

**Topic Group A: A Declaration of Numeracy Research:
Advancing the International Research Agenda**

Organizers

David Kaye
London South Bank University
United Kingdom

Katherine Safford-Ramus
Saint Peter's College
Jersey City, New Jersey, United States

Topic Group A has a long history of identifying key research topics. In addition to papers documenting the work within the topic group, several of its members have authored papers in past ALM proceedings. Last year in Limerick the group took a double-pronged approach. First, attendees catalogued critical issues that are ripe for investigation. Secondly, the attendees identified research in the field that was in progress or about to begin. Of particular interest were projects of the European Union that were international in scope, coupling projects in multiple countries.

This paper reports on the two sessions held at ALM 15 with proposals for further developments.

Introduction

When this topic group was planned it was thought that there could be some continuation of the previous year's discussion. However, the group that met was so different that it seemed better to take a different approach.

As this Topic Group is based around examining and developing the 'core business' of ALM as a research forum it is important to identify how familiar the group attending the Topic Group session is with ALM and its research objectives.

Session 1

The first session opened with the participants being asked to form a human bar chart labeled 'attended . . . once (this one) . . . twice . . . three times . . . four or more.

The data displayed was as follows:

Table 1. ALM Attendance Chart.

ALM attendance	4+	3	2	1
Participants	3	0	2	9

(see photo on next page)

With such a large proportion of participants attending for the first time it was necessary to introduce this session with a brief review of the work of ALM as a research forum. This first session then provided an opportunity for the views of the participants at ALM15 to be included in the debate on how the practice and research in adults learning maths should be mutually developed.



A brief introduction to the issues for ALM (the organization) was made by looking at different aspects of the name. This was based on the author's introduction to the Topic Group at ALM12 (Kaye, D. 2006). It is summarized in the following table:

Table 2. Analysis of 'Adults Learning Mathematics'.

Name/Title	Field of Study	Threats
Adults Learning	<ul style="list-style-type: none"> ▪ Adult Education ▪ The practice and study of teaching and learning in the post-16 sector, including technical and work-based learning 	<ul style="list-style-type: none"> ▪ In 'basic skills' or LLN (language, literacy numeracy) numeracy is easily ignored and subsumed under literacy and language ▪ Maths phobia and dyscalculia under researched
Adults Mathematics	<ul style="list-style-type: none"> ▪ Mathematics curricula ▪ Attitudes to mathematics ▪ Philosophy of mathematics 	<ul style="list-style-type: none"> ▪ Assumptions that adult numeracy is very basic mathematics and calculation based ▪ The mathematics in work and everyday activities is hidden
Learning Mathematics	<ul style="list-style-type: none"> ▪ Theories of teaching and 	<ul style="list-style-type: none"> ▪ mathematics education

	learning <ul style="list-style-type: none"> ▪ Models of mathematics education 	theories/research are predominantly children-based <ul style="list-style-type: none"> ▪ emphasis on learning maths in context under researched
--	--	---

The participants in the session were then asked to give an indication of any recent research that has influenced their current practice or share some recent research they believe should influence practice.

The responses were very diverse and showed that the field (or moorland as it has previously been described (Benn, R. et al 2000)) of study that develops an integrated approach between research and practice is complex and constrained by different professional practices. There was a lot of enthusiasm for sharing ideas and much hope that ALM (as an organization) will be able to further a lot of the aspirations expressed. There was also a lot of resentment that recommendations arising out of research (especially from governmental sources) were unrealistic and failed to take into account the constraints of time and resources available in practice.

These are brief notes of the comments made by participants at the session (1/7/08)

Kathy

Quantitative literacy—more algebra in high school
Approaches to quantitative literacy

Joanne

Brett Davis—Philosophical approaches and social justice issues
What is constructivist teaching—no answers

José

Listening to what parent’s say and developing teaching from that (in the context of family numeracy)

Ann

Also in talking to parents and descriptions of parent’s reactions reported in an interview—recognizing our own adult students in their roles as parents

Chris

Collection of many things—appropriate agenda for numeracy education
Why adults are innumerate (at various levels)
A void - senior education managers oblivious—working with narrow definition of numeracy—no political will to change things

Diana

From a conversation—in the context of numeracy for nursing—there is a ‘hang up’ about procedures but it is the conceptual understanding that needs to come through
Secondly in a seminar with Dylan Williams—“Tight but Loose”—a way of looking at how research can have a significant effect on practice—‘tight principles’ but ‘loose implementation’

