ATW04817

Injustice and International Academic Activities[1]

Bill Atweh
Queensland University of Technology
b.atweh@qut.edu.au

Paper presented at the Australian Association for Research in Education Conference, 2004 – Melbourne Australia

International contacts between educators from around the world continue to escalate with the increasing ease of travel and communication and the globalisation of educational concerns and issues. Social justice concerns about such contacts are important considerations to avoid exploitation and colonialisation of less affluent nations. This paper discusses the concept of "injustice" as developed by Young (1990) and concerns raised by academics in an international research project on unjust practices and outcomes of some international activities. Finally, by means of achieving this, it attempts to give voice to educators from less industrialised countries whose voices are not often heard in Australian conferences.

For the past four years, I and several colleagues[2] have been studying issues in globalisations and internationalisation of education. The particular context of the study was mathematics education. Atweh, Clarkson and Nebres (2003) posit that mathematics education is arguably the most internationalised subject in higher education and that the "mathematics education community has shown considerable awareness of the international status of its discipline" (p. 185). This is demonstrated by the significant number of conferences, organisations, journals and other publications using the word "international" in their titles. In the area of research in mathematics education, Bishop (1992) argues that similarity is a feature of many research traditions evolving in different countries around the globe. Likewise, a striking feature of the different curriculum documents, textbooks and reforms in mathematics education around the world is their similarities rather than their variety (Oldham, 1989 cited in Clements & Ellerton, 1996). However, only a handful of publications in mathematics education have provided any theoretical tools and empirical research findings to base a study of these phenomena. Hence,

[1] Paper presented at the annual conference of the Australian Association for Research in Education conference 2004. http://www.aare.edu.au/index.htm

[2] This paper uses data obtained from an Australian Research Council Discovery Project on Internationalisation and Globalisation on Mathematics Education in conjunction with Associate Professor Philip Clarkson. Subsequent work was conducted in collaboration with Derek Bland and Angela Ragusa.

this study was necessarily interdisciplinary and I assert that the learning it generated applies to international academic activities and contacts in other areas of education.

Atweh, Clarkson and Nebres (2001) discuss calls by certain educators from non-industrialised nations for "a global minimum curriculum below which no continent should be allowed to drift, however under-developed" (Kuku, 1995, p. 407; see also Sawiran, 1995). In spite of the fact that for many educators in the West the very term "global curriculum", as it is often understood in Western experience, is an abomination, the limited resources in many countries to develop their own theories and practices in the discipline giving rise to such calls cannot, and should not be overlooked. The authors call for global collaboration instead of global curriculum to deal with the ever increasing gaps between rich and poor nations and go on to argue that "the challenge of globalisation could be taken as an opportunity by professional … educators around the world for drawing up their new roles and establishing new coalitions for reclaiming their role in the curriculum debate" (p. 208).

Global collaborations between academics are not to be taken uncritically. Hargreaves (1994) asserts that "one of the emergent and most promising meta-paradigms of the post-modern age is that of *collaboration* as an articulating and integrating principle of action, planning, culture, development, organisation and research" (p. 245). In the context of school change, which Hargreaves is discussing, he points out the benefits of collaboration, as well as some of the dangers the term carries and certain conditions under which it can be most effective, ethical and socially just. Working with other colleagues (Atweh & Bland, 2002; Atweh & Ragusa, 2003), I have used concepts of social justice developed by feminist writers such as Iris Marion Young (1990) and Nancy Fraser (1995, 1997) to critically reflect on some forms of international collaboration between academics in the discipline.

This current paper has three aims. First, it extends the discussion in the previous publications arising from the project to discuss the concept of "injustice" as discussed by Young. Secondly, it illustrates issues raised by the participants in the project that reflect concerns about some unjust practices and outcomes of international activities. Finally, by means of achieving this, it attempts to give voice to educators from less industrialised countries whose voices are not often heard in Australian conferences. I will first summarise the model that we (Ragusa & Atweh, 2003) have adapted to discuss social justice in international activities.

A Model of Social Justice

Young's (1990) main critique of traditional conceptions of social justice is that they are based on "having" rather than "doing." Young argues that grounding social justice in individual solutions allows little room for the consideration of divergent social groups. Hence, extending traditional models that are based on the distribution of material goods to disadvantaged individuals, to other goods, such as self-respect, honour and opportunity for disempowered social groups, 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 created a discourse of social justice based on the principle of *recognition*. Nancy Fraser (1995) expounds:

> *The "struggle for recognition" is fast becoming the paradigmatic form of political conflict in the late twentieth century. Demands for "recognition of difference" fuel struggles of groups mobilized under the banners of nationality, ethnicity, "race", gender*

and sexuality. In their "post-socialist" conflicts, group identity supplants class interest as the chief medium of political mobilization. Cultural domination supplants exploitation as the fundamental injustice. And cultural recognition replaces socioeconomic redistribution as the remedy of social injustice and the goal of political struggle. (p. 68)

Fraser argues that social justice today requires *both* redistribution and recognition measures. She further discusses two types of "remedies" to deal with injustice that cut across the redistribution-recognition divide. These are affirmation and transformation. *Affirmative* remedies include those "aimed at correcting inequitable outcomes of social arrangements without disturbing the underlying framework that generates them" (p. 82), while *transformative* remedies are "aimed at correcting inequitable outcomes precisely by restructuring the underlying generative framework" (p. 82). Based on this discussion, we put forth a model comprised of four modes characterizing possible collaborations among academics from different cultures.

The ADMC Model for Assessing Social Justice

	Affirmation	**Transformation**
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

Mode Definitions and Descriptions:

1. **Aid**

   Definition

   The non-critical transference of tactile or symbolic resources/goods from one social group or individual to another.

   Description

   Aid is a redistributive process that affirms the status quo. It seeks not to alter systems and normative structures but rather to affect immediate circumstances.

2. **Development**

   Definition

   The critical or non-critical restructuring of modes of knowledge and commodity production internally and/or externally.

   Description

   Development is a transformative process whereby goods and/or knowledges are distributed across social structures, groups and/or individuals. Development seeks to change pre-existing patterns and norms of knowledge production and may have

short or long-term effects. However, it does not necessarily problematise differences in interests and needs of the different participants.

3. **Multiculturalism**

   Definition

   The interactive process of recognizing and affirming cultural variation.

   Description

   Multiculturalism acknowledges differences among cultures and supports multiple identities. However, it is an affirmative process in that it recognizes but does not seek to alter/change access to, or production of, material and/or symbolic goods.

4. **Critical Collaboration**

   Definition

   Self-reflexive assessment, individual or collaborative, of existing and pre-existing normative structures and relations that characterize access to knowledge and knowledge production, taking into account differences in interests and needs.

   Description

   Critical collaboration entails the deep restructuring of social structures and relations. It is a dynamic, dialectical process for assessing the ability to transform and change norms, political systems and codes of practice. Critical collaboration recognizes difference and creates a forum for authentic dialogue.

Methodology

There are two sources of data used in this paper. The first consisted of the conduct of focus groups (Morgan, 1997) in several countries including Korea, Philippines, Vietnam, Cuba, Colombia, Mexico, Brazil and Australia and New Zealand. Local organizers of the focus groups were requested to invite leading mathematics educators of their countries with substantive international contacts and experiences to participate in the discussion. The focus group discussions lasted one and a half hours each and comprised of between 4 and 15 educators. Prior to the focus groups, the participants received a short summary consisting of some definitions of terms used and some issues that they may want to address. A major characteristic of focus groups is that they allow participants to raise issues that are important to them, rather than address the questions posited by the researchers. From time to time, the researchers asked some clarifying questions and directed the discussion to move on to other topics. Secondly, in many cases the focus group discussions identified significant large scale projects conducted in that country in collaborations with overseas countries. These projects formed the basis of case studies investigated in some depth. Documents from these projects were examined, some published literature on them was reviewed and/or in-depth interviews with key personnel in the project were conducted.

Questions of Injustice in International Academic Collaborations

In line with the distinction between distributive models that are based on “having” and apply to access to resources, and the recognition models that are based on “doing” and manners of interactions between the different social groups, Young (1990) asserts that the basic forms of

injustice in "doing" are based on manifestations of *oppression*. Oppression is a concept that is almost absent in mathematics education literature and thinking, hence it needs careful unpacking. Young argues that oppression is evidenced by the existence of one or more of the following five criteria: *exploitation, marginalisation, powerlessness, cultural imperialism,* and *violence*. I will consider each criterion as it relates to international academic activities. However, prior to consideration of these criteria, the following points are worth emphasising.

First, in a discussion of social justice in international academic contacts, we need to acknowledge the global context of socioeconomic inequality between the different countries in which educators interact with each other. This, undoubtedly, shapes the type and scope of the interactions, and more importantly raises significant hurdles between what is desirable and what is achieved by international contacts. While global socioeconomic injustice is beyond the scope of this paper, it can not be divorced from the discussion here. However, in this paper I will concentrate on non-economic forms of injustice that may arise from such interactions.

Second, the discussion here is not intended to argue that some forms of international interactions in education are inherently just while others are inherently unjust. In another paper, Ragusa and Atweh (2003) have demonstrated how simple classification schemes of international collaborations are not possible or desirable. Using the model of social justice discussed above, the authors have demonstrated how a single project can reflect at once a wide range of models of social justice. Rather, the intention here is to raise some issues that educators, policy makers, the literature and research should address in conducting and in critically reflecting upon these academic activities and interactions.

