CRITICAL CURRICULUM RENEWAL: A NEED IN SEVERAL DEVELOPING COUNTRIES

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Many Sub Saharan African countries suffered turbulent political histories and are challenged by socio-economic diversity. Most school systems were inherited from Europe, most commonly Britain. Governments in partnership with bilateral and multilateral agencies are currently expanding the system through programs such as privatization, decentralization and universalization of schooling. But most of these programs are focusing on improved access and management of education. Minimal development of curriculum is taking place. Thus it is crucial for comparative international studies to examine what curriculum in these countries currently looks like and ways in which it is evolving.

In my collaboration with educators and researchers at Makerere University, Dr. Opolot-Okurut, Ms. Madge Quinn and Dr. Janet Kaahwa, we study school mathematics in Uganda, a subject that, besides Languages, is allocated a high mean percentage total of instructional time in the world (Benavot, 2006). We put the examination of the struggles, successes, and failures of school mathematics into wider contexts: the country’s education generally, the country’s history and mathematics education under globalization. The research methods utilized include document analysis of Ugandan curriculum documents, and policy documents and textbooks. The
examination draws attention to how complex relationships between historical, socio-economic and political contexts shape school curricula.

In this discussion I would like to focus on the following:

- Identification of theoretical lenses that are helpful for studying curricula in developing countries.
- Tensions that exist in theorizing and making recommendations in comparative curricular studies
- How to conceive of (the challenge of) mathematics curricular reform as attuned to the dynamic post/colonial and global context of sub Saharan countries.

This discussion paper is structured around a summary of research study.

A very brief background on Ugandan Education

Teaching and learning in Uganda has been mainly influenced by: the foundation of Christian missionaries; the legacy of the British Protectorate; changes in Political Stability; British and American mathematics reforms; socio-economic diversity; early East Indian and Arab trade; politically motivated local reforms; bilateral and multilateral efforts at improving access to education; and other broader societal and cultural influences.
The character of Ugandan mathematics education has been defined by many historical and economic factors. Foreign and economic influences including by missionaries, early trade, the British government and later by the development projects and curriculum reforms, and very recently by many bilateral and multilateral plans such as Education For All (EFA) have greatly shaped how mathematics is taught in Uganda. Currently, Ugandan mathematics education has less to do with indigenous cultures and ways of knowing.

**Critical Emancipatory Framework**

Research on national curricula and their evolution as key systems in education is by its very nature comparative: In the study of one country’s curricula researchers inevitably draw from studies about other countries’ curricular. I frame my research on mathematics education systems by a critical perspective.

Critical emancipatory scholars assert that education is not culture, politics, and ideology free (Namukasa, 2004). In the case of Africa, Woolman (2001) observes that African countries have made significant advances in Africanizing their curricula but issues such as low school completion rates and unemployment of school graduates remain and other issues such as integration of health education (Mutonyi, Nielsen & Nashon, 2007) have emerged. Kanu (2003) specifically asserts that:

Education itself in the former colonies occurs within an overlay of discourses that move in the interstices of the colonial and the colonized. The rapid movements and collision of
peoples and media images across the world have further disrupted the traditional isomorphism between self, place, and culture. … discourses about curriculum reform are themselves driven by nostalgia for a past in which Europe and Africa are imagined without what McCarthy and Dimitriades (2000) call ‘the noise of their modern tensions, contradictions and conflicts’ (p. 195). These debates refuse the radical hybridity that is the reality of today’s major metropolitan societies everywhere. (p. 77)

In Africa, former colonies face: (a) tensions among the early commitment by many of the leaders to challenge colonial education, the recent attraction to expand education as a key condition to economic development, and the growing need to pay attention to education quality; (b) contradictions between national and global influences, and between school culture and the cultures of many ethnic communities; (c) conflicting priorities of the plural education policy actors including non-government organizations; (d) tensions that arise as a result of recent rapid socio-economic, cultural and language displacements; and (e) contradictions that are due to continued dependencies on institutions located in the west, and to the transnational provision of education (Akala, 2006; Benakot, 2006; Crossley, Chisholm, & Holmes, 2005; Fuller & Heyneman, 1989; Montero-Sieburth, 1992). These tensions ought not to be ignored.

Having used the critical lens in studying curricula, I wonder about the ways in which this approach is appropriate for studying the evolution of school curriculum in developing countries.

Specific to school mathematics, thirty years ago, El Sawi (1978) highlighted the problems of mathematics education in Africa as: rapid changes in society, effect of political changes, poor
education planning focus, and limited economic resources. Five years later, Quinn (1983) made recommendations for Ugandan mathematics education: diversify courses; broaden mathematics education beyond preparation for further study; reform teaching methods; produce more materials locally; strengthen in-service teacher training; improve pre-service education towards courses that explore how to teach; and support mathematics departments in schools. Elsewhere I have made recommendations: (a) to explore third spaces beyond numerical expansion and management of education; (b) for teacher training and teaching to be given more support, (c) to tap into various African ethno-mathematics contexts so as to enrich school mathematics; and (d) to adopt recent reforms in developed countries that are addressing issues shared with African countries, such as indigenous mathematics and mathematics for English learners.

Do these recommendations accommodate the radical hybridity that is the reality of today’s major metropolitan societies everywhere? What tensions, if any, exist in theorizing and making recommendations in international curricular studies?

