

PME NEWSLETTER

November 2009

PME 33 GREECE reports near record attendance; PME 34 BRAZIL adopts conference management system



PME Message from President Fou-Lai Lin

Good news for PME! Marianna Tzekaki, Chair of the PME 33 conference, reports nearly 700 participants attended PME 33 in Thessaloniki Greece. Due to the excellent management by the Local Organizing Committee [LOC] and the International Program Committee, the PME

financial breach has eased. I'd like to show my gratitude to Marianna and the LOC of PME-33 for their hard work and endeavors. Thank you ever so much Marianna and your team!

The decision at the PME-33 IC meeting was that we are committed to moving to an online web-based Conference Management System [CMS] for PME 34. A CMS will assist the conference Chair in organizing the registration and administration of conference participants, scheduling the conference program, organizing the submission and review process of report, group and presentation contributions and other tasks of the Chair and

organizing committee. A subcommittee of the IC was established to research and test various types of conference management systems. The CMS subcommittee of the IC searched for potentially suitable systems; tested them intensively and communicated with CMS programmers to determine if and how the system could be customized to meet the demands of PME.

The CMS subcommittee recommends that we adopt *ConfTool* as the Conference Management System for PME 34 in Brazil. I'd like to give special thanks to Cristina Frade, Laurie Edwards and Peter Liljedahl for putting all their efforts into assessing CMS systems. I'd also like to express my appreciation to Cynthia Nicol, who is helping with the English editing of the CMS interface. With the help of the CMS subcommittee and its programmer, the system is under modernization so that it will be able to allocate reviewers and is expected to be ready shortly.

PME Message from the Editors

Greetings and welcome to our third Newsletter of the year. We would like to start by saying "Wow...we loved PME 33!" Thanks to the Greek team for the wonderful conference, memories and time in Thessaloniki, Greece.

Hosting PME in different countries around the world provides opportunities for us to learn with and from an international community. It challenges our own assumptions and values of the way things are or might be, and it brings us together over a common purpose. It also provides us with a vibrant history.

With this issue we attempt to keep alive our PME collective memory with two interviews from our senior members, Alan Bell and Joop van Dormolen, who reflect on PME then, now and in the future. Making the transition to PME 34 in Belo Horizonte, Brazil this issue features news from the conference team for PME 34, reports from the PME IC portfolios, and announcements. We include invited submissions from Terezinha Nunes, Peter Gates, and Dalene Swanson to comment on the PME 34 conference theme "Mathematics in Different Settings." We hope these short critical essays inspire you as you prepare your PME 34 proposals and submissions.

For the next issue (January 2010) we are seeking contributions or reactions to the contents of this issue. We are also particularly interested in articles that examine PME's efforts of developing our international community. Please, send your contributions directly to the editors. Hope you enjoy this Newsletter!

Cristina Frade, <frade.cristina@gmail.com> Zhonghe Wu, <zwu@nu.edu> & Cynthia Nicol <cynthia.nicol@ubc.ca> – Editors of PME Newsletter



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PME Then, Now and the Future

Words of wisdom from Alan Bell and Joop van Dormolen

At PME 33, Thessaloniki Greece, the PME Newsletter Editors had the honor and privilege of talking with two long time members of the PME community: **Alan Bell** one of the designers of PME's constitution and **Joop van Dormolen** PME's Executive Secretary for over 13 years and Honorary Member of PME.

A conversation with Alan Bell

You attended the first PME in 1976. How many PMEs have you attended since then?

I've attended all except last year in Mexico. I have a very long row of proceedings on my shelf.... – I shall need a new bookshelf soon.

How has PME changed from the first PME to now?

The most obvious change is the number of people. The very first meeting in Karlsruhe had only about 15-20 people attending. I remember for this first meeting the papers were duplicated on the Chemistry Department's duplicating machine in Nottingham. In 1977 the meeting was in Germany and we produced a printed volume – but there was only one volume (in contrast to the 5 volumes of PME 33).

If you think back on all your years of PME conferences – what stands out for you?

One thing that figures strongly now is applications – real world applications. In the early years we were concerned that mathematics education was not the same thing as mathematics. In the early years it was quite important to have well known mathematicians attend to give the group some status.

Do you think PME is doing enough to encourage and support its international community?

