THE PRIVILEGING OF ENGLISH IN MATHEMATICS EDUCATION RESEARCH, JUST A NECESSARY EVIL?

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In mathematics education research, English has become the lingua franca in many situations. There are many advantages of having a lingua franca within such a diverse community. However in this paper, it is argued that the practices that are most affected by the need for a lingua franca, such as conference attendance and the writing of journal articles, also contribute to mathematics education research becoming monocultural, both in what is researched and how it is reported. Fictional dialogues are used to explore the construction of this monocultural nature of mathematics education research. In considering the collective praxis of researchers in this field, there is a need to identify the constraints on our possibilities for participating in those practices, along with the ways that those possibilities are affected by our participation. In this way, we not only begin a dialogue on these issues but have the possibility to locate other ways of participating.

PROVOCATIVE OR PARANOID?

In this paper, I explore how our ways of presenting mathematics education research are becoming increasingly constrained by regulations that we, as a community, have adopted, perhaps without enough thought, as a necessary component of working as academics. Are we colluding not just in our own oppression (Atkinson, 2004) but in that of others whose voices are reduced or removed when they are forced to use English? Some may feel that I am being paranoid, rather than provocative as I intend, in describing the outcome of these constraints to be the production of a monocultural mathematics education research community. In this paper, I hope to discuss how it is that we simultaneously mouth the need for diversity whilst excluding aspects of it through research dissemination processes. The paper has three parts. In the first part, I present the problem. In the second, I outline some factors that have contributed to the current situation and in the final section, I provide possibilities for changing the situation, something suggested by Harris (2005) that is still possible in the present, neo-liberal environment of higher education.

In choosing to describe our, the mathematics education research community’s, research dissemination process as one that produces a monocultural community, I am inspired by the work of Jeanette Rhedding-Jones, who as an immigrant from Australia, works in early childhood education in Norway predominantly “for ethnic minorities and against racism” (2007, p.38). For Rhedding-Jones (2007):

It can thus be said that the articulations of monoculturalism may categorise ethnic minority children and adults as incompetent. This is in practice further qualified as ‘developmental’, ‘social’ and ‘professional’. Hence language, domestic habits and public celebrations are not the only culturally constructed outcomes of racial and religious
diversities, citizenships and the effects of media and migrations. For pre-school education and care this raises major problems regarding what it is that ‘ought’ to be happening. Is it the home and the parenting of the dominant culture or the minority cultures that should be being replicated? To what extent should or could they be blurred? Do dominant culture professionals hear, see and taste only their own cultural positioning? How are they to find other practices that are possible or desirable? Who will move out when minorities move in? (p.40)

In reading Rheding-Jones’ work, the connections between these ideas on monoculturalism and the dissemination of mathematics education research may not be obvious. Rather than spell out immediately my reasons for considering this connection to be valid, I first want to present a series of imaginary vignettes based on situations in which I have been involved. I have chosen to present material in this way because I want to explore the situations so that “the dramatic ‘frame’ serves to distance the players from the subject in such a way as to ultimately engage them aesthetically and offer to them a simultaneous sense of recognition (things are as they seem) and the potential for change (things could be otherwise)” (Gallagher, 2005, p.83). Therefore, I beg an indulgence of the reader to consider Rheding-Jones’ (2007) description of monoculturalism while reading the vignettes.

**Sweden**

PhD Student: Can you look at this article and see if my English makes sense? I want to submit it to the journal *Mathematics Education for Today*?

Tamsin: It looks pretty good but why are you saying that you researched mathematics lessons in elementary schools? We don’t have elementary schools in Sweden.

PhD Student: My supervisor thinks it is more acceptable if you use familiar terms for the reader.

Colleague: Can you look at my translation of this dialogue with a child who has Swedish as a second language? I need it to sound like a 10 year old child who has English as second language.

Tamsin: Okay, this is the best I can do but it will never have the nuances that you have in Swedish. Why don’t you keep the original Swedish transcript in your paper?

Colleague: Can’t, there isn’t enough space. The journal only accepts articles of 20 pages. If I put in the original transcript and the translation, then the paper’s too long.

**Conference somewhere in the world**

Presenter: We have used theories from the Arcadian researchers So-and-so and So-and-so. Their ideas have strongly influenced much of mathematics education research to do with this kind of technology in our country. In our paper we have extended these ideas in the following ways.
Audience member: But why have you not referenced This-person and That-person? Their articles are published in all the top journals. You need to make sure that you connect to the research literature.

Conference participant 1: How come those people from Arcadia never say anything in the discussions? Their English is pretty good.