**Methodology of the study**

The curriculum analyses were based on:

One, research of Ugandan curriculum documents and policy documents concerning primary and secondary school curricula. Curriculum scholars assert that examination of curricula, both as programs of study and broadly as implemented and evaluated curricula is at the core of curriculum development (Valverde, 2004). We reviewed and analyzed the content of four
documents: NCDC (1999) for primary, NCDC (1991) for lower secondary; and UNEB (2005) for lower secondary and UNEB (2003) for upper secondary schools. The unavailability of some Ugandan programs of study that have not been revised for a while prevented us from doing a complete analysis. Excerpts that capture the philosophy, pedagogy and content as depicted in the rest of the curriculum documents were selected and examined.

Two, textual analyses of textbooks concerning primary and secondary school curricula. Textbook analyses, in particular, have been commonly used to get to the tacit character of curricula (Crawford & Snider, 2000; Dowling, 1996; Flanders, 1994; Mauch & Mc Dermot; 2007). This is because although curriculum guidelines specify the intended curriculum the tacit character of curriculum is at many times not visible in national curriculum documents. The main intent of analyzing Ugandan school mathematics textbooks was is to examine the character of mathematics education. To highlight and discuss what is unique about Ugandan text books I utilized comparative methods. I drew from textual analysis of mathematics textbooks of other countries. Common features were observed about the physical appearance of the textbooks, nature of content emphasized, teaching and pedagogical approach depicted, assessment practices shown, real life contexts used as well as ancillary materials included.

**Findings from the document and the textbook analysis**

The nature of the school mathematics curriculum and pedagogy in Uganda as revealed by the document analysis is such that:
1. It largely remains uninfluenced by recent international trends in mathematics education. Conspicuously, there was an absence of the use of current international reform related terminology such as outcome-based, socially-constructed and student-centered learning as evident, say, in the recent South African and Namibian curriculum documents (Umulasi, 2008).

2. It is purely essentialist rather than discretionary at lower grades. This late differentiation of mathematics courses only at upper secondary level was another central character of Ugandan secondary mathematics curriculum, perhaps one that derives from the fact that originally secondary education, in its elite form was designed for the top 10% that excelled in primary school.

3. Its structure leaves a majority of above average high school students with little mathematics understanding. That up to now there is no basic competence mathematics course for college-bound students or for work place and personal finance math, and that many students do not pass their upper secondary mathematics likely means that a majority high school graduates are illiterate in formal mathematics (Vithal & Volmik, 2005); and

4. It is only differentiated along lines of gifted secondary students at upper school levels and shows signs of early specialization. All mathematics candidates took both applied and pure mathematics papers, and students who opt for additional also take ordinary mathematics. Additional mathematics was identical to subsidiary mathematics offered at upper secondary. This offering of an upper level course at a lower level is an interesting example of a curriculum that pushes down upper level curricula (Warmsley, 2003)
Textual analyses of selected secondary and primary textbooks confirmed the above characteristics and added the following three characteristics about Ugandan school mathematics education:

5. It is mainly esoteric, intellectually oriented and formal;
6. Its teaching practice is dominated by written, national examinations; and
7. It is presented in a way foreign to learners and uses minimal local and current contexts.

There have been attempts to make curriculum relevant to the social and cultural needs of Ugandans, however, these have been driven more by the aim to serve economic development, individual sociodevelopment and to maintain an internationally recognized standard. Attempts at adopting more appropriate resources and pedagogy to the African context remain less radical. Take for instance the consideration that applied and vocational mathematics—mathematical literacy—was historically offered to vocational schools for the colonized Africans and not academic schools for the colonizing British. This historical background would make attempts to have less academic mathematics offered to students who are not mathematically gifted a very sensitive matter that needs to be approached with care. Many Ugandans still would like an academic education for their children. This tension about theorizing and making recommendations also plays out in other places where reform curricula have been accused of ghettoizing the curriculum.

Internationally speaking, the face of mathematics education is changing rapidly. Different countries have different content emphases but it appears in terms of philosophies and pedagogy
most of them are in favor of making mathematics more accessible and meaningful to more students. To be sure, increasingly, more Ugandan teachers and students are exposed to international school mathematics practices as a result of diaspora, at international schools, and through international resources. But there is lack of collective efforts towards renewal. Yet countries with equally constrained financial resources as Uganda such as those in the Caribbean appear to have substantially developed their mathematics curriculum: access, quality and relevance of curriculum, teacher engagement, response to globalization, and language issues (Berry, J., Poonwassie, & Berry D. B, 1999). We can speculate on differences including proximity to countries with reforms in mathematics education, and political and economic stability. But we return to the question: about ways of conceiving mathematics curricular reform as attuned to the dynamic post/colonial and global context of sub Saharan countries.

Ugandan mathematics curriculum needs to be reformed along the lines of equity, active and social learning, and basic numeracy development. Several learners with special needs and in geographically isolated areas such as on islands and in rural areas continue to learn main stream curricula. Learning is mainly by rote learning. And less attention has been paid to the mathematics needed by learners who may not intend to take mathematics beyond lower secondary level. A review of recent reforms in developed countries that are addressing issues shared with African countries, such as indigenous mathematics, and mathematics for English learners might be a good place for the curriculum development agency to begin its considerations towards reforming Ugandan curricula.

It is reasonable to conclude that the character of mathematics education in Uganda and in several
countries needs further studying. Ways of theorizing are needed that pay attention to the tensions that exist, that problematize status quo including traditional and international relations, that critically examine current curricula reforms of the North, and that problematize conceptions of school subjects and schooling in general.

References


