WHAT IS THIS THING CALLED SOCIAL JUSTICE AND WHAT DOES IT HAVE TO DO WITH US IN THE CONTEXT OF GLOBALISATION?

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This paper has dual aims. It proposes firstly to open the debate about the construction of social justice in mathematics education and secondly to use that construction to reflect on issues affecting the work of mathematics educators in an international arena. It builds on previous work with many of my colleagues on issues of globalisation and internationalisation in mathematics education (Atweh & Clarkson, 1991; Atweh, Clarkson & Nebres, 1993) and on social justice in international collaborations in our discipline (Atweh & Ragusa, 2003; Ragusa & Atweh, 2003; Atweh & Keitel, in press; Atweh, 2007). The theorisation of social justice presented in the previous publications, also adopted here, is informed by the writing of feminist writers such as Iris Marion Young (1990) and Nancy Fraser (1995, 1997; Fraser & Honneth, 2003). In particular, I argue for the importance of engaging with the concept of social justice itself in addition to engaging with practices that promote social justice. Similarly I discuss an approach to understanding social justice practices that goes beyond mere analyses and deconstruction and is capable of providing normative guides for practice. Finally, I raise some problematics in making social justice claims and engaging in practices that promote social justice. While many of the issues raised here might apply for a variety of social justice concerns in the discipline, I will focus the discussion on an issue of increasing importance in mathematic education, namely international collaborations (Atweh & Clarkson, 1991).

Why Engage with the Concept of Social Justice?

Atweh and Keitel (in press) note that social justice concerns are no longer seen at the margins of mathematics education policy, research and practice. Issues relating to gender, multiculturalism, ethnomathematics, and the effects of ethnicity, Indigeneity, socio-economic and cultural backgrounds of students on their participation and performance in mathematics are regularly discussed in the literature. Many of these have found their way into policies in educational systems around the world. More recent concerns about access to appropriate mathematics education by students with learning difficulties and special needs, the gifted and talented, and the so called "what about the boys" agendas are increasingly being constructed as social justice issues. Undoubtedly, different writers

have different understandings of social justice – at times leading to alternative, if not contradictory conclusions and demands.

Although social justice represents a strong area of educational discourse, the term itself remains under-theorised (Gewirtz, 1998, Rizvi, 1998) and a "contested area of investigation" (Burton, 2003, p. xv). Firstly, at the risk of essentialising the difference between the USA's and Europe's writings on social justice, there seems to be some difference between its conceptualisation in the two contexts - at least in mathematics education. In the US, social justice is often used interchangeably with the constructs of *equity* and *diversity*. For example, Hart (2003) asserts that "Because the terms *equity*, *equality* and *justice* have been used in different ways in the literature, it is important to briefly consider some of the meanings of these terms" (p. 29). Using Secada's (1989) conceptualisation of equity as "our judgement about whether or not a given state of affairs is just" (p. 29), implies that equity is the measure to know if social justice has been done. Hart (2003) uses a multidimensional definition of equity as equal opportunity, as equal treatment and as equal outcome and concludes by saying that "I will use equity, as Secada … did, to mean justice" (p. 23). In the same volume, Secada, Cueto and Andrade (2003) note that "the viewing of group-based inequality as an issue of equity has a long tradition within policy-relevant social science research … and in different forms of educational research in particular" (p. 108).

In an attempt to differentiate between equity and social justice, Burton (2003), from the UK, in her introduction to her book "Which Way Social Justice in Mathematics Education", argues that there is a "shift from equity to a more inclusive perspective that embraces social justice" (p. xv). She goes on to say "the concept of social justice seems to me to include equity and not to need it as an addition. Apart from taking a highly legalistic stance, how could one consider something as inequitable as socially just?" (p. xvii)

Further, the equity agenda has been critiqued in the literature in its ability to provide for a normative guide for practice. Wenzel (2001) discuss the difficulties within the traditional equity discourse in determining questions as who is entitled for equity measures and how to avoid the individual selfishness at the expense of the group's benefit. Similarly, he argues that the construction of an individual as a member of a single social group deserving equity measures is problematic. Finally, equity measures tend to deal with a single recipient of the benefits and not as a member of a social group that is systematically excluded.