Conference participant 2: I think they think we’re too rude in the way we interact.

Conference participant 1: What do you mean?

Conference participant 2: You know, the way we talk over the top of each other when we get enthusiastic about something or want to disagree. If you aren’t used to that kind of interaction you might find it a bit overwhelming, even if your English is very good.

In these vignettes, English is not just the lingua franca in which research is presented. The impact is wider, as Ernest (2009) suggested:

This research literature, which incorporates the full range of academic publications including journals, texts, handbooks, monographs, and web sources is largely based in Northern and ‘developed’ countries, and is largely Anglophone at the high prestige end. Although journals, publishers and conference committees reach out to many countries for their editorial panels and members the locus of control remains firmly Eurocentric. This leads to the intensification of the ideological effect, as does the Eurocentricity of international research organizations and conferences. (p.73)

The vignettes show how ideology operates at the local level where individuals chose to adopt specific practices, such as making research sound as though it comes from an English-speaking country. Terms such as “elementary school” only help those who cannot envision any other way that schooling could be organized. However, writing in English means that terms, such as primary or elementary schools, are not explained because they are considered to be self-evident. Sometimes, journal information for authors suggest that “given the international audience of SERJ [Statistics Education Research Journal], authors should make sure to provide sufficient details regarding terms, acronyms, concepts or issues which are country specific and whose understanding is essential to readers from other countries” (Statistics Education Research Journal, 2009). Although this journal also accepts submissions in French and Spanish, I suspect that terms such as primary or elementary would still not be included in their expectations about which terms need an explanation. For those who work in systems where schooling is organized differently, a translation is always required. This contributes to some ways of organizing schooling becoming “other” to the normal. Being confronted with the differences, those who do not have “normal” forms of schooling use these experiences to build their bicultural understandings about mathematics education research. They learn through this reflection what is required to get published in top journals, which includes leaving out details of their “abnormal” schooling practices and so presenting themselves as monocultural. As
Atweh and Clarkson (2001) acknowledged, the format of conferences and journal articles does not support “a deep analysis of the context behind the research” (p.85).

In the second and third vignettes, it can be seen that expectations about the ways that research should be presented affect what a presenter is “allowed” to do. If authors wish to include the original version of a transcript, then they must present their academic argument more succinctly to conform to space requirements. When a choice is made not to include the original transcripts, bilingual readers miss out on added information. When researchers are expected to (only) reference research published in English-language journals in order to be taken seriously, then there are some serious issues about what mathematics education research is valued and for what reasons (see Ernest, 2011). Jurak (2011) in his discussion of inequities between developed and developing countries illustrated the complexities that contribute to this situation, including having to write in English.

It is likely that the quality of mathematics education is better in a developed country than in a developing country and eventually this quality differential will result in better teaching and learning of mathematics. Moreover, it is likely that the mathematics education community in the developing country does not have as much access or ownership of internet or knowledge of English as in the developed country. This by itself might generate an inequity between the two countries in terms of ownership of two essential tools for generating and sharing mathematics education knowledge, thus generating a chain reaction which results in an inequitable participation of the two countries in mathematics education at the international level. Even if a mathematics educator in the developing country succeeds in submitting a proposal to an international conference, it may not be accepted on the basis of inadequate ‘quality’ or questionable ‘relevance’ to the international community. If against all odds, a submission is accepted, its author will not likely have the financial resources to travel in order to participate in the conference. Obviously the interaction of these factors may eventually lead to the exclusion of the developing country from participating in mathematics education at the international level. (p.131-132)

Although Jurak (2011) concentrated on what developing countries miss out on, I also consider that by excluding, in rational ways, the voices and opinions of non-English speaking, especially non-Western, countries, then the mathematics education community not only becomes poorer in its understanding of how different children learn mathematics but becomes inward looking in deciding what constitutes good mathematics education and good mathematics education research. Thus, the heterogeneity of English speakers also becomes hidden. Perceptions of how mathematics education should be presented do affect what content is considered to be valuable. It also ensures that some people are excluded from being present in discussions of mathematics education research.

