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Human Capitals: School Mathematics and the Making of the Homus Oeconomicus

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The title of my contribution to this special 10th year anniversary issue contains the terms *human capitals*—and there is not a spelling mistake—*school mathematics*, *making*, and *homus oeconomicus*. Apparently, the terms do not say much about mathematics and its learning and teaching, but more about the economy. I argue here, however, that it is of great importance for mathematics educators to understand the conditions in which the practices of teaching and learning, as well as the contents of school mathematics, acquire a particular meaning while directing new generations into becoming certain types of people. Now more than ever before, the connection between mathematics education and the functioning of free market, financial capitalist economy is explicit and has a direct effect of power on the types of children that we produce in education, as well as in processes of social and economic inclusion and exclusion. Therefore, research in mathematics education is no longer a matter of studying the best way to steer teachers, learners, and topics to achieve the best possible mathematical results, as if such orchestration were neutral and detached from the overall political and economic configuration of current societies. What is it, then?

From Critical Mathematics Education…

In mathematics education research, the political perspectives have been in the air for a while (Valero, 2018b). There has been a group of researchers from different countries, adopting diverse but connected theoretical perspectives, working on the political dimensions of mathematics education (e.g., Gutiérrez, 2013; Jablonka, Wagner, & Walshaw, 2013; Valero, 2004). Among these, *critical mathematics education* is recognized as a way to engage with questions such as what is mathematics in relation to society, what does mathematics do as part of the school curriculum, and what are the potentials of mathematics education to produce or challenge inequalities in society and among students. A number of researchers, Ole Skovsmose, Eric Gutstein, and Marilyn Frankenstein, among others, are key references in this area. When I started my research path many years ago in Colombia and when I moved to Denmark to do my Ph.D. under the mentoring of Ole Skovsmose, my concerns and research aligned with this trend.

Indeed, the paper that was published in the first issue of *JUME* was a piece

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co-authored among Helle Alrø, Pedro Paulo Scandiuzzi, Ole Skovsmose, and me. We examined the stories of a group of Brazilian students about their experience of mathematics education in secondary school using the notion of *foreground* (Skovsmose, 1994). This notion refers to the "interpretations of life-opportunities in relation to what appears to be acceptable and available within the given socio-political context" (Skovsmose, Scandiuzzi, Valero, & Alrø, 2008, p. 38). Foreground, we thought, proposed a shift of interpretation of the students' intentions to engage with mathematics from paying attention to their past or *background*, toward focusing on their *future* possibilities or foreground. In other words, the notion of foreground helped in seeing that engagement in mathematics did not simply depend on what students "lack" given their family or socio-economic background which, more often than not for students in disadvantage, is conceived as determining their failure. Students' intentionality may well be constructed with respect to what students see as future possibilities for themselves, within the conditions in which they live. Furthermore, the experience of students living in disadvantaged conditions invited us to propose the notion of *borderland position*, "a relational space where individuals meet their social environment and come to terms with the multiple choices that cultural and economic diversity make available to them" (p. 35). This notion helped us with thinking that the experience of living in disadvantage always makes visible in tangible ways the life opportunities of others in privilege and, at the same time, those opportunities that may or may not belong to oneself. A borderland position "makes evident the harshness of social division, stratification, and stigmatization" (p. 56). In this constant confrontation with what is or is not possible, students' intentions to engage in and with mathematics in school may blur. The meaning of mathematics and its function in making a transition toward a different form of life may also blur. The dreams for a future in a borderland position are fragile.