Similarly, the social justice agenda in mathematics education is at times discussed in relation to *diversity* – also a term that has its origin in the USA literature (Loden & Rosener 1991). While the concept of equity arose from, and is often associated with – though not exclusively - gender concerns, the concept of diversity arose from, and is often associated with – though not exclusively – concerns about cultural and linguistic diversity (Sepheri & Wagner, 2000; Thomas, 1996). Plummer (2003), however, presents an overview of what he calls the "big 8" dimensions of diversity: *race, gender, ethnicity/nationality, organisational role, age, sexual orientation, mental/physical ability*

and religion. In this context, social justice is constructed as "managing diversity" (Cox, 1991; Krell, 2004). Undoubtedly, the increasing diversity of students in most mathematics classrooms and the persistent research evidence that some groups of students are not achieving or participating in mathematics, raise serious social justice issues. However, the diversity agenda is not only concerned with the participation and achievement gaps but also with acknowledging the contribution of the different groups to mathematics and to the consideration of different types of mathematics and different ways on knowing as illustrated in certain feminist writings and the ethnomathematics movement.

However, the diversity discourse might lead to essentialising the differences between the different groups and it may fail to take into consideration the changing constructions of these labels and their contextual understanding in time and place. Similarly, the diversity discourse fails to adequately take into consideration one of the biggest threats to social inequality and exclusion in mathematics education, namely socio-economic background and poverty that are difficult to construct as diversity issues in the same was as cultural differences.

In spite of the overlap in the aims of both agendas of equity and diversity, there is an important difference between them that leads to potentially contradictory outcomes. This relates to their ultimate aims with regard to group status. Equity projects aim at reducing group differences, e.g. in achievement and participation, and hence its ultimate aim is to abolish group differences. Diversity discourse, on the other hand aims at enhancing group differences and status. This is the dilemma that Nancy Fraser (1997) refers to in discussing the multidimensional model of social justice. There are two further limitations of the equity and diversity agendas. On one hand, remediating equity concerns might be vulnerable of a backlash of misrecognition (Fraser, 1995) for the target group by constructing them as victims or as needy of special assistance, while the diversity construction promotes the group status. On the other hand, the diversity agenda might be vulnerable of romanticising difference between groups by treating them as exotic, while the equity agenda highlights their exclusion and disadvantage. I will come back to these points later in the paper.

I turn now to question of social justice in international collaborations.

Why Engage with Social Justice in International Collaborations?

International contacts in mathematics have a very long history that proceeded the era of globalisation. The transmission of mathematical knowledge from the East (e.g. India) and the South (e.g. Arabia) formed the roots of mathematics as a discipline in Europe (Powell & Frankenstein, 1997). Similarly, in mathematics education, the establishment of the International Commission of Mathematics Instruction (ICMI, Undated) in 1908 was both a reflection of the belief that mathematics educational problems can, and need to be solved globally, and at the same time provided promotion of that conviction. With ease of travel and communication and greater awareness of developments and the needs of

various countries, contact between mathematics educators has escalated and taken diverse forms. While mathematics educators have always shown an acute awareness of the international status of their profession (as reflected in numerous publications and conferences with the term "international" in their titles), there has been little problematisation of this phenomenon and research activity about the benefits or problems that might arise.