The final vignette raises issues around academic discussions. Ways of being polite differ between versions of English as well as between languages (Kasper, 1997). Some forms of participation that are used in conferences will exclude some people
who do not feel comfortable to interact in the necessary ways to ensure their voices are heard. Similarly, Atweh and Clarkson (2001) identified a lack of research about the impact of “cultural differences and norms in forms of establishing contacts and collaborations” (p.85) in mathematics education. If English-language speakers’, and in particular one dialect of English speakers’, ways of interacting dominate discussions, then other speakers will choose not to collaborate with them. In an article with Tony Trinick and Uenuku Fairhall, we problematised why teachers in Māori-immersion schools were excluding themselves from attending mathematics teacher conferences (Meaney, Trinick & Fairhall, 2009). A reviewer comment on an earlier version of the paper was that nobody else was responsible for this exclusion, except the teachers. The fact that the organisers had done nothing but provide lip-service to Māori culture was not recognised as a contributing factor to the exclusion process. Ways that interactions are expected to occur will support research being done in only certain kinds of ways and this will lead to exclusion of some groups.

In this section, I have outlined some of the issues related to having English as the lingua franca in mathematics education research and suggest that one of the consequences of its dominance is that this research is becoming monocultural. Rather than embracing the diversity that is present in mathematics education, the use of English is encouraging us to do research that presents itself predominantly as of value and interest to native English speakers. Ernest (2009), in discussing how ideologies affect individuals’ mathematics education research practices, stated:

> It also leads to the ideological effect, whereby researchers in ‘developing’ countries are subject to and internalize the ideological and epistemological presuppositions and values of this dominant research culture. For to fail to do so is to be excluded from the high prestige channels for knowledge publication and dissemination. (p.73)

Although native English speakers are not an homogenous group, the rapid adoption of similar policies across English-speaking countries, such as those to do with curriculum (Atweh & Clarkson, 2001), suggest that there are strong homogenising trends. Consequently, research from non-English speaking countries is either filtered out of the dissemination processes or made to take on the persona of being from an English-speaking country. In the next section I highlight some of the factors that have contributed to the strengthening of the dominance of English over the last two decades.

**WHAT CONTRIBUTES TO MAKING ENGLISH SPEAKERS BLIND TO LANGUAGE ISSUES?**

The valuing of English in mathematics education research has arisen because of the coming together of a number of different processes, in the same way that Jurak (2011) indicated that the valuing of English operates in conjunction with other factors. Bernstein’s (2000) pedagogic device is one way of viewing how pedagogic communication, as a carrier of ideological messages, reproduces social inequality through the process of selecting what to teach in individual classrooms (Singh, 2002).
As academics, the presentation of our research results through publications and conferences is a form of a pedagogical communication (see Beck (1999) and Beck and Young (2005) for other examples of how Bernstein’s ideas have been used in regard to the university sector). Through his theory of the pedagogic device, Bernstein (1990, 2000) attempted to explain the “social grammar” which simultaneously reproduces and transforms knowledge within education systems. Bernstein (2000) suggested that “the device continuously regulates the ideal universe of potential meanings in such a way as to restrict or enhance their realisations” (2000, p.27). It does this through a hierarchical set of rules:

1. **Distributive rules**: These rules distributed forms of knowledge to different social groups. In this way, distributed rules distributed different forms of consciousness to different groups. Distributive rules distributed access to the ‘unthinkable’, that is, the possibility of new knowledge, and access to the ‘thinkable’, that is, to official knowledge.

2. **Recontextualising rules**: These rules constructed the ‘thinkable’, official knowledge. They constructed pedagogic discourse: The ‘what’ and the ‘how’ of that discourse.

3. **Evaluative rules**: These rules constructed pedagogic practice by providing the criteria to be transmitted and acquired. (p.114)

In this paper, what is distributed, recontextualised and evaluated is knowledge about what is considered valuable in mathematics education research. Although the outcomes of research also change, this is a secondary effect of changing what is seen as valuable academic knowledge. The pedagogic device’s primary purpose is to show how the reproduction of social inequities is achieved, through making invisible the decision-making process around curriculum selection, or in our case research selection (Bernstein, 1990, 2000). Therefore, the use of English as a lingua franca is both an outcome of the pedagogic device as well as an influence on how it operates. The dominance of English reinforces the selection of knowledge through each set of rules, thus resulting not just in the vignettes described earlier but in a tacit acceptance of the monocultural nature of mathematics education research.

