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CIEAEM61 – Table ronde

How can complementary perspectives contribute to improvement of mathematics education?

I am in the lucky position to have studied in an age and at a university, the Freie Universität Berlin, where professors and teachers have emphasized studying and discussing different positions, theories and paradigms. The openly communicated aim was to teach the students to develop their own positions. Hence, diversity has always been viewed as a chance rather than as an obstacle. From that position, my personal approach towards CIEAEM was rather searching for competing theories than for consistent answers.

Even if one takes the stance of seeing mathematics as universal and culturally independent, one can hardly say that its recontextualization in the mathematics classroom is not influenced by the culture of educational institutions. Coming from a particular culture and its far reaching educational traditions, it would be dangerous to just adapt other positions without comparing them to my own background, to other people’s backgrounds and to the background from which the position itself has emerged.

Last but not least the Quality Class 2009¹, taking place in the run-up of the conference, has given me a perfect environment to set my mind to be confronted with different perspectives. It gave us students the chance to start intense communications and discussions about methods, theoretical approaches or - in a more broad sense - perspectives. Even if positions seemed to be incommensurate, there has always been one premise for our discussions: To be open-minded and, in a positive way, to search for what you can get out of the competing position.

¹ Quality Class is a summer school in mathematics education, aiming at bringing mathematics teacher students from different cultures together and preparing them to take part in an international conference. For more information, see <http://www.qualityclass.unito.it/>.



In any of the presentations or in your reflections, did you identify an issue for research / for teaching and learning that seems extremely difficult to deal with?

At first glance, my answer to this question might sound discouraging: There were a lot. But the question is, if this is actually a bad thing. In order to answer this question, I want to tell a little anecdote.

One afternoon, after an excursion to Montréal-downtown, we were sitting with a small group in a restaurant, talking about the way young teachers are socialized into the community of their colleagues. For this situation we found a funny but striking metaphor. I should apologize in advance to everyone, who is feeling humiliated by being represented by monkeys, but as a teacher-to-be, I won't exclude myself. Our metaphor was the following situation:

There are ten monkeys sitting in a cage, a banana is hanging from the ceiling. As soon as one monkey tries to approach the banana, all the monkeys are splashed by water. This is a stressful situation for monkeys and they will try to avoid it. So soon the monkeys are getting conditioned to not approaching the banana. Further, they will start punishing everyone approaching it, as all monkeys will be punished because of this one selfish monkey. When this moment has come, one monkey is taken out of the cage and he is replaced by a new one. It is easy to imagine that this new monkey sees the banana and reaches for it. But he won't get to the point to reach it: his monkey-peers will avoid him to do so. So what does he learn? Don't reach for the banana! No matter why, but don't reach for the banana. He has learnt the monkeys' "social contract".

As other monkeys retire and new ones replace them, soon there is a complete new generation of monkeys in the cage, none of whom has ever experienced the splash of water when a monkey reaches for the banana. Yet they still have the same social contract: Don't reach for the banana. But none of the monkeys knows the reasons for the social contract anymore.

Closing the long circle of this story and coming back to the question: Isn't it exactly the issues that are extremely difficult to deal with, that should attract our attention at conferences like the CIEAEM? Can it be a suitable position to say: Well, the theory might be good, but the hard facts of classroom practice talk a different language? For myself the reaction is clear and strict: No, it is not.



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So for me personally, the moments at this conference that made me learn the most, were not those in which questions were answered, but exactly those in which questions asked went unanswered. Moments like the one when Peter Applebaum launched the radical provocation: Don't teach representations!

I will ask myself for the reason, why to follow or not to follow this statement. I will ask myself for the reason to prefer representations to other issues that could be taught. I will ask myself if it is reasonable to have this preference.

And, perhaps I will go for the banana and try to convince my monkey-friends to go with me.