As I read it now, this piece is representative of critical mathematics education—at least as proposed by Skovsmose in his multiple writings. First, there is the concern for how mathematics education entangles with issues of democracy and inequality. Second, there is the idea that mathematics education is critical because it can both empower or oppress. It can go in "both directions" (Skovsmose & Valero, 2001). Third, there is an assumption on the individual as a social being with intention who can make choices of engaging (or not) in the activity of learning mathematics. Fourth, there is the assumption that there is hope and that seeing reasons to decide to engage in mathematics learning may indeed lead to a brighter future. This assumption is visible, for example, in the discussion on the obscurity of mathematics (Skovsmose et al., 2008, pp. 53–54): Education is recognized to be important to ensure a change in life opportunities; however, the tradition of mathematics education that students in a borderland position experience does not make it possible for them to recognize how the content of mathematics contributes to that. Such formulation has the implicit idea that connecting the meaning of the mathematical content

with possibilities in the future is important in moving toward the opportunities that adequate mathematical learning opens for people in disadvantaged positions. In other words, there is the underlying idea that learning mathematics represents an empowerment for the future.

In the years to follow, I started problematizing such ideas as my investigations of foreground turned into investigations of students' identity (e.g., Ander-sson, Valero, & Meaney, 2015; Stentoft & Valero, 2009). A discursive approach to identity opened up the possibility of developing sharper analytical lenses to understand the relation between the individual and the socio-cultural-political context, which during those years became one of the central concerns for mathematics education researchers who were building social, cultural, and political frameworks in mathematics education (e.g., Radford, 2008; Sfard & Prusak, 2006). Moving toward discourse also offered better analytical tools to think about how power unfolds in and through the practices of mathematics education. It was also a way of starting a problematization that would move critical mathematics education from critical theory and Marxist views of power, toward the terrain of critical post-modern theories (Stentoft & Valero, 2010). From this point of view, the assumptions present in Skovsmose and colleagues (2008) were revisited. Later in this contribution, I will return to this point.

…To the Cultural Politics of Mathematics Education

In the last 10 years, I have moved away from critical mathematics education and started exploring what I call the *cultural politics of mathematics education*, a term that navigates in some recent research (e.g., Craig, 2018; Diaz, 2017) with a particular interest in examining the wide network of mathematics education practices and its cultural and political significance for the constitution of notions, in time and space, of the modern subject. As I see it, the study of the cultural politics of mathematics education is a displacement—or even better, an expansion—of mathematics education research from the demand of the field to study the mathematical specificity of relationships of teaching and learning, toward the terrain of curriculum studies (e.g., Appelbaum & Stathopoulou, 2016) with the intention of tracing the specific role that mathematics education has played in the making of modern and contemporary culture and society.

What does it mean to say that one researches or understands mathematics education in relation to cultural politics? Think of Picasso's famous painting *Guernica*. Picasso was painting at the time of the Spanish Civil War, before the outbreak of the Second World War. He painted a scene of the tragic attack by a German air bomber on civilian population in a little town in Northern Spain. He was irreverent in his painting. He broke with the ideas of how the world should be represented. The first time one sees Picasso's *Guernica*, one thinks: What is that? Is this a per-

son? Is this a horse? Or are they mixed together? What is in and what is out? The spectator has to think, observe, and react because there is no way of simply watching the painting without having to strange what has become familiar to the spectator. Picasso himself said about his work:

> You have to wake people up. To revolutionize their way of identifying things. You've got to create images they won't accept. Make them foam at the mouth. Force them to understand that they're living in a pretty queer world. A world that's not reassuring. A world that's not what they think it is. (as cited in Malraux, 1976, p. 110)

Picasso made it possible for people to see the world in different ways. But this was not easy because at the time he—and other modernist painters—started developing his techniques, he struggled with norms and rules of what it meant to do "proper" painting. My point is that as part of culture, we are always in struggle and negotiation of values, ways of seeing and ways of understanding the world. And all of us do this. We do that in a classroom teaching mathematics; in conversation day after day the explicit and implicit definitions of that is valid in a particular classroom emerge. But also, when we are in society, we negotiate all the time what is right or wrong and what we take as true, as much as we negotiate what we take as mathematics education and why. And such struggle and negotiation are political because the privileging of certain values and ways of seeing the world—mathematics and mathematics education included—over others is connected to how power creates orders and classifications that, through knowledge, make us who we are and how we engage in the world.