**Distributive Rules**

Distributive rules provide different forms of knowledge to social groups, thus determining who has access to what knowledge, under what conditions (Bernstein, 2000). Although Apple (2001) also concentrated on schools, his ideas, like those of Bernstein, are relevant to the university sector. He saw education as an arena that has been heavily influenced, since the 1980s, by an alliance of political groups with separate agendas. The formation of this alliance has led to:

The seemingly contradictory discourse of competition, markets, and choice on the one hand and accountability, performance objectives, standards, national testing, and national curriculum on the other has created such a din that it is hard to hear anything else. Even
though these seem to embody different tendencies, they actually oddly reinforce each other and help cement conservative educational positions into our daily lives (Apple, 2001, p.411)

Using the discourses identified by Apple (2001), societies, through their politicians and policy makers, have controlled what constitutes valid academic knowledge (Baert & Shipman, 2005). This has been a change from the European university tradition of much of the nineteenth and twentieth where universities and their members were considered to control the knowledge that they produced (Baert & Shipman, 2005). The dominance of the discourses of this political alliance, labelled neoliberal and neoconservatism (Beck, 1999; Apple, 2001), has arisen from wider societal issues such as the need for industries to have a more highly educated workforce to meet the change in production types (Beck & Young 2005; Currie, 2005). These issues have led to a substantial increase in enrolment in higher education in English-speaking, as well as other, countries (Beck, 1999). The diversity in the needs of industry (market responsiveness), with the diversity in students who enrolled, enabled the knowledge that traditional universities had passed on to students to be branded as elitist (Beck, 1999; Baert & Shipman, 2005). By highlighting the issue of elitism, those who supported a neoliberal agenda have to some extent controlled the discussions about how university knowledge should be adjusted.

Although they have much less control, universities continue to have had some say in the development of the policies that they must abide by. Nevertheless, differences in types of universities that have arisen since the massification of higher education have contributed to them being unable to “speak with a single voice” (Vidovich, 2004, p.346). The perception that they have different needs has minimised their ability to present a unified opposition to government use of financial management to control what they, the universities, are allowed to do. This has contributed to governments being able to enforce their view that universities should become more market driven.

The adoption of these government policies, on a world-wide basis (Atkinson, 2004), has had an impact on the transnational mathematics education research community. Sriraman (2011), in Figure 1, highlighted the factors that he saw as affecting the research done in universities and used it to problematise how mathematics education research in Nordic countries was being forced to “borrow or mimic trends seen ‘across the (Atlantic) pond’” (p.76). However, only some factors in Figure 1 are controlled by the distributive rules. As a consequence of neoliberal/neoconservatism discourses, the distribution of knowledge has resulted in the corporatization of universities, with competition, marketisation and individual choice, and by controlling funding, through the imposition of the use of citation devices to achieve accountability and performance objectives. Institutional norms and dogmas are seen when recontextualising rules are in operation, whilst the impact on direction of local culture and scholarship is related to the operation of the evaluative rules.
The corporatization of universities is a result of neo-liberal reform agendas that highlight the importance of market forces “to ensure that only ‘good’ ones survive” (Apple, 2001, p.412). In this way, universities are conceptualised as businesses, which then puts pressure on research to be considered relevant to this business’ market. “Research in education is framed by the expectation that it will lead to improvements in both educational policy and practice and the view expressed by policy makers and practitioners is that it has not satisfactorily fulfilled these expectations” (Lingard & Blackmore, 1997, p.5). The product at the centre of universities’ business is knowledge, putting it firmly into what has been described as the knowledge economy (Ernest, 2009). Consequently, academics and the work they do has become part of an exchange system (Harris, 2005).

Although differences may appear in specific Western countries, almost none have been exempt from ideologies that consider knowledge to be a commodity and its production and exchange part of an economic (Ernest, 2009), rather than a cultural system. Comments made by mathematics education researchers in the Australasian region, suggested that the influence of US and UK policies on their own education systems were a form of colonisation (Atweh & Clarkson, 2002). Something similar could be said about the impact on developing countries. Thus, the knowledge that is distributed to universities is that they should see themselves as businesses and act accordingly.

Perceiving research as a commodity, within an education market, allows its quantity and the quality to be judged. In the last fifteen years, accountability processes have been put in place by some governments to try to ensure that the highest quality of knowledge is developed at the lowest cost (Adler, Ewing & Taylor, 2009). Acceptance of the need for these accountability processes has affected what research is considered valuable and how this value is ascertained. Identifying who has produced high quality research provides the basis for determining the level of funding.
going to individual universities (Schneider, 2009). Universities that produce high quality research are given the most funding to continue doing this kind of research.

After concerns that some assessment practices simply contributed to an increase in quantity but not quality (Schneider, 2009), governments began to support the adoption of simple, numerical ways of assessing research quality, specifically journal impact factors or citation devices. Although originally proposed to help librarians chose appropriate journals (Bergstrom, 2007), counting how often an article is cited by other people has become a de facto way of determining quality (Schneider, 2009). Nevertheless, as Adler, et al. (2009) stated “governments, institutions, and even scientists themselves continue to draw unwarranted or even false conclusions from the misapplication of citation statistics” (p.3).