Well PME is becoming so big now that it is becoming a problem. I just had lunch here. There are 400 people in that room. I probably know about 10. Now that isn't very good. If you go back about 5 years, then I would have probably known at least half of the people who were there. I suppose this is inevitable when a successful and important group collects. There are some very clear areas of interest within the PME group and it would be quite possible for them to organize their own subgroup meetings

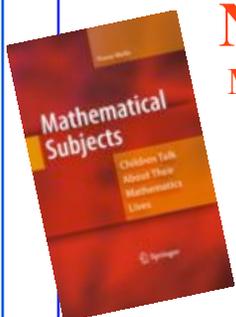
in between the main congress. They would probably get a lot more work done. The problem is there are too many things on at the same time. And you can only go to one. You have a lot of reading to do when you get home.

Do you feel we have less of a connection to mathematicians now?

Oh yes definitely. Although there have been one or two meetings this time concerned with aspects of mathematics. I went to one session this morning, it was really about on the construction of real numbers and rational numbers. One thing that happens is that the same things come around and around again. Which is a pity, people do not learn all there is to learn from history. And so a lot of what was said about rational and real numbers here at the talk this morning, I was teaching students about 20 years ago. I suppose we should make more effort to learn from the past research. There was a volume produced – that collected the proceedings from earlier years. I think this needs to continue. Not everything that happens is equally important, but you need to summarize and integrate from time to time so that there is a growing recognizable body of knowledge. It is a serious problem. In a way this is a function of funding. For many people in order to receive funding to attend they need to give a talk. And so they need to talk about something – not always looking to see if it was done before or not.

What advice would you give to newcomers to PME?

Well I suppose go to the plenary sessions and follow-up any suggestions made in the plenary. This will get you into the bodies of work. Go to as many sessions as possible. Use the proceedings to follow-up your particular areas of interest so that you can be prepared. And we should remember that PME needs to have a balance of new comers and those who come every year.



New Book! Just Released!

Mathematical Subjects: Children talk about their mathematical lives

Fiona Walls (2009)

Follows ten children (ages 7 – 18) in New Zealand, England, Australia, Sweden, and Switzerland as they come to recognize the mathematical as part of their lives, their academic identities and their identities as human beings.

Published by Springer ISBN: 978-1-4419-0596-3. <http://www.springer.com>

A conversation with Joop van Dormolen

Do you remember your first PME. What stood out for you?

Freudenthal organized the first PME. I got a phone call from Freudenthal: "You need to come to PME." We were more or less forced to go. My first PME was only 2 or 3 days long and it was mainly lectures. I can't remember the details but I remember the feeling that this was important and I knew I wanted to return.

How has PME changed over the years?

In the beginning PME was very focused on cognitive thinking and ideas. Then you had this wave of 'group work' and 'discovery learning.' Then we discovered that discovery learning was not the real answer because we can not ask students to discover, so we changed it to guided discovery. That led people to the idea of constructivism, and in Montreal that was the theme of PME. Then we had the wave of computer aided learning and teaching. But this time here [at PME 33] I had the idea of Back to Basic. The good basic though, the useful.

What piece of advice would you give a person who is new to PME?

I think this is not a good question. What I think is important is to find a way to keep people engaged and informed. It is always the problem with PME. When we are here we find PME important, and interesting and we try to think about organizing. But you come home and you are a busy person and you have a lot to do. And PME gets low, low, low on the priority and you forget about it. So keeping connected is important.



From your experience as Executive Secretary of PME what are your thoughts on the new PME database or the use of a computer management system for the future?

My impression is that is a good idea. We should have a database that is the responsibility of the chair of the local organizing committee. The local organizer should also be responsible or have control of all things that were to happen in the conference. I had two databases. I could transfer names and data. One was for my own administration and one was for the local organizing committee. I don't know if the new database is like this but it should be that all things concerned with the conference should be the responsibility of the conference organizers. And the conference organizers should have access to manage the database. It should not be that complicated.

I believe in keeping history. In my database you could search by person on which conferences were attended, on which kind of presentations were made. You could see "Ah, in 1994 this person gave a lecture." And you could see the number of participants, the number of research reports, the number of countries ... all this information, this history, it is nice to have it. You could push a button on my database and find the number of countries participating in certain years. What I was not able to do, was to have the database set up so that every person could go into their own profile and make a payment.

Do you have suggestions for us on the newsletter?

I was admiring the last newsletter very much. It is so much better than what it used to be. You have the lucky fact that you now have the technology for it. Before we had to do it by hand all the time - to print it and send it by post. That is why we used to have these regional contacts.

What keeps you coming back to PME?

What keeps me coming back to PME is friends. Friends more than content. Friends, yes. I have some very good friends. I have a couple of very dear friends that I only see at PME. That's what keeps me coming back.



