UNDERSTANDING AND PRACTICING SOCIAL JUSTICE IN MATHEMATICS EDUCATION[1]

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Social justice in mathematics education remains undertheorised and contested. In this paper, I discuss various construction of social justice in education and relate it to equity and diversity agendas. Theoretically, I will base my discussion on the writings of Nancy Fraser. Lastly, the theoretical discussion is illustrated by some results a study on internationalisation and globalisation in mathematics education conducted in various countries on both sides of the Pacific.

In another context (Atweh, 2007), I discussed the importance of engaging with the concept of social justice itself in addition to engaging with practices that promote it. In that paper, I discussed two other familiar terms within the discipline that often are used interchangeably with social justice; namely, equity and diversity. Relating the two constructs, Burton (2003) argued that there is a "shift from equity to a more inclusive perspective that embraces social justice" (p. xv). She added, "the concept of social justice seems to me to include equity and not to need it as an addition" (p. xvii). Wenzel (2001) pointed out some limitations with the equity agenda to provide a normative guide for practice to achieve social justice. He discussed the difficulties within the traditional equity discourse in determining questions as to who is entitled for equity measures and how to avoid individual selfishness at the expense of the group's benefit. Similarly, equity measures tend to deal with a single recipient of the benefits and not as a social group that is systematically excluded.

Likewise, the social justice agenda in mathematics education is at times discussed in relation to *diversity* (Loden & Rosener 1991). While the concept of equity arose from, and is often associated with gender concerns, the concept of diversity arose from, and is often associated with concerns about cultural and linguistic diversity. Undoubtedly, the persistent research evidence that some groups of students are not achieving or participating in mathematics, and the lack of acknowledgment of the contribution of the different cultures to mathematics, as well as the different ways on knowing as illustrated in certain feminist writings and the ethnomathematics movement, raise serious social justice issues.

Like equity, however, the diversity discourse gives rise to some problems in achieving social justice in that it leads to essentialising the differences between the different groups and it fails 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 inequality and exclusion, namely socio-economic background or poverty.

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[1] The theoretical part of this paper is based on the article appearing in the special issue on social justice in the Philosophy of Mathematics Education Journal, (Atweh, 2007)

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) referred 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, while the diversity construction promotes group identity. 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.

UNDERSTANDING SOCIAL JUSTICE

Traditionally, the conception of a social justice model was based on the redistribution of material or symbolic resources and goods. *Distributive models* of social justice focus more on unequal opportunities in society rather than mere outcomes. McInerney (2004) argued 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) claimed that the subject of social justice is the basic structure of society, "the way in which the major social institutions distribute fundamental rights and responsibilities and determine the division of advantages from social cooperation" (p.50). Gewirtz (1998) identified two forms of distributive justice: a weak form, equality of opportunity, and a strong form, equality of outcome. In mathematics education, distributive models of social justice are reflected in compensatory programs allocating designated resources for the disadvantaged. However, this model does not always question the curriculum itself, the pedagogy or the regimes of testing used in the classroom and their role in creating educational inequality. Similarly, it may not take into account the reasons for the inequality that have historical roots and are socially and politically determined.

Marion Young (1990) presented 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 membership in 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) expounded:

> 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)

Fraser (1997) argued 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 a later publication (Fraser & Honneth, 2003), she presented 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 argued that redistribution and recognition remedies are 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 *recognition* correspond to the constructions of equity and diversity respectively. Using the bi-categorical model of social justice can provide 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" (2001, p. 82), whilst *transformative* remedies are "aimed at correcting inequitable outcomes precisely by restructuring the underlying generative framework" (p. 82). It remains to be shown how these theoretical tools assist in a resolution of the dilemma discussed above.

SOCIAL JUSTICE IN INTERNATIONAL COLLABORATIONS

To illustrate some of the tensions between the different constructs of social justice, I will discuss some of the learnings from a study I conducted with a colleague on mathematics educators from several countries in Southeast Asia and South America.

