

**Unfolding global/local policies, practices and/or hybrids in mathematics education worldwide: utopias, pleasures, pressures and conflicts**

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# **UNFOLDING GLOBAL/LOCAL POLICIES, PRACTICES AND/OR HYBRIDS IN MATHEMATICS EDUCATION WORLDWIDE: *UTOPIAS, PLEASURES, PRESSURES AND CONFLICTS***

*Symposium by: Anna Chronaki with Gill Adams, Melissa Andrade, Gustavo Bruno, Fufy Demissie, Renato Marcone, Aldo Para, Hilary Povey, Dalene Swanson, Paola Valero, Ayse Yolcu*

## **AIM AND RATIONALE**

The utopian dream of a global world is not new. It can be traced back in the 15<sup>th</sup> century navigators and 19<sup>th</sup> century colonial times and post world war peace pleas but also even earlier in ancient myths and religion narratives on the morals of living on earth. In our times, processes of globalisation are hastened by increased techno-culture, free-capitalist economy, migration, environmental calamity and war. During the last decades a global world imagery has taken momentum in how the lives of children, youth, families and educators could be reconfigured through the launching of ‘global citizenship education’ as strategic areas for curricular organisation by institutional bodies such as UNESCO or OECD. Explicit goals for an increased globalised, internationalised, cosmopolitan and urban worldview across nation-states, provinces and indigenous communities can be substantiated (for some) in the context of mathematics education practices. Based on the (false) epistemological assumption that mathematics remains a neutral and universal language, mathematics education becomes easily figured as the space for crafting a citizenship subjectivity for globality. In this context, one needs to problematize what is at stake when mathematics education curricula become (or not) framed within discourses of global citizenship education? How the ‘future’ of mathematics education can be reconfigured when the rhetoric of global citizenship education meets diverse localities? And moreover, what are the effects of such political imageries in diverse localities for children, teachers and materials, as well as for markets, economy and policies?

The purpose of the symposium is twofold. It is, *first*, to discuss how such utopian dreams of global, transnational and cosmopolitan citizenship become entangled or disentangled with/in discourses of mathematics education in diverse localities and diverse cultures, nations, languages and bodies including a variety of practices and communities. Presenters and participants will bring forward projects that unfold certain historiographies that map the effects of discourses of global citizenship in mathematics education by attempting to reinstate its colonial, de-colonial and post-colonial politics. This might imply an encounter of ideological critique of such curricular endeavours, of problematizing processes of globalisation in specific localities, or discussing its potential affirmative politics for reclaiming what mathematics education might regenerate out of this conflictual discursive materiality. And, *second*, the symposium will try to create and perform an offhand presentation that can engage the conference participants based on visual materials and narratives brought by presenters and participants in either digital or physical forms. These can be fragments of varied media,

artefacts, or, even art-based performances that will denote or interrogate the hybrid presence of ‘global’ citizenship education discourses in ‘local’ (and vice versa) mathematics education practices such as curriculum activities, exam-, guidelines but also contemporary artefacts, as well as cultural representations in well known movies, literature, poetry, games etc. The aim of such an endeavour will be to problematise the meanings and effects of discourses on ‘global’ or ‘local’ mathematics education policies, practices or hybrids and explore their effects not only for the formal -the written norms- but also for the hidden school curriculum -the unwritten norms- or even the informal leisure practices beyond the walls of schooling.

## **ORGANISATION**

The symposium will involve 9 presentations in two sessions of approximately 90 minutes each. Each session will start with a short discussion of the issues orchestrated by the chair and followed with short presentations of 10 minutes each. This will allow time for discussion, group-work and workshop-based involvement with participants.

### **SESSION A: GLOBAL/LOCAL POLICIES and PRACTICES**

This session will start with a short introduction to the symposium, its aims and rationale. The focus here will be to discuss the effects of utopian visions of globalization and current conceptions of global learning for democratic citizenship on mathematics education policies and practices that need to be interrogated and critiqued.