Notwithstanding these concerns, measuring research quality in this way has become widespread. In Norway, university research funding is allocated based on institutions’ publication lists (Schneider, 2009). Prestigious publication outlets are given greater emphasis. As well, the type of publication has an impact on the points awarded. So an authored book published by a prestigious, academic publisher gains 8 publication points, whereas a chapter in an anthology published by a non-prestigious publisher would only receive 0.7 points. “The division of publication channels is made in order to give researchers incentives to focus their publication activity on a ‘selected number of prestigious channels’ within the research fields” (Schneider, 2009, p.371). In the field of mathematics education research, only four journals, out of the twenty mathematics education publications noted in the Norwegian system, are considered to be at the most prestigious level, level 2. These are the Journal for Research in Mathematics Education Research (JRME), Educational Studies in Mathematics (ESM), Journal of Mathematics Teacher Education and ZDM - The International Journal on Mathematics Education. These journals, like all, bar one, of those at level 1, are published only in English. Of these four journals, only one has a non-English native speaker as its editor.

Not only have neo-liberal agendas controlled within-country funding, they also have contributed to a declining willingness by governments to fund improvements in education in developing countries. As Jacobson (1996) stated more than 15 years ago:

> We are experiencing a growing political conservatism in governments. There is less inclination to assist their less fortunate, and certainly not those in countries far away. The rich nations are becoming richer, and the poor poorer. The institutions set up to provide world co-operation, the United Nations, UNESCO, the World Bank, there are many, are being starved of funds and their activities curtailed. (p.1252)

One example is that the translation of mathematics education research findings by UNESCO in the 1960s and 1970s is no longer readily financed, although there is some indication of changes in this area (see, for example Artigue, 2012). Not only is research primarily done in English-speaking countries – see Mesa (2004) for a
breakdown of where JRME’s articles come from – but it must be read in English, in expensive journals (Sriraman, 2012), or not at all.

My contention is that these conservative education agendas distributed by governments to universities as the knowledge that they should attend to become distilled into the practices, illustrated in the vignettes. The solidification of these policies in English-speaking countries has affected the mathematics education research community to a large degree because of the use of English as a lingua franca within this community. This is explored in more detail in the next sections.

**Recontextualising rules**

According to Bernstein (2000), recontextualising rules regulate ‘what’ should be taught and ‘how’ it should be taught and thus they form the pedagogical discourse. With regards to mathematics education research, recontextualising rules act as a sieve that influence how knowledge about what research is valuable, made available through the distributive rules, enters the pedagogical discourse of the university and the research field. As Harris (2005) stated “academic identity was related to subject discipline rather than to the institution itself” (p.423) and consequently the mathematics education research community has been affected by these rules as well. Bernstein (2000) was particularly interested in the subject discipline and its control of knowledge. In my paper, the focus is on how the distributed knowledge from acceptance of neoliberal/neoconservatism agendas has affected the practices of universities and subject fields. The field of mathematics education research is transnational, making it simultaneously not affected by any one government’s policies, whilst also being affected by all governments’ policies. When government policies merge across the world (Baert & Shipman, 2005), then there are significant pressures on mathematics education research to become uniform in what it reports.

A result of corporatization of universities is that one university pits itself against another in order to gain the most government funding. Harris (2005) stated “it is increasingly important that academic activity contributes to the institution’s overall strategy to maintain and improve its market position, which places more pressure on individuals to pursue and construct academic identities in line with corporate identity” (p.426). This institutional dogma results in universities offering “rewards” to those staff who act in accordance with their mission statement. Sriraman (2011) noted that publication in a top-ranked journal can result in a university providing an academic with $US1000 research money. In parts of Scandinavia, the reward system is connected to the publications recognised by the Norwegian database, although the reward system may treat level 2 publications similarly to level 1.

An environment which supports competition between institutions can affect the sorts of co-operation that universities allow their staff members to engage in and this will have an impact on how disciplines develop.

Only time will tell if the Nordic countries sustain their spirit of co-operation with one another, and the sharing of resources or whether they also succumb to the whims and
vicissitudes of the competitive market economy. The goal of mathematics education is hopefully not to out-rank or polarize each other in arbitrary assessments, but to create a mathematically suave and literate society capable of solving its own problems – economic, social, migratory, political, or otherwise. (Sriraman, 2011, p. 77)

