

Established Boundaries? A Personal Response to Learning in and from Practice

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I had the privilege of playing an integral role in the the 15th ICMI Study, initially as a member of the study's International Programme Committee and later as a replacement for João Felipe Matos in the planning and running of the second major strand—Learning in and from Practice—at the study conference, which was held in Aguas de Lindóia, Brazil, in May 2005. My responsibility as a strand leader was to facilitate and coordinate one of the four groups in Strand II, which focused on Learning for and in Practice.

For me, the study conference marked a wonderful occasion in which considerable effort was taken to bring together as diverse a group of researchers in mathematics education as possible who were involved in the professional education and development of teachers of mathematics. The programme for the study conference was constructed in such a way as to attempt to maximise discussion and debate around the accepted papers. The choice of a scenic but isolated venue where all participants stayed in the same hotel created opportunities for more intense interaction than usual at both formal and informal levels.

The task of an ICMI study volume is to present a report on the field which serves as the focus of the study. For ICMI 15 the focus was on the professional education and development of teachers of mathematics. It was made clear to participants that the extent to which the study volume draws on the study conference is left to the organisers of the study.

The overview to this group of chapters which represent the work of Strand II (Learning in and from Practice) at the study conference explains that the coordinators of this section have chosen to work with the material that was submitted as papers for the study conference. They have written four chapters that reflect the major themes that came out of the synthesis of the discussion from the four groups. The process through which these chapters attempted to continue the participative model created by the conference is described. All participants from the strand who attended the study conference were invited to become authors, and each chapter was based on an appropriate selection of the papers that were presented at the conference. Care was taken to aim for as much diversity and inclusion as possible.

This was a commendable yet challenging brief, and the coordinator(s) of the section and the section's chapters have done an excellent job in tackling the given task. The themes of the chapters have been appropriately chosen, and while each

chapter has responded to the task of including the various voices of the original presenters in different ways with a varying number of study-conference papers being included in the references, I believe that as a whole they present a most useful and challenging reflection of the field. The chapters also represent a good selection of the themes of the accepted papers.

I have indicated in the title that my contribution to this section comes as a personal rather than a critical response. After reading the four chapters I found that my thoughts kept coming back to a similar theme as the writing successfully transported me back to my memories and notes from the study conference in Brazil. I found myself left with a sense of regret at what I saw as a missing dimension of the conference. This absence speaks to a larger systemic issue and seems to link to the challenges to embracing complexity that are presented at the end of the first chapter. So my insider/outsider dyad got in the way of my given brief for my written contribution, and my insider voice is demanding that I pay attention and try to articulate my sense of loss.

The root of the issue seems to lie in the fact that, as strand leader for Group 2 at the conference, I placed a slightly different emphasis on how I facilitated the process at a crucial stage in comparison to the other three strand leaders, and I can see that it is this slight difference that has caused the problem/opportunity.

Our group leader brief for the strand sessions was to spend the first four sessions in our group using the accepted papers as seeds for discussion without having them presented orally. Three papers were selected for each session, and participants in the group were asked to make sure they had read the three papers before the start of the session. A critical respondent was invited to respond to the three papers and present the group with some questions, after which we split into three subgroups. Each subgroup had an assigned leader whose task was to facilitate discussion and provide a written report of the discussion that took place that had been stimulated by the papers. The final 30 minutes of each of these 100-minute sessions was planned to see a combination report back “with all the people in the working group together, . . . based on the key issues extracted by each of the three groups, with the aim to try to reach some common synthesis for the day”. The aim of the fifth working session was for each working group “to draw together the discussion and issues from the previous four sessions. It will be organised at the conference to allow flexibility relating to achieving a good synthesis of the work so far”.¹

For Group 2, I decided to leave as much time as possible for group discussion and so did not bring the sub-groups together at the end of each of the first four sessions. Instead I left the discussion hanging in the hope that the absence of closure for the day’s work would allow space for cross-fertilization and further thought about the issues raised. So by the end of the fourth day there was an accumulation of ideas stimulated by the papers and by the ongoing group discussions.

¹ Quoted sections are taken from the document “Organisation of work within Strand 2”, which was sent to all Section 2 participants before the conference.

In an attempt to tap into this ongoing discussion, I organised our fifth session using the concept of Open Space Technology (Owen 1990). Through this process, group members were asked to identify the most pressing issue or question that was with them as they came to the end of the three days of paper presentations and discussions. My appeal was that each person push himself or herself and share with us a question/issue that was at the core of his or her work. Each person posted his or her issue/question on the wall and then went through a process of discussion and negotiation in which each participant wrote his or her name on the issue that interested him or her most, after which issues were removed or combined. At the end of this process we were left with a set of five key topics of the moment where there were at least three people who wanted to discuss that particular topic for the rest of the session. The initiator of the topic was given the task of facilitating discussion and also for ensuring that a written summary of the session was submitted to me that same day. Each group then presented their summary to the conference on the final day.

The reports from that fifth session indicate that the topics that were selected as a result of the Open Space process were the following:

- Understanding and supporting “community” and “change” from the inside up.
- Attending to the rational and the practical aspects of mathematics’ professional development initiatives is not enough.
- Exploring heart/head aspects of our work as implementers/researchers.
- Respect and trust: building community.
- In-service teachers as learners.

Three of the main memorable points raised in the reports of these groups follow.