The last decade has witnessed a growing interest for how mathematics education is related to equity, access, and inclusion. Numerous journal issues, special volumes, and overviews of literature have compiled research produced around the world with a socio-political interest (e.g., Forgasz & Rivera, 2012; Valero & Meaney, 2014). Even conservative agendas about what should count as mathematics in schools are launched and promoted as the solution to the issues of differential performance by different types of students. Nowadays even the necessity of steering education to finetune results in international comparative studies of mathematical achievement are justified as the means to promote equity. It has become natural for us to think that mathematics is crucial for equity, for the well-being of nations, communities, and of the individual. The statement that learning mathematics is empowerment for the future is a naturalized truth. Everybody repeats it; nobody seems to question it. And yet, what is known is that the more society desires this to be the case, the more differentiation, classification, and segregation happens with and through achievement in mathematics. Isn't this weird? Isn't this strange? Don't we feel like cutting the idea in pieces to reconfigure it in a different fashion in an attempt to make people "foam at their mouth," and open the uncomfortable and not reassuring task of inviting us to see that the world is not what we think it is—as Pi-

casso once said?

Mathematics education has increasingly become a very important part of the school curriculum, and it plays a very important role in current societies—and we all mathematics educators would like to think that is the case. Despite its recognized importance, there is a constant struggle to define what are valid and what are illegitimate meanings and forms of mathematics education, at any level of the work that we do, in the classroom, with our colleagues, with colleagues from other subject areas, and also in a variety of sites in society. Neither the practices nor the meanings of mathematics education are defined once and for all. Power struggles about what counts as valid mathematics are being played out constantly, and many times the cultural significance of mathematics education and its meanings are not exclusively dependent on teachers and classrooms. Therefore, I have taken a broader perspective, to research within the broader network of practices of mathematics education, how in Western societies through history, there have been negotiations and struggles that constitute the meaning, significance, and objects/subjects involved in the practices of mathematics education. The cultural politics of mathematics education as an area of research is an attempt to understand the constitution of the practices of mathematics education as part of a larger cultural space where the meanings of mathematics in relation to education are constantly negotiated.

When working in that landscape there are sources of inspiration. I feel particularly inspired by the work of philosophers who have tried to think cultural politics for different cultural objects and practices in modern societies. I am very fond of the work of Michel Foucault among others. The intellectual exercise consists in studying his work to "think with him" in mathematics education. He almost never mentioned the word *mathematics* and certainly not *mathematics education*. Foucault was not interested in the problems that I am interested in. But I am interested in some of his problems, namely how people become subjects as an effect of power, and how knowledge in modern times functions as part of the technologies of governing and power. What I do as a researcher is play with some of the notions and forms of analyzing that Foucault proposed to rethink how mathematics education, as part of the school curriculum in particular time and space, frames the directions in which one becomes a kind of subject in relation to the knowledge of mathematics as it is configured in pedagogical practices within the school as a social institution.

The work of Michel Foucault has prolifically nurtured critical studies of schooling and the curriculum (Ball, 2017). In mathematics education it has been appropriated to think about the constitution of learners and teachers as subjects within the web of power of the institutional discourses of mathematics education practices (e.g., Stinson, 2006; Walshaw, 2014). Such studies have provided insightful interpretations of students' and teachers' identity formation in terms of their process of subjectivity in the practices of mathematics education. Although important in a quest for understanding the socio-political constitution of mathematics

education practices, many of these earlier studies still focus on some of the traditionally defined actors and elements of the classic didactic triad of mathematics education research. More recent studies inspired by Foucault deploy analytical strategies to explore the functioning of mathematics education discourses and their effects of truth in generating ways of thinking about mathematics education and its participants (e.g., Llewellyn, 2018). Mathematics education drawing on Foucauldian tools, provide a critical stance toward how power, knowledge, and subjectivity connect in the multiple practices of mathematics education (Kollosche, 2016).