Within the past three decades, mathematics education has witnessed an increase in cross national comparative studies on curriculum and student achievement, perhaps the best known are the TIMSS (Third International Mathematics and Science Study) and PISA (Programme for International Student Assessment) studies. These studies have received considerable attention within and outside the field. International testing has been widely covered by media and featured in public debates about education. The potential benefits, and problems, with international testing have been addressed elsewhere (Clarke, 2003; Kaiser, Luna, & Huntley, 1999; Robitaille, & Travers, 1992). In particular, Keitel and Kilpatrick (1999) raise several political questions about such international comparative studies. They argue that the outcomes of these studies are perceived as biased towards the host country; that is, of those who do the data collection, the analysis and the funding. These authors question if this is to the detriment of other countries and their concerns about improving education systems. Outcomes of such studies are also perceived as necessarily reductionist, as results cannot do justice to the very complex factors involved. The authors claim that the mathematical tasks do not represent the curricula taught in many schools, teachers' questionnaires do not represent the whole range of teaching practices, and the results do not offer valid comparisons between the various countries' curricula with their divergent cultural and social contexts. "No allowance is made for different aims, issues, history and contexts across the mathematics curricula of the systems being studied" (p. 243). They conclude that comparative testing is not really useful as an educational tool, as it does not produce a clear view of what's really happening in the classroom and why.

Of particular relevance here are the differences in performance between industrialised and less-industrialised countries that these tests show. For example, Glewwe and Kremer (1995) show that school students in most less-industrialized countries achieve less than comparable students in more-affluent countries. Moreover, the gaps are estimated to be 3 years of schooling for comparable age groups. Undoubtedly, these gaps can be explained to a large extent by the amount of available resources devoted to mathematics education in different contexts. Jacobsen (1996) discusses the increasing gap between the rich and poor countries and the curtailing of funds from these international agencies that makes it "more difficult to look for governments for improved international co-operation in mathematics education" (p. 1253). He joins Miguel de Guzman, the past President of ICMI, in calling for an increasing role of co-operation between professional mathematics educators and their associations to work to improve mathematics education worldwide. Arguably, solving the problems of inequitable achievement and available resources in less-industrialised countries are beyond the capabilities of single academics or even the profession as a whole working in isolation. However, such a call presents a challenge for academics who believe that concerns about social justice do not know any boundaries.

Views expressed by mathematics educators about international contacts and activities vary. For some, international interactions lead to greater awareness and understanding of difference which, leads to assisting the less able, to tolerance and conflict resolution. Often these educators achieve greater conscious understanding of their own assumptions and salient aspects of their own practices. To others, such contacts may lead to homogenisation, colonisation and to the marginalisation of the 'have nots'. In any case, there are several social justice issues in international contacts.

First, there are different, and at times conflicting, motivations behind international collaboration. In a globalised world dominated by economic rationality, many of these international collaborations have their roots in financial benefits to the participants. For example, as many universities around the world are facing a reality of reduced government funding, they are turning to international students and projects as a significant source of income. Similarly, many less industrialised countries that depend on international loans to develop their education systems and infrastructure often face additional requirements for specific types of 'reforms' that necessitate contacts with overseas educators and systems. Other international collaborations are based on more altruistic motivations such as the provision of assistance for countries with limited resources to develop their capacity to build their infrastructure and educational reform. Perhaps such collaborations are based on the premise that mathematics is associated with economic development and prosperity, hence assisting poorer countries through establishing a solid mathematics education system may contribute to the reduction of overall poverty. Further, certain types of collaboration may yield direct benefit to individual academics seeking new research sites and markets for their publications.

Second, international collaborations face many factors that limit participation in them by many educators around the world. Not the least of these limitations is financial. The cost of attending international gatherings or subscribing to international journals is a prohibiting factor for many international mathematics educators from less industrialised nations. Similarly, educators from non-English speaking countries often feel excluded from many international activities that are in English. The final report of a recent Discussion Group on International Cooperation at the International Congress of Mathematics Education (Atweh, Boero, Jurdak, Nebres & Valero, 2004) identified further problems arising from language:

> In addition to the dominance of English in many international cooperative activities, the problem of language is also a matter of particular professional jargon used in different national communities to refer to the objects of their practices. Problems of understanding emerge due to differences in the meanings of commonly used terms. For example, the phrase "didactics of mathematics" carries almost opposite meanings for a native English speaker and speakers of other European languages. Further, care must be given not to exclude some participants from having access to that technical language by oversimplifying it. Hence, genuine cooperation must include a process of communication in which, through