Third, in this discussion I will interpret the distribution model in a slightly different way than Young (1990) to better fit the topic of this paper. By distribution, the goods that this discussion considers are not material goods but knowledge - knowledge of research findings, theories as well as know-how in curriculum design and research.

Lastly, while all international contacts can benefit from critique as to their social justice/injustice implications, here I argue that such considerations are particularly relevant and crucial in reflecting upon interactions involving countries with different international and socioeconomic status – in particular, industrialised and non-industrialised countries. It is in these interactions that questions about voice, participation and empowerment are most problematic.

Can International Contacts be Exploitative?

Traditionally, this Marxist concept is used to refer to conditions of, and returns to, the different social groups from work carried out by themselves or by others. It "does not consist only in the distributive fact that some people have great wealth while most people have little" (Young, 1990, p. 49), but "enacts a structural relation between social groups" (p. 49-50). As noted above, material wealth is not a topic that falls within the scope of this paper. However, questions of exploitation can be raised about the global activities that produce a wealth of knowledge in some countries as a result of the labour or knowledge of other cultural groups.

One case study that the Globalisation and Internationalisation project has considered is an area of research called "ethnomathematics". The seeds of ethnomathematical thinking have been attributed to various writers since the 1920s to the present (Gerdes, 1994). However, the popularisation of the term in the international scene in mathematics education is often attributed to the keynote address given by Ubiratan D'Ambrosio (1985) in the 1984 ICME conference in Adelaide. Within a few years, ethnomathematics has been able to spread rapidly around the world. An International Study Group on Ethnomathematics (ISGEm) was established in 1985. The ethnomathematics literature questions the status of mathematics as a universal discipline and

challenges "Eurocentrism" in mathematics as taught in schools around the world (Powell & Frankenstein, 1997). Arguably ethnomathematics studies have given recognition to the mathematical practices and knowledges of alternative social and cultural groups around the world, and as such can be said to reflect the multiculturalism mode of social justice as discussed in the model above.

However, the mathematics education literature reflects few voices of concern about aspects of studies conducted from this perspective. Dowling (1998) discusses how ethnomathematics differs from other projects aiming at the emancipation of groups of disenfranchised learners of mathematics. Ethnomathematics highlights the already existing mathematical content in the practices of different cultural groups, including groups less developed technologically and socioeconomically, rather than contracting these groups as "deficit" in the dominant mathematics. Yet, Dowling makes the observation that nearly all research and writing in mathematics education comes from researchers from within cultural groups who have identified with the dominant "Western" mathematics tradition. These researchers "external" to the cultures they have studied have looked at the practices of other cultural groups. Further, Vithal and Skovsmose (1997) maintain that while ethnomathematics have been able to study the development of mathematics as interactions of power "between" different cultural groups, they have not done the same with power interactions "within" the different cultural groups. Questions need to be raised as to the effect of seeing the mathematics by outsiders on changing the lived reality of the people from the inside. In particular, how can this ethnomathematics be used by the insiders to challenge their subordination from within and from outside their particular culture? Hence, even with the best intentions of studying the knowledge of the voiceless in international educational debates, there still remains the concern about whose knowledge is bring represented and who is benefiting from such studies.

Educators from the Philippines have raised another practice that arose from globalisation of education that contains elements of exploitation, namely the brain drain from the country. While the phenomenon of transition from university staff to overseas destinations is perhaps not new (UNESCO, 1998), the Philippines is experiencing the steady loss of schoolteachers to overseas schools. While there are no concrete statistics on the loss of qualified and experienced teachers who are moving overseas, one participant talked about at least twenty of one cohort of her students requesting early transcripts because they wanted to move overseas. On one hand, this gave these educators a sense of pride that the level of teaching is globally competitive. On the other hand, they pointed to the huge economic and academic loss for the country particularly since it is often the "best" and most experienced teachers who are lost to the local education system (p. 5). However, considering the low socio-economic conditions in the country, such movement is very attractive to the individual teachers.

Lastly, the economic rationality of higher education policy in many industrialised countries can lead to concerns about exploitation of less industrialised nations. In a case study of the changes in higher education policy in Australia, Phil Clarkson (Atweh, Clarkson & Nebres, 2003) discusses the increasing dependence of Australian universities on raising their funds from international students.

