussion Groups offer two 90 minute sessions to engage in discursive discussions. These sessions might for example focus on a topic that offers a variety of perspectives that need to be compared and integrated with each other, or on a topic which is of importance to research in PME, but which has not been structured by prior research enough to engage in more directed work.

Working Session offer two 90 minute sessions to engage in collaborative work with colleagues on a certain topic. This might involve collaborative work on some data shared by the participants, but also work towards a concrete product like for example a joint review article, a joint project proposal, a special issue in a journal, or an edited book volume.

Discussion Groups and Working Sessions should contain only a small amount of presentations, but primarily involve the participants in collaborative discussion or work towards a concrete goal.

Colloquia offer one 90 minute session to present a set of related Research Reports on a common research topic and initiate an overarching

Call for Group Activity Proposals for PME40 in 2016 (continued)

discussion of the research presented in these Research Reports.

Research Fora offer two 90 minute sessions to present and discuss the state of research on a topic that has made considerable and visible scientific progress in the past years. The aim might be to integrate different strands of research on one topic, or to sum up what has been achieved in a field. Further goals might be to identify important questions for further research, or to discuss practical implications of what has been achieved. Usually, Research Fora include a substantial amount of presentation of the state of research from different perspectives, but offer also considerable room for discussions.

Seminars have a different focus. They offer two 90 minute sessions to offer a more instructional session that introduces participants to a new topic. This might encompass specific research methods, academic writing, or reviewing. Usually seminars address an audience of young researchers, first time PME participants or other persons who do want to extend or refresh their knowledge on the topic. It gives the participants the opportunity to gain new knowledge, but also engage actively in applying this knowledge.

Ad Hoc Meetings provide time slots during the conference to discuss issues that arose spontaneously from discussions of presentations during the conference. These meetings are only for discussion, no presentations are allowed. Ad Hoc Meetings be proposed only during the conference, not in advance.

Submission guidelines are different for these five activities. They are summarized in the following table. Please refer to the IGPME web site for more detailed information.

Activity	Length of Proposal	Submission Deadline
Discussion Group	up to two pages	March, 1st
Working Session	up to two pages	March, 1st
Colloquium	three RRs, one page introduction	January, 15th
Research Forum	up to five pages for initial proposal	October, 1st
Seminar	up to two pages	March, 1st
Ad Hoc Meeting	short text for announcement board	during conference

The main goal of PME conferences is to stimulate scientific discourse and collaboration. Individual presentations to discuss ones' own research are important and interesting opportunities for this, but group activities are at the heart of what makes a good conference. Running a good and productive group activity is not trivial and requires some experience. But do not be shy! You have an interesting topic? Grab some colleagues during the conference and discuss which type of activity you could propose jointly for the next conference in 2016!

Stefan Ufer
PME Vice President

Announcements

PME Announcements Forum on the PME Website

The IGPME website (www.igpme.org) is the main portal for all communication and information regarding PME. A useful feature for PME members is the Announcements Forum as this is place to post items of information for PME members such as job announcements, conference announcements, and so on. To access the Announcements Forum, please log in with your 'conftool' log-in details. You can then find the forum in the 'Communication' section

Since the previous PME Newsletter, the following items have been posted on the PME Announcements Forum:

- The Proceedings of the International Conference on Mathematics Textbook Research and Development (ICMT-2014) is available to download as an e-book (http://igpme.org/index.php/forum/announcement-forum/91-e-book-proceedings-of-math-textbook-research-conf)
- A Research Fellowship in 'STEM for the Young' at Queensland University of Technology, Australia, is available. (http://igpme.org/index.php/forum/announcement-forum/90-research-fellowship-in-stem-for-the-young)
- The School of Education at Tel Aviv University, Israel, invites applications for a tenure track position in mathematics education (or science education). (http://igpme.org/index.php/forum/announcement-forum/87-position-at-tel-aviv-university)