PME 34 Brazil “Mathematics in Different Settings”

submitted by PME 34 conference chair Marcia Maria Fusaro Pinto, Brazil

A group of colleagues agreed that it would be profitable that we started by raising some questions to introduce the concerns of our conference theme, to be discussed during the following months. I will begin by sending you all this introductory text, expecting your reactions to it. We hope we will foster then interesting and fertile discussions in our debates during the next PME.

Teaching and learning at school, and in particular teaching and learning of mathematics have been pointed as far from achieving some of its nuclear aims and goals. In fact, internal and international assessments' results of contemporary educational systems, side by side with the tensions occurring in the contemporary societies we are supposed to be educating, indicate that current formal education, and in particular formal mathematics education need to be improved.

Nevertheless, what would it mean, today, to enhance formal teaching and learning of mathematics?

How would the teaching and learning of mathematics respond to our contemporary societies' challenges?

Does it make sense to implement and to account for uniform worldwide evaluations, considering the diversity of educational systems and the various experiences students have considering their different cultures?

In fact, the teaching and learning of mathematics has been differently

understood from different theoretical perspectives, given that they address to different aims and goals in education.

Is there a single and encompassing theoretical perspective in mathematics education that could be promoted? If so, which are its aims and goals?

Which teaching and learning theories would be suitable to support the entire range of requirements that have been defined by national or regional curriculum policies in teaching of mathematics?

More specifically, is there any theory that can be effectively used in the variety of contexts in which mathematics learning and teaching processes occur?

How could we account for mathematics which is learned out of school settings? Are there mathematical aspects learned this way educationally important?

As educators, we have been participating in the contemporary debate on school and out of school processes of appropriation, production and sharing of mathematical

knowledge and practices, which has become increasingly complex. In fact, the world we are living in is supported by an ever more sophisticated technology. The variety of

available resources has provided a remarkable opportunity for knowing and participating of the many practices - rather than only those from a single socio-cultural group. Such an

opportunity is not free of charge: we are caught up by its effects in educational terms - the need to steer a deeper understanding of the production-reproduction of knowledge in different settings.

At the same time that the acknowledgement

of the diversity in mathematical activity, in the sense specified by D'Ambrosio, and by mathematics education literature as well, has become ever more striking, we are facing heightened challenges of interacting and teaching mathematics in different settings. This requires from us a multiple understanding of the meaning of mathematics, and the meaning of teaching and learning mathematics.

For Nunes, Carraher and Schlie-mann, there are key differences between the mathematics practiced out of school and the one developed under formal schooling. On the other hand, the recognition of mathematical strategies built outside the classroom as genuine instances of mathematical activities may lead to new ways of thinking and to innovative attitudes at school, by both pupils and teachers. The new and significant elements raised by the authors set off a research agenda and reactions which require close assistance to better understand the com-

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Current formal education, and in particular formal mathematics education need to be improved

Mathematics in Different Settings continued...

plexity of the educational phenomena.

In such scenario, many theoretical perspectives have been developed to further a deeper understanding of the psychological and other aspects of teaching and learning mathematics and the implications thereof, as the Psychology of Mathematics Education international group aims to do. Some have gradually broadened the scope of our work, to consider the various configurations of social, cultural, political, affective and cognitive processes, and to address mathematics and mathematics education within and outside school.

As a result, the contemporary theoretical perspectives suggest that educational pedagogies are bounded by the educational contexts and by the mathematics which is being produced/reproduced and shared in the different settings. At the moment, there are more questions being opened than answers produced. However, this situation strikingly shows the lively character of psychology of mathematics education as a robust research field.

We are facing heightened challenges of interacting and teaching mathematics in different settings

Acknowledgments: The author would like to thank Jeff Evans, John Monaghan and Cristina Magro for the critical review of this preliminary document.

PME 34 Plenary Speakers and Reactors

Plenary Speakers

Ubiratan D'Ambrósio, *Brazil*

Anne Watson, *United Kingdom*

João-Filipe Matos, *Portugal*

Brent Davis, *Canada*

Fou-Lai Lin, *Taiwan*

Plenary Reactors

Alan Bishop, *Australia*

Terezinha Nunes, *United Kingdom*

Plenary Panel Convener

Jeff Evans, *United Kingdom*

Constructionism 2010 Conference *Paris August 16-20*

The developers of Logo and similar computational environments have played a special role in fostering constructionist ways of teaching and learning over the past twenty-five years. They have encouraged learners to better understand the world and their place in it by building their own meaning-making models based on iterative, interactive exploration and testing of ideas and notions. Their success has opened the way to others whose research and practices have led them to also question the fundamental processes of creativity, thinking and education.