> *There have always been a small number of overseas students on Australian campuses since the 1950s, both in undergraduate and post-graduate courses. However, in the 1950s and perhaps 1960s, most such students were on Australian government scholarships of one type or another. One prominent source of scholarships was the Colombo Plan. Australia played a key role in the setting up and the implementation of the Colombo Plan*

> *for Cooperative Development in South and South East Asia (now extended to the Pacific). This role included the sponsorship by the Australian government of international students to study at Australian universities. As the number of both sponsored and private international students studying in Australia increased, the government introduced a fee for international private students. This commenced at a rate of 10% of the cost of the tuition, and gradually escalated to reach about 55% of the cost of tuition by the late 1980s. However, in the mid-1980s there was an increased emphasis on the role of higher education as an income generator for Australia. Back, Davis and Olsen (1996) described this as a shift from "educational aid" to "educational trade" (p. 7). By 1990 the educational subsidies had all but ceased. (p. 212)*

Hence, questions of exploitation need to be raised if higher education is used to channel money from less industrialised countries back to industrialised countries. Similarly, many Australian foreign aid programs in education employ Australian expertise to conduct projects or deliver training of international teachers here in Australia (Atweh, 2003). At least financially, the benefit to developed countries from such economic aid can be minimal.

Can International Contacts Lead to Marginalisation?

Young (1990) argues that marginalisation is "perhaps the most dangerous form of oppression" (p. 53). It occurs when a "whole category of people is expelled from useful participation is social life and thus potentially subjected to severe material deprivation and even extermination" (p. 53). In line with the focus of this paper on knowledge rather than material goods I will raise a few questions about marginalisation of educational interests, needs and voices from less industrialised nations in international contacts in education.

In mathematics education, international conferences play a key role in internationalisation of the discipline. On one hand, for many educators from less industrialised and affluent nations, they are the primary, and in some instances the sole contact that they have with the international scene in mathematics education. Undoubtedly, such contact might have led to further collaboration between educators outside the boundaries of the organisation itself. On the other hand, academics from less industrialised countries are often unable to participate because of high costs of travel. Further, the use of English as the official, and sometimes the only language of many of these congresses, closes the door to participation for the majority of educators in mathematics around the world. In the interviews conducted in this project, educators from Colombia have expressed a great feeling of isolation from international debates in education due in part to their lack of participation in international gatherings. This lack of participation implied, among other things, that the great achievements in the education systems of the country, such as the Escuela Neuva (New School) (Atweh & Ladino, 2003), remain virtually unknown in international educational publications and theory. While the internet has contributed to diminishing the feeling of isolation for some of the educators in the country, it has failed to make the dialogue with the international community genuinely reciprocal.

Further, questions can be raised about the style of communication and presentations at international conferences being Anglo and Eurocentric. One academic from Brazil, with high local respect, talked about the traumatic experience she had at her first presentation at international congress where the short timing and amount of detail expected was so foreign to her. Similar issues can be raised about the style of contributions expected by professional journals. In one focus group, a chief editor of an international journal asserted that editorial policy should include direct action towards increasing the participation of contributions from non

Anglo-European countries by providing intensive editorial assistance to novice authors and including members of other cultures on Editorial Boards. However, this educator also argued that international journals necessarily should maintain a "global standard" to which research reports should adhere.

Lastly, questions about marginalisation can be raised about the choice of research questions to be investigated. Several educators from around the world have commented on the divergence of research questions and methodologies adopted by educational researchers. Colombian mathematics educators operate in a globalised world with a sense of lack of reciprocity and a limited ability to "exchange" with overseas countries on equal terms mainly due to limited resources to raise their own research questions and conduct their own local research and curriculum development. Similarly, educators from the Philippines talked about researchers in the country being "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". The participants have identified national concerns in the Philippines' educational systems such as the increasing gap between the rich and the poor, limited resources and class sizes. Not only the international literature in mathematics education has been relatively silent on these issues, no local research has been conducted on them either. Lastly, research paradigms more popular in some less industrialised countries are not accepted as a standard in industrialised countries and when they are, their origins are often forgotten. The case of action research is perhaps such an example (Atweh & Ochoa, 2001).

How is Powerlessness Constructed in International Collaboration?

Young (1990) claims that the powerless are "those who lack authority or power ... those over whom power is exercised without exercising it; the powerless are situated so that they must take orders and rarely have the right to give them" (p. 56). We acknowledge the problematisation of the concept of power in terms of postmodern writing. However, the lack of reciprocity in sharing knowledge between countries raises serious questions for the mathematics education community about the power of educators and policy makers in developing countries to make decisions about their systems based on their locally produced knowledge. Atweh, Clarkson and Nebres (2003) discussed how Colombian educators have expressed a great sense of disempowerment when it comes to international collaborations. As mentioned above, Colombian mathematics educators operating in a globalised world sense a of lack of reciprocity and a limited ability to "exchange" with overseas countries on equal terms. One academic made the distinction between "copying" and "appropriating" ideas from outside the country. Due to limited resources, the former means of international exchange was seen as more dominant in their situation and as a form of colonialism. According to one educator, "we feel we are in a diminished situation, so minimal, that we are only a small piece in the big board".