*1.Global curriculum policies for (un)democratizing school mathematics, by Paola Valero, University of Stockholm, Sweden:* Mathematics education is increasingly controlled by policy embedded within visions of globalization. The tendency towards the regulation of national curricula to direct the work of teachers towards improving students’ achievement is often presented as a matter of equity, access and democracy. Based on the discussion of changes in policy in Sweden, Denmark and Norway, I will illustrate how the appeal to a new democratization with mathematics is rather creating the opposite effect of more differentiation, classification and potential exclusion among students. The mechanisms for making of mathematics a key tool for human capital growth and economic competitiveness clearly show the current predicaments of (un)democratization.

*2.The ‘Disadvantage’ Child as a Thread for Economy by Melissa Andrade Molina, freelance, Chile:* The low-performer as characterized by institutional bodies—i.e. OECD—raises issues of exclusion as it correlates students’ performance in PISA with some individual “risk factors”. Underachievement in mathematics is explained not solely in terms of abilities, skills, mathematical proficiency or students’ grades, but also ethnicity, language, economic class or social and economic standing. The homogenizing status of the “all” in policy reports enables to assume that differences amongst students can be minimized or erased if all students have the same opportunities, making them responsible for their own failure or success in school and in their future. Such a narrative naturalizes discourses that exacerbate inequality. Thus,

the underachiever, fabricated as a low performer who cannot meet the ‘factors’, is thus subjected as a risk for society and a thread for economy.

3. *You deserve to be part of this World! By Renato Marcone, Federal University of Sao Paulo, Brazil:* The inclusion of people with disability was never an issue of core concern for the international Mathematics Education community and was discussed mainly in the confines of Special Needs Education. However, today it is frequently addressed as a response to a Brazilian policy for people with disability in the public university. It has been noted how, despite exceptions, such inclusive policies still resemble globalization and colonization practices. Specifically, the parameter of normality is always provided by the ‘normal’ group by, simultaneously, defining the ‘abnormal’ to be made included. The prerogative of defining disability belongs to a vision of ‘normality’ held by institutions like WHO (Marcone, 2015). One of the core questions is: What are the consequences of inclusion of people with a disability without a dialogical construction of a definition about disability? It is almost like, without a Global and official definition of disability, ‘those people’ cannot become citizens of the World

4. *Critical global citizenship mathematics education and political responsibility in ‘glocal’ context, By Dalene Swanson, University of Stirling, Scotland.* I collaborated in the very first co-produced truly transnational, transdisciplinary online course on global citizenship, which was hosted at the University of British Columbia in 2004, when the term ‘global citizenship’ was in its infancy and yet to be defined. The initiative marked a serious attempt to engage global citizenship critically and stave off neoliberal determinations of it. I subsequently brought critical global citizenship to bear on mathematics education, in recognition of mathematics education’s ‘political responsibility’ to a viable, alternative, renewed and sustainable future. Recently, I was awarded funding to recruit a PhD student. The ESRC-SGSSS PhD studentship, on ‘Global Citizenship Mathematics Education’, explores controversial global issues within and through school mathematics education (in Scotland and globally), embracing a glocalising pedagogy and praxis for mathematics education. I will discuss the affordances, limitations, sensitivities and imperatives of doing critical global citizenship mathematics education at this political moment in our global history.

## **SESSION B: GLOBAL/LOCAL PRACTICES and HYBRIDS**

This session will continue discussing the effects of globalization visions in local policies and practices of mathematics education but will also try to unravel how these become hybridized producing potential affirmative curricular action.

1. *Curricular action: a possible role in mathematics education for Philosophy for Children. By Hilary Povey, Gill Adams and Fufy Demissie, Sheffield Hallam University, UK:* This contribution springs out of an attempt to engage critically with mathematics education practice in schools through the vehicle of a European project, PiCaM (Project in Citizenship and Mathematics), co-funded through the ERASMUS + Programme of the European Union (Project number 2017-1-UK01-KA201-036675).