Constructionism 2010 will showcase major constructionist contributions to these processes with examples drawn from many disciplines and kinds of experience. It will examine specific lessons that teachers at all levels, researchers, and developers can use in their own personal and professional lives.

Graduate students are especially invited to present posters based on their work in progress, classroom experiences, and constructionist ideas and theory. The deadline for submission of poster abstracts is April 30, 2010. Affordable food, housing, and registration discounts are available for students.

MERGA33, the annual conference of the **Mathematics Education Research Group of Australasia**, is being held in Fremantle, Western Australia, from **July 3 to 7, 2010**. We hope that you will come and present a research paper or symposium. Early Bird submissions can be made from the beginning of December until February 5 to provide time for helpful feedback and revision.

Please check the website <http://www.merga33.com.au> for details, including bursaries, awards and submission requirements. Be in it! Combine a visit to Fremantle with a holiday in Australia.

Terezinha Nunes reflects on *Mathematics in Different Settings*

invited submission by Terezinha Nunes

In October 2009 we invited Terezinha Nunes to consider the PME 34 conference theme “Mathematics in Different Settings.” Originally from Belo Horizonte, Brazil which is host to PME 34, Terezinha is a leading scholar of street mathematics and the cognitive basis of mathematical reasoning that occurs independent of schooling. Terezinha responded to our questions via e-mail.

Could you please tell us briefly about your academic path – how you began in Belo Horizonte, then in Recife and now in the UK?

I trained as a clinical psychologist in Belo Horizonte, Faculdade de Filosofia e Ciências Humanas, Universidade Federal de Minas Gerais. After graduating, I worked one year as a clinical psychologist with children with learning difficulties. I then received a Fulbright Scholarship and went to City University of New York, The Graduate School and University Center, where I completed a Masters and a PhD in Psychology. I returned to Belo Horizonte and worked as a clinical psychologist for another two years and at the Universidade Federal de Minas Gerais, where I ran the Center for Applied Psychology. It was during this time that I realised that many children from poor families did badly in school and were referred to the clinic but they were not children with learning difficulties.

When I moved to Recife, and worked in the Universidade Federal de Pernambuco, my interest in poor children’s learning and their reasons for not succeeding in school grew. As I had more opportunities to watch them solving mathematical problems, I became fascinated by the fact that they knew many things I did not know. They knew street mathematics and I didn’t. I think this time in my life is known to many people. With Analucia Schliemann and David Carraher, and many students who worked with us, I tried to understand how people who had learned mathematics outside school



approached and solved problems of different levels of difficulty.

I also had an interest in literacy and studied how children developed their understanding of Portuguese orthography. This gave me some insight into what literacy is like in different social contexts. If you speak a linguistic variation that differs in many ways for the prestigious form that is used for writing, you will be at a disadvantage. The orthographic errors you would make have nothing to do with learning difficulties but reveal the importance of culture for children’s literacy learning. This is in many ways similar to what we observed in street mathematics. Both phenomena should inspire schools to become more aware of social effects on school learning.

I am more fascinated than ever with the socialization of the mind, with the interplay between universal ways of thinking and cultural tools.

My move to the U.K. gave me valuable time to think about what I had learned in the decade I spent in Recife. There were results from the work on street mathematics that suggested that a major question to investigate next was the cognitive basis of mathematical reasoning, which develops independently of school. In the almost two decades that I have been here I have focused on this aspect of mathematics learning. The interplay between cognitive development and culture has become clearer to me. I am more fascinated than ever with the socialization of the mind, with the interplay between universal ways of thinking and cultural tools. I have been privileged to work with students from different cultures and to be able to continue working with Brazilian colleagues, whose cooperation always adds to what I learn.

What is it like for you to return to Belo Horizonte to participate at a PME conference?

Belo Horizonte is home for me, I come back three or four times every year. When people ask me what I am doing in the holidays and I say I’m going home, I mean I coming to BH. It is extremely exciting for me to see PME in BH, I’m looking forward to it. I do hope that many Brazilian teachers and research-

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Terezinha Nunes reflects continued...

ers will join the conference and use this amazing opportunity to learn from different people coming from all over the world. PME was the first group that I joined as a researcher. I have been stimulated and learned so much from people like Alan Bishop, Gérard Vergnaud, Lauren Resnick, Kath Hart, Erik De Corte and Lieven Verschaffel, who were all there right from the beginning. I've also learned a huge amount from groups of researchers like those in the Freudenthal Institute and the group led by Celia Hoyles and Richard Noss in the London Institute of Education. It is a pity that some of these friends won't be in BH for PME, but there will be new people and new ideas.

How has your recent work changed over the years since "Street mathematics"?