Undoubtedly, marginalisation of less industrialised countries as discussed above leads to the feeling of disempowerment by educators from many developing countries. However, the economic situation in many countries was seen by many educators as a major limitation for them to develop their own local research and curriculum development programs. I will examine the situation in the Philippines in some detail.

In 2001, the population of the Philippines was 77 million with a GDP of AUD$130 billion (World Bank, 2002b). In contrast, in 2001, Australia had a population of 19.5 million (roughly one quarter that of the Philippines) with a GDP index of AUD$745 billion in 1998 (roughly 6 times the Philippines) (United Nations Statistical Division, 2002). Currently, the Philippines

enjoys relative political stability leading to an improved economic performance. The economy has enjoyed relatively robust performance during the first half of 2002 with GDP growing at 4.1 annually (World Bank 2002a). As is the situation in many developing countries, the Philippines economy is burdened with a huge foreign debt. At the turn of the millennium, the national debt stood at US$52 billion (World Bank 2002b).

However, as is the case in many developing countries, economic benefits are not equally enjoyed by the different segments of the population. One of the main problems facing the Philippines is the wide prevalence of poverty. In 2002, it was reported that 26% of the population fell below the poverty line, a percentage falling from 34% in the early nineties (World Bank, 2002b). While the overall incidence of poverty declined between 1985 and 1995, the Philippines was the only large country in East Asia where the absolute number of people living on less than US$1 a day did not decline and the inequality between the rich and the poor rose quite sharply (World Bank, 1999).

The Philippines has long been a leader in the Southeast Asian region with respect to achievements in education. By 1970, the Philippines had achieved universal primary enrolment. By 1995, it was ranked one of the most-schooled nations in Asia, after Brunei and Korea. These successes, however, mask a long-term deterioration in access and quality, and the national figures obscure wide regional differences. Education in the Philippines is a high priority both for the government and for individuals and families. The country spends about 15% of its budget on education (Ballestamon, et al., 2000). However, such funds are still limited to meeting the demands of comprehensive education, resulting in concentrating resources in primary education – leaving private institutions to cater to 63% of secondary students and 85% of tertiary students (Evangelista & Evangelista, 1991). Class sizes in the Philippines can be as high as 70 students in one class. Many schools have one textbook for every 6 students.

Arguably, mathematics educators in the Philippines have to work under very adverse conditions that we in the West can hardly imagine. Perhaps the important question for us is not why might they feel powerless in international contacts, but rather how do they get their power to do the work that they do.

Can International Contacts Lead to Cultural Imperialism?

Young (1990) defines this term as "how the dominant meanings of a society render the particular perspective of one's own group invisible at the same time as they stereotype one's group and mark it as the Other" (p. 59). The dominance of Anglo-European views of mathematics and mathematics education has often been contested in the literature on mathematics education. Questions can be raised about the proliferation of curricula around the world that were developed by educators from and based on research conducted in developed countries. In a publication on ethnomathematics, the editors, Powell and Frankenstein (1997), have chosen the subtitle: *Challenging Eurocentrism in Mathematics Education*. Research on the history of mathematics has demonstrated that the contribution of non-Mediterranean cultures to the development of mathematics is often marginalised. Commenting on the ICME7 conference, Rogers (1992) laments that "all our theories about learning [of mathematics] are founded in a model of the European Rational Man, and that this starting point might well be inappropriate when applied to other cultures" (p. 22). He goes on further to assert that "the assumptions that mathematics is a universal language, and is therefore universally the same in all cultures cannot be justified. Likewise, the assumptions that our solutions to local problems ... will have universal applications is even further from the truth" (p. 23).

The issues discussed above under the sections of marginalisation and powerlessness contribute to the dominance of Anglo-European knowledge on the international scene. Here we will discuss two further issues that raise questions of cultural imperialism in education.

First, Atweh, Clarkson and Nebres (2003) point out that mathematics has achieved a status as a highly important subject, arguably next to language, in practically all countries around the world. In many countries mathematics is tied to scientific, technological, and hence to economic development (Kuku, 1995). Following this belief, some have argued for a global mathematics education curriculum. Other educators have identified other factors that explain the divergence in curricula around the world. A mathematics educator from Colombia gives the example of the introduction of calculus in the education system in the United States based on the need to create and maintain a technological society. However, calculus was also introduced in Colombia, a country that does not have the same needs because it imports technology rather than producing it. Hence, he argued that there must have been other factors that determined its adoption in Colombia including the colonialisation of the country in the past hundred years. Another educator from Colombia talks about international educational trends becoming like "fashions" that are transported untested and un-critiqued from a local perspective.