Competing for the available, limited funding can affect the kind of research that mathematics education researchers chose to do. “The ‘purchasers’ of research divide into two contrasting constituencies: the state, which traditionally sponsors ‘pure’ research for the perceived public good, and private businesses, more concerned with ‘applied’ research that can promise commercial payback” (Baert & Shipman, 2005, p.160). However, these roles are becoming blurred which has an impact on the type of research that mathematics educators, like other researchers, engage in. Thomas (2001) stated “as universities find it increasingly difficult to maintain their funding base for both teaching and research, gaining government contracts and tenders becomes a means for survival” (p.106). These contracts and tenders have already identified the problem to be researched and often the mechanism for conducting the research. Therefore, “the increased dependence upon fee-for-service research has the potential to politically compromise the independence of research analysis and findings” (Lingard & Blackmore, 1997, p.9). Thomas (2001) went on to describe how few open discussions are held about this control of funding because of a fear of creating divisions within the mathematics education research community because of different perceptions about the sort of research that researchers should be engaged in. However, as Atkinson (2004) stated, there is a risk that the control that the government exerts over funding research may mean that its “primary purpose is not to question or to critique but to serve policy” (p.114).

Although Thomas was specifically referring to the situation in Australia, it is likely that similar situations occur in any country where universities have to operate in a neo-liberal environment of competition. Drawing from the work of Alan Bishop in the early 1990s, Atweh and Clarkson (2001) stated “although research in mathematics education is a relatively recent phenomena in many countries, research questions, methods, practices, and publications are becoming more standardized” (p.86). For example, when governments consider quantitative research as being more “scientific” than qualitative research, then research which is conducted for contracts and tenders is likely to have no option but to be quantitative. For example, the US National Mathematics Advisory Panel argued that mathematics education research should use large-scale, randomized control studies (English, 2010 cited by Ely, 2010). However, research of this kind can result in aspects of diversity being ignored because they are “hidden” within the statistics (Leder, 2012) or reified, in the case of socio-economic status being seen as a cause of poor mathematics achievement (Valero, Graven, Jurak, Martin, Meaney, & Penteado, 2012).

On the whole in the 1990s, educational research was recognised as being multidisciplinary in nature because of the types of questions that it was trying answer (Lingard & Blackmore, 1997). However, the standardization mentioned by Atweh
and Clarkson (2001) has become more pronounced in recent years. For example, Heid (2010), as the editor of JRME, suggested that mathematics education should be clearly situated around issues to do with mathematics content. This has raised significant discussion in the US and elsewhere about what statements of this kind mean for mathematics education research (Martin, Gholson, & Leonard, 2010; Battista, 2010; Confrey, 2010). This discussion about what mathematics education research should be is connected to the need for it to be considered “scientific”. There are two reasons why this connection is necessary. One is that in the US, the math wars have produced a very divisive discussion with mathematicians, heavily criticising the reform agenda of the National Council of Teachers of Mathematics (NCTM), who are the publishers of JRME (Klein, 2003). Their main concern was a perceived lack of mathematics in the mathematics education that NCTM’s (1989, 2000) National Standards were promoting (Klein, 2003). If Martin et al.’s (2010) contention, that JRME predominately publishes articles on mathematics is correct, then their query about why Heid (2010) raised the point could be seen as a response to this ongoing debate. The other reason for raising an issue about the primary purpose of mathematics education research is to delineate it as a research field in its own right. Battista (2010) stated:

I believe that it is important to maintain a distinct identity for the field of mathematics education research, a field that struggled for identity at its inception, and is struggling again to find a role in the political battles for control of the education system in this country. (p.35)

The discussion about what constituted mathematics education as a field is not a recent phenomena (see Silver & Kilpatrick, 1994). However, in the current climate, the loss of identity as a research field becomes a significant problem if it affects how journals are rated and how the significance of its research is assessed.

Recontextualising rules take distributed knowledge about the need to put a value on mathematics education research and turns this into university and discipline activities, institutional dogmas and norms (see Sriraman, 2012), that give substance to how this valuation is achieved. The incentives, funding and determining of what it means to be part of a research community become Bernstein’s (2000) pedagogic discourse in which individual mathematics education researchers operate. This pedagogic discourse has arisen from the knowledge distributed to universities and the mathematics education research community, predominantly from government, but it also affects the options available to individual researchers in how they decide upon their own investigations.

**Evaluative rules**

In the first section, I used a series of imaginary dialogues to suggest that the dissemination practices within mathematics education research are making it more monocultural. Understanding how evaluative rules act upon the recontextualised knowledge provide an explanation of how the practices illustrated in the dialogues
have become a reality. Evaluative rules take recontextualised knowledge and transform it into the knowledge that individual researchers act upon when deciding what to do. Bernstein (2000) stated “evaluative rules act selectively on contents, the forms of transmission and the distribution to different groups of pupils in different contexts” (p.115). With regards to mathematics education research, I suggest that it is at the level of research practices that the purpose of the pedagogic device as “a symbolic ruler of consciousness” (Bernstein, 2000, p.36) is most evident.