The research questions in studies that displace the focus of teaching and learning build on the assumption that mathematics and mathematics education are political because the historical constitution of the knowledge and associated practices both have emerged and make part of the classifications and organizations that regulate social life and, within them, notions of who people are and should be. This means that as much as mathematics education is thought to empower and make possible a better future, at the same time, the same practices create differences among people which are meant to classify, rank, and thus include and exclude. It is for this reason that different types of interrogation push the limits of mathematics education research to locate its understanding and study in the realm of the cultural and political history of schooling and education. In other words, researching the cultural politics of mathematics education allows revealing the way in which mathematics education generates concepts, distinctions, and categories that regulate the possibilities of thinking and being in/with mathematics as a privileged area. Through these analytical moves it becomes evident how mathematics education and power are connected in the school curriculum. In the following section, after having clarified the types of analytic stances that I take, I go back to my initial concern: How are current forms of mathematics education creating the classifications and orderings that govern the fabrication of the *homus oeconomicus*?

Problematizing the Desire of More Mathematics Achievement

In the 1980s, there started to appear in mathematics education research clear statements about mathematics being cultural and mathematics education being political. In national policy documents regulating school mathematics the association between mathematics education and democracy became a strong way of justifying good reasons for expanding the desire of access to learn mathematics (Skovsmose & Valero, 2008). It has also been argued that access to learning mathematics is a "human right in itself" given that mathematics is seen as a cultural product of purposeful human activity (Vithal & Volmink, 2005, p. 3). Nowadays such types of statements have become frequent, and the idea that it is desirable that all should be offered the opportunity at one point in life to learn mathematics because "studying mathematics will bring associated benefits—personal, social, and political—for all"

(Clements, Keitel, Bishop, Kilpatrick, & Leung, 2013, p. 8).

More recently, policies in various countries tend toward over privileging mathematics and science at the expense of other school subjects and considering the latter to be irrelevant to current social and productive needs. Just think of targeted, large investments in education in all countries to "strengthen mathematics"—such as the Swedish *Matematiklyftet* [Mathematics Lift] since 2014, and U.S. President Obama's *Investing in America's Future: Preparing Students with STEM Skills* in 2016. Even the controversial open move of the Japanese Minister of Education in 2015 to cut humanities and social sciences at universities to open space to "useful education" for the future, or the Danish downsizing of humanity university studies for privileging "education that leads to secure employment" in 2015 resonates with the logic that mathematics and science are core subjects to protect and promote. They are fundamental for global economic competitiveness, and this has become an important justification for mathematics education practices, for reforms, for research, for teachers and even for politicians to increase the number of mathematics lessons per week in many countries. These statements of course please mathematics educators and are part of the perceived status and relevance of our work. However, a closer, critical examination to their emergence as part of the cultural politics of schooling and the constitution of its social epistemologies invites to their problematization. That is, to de-familiarize them by asking how they became truths that are part of current commonsense notions of people participating in mathematics education. The question then is not *why* those statements emerge, as if one could find the chain of causes in history that result in these statements. Rather the issue is to delve into *how* the statements were articulated and became possible, plausible formulations about the role of school mathematics in society.

Answering such questions requires a type of genealogical study, a "history of the present" (Foucault, 1975/1991, 31) that traces the lines of how becoming mathematically competent is effected in multiple games and through the workings of technologies that render the subjects governable. Such a study is a huge enterprise for the scope of this essay. Some work already published has advanced in that direction, providing a grounding in time and space of how such statements have formed. Diaz (2017) investigates the way in which the emphasis on the adequate teaching and learning of the equal sign in current reforms in mathematics in the United States link with broader meanings in society about equality. Mathematics education reform and research that supports reform build on the assumption that "with knowledge of the equal sign, children will have a better understanding of equality, greater access to 'higher' levels of mathematics, more academic opportunities, and an overall increase in economic and social standing" (p. 36). Notwithstanding the apparent goodness of this stated purpose, the pedagogies of mathematics in the curriculum operate classifications and differentiations of those children who learned the right equality and those who fail to do so. Thus, discourses around

the neutrality and goodness of learning "the equal sign" are neither neutral nor natural but render children objects of the calculations of power.