Second, the focus on international achievement testing can lead into a form of cultural imperialism. The publication of results from the recent Third International Study in Mathematics and Science Study (TIMSS) has ignited interest in a type of research that is based on cross-country comparisons in curriculum and student achievement. Arguably, there are only a few issues in mathematics education that attract more public debate from the media, politicians, and even parents than international comparisons. This type of study has generated a considerable amount of controversy within the mathematics education literature. Robitaille and Travers (1992) gave the case for international studies on achievement while others have identified concerns about their validity, usefulness, misuses and abuses. 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 whether this is to the detriment of other countries and their concerns about improving education systems. The authors add "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 is really happening in the classroom and why.

Perhaps, an interesting effect of the globalisation of testing and measurement of achievement is the reversal of patterns in international exchanges typical in the past century. One educator referred to the pattern of many United States' schools importing Asian mathematics programs, in particular from Singapore. The superiority of the Asian students on international testings has raised some interest in the trial of their material in US contexts. However, one educator from Brazil pointed to the sense of irony in this situation. He pointed out that "they send the Japanese [students], ... and [some] Europeans in general send their children to study in the United States. They think that the education is better despite the results [on achievement tests] being worse". He concluded that in evaluating education, test results are but a single criterion among many that should be used. Yet more importantly, it shows that in the late modern age, globalisation seen as Americanisation of world mathematics education is not a defensible position.

Can International Collaboration Contain an Element of Violence?

It is true that many educators in mathematics education live under constant threat of violence from within and from without their immediate society. If violence is taken as use of force to cause physical damage, then this criterion of injustice may be less relevant to studying international contacts in mathematics education. However, if violence is taken to mean the use of coercion to perform a certain action, then the means of imposing certain forms on developing countries should be questioned as they relate to symbolic violence.

Atweh, Clarkson and Nebres (2003) discuss the role of the World Bank in several developing countries. The authors argue that to understand the role of the World Bank in education, it is essential to understand that it is primarily a financial banking institution governed by the logic of sound investment. Accountability to its lenders is a paramount concern behind its decision-making. It is not an organisation for policy and theory development. While its impact on policy in education in many developing countries cannot be denied, it is not to be seen as having the same role as UNESCO, for example, in its role to generate new ideas and broad educational vision. Nor is it the usual aid or social welfare agency. The Bank's programs are based on sound investments and not necessarily on the aspirations of the recipients. In discussing the World Bank from this angle is not to be taken that all of its activities are evil and harmful. Undoubtedly it has been highly influential in constructing mathematics education programs in many developing countries (Jacobsen, 1996). However, we will discuss some of the deep concerns expressed by certain educators in this study.

A few participants have discussed the role of the World Bank and its equivalent international funding organisations on the education systems in their country. Arguably, the most vocal critics of these organisations were the educators from Brazil. It should be recalled here that Brazil is one country in the world that suffers massive foreign debt. A large portion of the country's budget goes towards paying the many loans that the country has taken in the past 40 years. For some in this group this is the ugly face of globalisation. It was portrayed as a continuation of the process of colonialisation and described as "perverse globalisation". Similarity has been drawn between paying taxes to the colonial powers of the past and paying taxes to the new financial colonials of our age:

> *Now ... when the United States revolted against the taxes payed to England ... they were against taxes payed to the [English] crown. [In the same way, the] independence of Latin America was about revolt [against] the taxes payed to the [Spanish] crown. Now we are paying taxes to another crown that is the international financial system. ... This is the way they just keep getting taxes and they keep getting richer and richer.*

Like its predecessor, the new colonialisation is also faced with the potential revolt. This particular discussant pointed to the Seattle and Geneva demonstrations as signs of a revolt against this "formal globalisation".

Funds from international organizations often come with strings attached requiring less industrialized countries to implement "reforms" to their education structures according to policies developed in Western nations. According to a leading educator in Brazil, the World Bank has extended funds to the country with the intention of their participation in international achievement projects. However, the country has refused to participate in a number of these studies. He explains that "the point is that to participate in these [testing programs] …you have to

subordinate the use of funds [granted by the international organisations] to [participate in] the big projects. And we got funds, [but] managed our arrangement with the World Bank to do the evaluation internally, and [therefore, we] were not subordinated".