The impact of marketisation of universities on academics’ work has been documented for some time. Summarising some of this research, Currie (1998) stated “academics will experience the following changes: an intensification of work practices, a loss of autonomy, closer monitoring and appraisal, less participation in decision making, and a lack of personal development through work” (p.18). Consequently, it can be said that these changes have an “impact on direction of local culture and scholarship” (Sriraman, 2012, p.77)

Closer monitoring and appraisal of academics comes from having their work evaluated. The value given to citation devices by governments and transmitted down to the university affects an individual’s decision about where to send his/her manuscripts. This is because choosing where to send the manuscript has an impact on his/her ability to gain grants or even tenure at his/her university (Bergstrom, 2007). These individual needs have overtaken considerations of whether specific conferences or journals would be the best places for the classrooms and teachers who were the participants in the research (Battista, 2010).

The emphasis on competition filtered down through the universities from neoliberal agendas and government policies also affects the co-operation between colleagues, even in the same institution. Baert and Shipman (2005) stated:

The new pressure on academics to out-publish their colleagues, to be first to put their name to new discoveries, to compete for ever scarcer jobs and research funds, and to use their time originating new results rather than replicating and corroborating those of others, seems to erode collegial trust and the peer assessment it used to cultivate. (p.169)

As well discussions about what constitutes, from a subject discipline perspective, mathematics education research, that will contribute to career advancement, affects the choices that individuals make. In responding to Martin et al.’s concerns about mathematics being the centre of mathematics education research, Confrey (2010) provided evidence of how mentoring about career choice has an impact on what research is undertaken:

The field of mathematics education needs to be more diverse – who does the scholarship does matter – due to differences in experiences, priorities, interpretive frameworks, and identification. When I recently hosted a discussion of Martin et al.’s (2010) commentary, of the women who participated (African American and Caucasian, and all them professionals in educational research), more than half, including myself, had been at one time or another explicitly counseled not to study issues of race or gender as a scholarly
enterprise for risk of being pigeonholed, and hence restricted in our subsequent professional opportunities. Therefore, I agree that the marginalization of scholarship referred to in the commentary is a widespread and unfortunate phenomenon reinforced by different forms of mentoring. (p.26)

The pedagogic discourse that academics are enveloped in means that they often make unconscious decisions about what mathematics education research they should engage in. The discourse about ensuring that one solidifies one’s market position through doing the “right” kind of research to be published in the “right” kind of journals makes it difficult to see how the requirement to use English contributes to mathematics education research becoming monocultural. There is a vicious circle where what gets cited and rewarded is most likely to appear in prestigious journals and the most appropriate way to get published is to do research in an area that is recognisable to English native speakers. For non-English speakers, as noted by Sriraman (2012), a replication of a study done in an English speaking context is unlikely to be publishable, even though the context is different and the study could be of benefit to the education system in their country. This is because the research would not be seen as adding anything to what English speakers want to know. On the other hand, the push for new results is tightly connected to building on what has been done before and reported in the prestigious journals.

WAYS FORWARD

In this paper, I provided some vignettes which were based on real events that troubled me in regard to the direction that the practices of mathematics education research were going. However, thinking through these issues has not been easy. I would certainly concur with Atkinson’s (2004) suggestion that we are so “at-risk” of being controlled by the rhetoric which surrounds us, that trying to critique it means risking being seen as a heretic. The role of English in the vignettes seems to affect what is considered normal and in this way contributes to mathematics education becoming monocultural. Frowe (2001) stated that:

> Language enables participants to talk about the practice, to formulate regulative principles and engage in typically educational transactions, but it also provides an orientation towards the practice and helps constitute the nature of the practice. (p.94)

The vignettes, provided as examples of the monocultural nature of mathematics education, did not occur because English-speaking researchers were simply thoughtless in how they acted. If this was the case then changing the situation would be relatively easy. Rather, the process that has lead to these kinds of dialogues is complex with many different, inter-related components. In the previous section, I used Bernstein’s rules for the pedagogic device to show how these different components came together to bring about the tendencies for mathematics education research to become monocultural. In this section I want to discuss how the pedagogic device can be used for identifying possibilities for changing the situation.
There is hope that the forces channelling mathematics education research into becoming monocultural are not unstoppable. Although Bernstein (2000) suggested that it was only through distributive rules that the “unthinkable” can become thinkable, previous research has suggested that there are possibilities when each rule comes into operation (see for example, Meaney, Trinick & Fairhall, 2010/2011).