Kollosche (2014) argues that mathematics is a form of knowledge that has, from its very beginning, served the interest of power. Challenging Skovsmose's (2005) formulation that mathematics education is critical because it has no essence and therefore can serve the purposes of oppression as well as of empowerment, Kollosche asserts that mathematics as a form of knowledge is imbricated in fine technologies of power. Particularly, he examines how logic and calculation, as part of mathematics, emerged in concrete time and space configurations of practice and related to power. Through the incorporation of logics, "mathematics represents a form of thinking and speaking which provides powerful techniques for the government of others" (p. 1067). Calculation is one of the core skills of a numerate person; however, calculation has historically been connected not only with commerce but also with the formation of bureaucracy. Calculation was central in the creation of an objectivizing epistemology that was central for Modern forms of government. School mathematics has developed side by side with the consolidation of bureaucracy and, thus, Kollosche argues, it "can be considered an institution which (alongside other functions) identifies and trains a calculatory-bureaucratic elite and teaches the rest to subordinate to the calculatory-bureaucratic administration of our society" (p. 1070). In other words, mathematics cannot go in "both directions." Mathematics and its entering into school has historically created inclusions and exclusions.

My intention here is not to say that people's mathematical competence and achievement are not important. Rather, I want to contend that the idea of people's mathematical competence being an important constitutive element of citizenship is historically contingent and does not depend on the intrinsic characteristics of mathematics, but on how mathematics and mathematics education operate as effective technologies of governing for effecting contemporary forms of subjectivity. In previous writings, I have unfolded the elements of a genealogical study of the arguments for making mathematics for all a necessary part of human capital development (Valero, 2017). There are a series of points that I would like to highlight here. First, a historization of the idea that mathematics and mathematics education are connected to the economic and social growth of a nation shows that it is important to place such an idea in the context of the consolidation of nation states and in the attempt to build and expand a national, politically regulated provision of education. In this context, (mathematics) education is a matter of the creation of a political body called "the nation" and of a political individual called "the citizen" (Tröhler, 2016). These are however notions that change in time and space. School pedagogy and school knowledge are central in how the political fabrication of the citizen in the practices of education happen because these are conscious attempts to direct the conduct of the school participants to become particular type of desired beings. In

this sense, the school curriculum encapsulates the political aspirations for who the citizen and the nation should be.

Second, the fundamental question of a curriculum is "what is the type of person that should result out of the curriculum" and "what kind of knowledge and moral attributes contribute to make such desired type of person." In other words, a curriculum is not just a structured set of lists of school-adapted disciplinary content in different subjects. It is an articulated political device to steer and govern the population through the creation of desired subjectivities. From this perspective, the historical tension has been that up to the beginning of the 20th century, it was generally considered that the study of the humanities mainly was what provided the knowledge and moral qualities needed to become a virtuous citizen. What happened from the end of the 19th to the middle of the 20th century was that the growing natural sciences, technical knowledge, and mathematics—connected to the industrialization and the technical transformation of production and society—changed from being perceived as technical knowledge of limited value for the citizen to be, little by little, considered as a more valuable knowledge. It was only after the Second World War and the period of extreme technological optimism that mathematics—and to certain extent science—started to be considered central elements of the formation of the modern citizen. It was at this time that clearly different discourses articulated to argue for the necessity of mathematics "for all." From this point on, the traditional accounts provided in the historiography of mathematics education to justify the importance of mathematics as an area of the curriculum is known to mathematics educators (e.g., Karp & Schubring, 2014).