Another country that was affected by the priorities of the World Bank was Colombia. Higher education, which had been expanding throughout the 1990's, also has seen a reversal in its growth. Beginning in 1998, and continuing until the present, the number of new entrants to tertiary education has been declining. The coverage rate[3] currently stands at just 15 percent which compares unfavourably to other countries in the region and to the OECD country average of 54 percent. At the insistence of the World Bank, public institutions have increasingly shifted their revenue base towards cost-recovery where 49% of revenues came from students as of 2000. As a consequence, the number of entrants into tertiary education declined by 19percent[4]. Private providers enrol more than 2 out of 3 students. This makes the higher education sector in Colombia far less accessible, and hence, far more inequitable than ever before. Only 192 students were enrolled in Doctoral level studies in the country.

Another critic of the World Bank projects was Nebres (in Atweh, Clarkson & Nebres, 2003).

> *Arguably, the biggest failure of these World Bank funded reforms, however, was not in the foreign content of the curriculum or textbooks but rather in the implementation of their use throughout the country. Teachers were not well supported to fully understand the main ideas behind these reforms and thus to reform their teaching according to them. These projects were typically implemented within a 5 to 7 year time frame, within which textbooks must be written, pre-tested, printed and then spread out to the many schools around the nation. Invariably, when the project reached the dissemination stage and teacher training in the use of the textbooks, the periods were too short and too hurried. For example, trainers-of-trainers may have received six months to familiarise themselves with the new principles behind the innovation, but by the time they got to the classroom teachers, the training would be merely a few weeks. This was often accomplished in simultaneous mass training with short timetables resulting in schools sending teachers just to fill the quotas, not necessarily the teachers who would actually be teaching the subject. The image is that of a flash flood rushing through the school system, with no time for absorption. The result in many cases is not surprising. Teachers paid lip service to the new textbooks and curriculum, but went back to their familiar old methods of teaching. The paradigm of many of these Overseas Development Aid projects involved the development of physical infrastructure within relatively short time spans. But one cannot spread educational reform the same way one builds one-size-fits-all school buildings.*

Concluding Remarks

This paper has employed a theoretical discussion of the issue of injustice developed by the feminist writer Young (1990) to analyse some findings from a study of globalisation and internationalisation of mathematics education. It was demonstrated that each criterion presented

[3] Total enrolment in a specific level of education, regardless of age, expressed as a percentage of the official school-age population corresponding to the same level of education in given school year.

[4] It is interesting that in Australia, in spite of the introduction of user pays schemes in higher education, enrolment in the same period has continued to increase.

by Young has been reflected in the focus group discussions with international teams of academics and some of the case studies investigated. However, one striking feature of the discussion above is the complexity of issues when it relates to making justice decisions on international collaborations. None of the examples discussed above lends itself to simple classifications of being socially just or unjust.

International contacts in education may be said to be exploitative if the knowledge of one social group is advanced at the expense of another group. While research into marginalised social and cultural groups may give voice to the voiceless, questions of whose point of view and who is benefiting should remain at the forefront of critical evaluation of all academic action. Similarly, international contacts can lead to marginalisation of some participants if their participation is limited on economic and language grounds. Further, if the research questions and methodologies of some countries dominate international research at the expense of issues of concern of other nations, then the latter can be said to be marginalised. In addition to exploitation and marginalisation, economic situations in many less industrialised nations limit the capacity of educators from those countries to take an active and equal role in international academic activities and hence can lead to a sense of powerlessness.

Further, the non-critical transfer of curricula and research results from one country with a certain perceived high status to another, can be said to be a form of cultural imperialism. In particular the assumed direct correlation of Western mathematics to economic development and the assumption of the universality of mathematics can lead to imposing certain forms of mathematics that may not be appropriate or relevant to many students around the world. Finally, the tying of international aid and development monies to the impositions of agendas, policies and priorities developed in Western countries can be regarded as a form of violence on less affluent nations.

References

Atweh, B. (2003). International aid activities in mathematics education in developing countries: A call for further research. AARE: Auckland, New Zealand.

Atweh, B. Clarkson, P. & Nebres, B. (2003). Mathematics education in international and global context. In A. Bishop, M. A. Clements, C. Keitel, J. Kilpartick, & F. Leung (Eds.), *The second international handbook of mathematics education, (pp. 185-229).* Dordrecht: Kluwer Academic Publishers.

Atweh, B. & Bland, D. (2002). Social justice in global collaboration in mathematics education: A preliminary model. A paper presented at the ANZCIES 2002 conference Armidale, NSW: University of New England.

Atweh, B. & Ladino, Y. (2003). Problemas en la educación matemática de Colombia en el contexto de la globalización. Paper presented at the Pedagogy Congress in Havana, Cuba.