> languages (natural and specialized), the parties involved negotiate their meanings and intentions for action. (p. 3)

Third, international collaboration may have serious negative effects on some participating countries. Without due care, collaboration between educators with varying backgrounds, interests and resources may lead to domination of the voice of the more able and marginalization of the less powerful. Further, uncritical collaboration may confuse aid to the less resourced countries with a 'missionary' attitude that leads

> to a patronizing relationship, which does not respect and value the diversity of the parties involved. Instead, an attitude of humility and openness to learn from each others should be the basis of international co-operation. (p. XX).

Atweh and Keitel (in press) showed that uncritical contacts between countries can be exploitative, lead into marginalisation and powerlessness, and be considered as a form of symbolic imperialism and violence.

How Can we Understand Social Justice in a Complex Globalised World?

Marion Young (1990) argues that principles of social justice are not theorems. Rather, they are claims of some people over others. They are not based in abstract general principles that can be applied to specific practices and situations in all localities and societies. According to Young, "they are [arguments] addressed to others and await their response, in a situated political dialogue" (p. 5).

Traditionally, the conception of a social justice model was based on the redistribution of resources and goods, whether material or symbolic. *Distributive models* of social justice focus more on unequal opportunities in society rather than mere outcomes. McInerney (2004) argues that a society cannot be called just unless "it is characterized by a fair distribution of material and non material resources" (p. 50). Rawls (1973, in McInerney, 2004) claims "the primary subject of social justice must be the basic structure of society, or, more precisely, 'the way in which the major social institutions distribute fundamental rights and responsibilities and determine the division of advantages from social cooperation'" (p.50). At the same time as he is affirming the individual rights to pursue goods, he is insisting that distribution of wealth, income, power and authority are justifiable if they work to maximize the benefit of the least advantaged in society. Gewirtz (1998) identifies two forms of distributive justice: a weak form, equality of opportunity, and a strong form, equality of outcome.

In education, distributive models of social justice are reflected in compensatory programs allocating designated resources for the disadvantaged. However, this model does not question the curriculum itself, the pedagogy or the regimes of testing used in the classroom and their role in creating educational inequality. Further, it constructs the disadvantaged as individuals and not as parts of a collective. Finally, it does not take into

account the reasons for the inequality that have historical roots and are socially and politically determined. Arguably the majority of compensatory programs to increase the achievement of target groups in education follow this construction of social justice.

Several poststructuralist feminist writers have critiqued distributive models. Gewirtz (1998) argues that *relational* understandings of social justice are needed in order to "theorize about issues of power and how we treat each other, both in the micro face-to-face interactions and in the sense of macro social and economic relations which are mediated by institutions such as the state and the market" (p. 471). Relational models of social justice deal with "the *nature* and *ordering* of social relations" (p. 471, italics in original). Gewirtz goes on to indicate that "the relational dimension is holistic and non-atomistic, being essentially concerned with the nature of inter-connections between individuals in society, rather than with how much individuals get" (p. 471). Marion Young present a critique of traditional conceptions of social justice in that they are based on "having" rather than "doing". Grounding social justice in individual solutions that allow little room for the consideration of multiple social groups is inadequate. Furthermore, extending such models, developed on the distribution of material goods to other goods such as self-respect, honour opportunity, and power, is problematic. To understand the struggles for social justice by a variety of groups, such as women, African Americans, and gay and lesbian people, feminist theorists posited a discourse of social justice based on the principle of *recognition*. Nancy Fraser (1995) expounds:

> Demands for "recognition of difference" fuel struggles of groups mobilised under the banners of nationality, ethnicity, 'race', gender and sexuality. … And cultural recognition replaces socioeconomic redistribution as the remedy of social injustice and the goal of political struggle. (p. 68)

