
DISCUSSION GROUP,

Does a Math Education PhD program belong in a Math Dept?

A lot of attention has been paid to the need for mathematicians to take education more seriously, even “professionally.” Questions arise, such as what kind of research in education a mathematician might do, where this might be published etc. But here we are interested in a more specific question: “is there a place in a math dept for a PhD student who is working in math education?” I have a feeling that the answer is yes, as there are some important, intellectually challenging (and possibly even profound) problems around university level mathematics education. But there are some important questions that arise.

1. *What does such a student learn?* The first half of the answer is easy: lots of math, certainly enough to pass the PhD comprehensive exam or take the core courses. But what else?
2. *What are the problem areas that a student's research might focus on?* How do these differ from the comparable degree obtained in a Faculty of Education? Certainly there might be some overlap here, e.g. math anxiety, gender studies, the high school-university interface. But I feel that the difference would be the extent to which the student focused on the university (as opposed to the school) learning experience. There are other problems that I believe are intellectually important and possibly(!) unique to university, e.g. the relationship between teaching and research. [Actually even here there might be analogues at the high school level.]
3. *What is the future career path of the graduate?* Those who get their degree from a Faculty of Education often wind up teaching in a Faculty of Education. Those who get their degree from a Math Dept might wish to wind up teaching in a Math Dept. Will there be jobs for such graduates? Increasingly there is a consensus that Math Departments need to be hiring Math Education researchers. There's a whole climate of change around this issue, but there are questions too, for example concerning the priorities of the principal granting councils.
4. *Finally what do you say to this?* There is an interesting argument that such a program shouldn't exist, that a potential student would be better off doing a standard PhD in Math (or possibly something like History of Math) getting a productive mathematics research program going, getting a job in a good Math Dept in the normal way, and then, armed with mathematical experience and credibility(?), starting to work in Mathematics Education. Certainly a number of significant leaders in the field today have gone this route.

Structure of the session. I want to call this a *discussion* rather than a *panel*, because my view is that in most panel discussions, panelists talk for too long and we run out of time just when the questions and answers(!) start to get interesting. So rather than have panelists, we have “discussants” who will each speak for 5 minutes followed by lots of discussion. The discussants are:

- Peter Taylor, Dept Mathematics and Statistics, Queen's University
- Peter Liljedahl, Faculty of Education, Simon Fraser University
- Lily Moshe, PhD student in Math Education. Dept Mathematics, York University
- Pamela Hagen, PhD student in Math Education. Faculty of Education, UBC

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