Atweh, B., Ochoa, M. (2001) Continuous in-service professional development of teachers and school change: lessons from Mexico. In B. Atweh, H. Forgazs, & B. Nebres. (Eds.), *Sociocultural research on mathematics education: An international perspective* (pp. 167-184). New Jersey: Lawrence Erlbaum.

Atweh, B. & Ragusa, A. (2003). Issues in social justice in international collaborations: Views of educators from around the world. A Paper submitted to The Australian Sociological Association's 2003 Conference. Armidale: University of New England.

Back, K., Davis, D. & Olsen, A. (1996). *Internationalisation of higher education: Goals and strategies.* Canberra: Australian Government Publication Service.

Ballestamon, S.U., Narvasa, B.L., Cabasal, M.P., Gonda, B.A., & Prado, Ma. E. G. (2000). The Filipino's commitment to quality education. *Journal of Southeast Asian Education*, Vol 1(1), 163-84.

Bishop, A. J. (1992). International perspectives on research in mathematics education. In D. Grouws (Ed.), *Handbook of research on mathematics teaching and learning,* (pp. 710-723). New York: Macmillan.

Clements, M. A. & Ellerton, N. (1996). *Mathematics education research: Past, present and future.* Bangkok: UNESCO.

D'Ambrosio, U. (1985). Sociocultural basis for mathematics education. In M. Carss (Ed.), *Proceedings of the fifth international congress on mathematics education,* (pp. 1-6). Boston: Birkhäuser.

Dowling, P. (1998). *The sociology of mathematics education: Mathematical myths/pedagogic texts*. London: Falmer.

Evangelista, F.U., & Evangelista, L.A. (1991). *The Philippines: A comparative study*. Canberra: Australian Government Publishing Service.

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

Fraser, N. (1997). *Justice interuptus: Critical reflections on the "post-socialist" condition*. NY: Routlege.

Gerdes, P. (1994). Reflections on ethnomathematics. *For the Learning of Mathematics*, *14*, 2, 19-21.

Hargreaves, A. (1994). *Changing teachers, changing times: Teachers' work and culture in the postmodern age.* London: Cassell.

Jacobsen, E. (1996). International co-operation in mathematics education. In A. Bishop, et al. (Eds.), *International Handbook of Mathematics Education* (pp. 1235-1256). Dordrecht: Kluwer.

Keitel, C. & Kilpatrick, J. (1999). The rationality and irrationality of international comparative studies. In G. Kaiser, E. Luna, & I. Huntley (Eds.), *International comparisons in mathematics education* (pp. 241-256), London: Falmer Press.

Kuku, A. (1995). Mathematics education in Africa in relation to other countries. In R. Hunting, G. Fitzsimons, P. Clarkson, & A. Bishop (Eds.), *Regional collaboration in mathematics education* (pp. 403-423). Melbourne: Monash University.

Morgan, D. (1997). *Focus group as qualitative research*. Thousand Oaks, California: Sage Publications.

Powell, A. & Frankenstein, M. (Eds.). (1997*). Ethnomathematics: Challenging Eurocentrism in mathematics education*. Albany: Sunny Press.

Ragusa, A. & Atweh, B. (2003). Analysing global collaborations using a post-structuralist model of social justice and social change. Paper presented at the Social Change in the 21st Century conference. Carseldine: Centre for Social Change Research.

Rogers, L. (1992). Then and now. *For the Learning of Mathematics, 12*, 3, 22-23.

Robitaille, D. F. & Travers, K. J. (1992). International studies of achievement in mathematics. In D. Grouws (Ed.), *Handbook of research on mathematics education* (pp. 687-709). New York: Macmillan.

Sawiran, M. (1995). Collaborative efforts in enhancing globalisation in mathematics education. In R. Hunting, G. FitzSimons, P. Clarkson, & A. Bishop (Eds.), *Regional collaboration in mathematics education* (pp. 603-609). Melbourne: Monash University.

UNESCO (1998). World declaration on higher education for the twenty-first century: Vision and action. [www.unesco.org/education/educprog/wche/index.html]. (20/4/1999)

Vithal, R. & Skovsmose, O. (1997). The End of innocence: A critique of ethnomathematics. *Educational Studies in Mathematics, 34*, 131-157.

World Bank (1999). Social policy and governance in East Asia and the Pacific. http://www.worldbank.org/eapsocial/countries/phil/pov1.htm (Accessed May 3, 2003).

World Bank (2002a). Country brief: Philippines. http://lnweb18.worldbank.org/EAP/eap.nsf/87d06ef07cb6cd69852567c90077a6de/fcfec43d86164dc785256c33004e7cc5?OpenDocument (Accessed May 3, 2003).

World Bank. (2002b), Country summary: Philippines. http://www.worldbank.org/data/countrydata/countrydata.html (Accessed May 3, 2003)

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