Third, it is also important to take into consideration the wider institutional articulation of the desire of mathematics for all—which is more often than not, the untold history of mathematics education. The boost for mathematical qualifications of the population is often portrayed as a natural development of the needs of the population to cope with the demands of a changing world. For example, mathematicians organized in the International Commission for Mathematical Instruction (ICMI) started to articulate the contribution of mathematics to the construction of an organized, structural, and systemic new world. For that, mathematics had to be promoted (Kurepa, 1955). From another perspective, the boost of mathematics education has been a clear political strategy to direct the population toward the adoption of forms of thinking and being that resonate more with a scientific rationality (Popkewitz, 2004). That mathematics education inserts in children the qualities of rationality, objectivity, universality is, of course, an evident and desired effect of power in the making of subjectivity. Mathematics education operates as a technology of government to conduct the self. This move is explored in, for example, Andrade-Molina and Valero (2017). They have shown how the training in school geometry is not really about visualization, but about the making of a scientific self that can see with and through the eyes of reason. This type of configuration is relat-

ed to the idea mentioned above that mathematics is meant to empower due to its intrinsic characteristics as the form of thinking that epitomizes a rational logic.

Fourth, the boost of mathematics education as a part of a political dispositive in education has also a strong link to economy. This means that from the 1960s, there has been a growing connection between the economic steering of society and mathematics competence and achievement. The efforts of mathematicians found resonance with the interest of the new Organization for European Economic Cooperation (OEEC), the antecessor of the Organization for Economic Cooperation and Development (OECD), in linking education to notions of economic growth through theories of human capital (Tröhler, 2015, pp. 751–752). Economists at the University of Chicago in the 1960s proposed to think about capital not only in terms of materials, assets, or production but also in the great potential in humans. Human capital is the "stock of skills and knowledge accumulated by workers through education, on-the-job training, and self-improvement" (McFadden, 2008, p. 380). This capital is a source to generate value and wealth to individuals, organizations, and nations. This form of "embodied capital" in people (Becker, 1993) became an important construct with relation to education: the input of education and provision of qualifications then can be connected to explanations of sustained economic growth in nations and increase in individual income. In this way, the investments in mass education and skill improvement entered economic models as an important variable to steer in order to generate value in a time of rapid advancement.

OECD and United Nations Educational, Scientific and Cultural Organization (UNESCO) became important institutions to collaborate with international organizations of mathematics education such as the ICMI and the Commission Internationale pour l'Étude et l' Amélioration de l'Enseignement des Mathématiques (CIEAEM) (Furinghetti, 2008; Furinghetti & Giacardi, 2010). Indeed, OEEC was the economic supporter and organizer of the Royaumont Seminar in 1959 with the intention of discussing the fundamentals for reforming the contents and pedagogies of mathematics, vis-à-vis societal and economic needs to increase citizens' mathematical knowledge and "appreciation for the numerical point of view" (Fehr, Bunt, & Organisation Européenne de Coopération Économique [OECE], 1961, p. 11; author's translation). If human capital, education and mathematics education were important factors for technological development and economic growth, it became clear that these factors had to be activated, monitored, and controlled. The history of the connection between different types of policies with a clear economic interest and initiatives to make mathematics education a key area of school curricula is fascinating, and still unexplored. This study is however important in understanding the articulations that have built the strong narrative of salvation connected to mathematics, and at the same time making mathematical achievement an element of inclusion and exclusion.

Making *Human Capitals*

We are now in a particular kind of society, some have called it a post-political society (Wilson & Swyngedouw, 2014). This phrasing refers to the tendency of the state to not necessarily defend the public interest as a way of governing, but to defend the advancement of private interests and the interest of the capital. The idea of politics is concerned with what is public and common and that has to be defended and administered in the government and the political organization of the state. Now we are in times where the logic of the political is surpassed and sometimes even overruled by the protection and advancements of private interests. Some other scholars have also called this time, the time of the financial neoliberalism, understood as a form of rationality that reconfigures all spheres of human life in economic terms. Brown (2015) explores how such reconfiguration has had an effect on subjectivity in transforming the very same notion of the human to become a value for the capital. She provocatively asserts that, in current times, one could use the term "human capitals" instead of simply human beings (pp. 32–37). She highlights the idea that it is natural to think that almost any kind of action can be seen as an investment for an expected profit. And this change is being operated by the way in which in many institutions of public and private life, the economic logic renders humans a factor in a calculation of optimization of value.