In response to the critique that giving attention to cultural recognition might have devalued economic inequality that is best alleviated through a distribution model, Fraser (2001) argues that social justice today requires *both* redistribution and recognition measures. She presents a model of "parity of participation" as a guiding principle that incorporates both models. In later publications (Fraser, 1997; Fraser & Honneth, 2003) she presents what she calls a "critical theory or recognition" that avoids reducing one dimension to the other and avoids falling into postmodern non-normative deconstruction. Importantly, Fraser argues that redistribution and recognition remedies analytic tools that are not mutually exclusive and in practice most social justice action contains elements of both.

The two constructions of social justice as *distribution* and as *recognition* correspond roughly to the construction of equity and diversity respectively, terms more familiar in mathematics education. By using the bi-dimensional model to understand both agendas can provide for a better understanding on the relationship between the two discourses. However, this does not yet contribute to a resolution of the difficulties identified above. The conflict between equity and diversity agendas has been translated into the dilemma that Fraser (1997) calls the distribution-recognition dilemma. To deal with this dilemma, the author introduces two further analytic tools to describe remedial action for social

injustice. Fraser differentiates between affirmative and transformative remedies for injustice and argues that they cut across the redistribution-recognition divide. *Affirmative* remedies include those "aimed at correcting inequitable outcomes of social arrangements without disturbing the underlying framework that generates them" (p. 82), whilst *transformative* remedies are "aimed at correcting inequitable outcomes precisely by restructuring the underlying generative framework" (2001, p. 82). It remains to be shown how these theoretical tools assist in a resolution of the dilemma discussed above. I will turn to this in the concluding section after a reconsideration of social justice remedies in international collaborations.

How to Engage in Social Justice Action in International Collaborations?

Based on this discussion and on a similar model suggested by Fraser, in another context (Atweh, 2007) I have put forward a model comprised of four modes characterising possible cross national collaborations towards achieving social justice in international collaborations. In the previous publication I have discussed these modes of collaboration in some details based on results of a study about internationalisation and globalisation conducted with leading mathematics educators from Latin America (Brazil, Colombia and Mexico) and Asia (South Korea, The Philippines, and Vietnam) that I conducted between 2001 and 2002[1]. I will only provide a summary of these points here.

	Affirmative	**Transformative**
Redistribution	**Mode 1: *Aid*** *Attributes:* Sharing of information and resources among countries. Represents cultural classification based upon access to knowledge. Can generate misrecognition.	**Mode 2: *Development*** *Attributes:* Restructuring of relations of knowledge production. Blurs group identification. Can help remedy misrecognition.
Recognition	**Mode 3: *Multiculturalism*** *Attributes:* Acknowledging cultural differences, such as cross cultural research. Supports group identification.	**Mode 4: *Critical Collaboration*** *Attributes:* Deep restructuring of relations of recognition. Blurs group differentiation.

Affirmative-redistribution for social injustice remedies target the lack of resources and absence of traditions of internationally acceptable research and theorising of mathematics education and the exclusion of academics from less affluent countries in many international collaborations, gatherings and publications. Remedies that are often

[1] The interviews were part of a project was supported by a grant from the Australian Research Council conducted in conjunction with Philip Clarkson.

provided to overcome these indicators of social injustice take the form of sharing of programs and curriculum or financial assistance to academics from less affluent countries to enable a few of them at least to participate in such international gatherings. This aid mode of collaboration is based on the transmission of goods, (either material or symbolic) from one culture to another can give rise to serious concern. To start with they often lack reciprocity among the players leading to a form of colonialisation of mathematics education from the North to the South and from West to East. Further, they give rise to problems of misrecognition of the aid recipients as not having something worthwhile and original of their own to contribute to the international status of the discipline. Finally, they lead into a condition of dependency on donor countries since their contribution to capacity building is minimal.