Working with 10-12-year old and their teachers, the project involves participants in Germany, Greece, Portugal and England. It is the ambition of the project to contribute to combating discrimination, segregation and racism, validating the cultural history and supporting the education of all, including disadvantaged groups and migrant children. The particular focus here is on the role of P4C and the extent to which it may support *either* a neo-liberal interpretation of citizenship and global competence *and/or* a critical citizenship linked to affirmative politics. What is the potential of P4C to encourage political compliance to conventional ways of understanding knowledge? To valorise a rationalist, scientific approach to the world? Or to foster ideological critique?

2. *Is it possible to open the cage from the inside?* By Aldo Para, freelance, Colombia: Indigenous education is the scenario par excellence for tensions among local and global forms of knowledge. Tensions are even stronger when mathematical knowledge is focused. Although the need for a balance between the access to global knowledge and the respect for local indigenous traditions has been agreed, it is common to suspect that any localization of the global in indigenous contexts is merely a neocolonial move. I argue that this conflict arises because the desired balance is framed under the logic of an epistemological hegemony. This logic is evident in images in which the global "is unfolded" in the local, minorities are "included" into majoritarian societies and the gap to be closed is the one that "separate them from the normal". I will comment on the experience of 'educación propia', an indigenous model of education developed in Colombia to call into question such hegemony and to develop the idea of multiple and rooted modernities (Harding, 2008) in which the locus of enunciation is displaced.

3. *'Mathematics Recovery' or a SMBH in Mathematics Education* by Gustavo Bruno, Autonomous University of Madrid, Spain: Curricular contents, expected achievements and assessment criteria are thoroughly detailed, for each mathematics course in secondary education, in official documents of the Community of Madrid, Spain (especially the "Official Bulletin", BOCM by its initials in Spanish). But the persistent failure of students isn't addressed in detail. Along the "official" mathematics courses, the BOCM offers optional courses called Mathematics Recovery (MR), to deal with the ever present, endemic failure. The configuration of MR courses is left to the criteria of teachers and institutions. In actual school practice, MR courses become vortices of nonsense in the relations between students, teachers, contents and assessment. In this presentation, I argue that these nonsensical vortices of MR are in fact fundamental to make sense of the political whole of ME. The political equilibrium of ME requires black holes such as MR, as every major galaxy in the known universe is sustained by a super-massive black hole (SMBH) close to its very center.

4. *Traveling of the Problem Solving Child: (Inter)nationalizing School Mathematics in Turkey.* By Ayse Yolcu, Hacettepe University, Turkey: Problem solving is usually considered as central to mathematics education, taken as a competency to deal with real-life situations mathematically for reflective citizenship (OECD, 2013). Nevertheless, problem solving is not merely about mathematics but also about making particular subjectivities, such as problem solving child, who knows how to act and plan

in rational ways to bring progress, development and civilization in a world of uncertainty (Popkewitz, 2008). Turkey is not an exclusive in those desires to make world certain, predictable and governable. Following a global step, mathematics curriculum underwent a significant reform (MNE, 2005). In these internationalizing efforts, practices focus on processes where children actively participate in constructing their own knowledge while solving problems of daily life. I discuss the internationalization of school mathematics within Turkey not as a copy other programs but, how it is re-connected with cultural and political context that is encountered with while traveling (Said, 1983). The confrontation is not reductive or assimilative, but enables further production of discourses. In this presentation, the principles that historically configure the problem solving child of Turkey is explored.

*5. Provincialising a Critical Global Citizenship Mathematics Education in the Context of Greece: By Anna Chronaki, University of Thessaly and University of Malmö.* Current pleas for a critical global citizenship mathematics curriculum tend to argue for an ethical encounter of difference as race, gender, class, disability, migration so that to safeguard equity. Grounded in the rhetoric of ‘development’ as equity through quality, mathematics education becomes a colonial project. A project, that, by and large, must serve to ‘develop’ children as future citizens, who in turn, will serve to sustain a ‘developed’ society (Chronaki, 2011) or will work towards its ‘development’. This logic entails the logic of ‘fear’ (Massumi, 2005) of not-developing enough according to inter/national measures. The present paper will try to consider the effects of such figurations for Greece’s current precarious temporality as a south European indebted province of the so-called ‘first world’, but firmly, rooted at the borders of its ancient past and contemporary Balkan or Mediterranean hybrid identities.

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