In mathematics education, Pais (2014) has argued how mathematics education research has been disavowing the function of mathematics education in the capitalist configuration of society. He notes that mathematics achievement has become an important way of granting economic value to the individual, and that efforts of mathematics education to combat injustice through the betterment of mathematics teaching and learning do reinforce the market value of mathematical qualifications given that, in a capitalist system, the failure of the many is a precondition for the success of the few.

Nowadays, the statements that argue for the prominence of mathematics clearly link mathematical competence with entrepreneurship and economic competitiveness. If one examines the wordings of national policies (e.g., Doğan & Haser, 2014), international policies, teacher education programs (e.g., Montecino, 2018), education programs (e.g., de Toledo e Toledo, Knijnik, & Valero, 2018) and even textbooks (da Silva & Valero, 2018), mathematics education is being presented as a central value for the individual. The mathematical value of the individual becomes an exchange value and it is a measurement of the person's human capital which, aggregated, is a measurement of the human capital of a system or of an economy. This exchange value results in the fact that mathematics is an object of desire to sell and trade with. Nowadays, we might have a polarizing competition among each other of who goes to the most prestigious school of mathematics because that will secure a good job and, thus, a bright future. And I would dare to say that it is possi-

ble to hear in many of the discourses of mathematics education a similar kind of reasoning because it is most appealing. The constant failure of many to learn and like mathematics in each country and among countries has been a justification for the need of more research, particularly the one that wants to reform and fix "the problems of practice." Now the evidence for the need of research "that matters for practice" is no longer provided by small projects and results in national testing. It is minutely produced at large scale, so that there could be no doubt that mathematics achievement and competence matter for economy and for democracy.

Again, I am not saying that these truths are bad or good. My point is to highlight that they constitute a particular way of thinking about the value of mathematics now and why is it that we are educating people mathematically. The whole issue is that when we naturalize the reasoning, we classify people with respect to how well they performed in tests, how well they sorted out a problem, and all these differentiations generate combined mechanisms of inclusion and exclusion. We create a group of people to whom we, in our practice, are giving and granting more value, while some are devalued. A similar logic applies for us as university professors or as teachers; we also have an exchange value as better or worse mathematical educators, more recognized because we get more grants, or for teachers who can produce better results of students. Of course, there are differences in the institutions that we work for, but the mechanisms seem to be similar. This distinction is the point of Brown (2015) when she analyzes how the neoliberal logic permeates and reconfigures different types of institutions. The result is that neoliberalism is not a distant economic policy, but it ends up being the very same organizing principle of our own conduct and our own sense of being. We take these effects for granted; and we even come to believe that they are necessary.

It is in this type of free market, financially capitalist societies, in this kind of economic organization, that we are performing mathematics education; and mathematics education, more than ever, is being politically governed by the logic that was exemplified previously. I think that we run a serious risk of reducing the meaning of mathematics education to education for the qualification of a submissive workforce. In such context, we end up educating not a human being but a *homus oeconomicus*. This person does not need to be a thinking person, or a rational being, but an economic exchange being.

The studies on the cultural politics of mathematical education pose the question of which are the ethical and political commitment of mathematics educators in such political and economic rationality. In other words: in which directions are we governing and being governed with and through the teaching and learning of mathematics in the school curriculum? What we are doing is not innocent: we are always directing people, guiding toward a particular direction, so: Which one is that? In the current configuration, I find it unacceptable that we operate on the assumption that we are only doing good for the empowerment and the future of students if they just

know and come to master more mathematics, even with a hint of critique. I hope that by sharing some of the work on the cultural politics of mathematics education one can come to think politically seriously about what we are doing and about how it could be otherwise.

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