- We need to revisit our understanding of community. How do we become involved in the building of a genuine community with those with whom we work? How much attention do we pay to issues, such as the inevitable power differentials that are most certainly present whenever different groups come together? How do we go about developing respect and trust when working with teachers?
- If we really believe that we respect teachers and accept them where they are without imposing our own agendas and by consulting them at all times about what they want, why aren’t we succeeding more? Why aren’t teachers buying our goods even when these goods seem to be what they have explicitly requested? Surely we have to pay far more attention to the emotional aspects of our work to begin to understand this phenomenon.
- Our work involves us being both implementer and researcher within both public and private spaces. Wherever I am, I tell stories. What counts as a convincing story? What counts as legitimate and valid? If I use these stories as evidence, there is a tension between the evidence I can use as an implementer working with teachers (informal, oral, stories, poetry, metaphor) and the evidence that I provide as a researcher to the public (formal, written, data, evidence). The heart is media for learning, while the head is media for creating knowledge.

These were the Group 2 issues from Strand II that were present in the moment at the end of the study conference that had been stimulated in part by the papers presented but also by the lived experiences of the participants from their involvement in the practice of professional development in mathematics teacher education. I have highlighted in bold some of the terms which seemed to be significant to them in their reports.

As part of my exploration of my disquiet on thinking about writing this response, I decided to use the search facility to explore the number of times these bold words appeared in the study volume's chapters in Section II.

Most of them either do not appear (**agenda, poetry**) or appear only once (**trust**) or twice (**head, heart, respect, emotion**) and then often in a different meaning (for example, **respect** appears twice, in "respectively" and "with respect to"; **power** appears in relation to objects, as in powerful tasks and powerful knowledge; and **stories**, while appearing most commonly of all the words, appears in a concentrated space as "stories of practice", which deals with one particular method of working with teachers—not our stories—and as a single option towards the end of a whole range of options, as in frameworks, ideas, tools, information, styles, language, stories, and documents!).

So I notice this absence from the study volume of ideas and discussions that seemed at the time to be vibrant, alive, and at the very core of these Group 2 participants' learning in and from practice! In fact, several of the members of Group 2 did in fact respond to the invitation to volunteer as an author for the study volume and have contributed to these published chapters yet do not seem to have picked up on their conference ideas for their study-volume contributions. What might be going on here?

My hypothesis is that the very different substance of Group 2's focus has something to do with my failure to bring each session to a close with a summary of the day's discussion, and the open-ended nature of the Open Space process gave group members the opportunity to continue working with the questions that were present in the moment rather than return each day to the issues that they had raised in their papers which recorded their thoughts and conclusions captured almost a year before the study conference. The open and inclusive process set up by the study-conference organisers and the choice of venue did the rest and allowed for immediate conversation, which meant that there was time for trust to develop and allow a more informal mode of interaction to come to the fore, where important, less-talked-about issues could be raised.

In thinking about possible reasons for the absence of these words from the Strand II chapters in this study volume, I am reminded by the statement of one of the group participants who was discussing the heart/head topic shown previously. She said that her standing in the field depended on her satisfying the necessary conditions of expertise for publication that resided very firmly in what she called the Researcher/Head dimension (the group later tried to capture this image in the matrix in Table 1). An interesting consequence of this was that she felt that some of her most interesting data and insights could not be brought to public attention, as the manner of collecting the data and the best way of telling its story did not fit neatly into the

Table 1

	Implementer	Researcher
Head	?	“Data” Evidence: quantitative, qualitative
Heart	Stories Metaphors Poetry Analogy	?

Researcher/Head block but had more in common with the Implementer/Heart block. This to me is a serious concern that needs further consideration.

What are the established boundaries (real and imagined) that restrict and confine the voices that have a different story to tell about our research into learning in and from practice? What assumptions and beliefs do each of us have in place as to what the field can and cannot tolerate? How much does the university’s priority for “recognised publications” form the types of stories we tell? To what extent do the needs and preferences of funding agencies form our research agendas and the manners in which we report them? Do we believe that something lies outside our field of mathematics education if one can replace the word in mathematics with the word history? What aspects do we lose by taking similar positions?

In this study volume the co-chairs of the study allowed considerable space for exploration and innovation in the way in which they set up the study conference and the possibilities for the study volume. At one stage there was an intention to include material from the implementer side, such as an accompanying CD and writing that took an activity-based focus as its starting point. Neither of these ideas came to fruition. I am sure that they would have been willing to explore some of the ideas that were expressed by the Group 2 summary. Yet none of the participants of Group 2 (including me!) sent in such a proposal.

I have a strong recollection that the empty blocks in the matrix were not empty during the session and have somehow fallen by the wayside. They present an interesting challenge. What informing theories and forms of reporting might fill these currently empty blocks? In particular I have drawn attention to the challenging Researcher/Heart block.

After writing the previous text, I returned to the chapters from Strand II in this study volume and was drawn to the following section from Chapter 1, where the reader’s attention is drawn to the fact that, as researchers and teacher educators, we might be facing certain ethical issues that merit consideration. I offer a slightly abridged version of those questions:

- How do we track our own complicity in the phenomena that we study and report on?
- How are our assumptions concealed and/or exposed by our languaging practices?
- What is the role of different vocabularies and forms of storying in helping us to think/act differently with regard to our roles as researchers, teacher educators, teachers, and mathematics knowers?

I have a current favourite poem that for me highlights these dilemmas:

Don't establish the
 boundaries
 first
 the squares, triangles,
 boxes
 of preconceived
 possibility,
 and then
 pour
 life into them, trimming
 off left-over edges,
 ending potential:
 let centers
 proliferate
 from
 self-justifying motions!
 (A. R. Ammons)

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