Street mathematics for me was not simply a set of studies about how people who didn't learn mathematics in school actually do mathematics: it became a way of thinking, which is still at the heart of my own thinking. What I learned from street mathematics is that mathematics has many faces, but under these different faces there are universal principles that unify mathematics as a science and language for modelling the world. Arithmetic in the streets and in schools looks so very different that you may know how to do one but not the other.

After many years of schooling and a doctorate that involved much statistics, I knew no street mathematics. I learned it from the participants in our studies. The universality of the principles used in arithmetic, whether it is carried out orally or with

paper and pencil, is amazing: in addition and subtraction, decomposition is at the core of the moves made in column arithmetic and in oral arithmetic. In multiplication and division, decomposition combines with the distributivity of multiplication with respect to addition. But the source of this universality is not just in the mind and given from birth: it develops from children's understanding of part-whole and one-to-many correspondences and from the use of counting systems with a base, which incorporate both of these schemes of reasoning. In the U.K. my research has focused on young children's learning as a way to seek for the sources of ideas that were so well spelled out in oral arithmetic and mathematical reasoning outside school.

How do you situate your recent work within the PME 34 conference theme "math in different settings"?

I'm looking forward to finding out a lot more about research done in Brazil in the last ten years about this theme. Brazilian researchers in psychology and mathematics education have been able to work with ideas about culture and the social environment in many creative ways. It must not be easy for these young researchers to publish their work in English and this makes their work less visible, including to people like me, who could read what they write in Portuguese.

What I learned from Street Math is that math has many faces ...

The PME 33 Experience from a PME first-timer

submitted by Zhonghe Wu

PME33 was a delightful conference to me as a new comer. I have been a PME member for few years, but PME 33 in Greece was my first time attending the PME conference. As I reflect back on the conference, there are few impressions that come to my mind.

- It was a great feeling seeing so many scholars gathered together to share great ideas about mathematics education. From Plenary Lectures to post presentations, I have seen and learned many wonderful research ideas for improving mathematics teaching and learning. Since many good sessions were held at the same time, it was very difficult to decide which one to attend or not attend. I found the session of "Plenary Lecture" and "Meeting with the plenary speaker," particularly helpful where I could discuss with great researchers about their work or my work in-depth to gain detailed information. I was inspired by their wisdoms and attitude.
- The Conference Social Program and Excursions created opportunities for all participants to communicate and interact each other and to explore common interests and possible future collaborations.
- The diverse academic programs with international perspectives provided different views on some important research ideas, research design, and data analysis. The PME conference helped me further realize that we should appreciate cultural and linguistic diverse research studies that provide an insightful and big idea to mathematics education.



In general, my feeling on PME conference was very positive both academically and logistically. I think I had a good start with the PME conference and hope this good start will drive me to the bright future for other PME conference and its relative works.

Mathematics in different settings from an Equity and Social Justice Perspective

invited submission by Peter Gates

As I sat down to write this short piece, my daily newspaper (The Guardian, 25th Nov 2009) has an article about a branch manager of one of Germany's biggest banks who transferred €7,600,000 from people's bank accounts. She was given a *suspended* prison sentence because the accounts all had 6 figure sums and had not been touched in years. Oh ... and she gave all the money to other customers who were drowning in debt. Mother Teresa helps the poor and she gets eulogies; this woman redistributes wealth and gets punished.

Now I use that example for two reasons – first it has the potential for raising questions about mathematics, (*just how much is €7,600,000; how long would it take to earn that much? What would be the interest on such sums? How much do different people earn in one hour?*) But also because it shows quite dramatically where the setting dramatically alters the way we look at things. Coming from Nottingham of course I can't overlook the opportunity to mention Robin Hood who, it is claimed, took from the rich and gave to the poor. He too has had quite a good press. Alternatively we have mathematics education, which does the reverse; it takes from the poor and gives to the rich.

My work over years in the mathematics education field has made me see things quite differently from many colleagues working in the field. I remember sparking off the debate at PME27 calling for PME to embrace other aspects of teaching and learning mathematics as a move beyond the

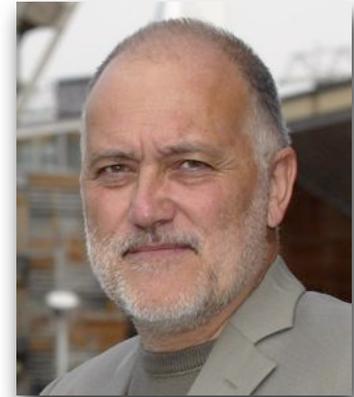
purely cognitive (which was finally approved at PME 29). Yet it still amazes me – and frustrates me – that much work we do still fails to acknowledge *the single most influencing factor* behind mathematics attainment – the social class of the learner.