Pat

Problem with research—tells me how to teach mathematics but not realistic given time constraints—in contrast—
Learnt a lot from Jill’s session today—hands on—that is what is needed

Nancy

Not seen research she felt was relevant recently—the government research suggests one thing for everyone—ignores African Americans—sets impossible goals

Barrie

Mainly dealing with groups very diverse in age and levels of numeracy skills
Looking for answers to address this diversity more effectively

Martha

“Twice is Less”—an old book but one always found useful
Not found the language of problems useful—such as those addressed in NCTEM journal
Importance of building confidence—“Confidence is the memory of success”

David

The concept of the ‘sophisticated use of elementary mathematics’—gave example of the sorts of calculations and decisions a freelance trainer may need to make in planning her work

Jill

Changing teaching practice
Improve how teachers reflect when evaluating their lessons

Rikki

The importance of the recently published US National Mathematics Panel report published February 2008
New opportunities may be available for mathematics education research

Svein

‘What makes numeracy meaningful to others’—the importance of motivation to learn—not just about the gas bill
Also work of Paulo Freire—speak to the learner

Mak

Told once in engineering, when the math came up—“Go and read the book”
Quoted . . . ‘Algebra is embedded in the roots of elementary mathematics’

Additional Comments

Very useful material on the NRDC website (developed in the UK) and copies of reports can be ordered and sent by mail

<http://www.nrdc.org.uk/index.asp>

Svein

Development in Scandinavia (Norway, Sweden and Denmark) of a bridging group to bring researchers and practitioners to work together on a common project

Conclusion to First Session

There was not enough time for a discussion to bring these various views, experiences and concerns together in this session. The enthusiasm for discussing this topic and the obvious need for relevant and informed research to directly support practice was a message that would be taken to be taken to the second part of the Topic Group discussion.

Second Session

The second session of Topic Group A was held two days later. This was attended by a rather different group of participants. There was a total of eight people at this session of whom five had been at the first session. However this group of eight included the current Chair and Secretary of ALM and the immediate past Chair and two previous secretaries.

This session took the form of an open discussion on how practitioners can be encouraged to be more involved in research and how researchers can be encouraged to work more closely with practitioners. The group was encouraged by reports that the example of ALM, as demonstrated by this conference (see introduction to this volume), had already inspired many US based participants.

In the US context it was also noted that there had recently been a lot of data collected on the 2 year (community) colleges, and this formed a strong basis for research in our area.

The discussion then focused on the involvement of practitioners in action research. It was noted that to maintain the dual role of practitioner and researcher was difficult. From recent experience it was reported that as the research model was adopted it became difficult to maintain the direct involvement in ones own practice. There were no easy answers to this, but it was noted that some sort of support from a community of practitioners and researchers would be needed to avoid the isolation that such an experience can produce.

The discussion came to a conclusion that ALM (as a corporate body) should consider promoting the development of practice-based research in three ways.

1. "Classified Ads."

ALM should use its newsletter or similar publication to take announcements of intent (like a dating agency) from practitioners and researchers who wish to contact the other in order to develop an action research project.

2. Bulletins/Blogs

Those involved in relevant research (researchers or practitioners) should be encouraged to publish regular bulletins or blogs about the progress of their projects to serve as an example to others considering moving into research, or working more closely with practitioners. This would enable the experience of the ALM community to be shared more widely across the organization and beyond.

3. Joint Publishing

Encourage practitioners to submit reports of reflective practice, which highlight issues and situations that need developing. Researchers should be encouraged to add to these reports appropriate research-based evidence. Taken together, these jointly produced reports would be suitable for publication in appropriate journals.

These need to be further developed within the ALM community:

- Where can such activities take place?
- How can these (and similar) approaches be 'marketed' to encourage participation?
- What is the organizational role of ALM and how will it happen?

References

- Benn, R. Maasz, J. and Safford, K. (2000) "Developing a theoretical framework for adult mathematics learning and teaching" in Coben, D. & Johnson, S. (comps) *ALM-6* (Proceedings of the Sixth International Conference of Adults Learning Mathematics - A Research Forum) Nottingham: CEP, University of Nottingham in association with ALM.
- Kaye, D. (2006) "Theoretical frameworks for adults learning mathematics." In M. Horne & B Marr (Eds) *Connecting Voices In Adult Mathematics And Numeracy: Practitioners, Researchers And Learners* proceedings of ALM 12th Annual International Conference. Melbourne, Adults Learning Mathematics jointly with Australian Council for Adult Literacy.