The distribution rules that result in government policies determining much of what universities, and from them what academics choose to do as research, can be adjusted so that other knowledge becomes thinkable and thus actable upon. In the last fifteen years, Giddens’ (1998) Third Way has been adopted by many Western countries (Humpage, 2006; Smyth, 2010), allowing “dialogic democracy” where dialogue has a primary role in decision making (Mouzelis, 2001). In Australia, the need for dialogue between all interested parties meant that the Australian Vice Chancellors’ Committee changed its aim of trying to retain control of discussions about quality policy to one of working with State governments, which have legislation control over universities, in order to subvert the Federal government’s desire to have its view accepted (Vidovich, 2004). Thus, the use of Third Way dialogues has the potential to allow other agendas to be contrasted with those of the neoliberal/neoconservatism agendas.

There are also possibilities for rethinking how distributed knowledge is turned into institutional dogmas and norms both by universities but also by the mathematics education discipline through the recontextualising rules. Thus, thinking about alternatives could lead to questioning of the distributive knowledge itself.

Over a decade ago, Atweh and Clarkson (2001) noted that:

Professional organizations planning international gatherings as well as editors of international journals should develop policies to encourage more equitable representations of views from developing countries. These may include multiple language presentations, differential fee structure and subsidies, and encouraging alternative research methodologies and styles of reports. It seems to us that as mathematics educators we are more concerned about standardization and uncontested acceptance of what constitutes good research at the expense of whose voices are represented. (p.92)

In the time since this strongly worded suggestion was made, translation services have improved significantly, making these possibilities even easier to achieve. Nevertheless at the same time, the top-down forces from neoliberal agendas have further restricted possibilities for achieving these suggestions.

Of all the journals, JRME has had the most intense debates about how non-North American voices can be represented on its board (Silver, 2004) and in its publications (Mesa, 2004). Mesa’s (2004) editorial in the Journal for Research in Mathematics Education, not only problematised the issue of it only being published in English but promoted alternatives:

Through JRME, we have accomplished much; we should be proud of it and thankful that NCTM has supported this enterprise. However, we are still far from the ideal situation...
with regard to making JRME an international journal. I believe that we, the mathematics education community, could play a bigger role in making this happen. What should guide our decision on this issue is that we have an opportunity to reach a larger and more diverse international community and, therefore, need to reach consensus on whether we are willing to provide the necessary financial resources to make that possible. If we make the journal for us, we should be willing to make sure that the journal be a forum for the worldwide community of mathematics education. (p.4)

Although JRME is still publishing in English, it seems that its publication by an organisation rather than a publishing company means that such discussions are possible. The control of most mathematics education journals is within the hands of publishing companies whose main aim is to make profits (Sriraman, 2012). Time-deprived academics do not have the ability to produce high quality publications as had been done in the past. For example, *Mathematics Education Research Journal* is now published by Springer, partly to give it more prestige but also because it is very exhausting for a voluntary organisation to put a journal together regularly.

With regard to the recontextualising rules, Atweh and Clarkson’s (2002) research, found that “in contrast with the official and university policies that promote marketization of educational delivery, mathematics educators often express more sincere humane and ethical reasons for being involved in international projects of development and research” (p.120). Researchers are able to see outside “the box” (Atkinson, 2004) to consider alternatives to only considering how to maximise their own careers. For example, mathematics education researchers make choices to attend conferences such as Commission Internationale pour L’Etude et L’Amelioration de L’Enseignement des Mathematiques [CIEAEM] which includes presentations in both French and English, with an expectation that presentations will be done in both languages (see http://ltee.org/cieaem64/scientificActivities.htm).

As well, academics are withdrawing their support for major publication houses (Samuelsson, 20120). At the beginning of 2012, a petition was started by mathematicians to boycott “a system in which commercial publishers are making money based on the work of mathematicians and subscription fees for libraries” (Fatima, 2012). It was aimed specifically at Elsevier publishing company. Since then Harvard University has publically supported its academics to make their research freely available online. Harvard’s reasoning is that the fees that they pay for subscriptions are becoming exorbitant. It will be interesting to see how the move towards journals becoming open access affects the use of citations as a measure of research quality.

Changes to the monocultural tendencies of mathematics education research are possible through the different rules of the pedagogic device. However, it is more likely that these possibilities will become realities if there is discussion about the ways that our, the mathematics education research, community is controlled. To do this we need to continually question those practices that we engage in to ensure that we are not colluding with our own oppression as well as that of others.
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