It is without doubt that mathematics education redistributes wealth to the rich; the question is why so many in PME have this as a blind spot. We focus on the curriculum – but curriculum itself is a political entity (Apple, 1979). We focus on teaching strategies – but teaching is a political act. And *that* is where our blind spot is; we try to avoid politics not because it is a dirty word, but because too many of us have too much to lose. We are after all successes of the *status quo*, and unbalancing that by asking too many difficult questions threatens to unbalance us all.

We need to welcome the conference focus on different setting, to embrace difference, and try to see things differently

I am currently looking more deeply at mathematics and the workplace – something which does have a rich literature. Street mathematics, workplace learning, situated cognition, activity theory have all played a part in our field– as I raised in my article on equity and social justice in the recent PME handbook (Gates, 2006).

However for me a seminal paper is by Cynthia Nicol (2002) as she raises the



uncomfortable message that too many mathematics teachers just do not know what goes on outside the school gates. Too many mathematics teachers do not understand where mathematics is actually used and what it is used for. Mathematics is used as a tool to solve problems of course, but it is also used as a social filter – “*a badge of eligibility for the privileges of society*” (Atweh, Bleicher and Cooper, 1998, 63).

What we need to do within PME now is to welcome the conference focus on different settings, to embrace difference, and try to see things differently. But most importantly, to try to see our contribution to inequity and injustice, because you can't take a neutral position.

Apple, M. (1979) *Ideology and the Curriculum*, London, Routledge.

Atweh, B., Bleicher, R. and Cooper, T. (1998) “The Construction of Social Context of Mathematics Classrooms. A sociolinguistic Analysis”. *Journal for Research in Mathematics Education*, 2(1), 63-82.

Gates, P. (2006) “Equity and Social Justice in PME”, in A. Gutierrez and P. Boero (Eds) *Handbook of Research on the Psychology of Mathematics Education*, Rotterdam, Sense, pp. 3670-402.

Nicol, C. (2002) “Where's the Math? Prospective teachers visit the workplace”, *Educational Studies in Mathematics* 50, 289-309.

PME International Committee Reports

THE NEW PME COMMUNICATION WIKI

The IC has developed the PME Communication Wiki. Now available for use. This communication tool was created to provide the membership a way to participate in the workings of the International Committee (IC). With the PME WIKI members can engage in open and transparent discussion and debate about topics that concern our field as well as the management of our organization. It initially comprises four different pages for discussion as follows: IC REPORTS, PATH TO AGM, OPEN DISCUSSION and ANNOUNCEMENTS. The IC encourages everyone to familiarize themselves with this communication medium. All instructions for use are located right on the wiki at <http://pme-communication.wikispaces.com/>.



Highlights of the IC Portfolio Group Reports.

Report details can be found at the PME Communication Wiki (<http://pme-communication.wikispaces.com/>)

President's Portfolio Group (PPG) Report

Fou-Lai Lin, Taiwan; Silvia Alatorre, Mexico; Alena Hošpesová, Czech Republic; Bat-Sheva Ilany, Israel; Peter Liljedahl, Canada

The work of the PPG during the IC meetings at PME 33 as well as the period immediately after the conference has been dominated by the need to create more transparent governance and better communication between the IC and the PME membership. This work can be seen as falling into three main projects: 1) the creation of a comprehensive communication plan; 2) the creation of a Pathway to the AGM; and 3) A comprehensive policy review. Aside from this the PPG has also been busy with work relating to a variety of other areas of concern that include refining the Skemp Fund application process and reducing the cost of the Administrative Manager. In upcoming months the PPG will primarily be focused on managing and maintaining the PME-Communication wiki and the shepherding of the three aforementioned issues through the Path to the AGM process.

Vice President's Portfolio Group (VPPG) Report

AisoHeinze, Germany; Helen Forgasz, Australia; JeongSuk Pang, Korea; Marcia Pinto, Brazil

During the pre-conference meeting in Greece, the VPPG prepared several proposals which were discussed by the IC. The VPPG discussed the reviewing process and several options to modify the requested reviews slightly. The basic idea is to get more detailed information from the three reviewers about the proposal and not only 0 = rejected and 1 = accepted. Therefore, the VPPG suggested introducing a scoring system to each of the categories in the review form in addition to the reviewer comments. The VPPG will prepare a detailed proposal for that which will be discussed by the IC; a preliminary version will be tested in the review process for PME-34 (parallel to the official review process). Furthermore, the reviewer information should become more precise.

