

ANALYSING THE USES OF “CRITIQUE” AND “POLITICS” IN MATHEMATICS EDUCATION RESEARCH [1]

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In a conference like MES, which explicitly tries to contribute for a discussion of the social, ethical and political dimensions of mathematics education, we wish to organize a space where the research on these dimensions is putted under critical scrutiny. We intend to do that by exploring the meaning behind two notions that have been used very often in the research discourse: the notions of critique and politics. It is our concern to understand the way researchers conceive these notions and how they put in motion in their research powerful ideas without losing all the emancipatory potential of them.

AIMS

Our aim is to create a space of discussion where we can put aside for a moment our more immediate research concerns and critically reflect upon our research itself. We assume that people who participate in the MES conference are one way or another concerned with understanding how their research findings have a political impact in the social discourses that fuel educational practices. Therefore, we aim to develop a discussion that lead us to critically analyze how is that our research on the social, cultural and political dimensions of mathematics is actually making the emancipatory societal change that we so much desire.

RELEVANCE

During the last two decades there has been an increasing concern with political issues in mathematics education research. New trends of research have been emphasizing the critical aspects of mathematics, and the importance of doing research that takes into account the broader social and political contexts. Terms as critical mathematics education, socio-political perspectives, ethnomathematics, social justice, and others, have been encompassing research that tries to move beyond the didactical perspective which characterizes the majority of the research in the field. Although we are akin of such research, we suggest a moment of pause, by engaging on a theoretical discussion on how notions as “political” or “critical” are being used in mathematics education research. We strongly believe that sometimes the best way to act is to stop “acting” - in the sense of doing research that immediately implies some kind of action - and chew over. We suggest that in the case of mathematics education research, more than repeating research it could be a good idea to stop and ponder. Nevertheless this has been the call of well renowned researchers as (Niss, 2007) [2]: “It appears to be one of the weaknesses of our profession that many of us, myself included, tend to write and speak to much and read and contemplate too little” (p. 1311). Although the

appeal of Niss, this appetite for reflection, that is not immediately concerned with action in the sense of providing solutions or strategies for improving the teaching and learning of mathematics, is usually not well accepted in the educational sphere, particularly in mathematics education. However we believe that without a deep reflection about our own actions we take the risk of moving blindly.

Our suggestion is to focus our reflection on the way the word “critique” and “political” is being used in mathematics education research. Our capitalist society in order to reproduce itself demands for perpetual reforms by means of integrating what could be new and potential emancipatory acts into well established social structures. The word “critique” has become a common place among educational research and curricular documents, being used as a signifier implicitly conveying different ideologies about what it means to be critical. Today we can find notions of “critique” in a variety of contexts such as school curriculums (“educate people to become critical citizens”[3]), in teacher education (“Tips for teaching critical thinking skills” [4]), professional education (“Education and Knowledge in Safety-Critical Software”[5]), online education (“Role of critical thinking in online education”[6]), and so on. One consequence of this extensive use is the lost of meaning. That is, words begin to function as empty signifiers, representing no more than a way of symbolizing some assumed shared meaning. Very often, the use of these words lacks a deeper concern for understanding what could be the ideologies filling the empty space conveyed by these words.

Finally, we share the idea of Valero (2009) that mathematics education as a research field needs to develop research where its own principles and practices are putted under scrutiny. She argues that “developing awareness on the research perspectives that I adopt has, therefore, been as central to me as generating particular understandings and interpretations of the practices of teaching and learning in mathematics classrooms” (p. 2). Therefore we claim for the need of a constant critical analysis of the way we engage on research and how we understand its results. This kind of analysis demands looking at research from a socio-political perspective (Valero, 2004) that explicitly searches for connecting the role of research – in particular in mathematics education – to the discourses and ideologies that fuel our current society. In order to understand the dynamics of the teaching and learning of mathematics and the way research results influence what is happening in mathematics classrooms, we need to contextualize these practices and the social modes of living that characterizes the world today.

PLAN

Since our intention is to promote an open discussion, the plan for the symposium will depend on the way people engage on such discussion. We will start by presenting the concerns which motivated us to propose this symposium, and then pose some crucial questions to generate discussion. Examples of those questions are:

1. How do we understand and use the notions of “critique” and “political” in our research?
2. How do we conceive “change” in an educational system structured around values that most of the times conflict with the transformations we want to carry on?
3. Why do we need schools to perform the role of systematically posing people in a social network of value, therefore creating exclusion?
4. Why is there a persistence of failure in mathematics education?
5. Do we desire our desire for change?

We will need one session to develop the symposium.

NOTES

1. The research reported in this paper was prepared within the project LEARN funded by Fundacao Ciencia Tecnologia under contract # PTDC/CED/65800/2006.
2. But also Shlomo Vinner, when in a regular lecture in ICME9 he appealed for other approaches in mathematics education research: “I would like to use this opportunity to reflect on mathematics education from some angles which generally are ignored while we are so busy with investigating particular mathematical concepts, problem solving processes, the use of computers and internet” (Vinner, 2000, p.1).
3. Portuguese, Colombian, South African curriculums.
4. <http://www.modernghana.com/news/203119/1/tips-for-teaching-critical-thinking-skills.html>
5. <http://ercim-news.ercim.org/content/view/446/699/>
6. http://www.masternewmedia.org/education/critical_thinking/educational_role_of_critical_thinking.htm

REFERENCES

- Niss, M. (2007). Reflections on the state of and trends in research on mathematics teaching and learning. In F. Lester (Ed.), *Second Handbook of Research on Mathematics and Learning* (pp. 1293-1312), New York: Information Age.
- Valero, P. (2004). Socio-political perspectives on mathematics education. In Valero, P. & Zevenbergen, R. (Eds.). *Researching the socio-political dimensions of mathematics education: issues of power in theory and methodology* (pp. 1-17). Dordrecht: Kluwer Academic Publishers.

Valero, P. (2009). Mathematics education as a network of social practices. Invited keynote lecture at the 6th *Conference of the European Society for research in Mathematics Education (CERME6)* (forthcoming proceedings). University Joseph Fourier, Lyon, France.

Vinner, S. (2000). Mathematics education - procedures, rituals and man's search for meaning. *Proceedings of the Ninth International Congress on Mathematical Education*. Retrieved 24 June 2009, 2009, from <http://www.fi.uu.nl/nwd/nwd2003/handouts/vinner.pdf>