The affirmative-recognition mode of remedies targets the lack of recognition to the mathematical knowledge that different cultural groups have developed and use in everyday transaction as valid mathematical knowledge and the contribution of the different groups to the mainstream mathematics education often identified as Anglo-European (Powell & Frankenstein, 1997). The contribution of the ethnomathematics movement to increasing awareness of complex mathematics in the daily practices of many social and cultural groups has undoubtedly lead to the abolishing of the myth of underdevelopment and primitiveness from these societies. However, its contribution to the emancipation of members of these societies is not as clear (Dowling, 1998; Vithal & Skovsmose, 1997). Hence, it contributes to the recognition of the other without necessarily contributing to alter or change access to, or production of, material and/or symbolic goods.

The transformative-recognition mode of remedies targets the enabling of the marginalised academics and cultures to develop their own capacity to generate their own knowledge, research and theory about mathematics education. Hence it effects a change of pre-existing patterns and norms of knowledge production and may have short or long-term effects. International interactions under this model include international postgraduate students from less industrialised countries and programs that contribute to the professional development of educators. However, it is usually unidirectional with clear demarcation between the providers and recipients of development. Similarly, this mode of interactions does not necessarily problematise differences in interests and needs of the different participants; hence it leads into blurring of cultural differences.

Finally, the transformative-recognition mode of remedies targets the deconstructions of the binaries that construct academics from affluent/developed/industrialised and those from poor/underdeveloped/less industrialised countries and attempts to develop critical collaborations that are mutual and lead into reciprocal learning. Like multiculturalism, critical collaboration aims to give recognition and respect to the knowledges different cultural groups and countries provide. However, in this category effort is made to challenge the structures that give rise to inequality in status, as well as the knowledge shared, among nations. Critically collaborative activities are necessarily based on participation from educators in different countries as all work to develop local knowledge

and simultaneously contribute to collective international knowledge albeit it is not universal but always contextualised.

What Can we Conclude about Social Justice and about International Collaborations?

This paper has set to promote the debate on the construction of social justice in mathematics education and on social justice in international collaborations. It argued that even though social justice concerns and actions are prevalent in mathematics education research and practice, the term remains undertheorised. The two related agendas of equity and diversity, more familiar in mathematics education, are often used interchangeably with each other and with the construct of social justice. Undoubtedly, the three agendas overlap; however, their basic assumptions and differences often remain unexamined. In this context I discussed a particular construction of social justice that is more general than equity and diversity and can provide the means to examine essential issues that arise as a result of action designed to achieve social justice. In this construction, social justice can aim at redistribution of goods (material or symbolic) to alleviate inequality and disadvantage as well as increase the recognition to the marginalised and misrecognised. I followed Nancy Fraser's arguments that neither of these dimensions is reducible to the other. However, there are potential sources of conflict between them. The critical theory of social justice summarised here may lead into a more informed and self reflective action that attempts to identify and address achievements and limitations of social justice action – hence it is built on a transformative agenda that avoids falling into the two extremes of unreflective action and actionless reflection.

Secondly, in this paper I have turned a critical gaze on the practice of mathematics education in an international context. With the rising evidence about inequality in achievement in mathematics from students in different cultures and the lack of participation of academics from less industrialised countries in international efforts to solve problems of mathematics education, the social justice implications of international collaborations can and should not be overlooked. However, not all action towards achieving equity, no matter how well intentioned it is, is sufficient to achieve social justice. Here I argued that modes of interactions that are based on concerted efforts to increase the agency of all mathematics educators to collaborate across country lines and access to resources and at the same time challenge the binaries in terms of their backgrounds is a worthwhile endeavour.

Mathematics educators who are committed to issues of equity, diversity and social justice in any of the manifestations of the injustice in the discipline can not be consistent in their commitment without paying attention to issues of social justice in international collaborations. Social justice knows no national and cultural boundaries. More generally, in an increasing internationalised and globalised world, the work of the majority of mathematics educators has international dimension. Such components can either be part of the problem or part of the solution of social injustice in the discipline.

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