Treasurer Portfolio Group (TPG) Report

Laurie Edwards, USA; Cristina Frade, Brazil; Tim Rowland, UK; Behiye Ubuz, Turkey

The TPG will be creating Excel files for all accounts to record all money flows and transactions. The TPG will explore the selling of proceedings and guidelines will be prepared. A further task has involved exploring the use of the Conference Management System Tool appropriate for supporting PME and conference organization.

Secretary Portfolio Group (SPG) Report

Cynthia Nicol, Canada; Olimpia Figueras, Mexico; Marianna Tzekaki, Greece; Samuele Antonini, Italy

At the PME 33 AGM the SPG group highlighted work accomplished to date which included revising the PME Conference Guidelines, developing and posting a History of PME document, and re-initiating and maintaining the PME Newsletter. Activities of the group for the 2009-2010 year include developing a New Members booklet, suggesting revisions for the PME website, homepage and links, continued revision of the PME Conference Guidelines, exploring procedures and protocols for conducting AGM in an international context, developing a PME Handbook for new IC members, exploring the structure of the current PME database, and exploring procedures for archiving documents.

Hope with(in) Difference

invited submission by Dalene Swanson



It is with a deeply democratic sense of hope that I embrace the theme of “Mathematics Education in Different Settings” for the upcoming PME conference, a theme that I believe opens up opportunities for novel and extended dialogues and new agendas. It prompts debates that begin to cross lines into generally uncharted territories / teratologies. Critically, it serves as a discursive catalyst for the emergence of the possibility of ‘Mathematicses’ and importantly of ‘Mathematics Educations’, a recognition of pluralities and differences within a realm of epistemological thought and practice that has traditionally and divisively committed towards a great assumptive and often hegemonic ‘universal’. David Smith speaks against the dangerous “dream of the universality of a single logic” (Smith, 2006, p. 15). It is this “speaking for” and “on behalf of” the Other from a position of “divine preferredness” (ibid, p. xxvii) that is endemic in Mathematics Education discourse and practice on a global scale. It commits a universalized pedagogic and symbolic violence (Bourdieu and Wacquant, 1992) on the marginalized, underrepresented, impoverished and ‘localized’, however ‘the local’ is differentially constituted by its agnified binary opposite, ‘the global.’¹

Perhaps more than any other subject on the school curriculum, Mathematics has appealed to notions of a ‘universal language’ in the education of which triumphs technocentric economic utilitarianism, and in whose differentiated access individuals are defined in terms of nationalist, and now global, ‘citizenship.’ To be a ‘good’ economically-contributing and successful

citizen for the nation state (and now globally ‘relevant’), is to be ‘mathematically literate’. Increasingly standardized mathematics education curricula across the world participate in global neoliberal spread and rational imaginaries of new iterations of empire. The assumed rightness of the current global economic development agenda is facilitated through the universalisms and technocisms of dominant mathematics education practices rather than contested, so that this prevalence insidiously becomes in-

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vested in mathematics education’s “(intrinsic) dissonance with democracy” (Skovsmose & Valero, 2001).²

But all is not doom and gloom. While mathematics education has a long history of ignoring the political and ideological nature of its socio-historical practices in the name of ‘objectivity’, ‘universal truth’ and the ‘lure of certainty’, there are many fine examples of important research agendas that have aimed to resist the status quo on a number of different levels: examples such as Ethnomathematics, recent work in the sociopolitical, ideological, cultural and critical areas of mathematics education, and mathematics education for social justice and democracy are vital contributions. Complexity Science contributes its own holistic and ecological bent. Another focus is culturally-responsive mathematics pedagogy. Often addressing mathematics in situated and cultural context, it has been invitational and dialogical in being open to the Other and embracing forms of alterity as an ethical commitment.³

These are but a few examples. Each opens up dialogue to “Mathematics Education in Different Settings”, and is further legitimized by it. I believe we must nevertheless be careful of the performance of the word ‘difference’ and its investments in our research perspectives.