Distributive needs

Several international comparisons in mathematics education have identified huge gaps in achievement between students from different countries. For example, Glewwe and Kremer (1995) show that the gaps in achievement between less-industrialized and more-affluent countries are estimated to be 3 years of schooling. This is not meant to accept the results of these studies uncritically (Keitel & Kilpatrick (1999). However, the mathematics examined in these tests represents the mathematics that often opens the door for students to study abroad; and the lack of their success presents a barrier for their participation on the global economy. While Western mathematics educators rightly question the implication of these results, they still have significant implications for educators from less-industrialised countries.

Educators from less industrialised countries also have expressed a sense of isolation due their lack of ability to participate in international conversations about mathematics education. Not the least of these reasons is financial. The cost of attending international gatherings or subscribing to international journals is a prohibiting factor for many international mathematics educators. Similarly, educators from non-English speaking countries often feel excluded from many international activities that are in conducted in English. When asked what their expectations were from international contacts, the participants of one focus group were very direct and candid in their reply. They aspired for more internationally financed research. Further, some educators questioned why English should be the only language of communication in many of these international gatherings.

Hence, for educators from less industrialised countries there are clear issues for distributive justice in international collaborations. However, as argued by Fraser above, distributive remedies of social injustice alone lead to problems of misrecognition. It is fair to say, many educators from the less industrialised countries visited were also well aware of their needs for recognition.

Recognition needs

The lack of participation of academics from many counties visited in international dialogue implies that their great achievements in the education systems of their countries, such as the Escuela Neuva (New School) in Colombia, an innovation internationally recognised for its excellence by the UNESCO (Constanza, 2000), remain virtually unknown in international publications and theory.

Further, as one academic from Philippines pointed out that research questions and curriculum innovations promoted by Filipino educators match those of academics from abroad. Many researchers are "very much influenced by what they see in [international] journals". At times, the research questions are not judged by their contribution to improving the practice of teaching in the local context. Some, indeed, were seen as researching "trivial topics". Other trends may be seen as not only as irrelevant, but also detrimental to the welfare of the country.

Critical collaborations

To deal with the complexity of both agendas of social justice and their possible conflict, we employ the *transformative* remedies discussed by Fraser. The transformative-distribution 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 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.

However, 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.

REFERENCES

Atweh, B. (2007). What is this thing called Social Justice and what does it have to do with Us in the Context of Globalisation**?** The Philosophy of Mathematics Education Journal, 21.

Burton, L. (Ed). (2003). *Which Way Social Justice in Mathematics Education?* London: Praeger.

Constanza, A. (2000). Escuela Nueva in Colombia goes urban. *World Education Forum.* [http://www2.unesco.org/wef/en-news/colombia.shtm]. (25/5/02)

Fraser, N. (1997) *Justice Interruptus: Critical Reflections on "Postsocialist" Condition.* New York: Routledge.

Fraser, N. (1995). From redistribution to recognition: Dilemmas of justice in a postsocialist society. *New Left Review*, July-August, 68-93.

Fraser, N. (2001). *Social justice in the knowledge society.* Invited keynote lecture at conference on the "Knowledge Society," Heinrich Böll Stiftung, Berlin.

Fraser, N. & Honneth, A. (2003). *Redistribution or Recognition? A Political-Philosophical Exchange.* London: Verso:

Gewirtz, S. (1998). Conceptualizing social justice in education: Mapping the territory. *Journal of Educational Policy, 13*(4), 469-484.

Loden, M., & Rosener, J. (1991) *Workforce America: Managing Employee Diversity as a Vital Resource.* Homewood IL: Irvin Inc.

McInerney, P. (2004). Making *Hope Practical: School Reform for Social Justice.* Queensland: Post Pressed.

Wenzel, M. (2001). A social categorization approach to distributive justice: Social identity as the link between relevance of inputs and need for justice. *British Journal for Social Psychology, 40*, pp. 315-335.

Young, I. M. (1990). *Justice and the Politics of Difference*. NJ: Princeton University.