In the attempt to recognize ‘difference’ and the Other, such a gaze upon the Other is not neutral. Even as we embrace plurality and diversity, they often

tend to become constituted through discourse as ‘different’ and as ‘Other’ as a stable and naturalized condition, not as arbitrary and socio-politically constructed. To speak of another’s ‘culture’, for example, as a firm condition of their identity and of the ahistorical nature of things, undoes the overture to inclusivity and openness, and unwittingly perpetuates current hegemonies through supporting the dominant status quo and doxic order of things. Addressing how ‘difference’ is constituted and reproduced through the discourse and practice of mathematics education in diverse contexts, including that of cultural, racial, gender and socio-economic difference - such as contexts of extreme poverty and constructed disadvantage - begins to attend to the other

side of the paradox of difference. It also aligns with a commitment to “Mathematics Education in Different Settings.” I have attempted to address these very issues in my own work (See Swanson, 1998, 2000, 2002, 2004, 2005, 2006, 2007a; 2007b, 2008, 2009a, 2009b at: www.ualberta.ca/~dalene/index.html). Here, ‘difference’ is a paradox, but becomes a point of dilemma in different contexts of mathematics research and practice. While embracing it as critical against the violence of the universal, difference nevertheless performs contradictions. We need to grapple

Difference is a paradox, but becomes a point of dilemma in different contexts of mathematics research and practice

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with the contingencies of difference in mathematics education contexts - in different settings - as much as embrace the difficulties of being open to the Other. This is not a light commitment. It is in recognition of mathematics education's prevalent participation in forms of global oppression in a world increasingly under ecological threat and where socio-economic, ideological-religious, racial and gender disparities and divisions are widening. It is also in important recognition of mathematics education's role and potentiality in critically addressing these injustices. In the hopes of further complicating these debates, I offer extensions of the theme, "Mathematics Education in Different Settings", by permuting the word 'difference' in the phrase thereby purposefully shifting meanings and evoking new ones. In this commitment to inciting and broadening discussions, I suggest we include "Different Mathematics Education in settings" and "Mathematics Education in settings of 'difference'." What hopeful opportunities for further critical perspectives and insights lie here?

References

- Bourdieu, P., & Wacquant, J.D. (1992). *An invitation to reflexive sociology*. Chicago: University of Chicago Press.
- Hobart, M. (Ed.). (1993). *An anthropological critique of development: The growth of ignorance*. London: Routledge.
- Levinas, E. (1985). *Ethics and Infinity*. Trans. Richard A. Cohen. Pittsburgh: Duquesne University Press.
- Skovsmose, O & Valero, P (2001). Breaking Political Neutrality: The Critical Engagement of Mathematics Education with Democracy. In B. Atweh, H. Forgasz & B. Nebres (Eds.), *Sociocultural Research on Mathematics Education: An International Perspective* (pp. 37 – 55). New Jersey: Lawrence Erlbaum Associates.
- Smith, D.G. (2006). *Trying to Teach in a Season of Great Untruth: Globalization, Empire and the Crises of Pedagogy*. Rotterdam: Sense Publishers.
- Swanson, D.M. (See www.ualberta.ca/~dalene/index.html for references and more examples)

Notes

¹In one sense of this, as Smith asseverates: "What distinguishes the tension in current circumstances especially for teaching is the fact that the very question of what constitutes knowledge, its nature and character, has been posed and answered for today's world almost exclusively by Western powers. This has been the case since the 18th century, when so-called European Enlightenment philosophers sought the universal conditions of knowledge in human reason, thereby conflating and confusing their own determinations of what is reasonable with the determinations of everyone else" (p. xxiii).

² And here I do not mean a superficial or 'capitalist' democracy per se, but a deeply human and ecologically-lived one. Despite the rhetoric of 'economic progress' and 'advancement' through the Knowledge Economy", we might be reminded of Hobart's (1993) remark that as standardized, managerial, functionalist and "technical superiority grows, so does the growth of ignorance" (p.10).

³ Here, the Levinasian (1985) notion of 'ethical subjectivity' and the infinite unknowability of the Other I believe would be important to consider in desisting from sliding into a dangerously simplistic discourse on 'relevance'. Nevertheless, in contesting the dominance of only one form of mostly Western-dominated Mathematics Education for all contexts, and the singularity of it, many of these approaches attempt to resist the "fatal disease" of the "logic of immanence" (Hobson, 2004, in Smith, 2006), which is a form of self-absorption and enclosure that presents as the inability to stand in the place of the Other, but nevertheless to speak for and on their behalf.

Large-scale research is developed in Bahia, Brazil

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Nucleus of the Brazilian Society of Mathematics Education, Regional Bahia (SBEM-BA) are developing a research in nine regions of the state of Bahia under the overall coordination of Eurivalda Santana and funded by the Foundation for Research of the State of Bahia - FAPESB. The research that addresses the field of additive structures in the early years of elementary school (PEA) involves about 80 researchers, 320 teachers and 10 000 students. The main objective of the PEA is to provide interaction between elementary School teachers and university researchers, aiming the construction of proposals that can be implemented in the classroom and seeking to remedy difficulties in teaching and learning of mathematics.