

Chapter 9 Epilogue

The epilogue is my reflection time. The journey has been fascinating to this point, but hopefully it will not end here. I have made strong friendships with two Malawians, and am sponsoring the further education of one of them. I hope the support mathematics education in Malawi for many years to come.

9.1 Usefulness and limitations of the study

Every study is limited by its methods.

9.1.1 Contributions to knowledge

There is much written about Africa, its history and education, and its food and health problems, particularly by world NGOs. Statistical and other reports abound, and Malawi gets its share of attention. However in this plethora of data, the voices of the local people seem to be missing. The data in this research comes from my observations and conversations with the local people. This is the major strength of this study.

It has contributed to knowledge in the following ways.

- I have described part of the primary education system in Malawi in 2005, and its mathematics education in particular.
- I have described the practice of a range of teachers in rural schools, from Standard 1 to Standard 7, and where possible have used their own words to explain their actions. In this way others can be aware of how education was able to occur within severely constrained conditions, due to the diligence of teachers and pupils alike.
- I have analysed the policy documentation under which primary schools operated in Malawi, and reflected on the extent to which it impinged on practice.
- I have identified the similarities and differences between teachers' practices, personal beliefs and understandings of what was required of them by the Ministry of Education.
- I have integrated a wide range of useful literature on education and policy in Malawi and other parts of sub-Saharan Africa; as a result of have offered suggestions about how policy might be re-conceived in Malawi and elsewhere and its realistic implementation might be taken more seriously at the planning stage.
- I have considered the relationship between a universally adopted mathematics curriculum and the major goal of education in Malawi: poverty alleviation. I have suggested that practical numeracy, taught with an emphasis on understanding, has the ability to meet the dual goals of poverty alleviation and selection for higher education.

I know of no other studies that have attempted these contributions, particularly linking government policy and educational practice. My comments on the Malawian approach to policy making are based on my understanding of the situation I observed, and are not generalisable to other countries.

9.1.2 Reflections on research methodology

Every study is limited by its methods. I chose a combination of quantitative methods (a survey of 83 teachers in 10 schools) and qualitative methods (observation and interview). The survey was chosen so that I might get a sense of the way many teachers were thinking, and the selected teachers were chosen to enable me to obtain far deeper understanding of the meanings of the survey responses. The educators were chosen and interviewed on subjects reflecting their expertise and interest, in order to efficiently gather historical and recent

understanding of policy and the reasons for its existence. These several oral sources and written documentation enabled me to cross-check many parts of the data.

My considered assessment is that this was a well-chosen combination of data-gathering. Through my close personal ties with Mr Grames Chirwa, my research assistant and translator, I was able to maintain relationships with the observed teachers after I had left Africa. Those teachers were able to comment on my observations and selected parts of their recorded interviews; this enabled clarification of parts of the data.

Although statistics were used, this is not a 'statistical study' in the sense of being able to generalise from the sample. The sample of schools, teachers and educators were purposefully, not randomly, chosen. A group of six teachers were chosen for observation across the range of levels, based on their survey responses and the spread of Standards they taught. About 30 educator interviews were conducted and chosen for their potential to give insight into a complex situation. The research makes no pretence to represent a group of teachers or opinions wider than those reported.

9.1.3 Restrictions on communication

At the commencement of this research I became acutely aware of African history, my need for sensitivity to differences in culture and my limitations in other languages. I sincerely apologize for any indiscretions I have committed, and plead their forgiveness for my clumsiness. I thank those Malawians who have accepted and forgiven me, making me welcome in their beautiful country.

My observations were sometimes of classes conducted in the local language: Chichewa. For most if not all persons interviewed, English was a second or even third language. However while my data provides for rich stories and observations it has the potential for misunderstandings. Since I was unable to speak Chichewa (a language spoken by most if not all Malawians), most Malawians kindly spoke to me in excellent English. Mr Grames Chirwa, my outstandingly diligent research assistant, was both a guide (a 'compass' he called himself) and translator where needed. Grames also introduced me to a few of the niceties of custom. Although his home language is Tonga, like all educated Malawians he is also fluent in the national language of Chichewa as well as English.

Although a good bilingual translator is a useful asset, it is important to recognise that African and English languages reflect quite different cultures, and translation is never direct or easy, particularly for difficult concepts. For many complex concepts in English (particularly mathematical ideas) there are presently no suitable words or phrases in Chichewa, and I am sure the reverse will also be true. Hence during many of my conversations there is a likelihood of misunderstanding and misinterpretation, in both directions. The presence and support of Mr Chirwa helped to minimize misunderstandings and misinterpretations that could have resulted from my cultural and linguistic limitations.

In order to at least limit the damage that my lack of cultural and linguistic understanding has created, I have been pleased to have a Malawian as one of my supervisors (Dr Willy Mwakapenda), and I am grateful to him for all his generous support, thoughtful feedback and kindness. I first met Dr Mwakapenda in Australia; he accompanied me to Malawi, introduced me to Mr Chirwa and left me to my research, returning as I was concluding my work with teachers. He has been most helpful at all stages of this research journey.

9.1.4 Shortage of time

I was in Malawi for a total of four weeks, an extraordinarily short time to pretend to start to understand a culture so different from my own. However I had previously lived in Samoa for 30 months (see section 1.3) and also researched education in that culture for my Masters thesis. Through the Samoan experiences I have learned about cultural differences, sensitivity to cultures different to my own, and to respect the views of others. In addition I have worked

as a professional educator, curriculum writer, teacher trainer and textbook author for most of my long career. So I have learned to quickly perceive the essence of an educational situation, recognizing the key questions that should be asked to understand what is happening.

Given the limitations, all conclusions and opinions regarding interactions between teaching practice and policy are necessarily tentative. Policy has a way of appearing impatient, demanding change. Someone who writes about policy can appear equally impatient, and seem intolerant of the need to move slowly. Malawians have a proverb for someone who wants to change things too fast: '*Fupa lokakamiza silichedwa kuswa m'phika*' meaning 'A forced bone will break the clay pot'. I submit my suggestions for discussion by policy makers, in order to raise possibilities for their consideration, not in arrogance. I have no desire to break any clay pots.

9.2 Areas for further research

There are clearly very many areas of Malawian education, even when limited to mathematics and primary schools, where little is actually known about practice. However this thesis is concerned more about the relationship between policy and practice than the detailed description of practice. So I will limit my suggestions to what I now view as more critical areas, where research might seek further understanding of the relationship between policy and practice.

9.2.1 The links between policy and practice and 'going to scale'

In general terms, there is much that needs to be better understood in order that policy might link more successfully to improved practice. For example, in almost any area, it would be more instructive for research to trace the steps from broad policy intentions to an action plan, to implementation of that plan and to its short and then long-term effect in schools. Such research could document the multiple influences on the process, and perhaps learn about how it might be improved.

Many countries run trial educational programs in small regions, giving them substantial support. Such activity is often supported by donor countries, as the educational changes involved are regarded highly in the donor country. When such programs are deemed successful, as is often the case due to their high level of support, there is considerable pressure to make the program operational across the entire country – 'going to scale' is the current jargon for this. Such programs rarely succeed, and research could explain why. Here are some examples.

The relationship between education and national development

It is common for comparative policy research to make sweeping generalisations about the relationship between education and affluence, assuming that education is a cause. In contrast, I have been uneasy about the lack of clarity in the relationship between education and development in 'majority world' countries. I have formed the view that, due to the operation of the free market in poor countries, education is often used by the relatively wealthy sectors of society for personal gain, at the cost of the basic education of the poor.

A few researchers have challenged the 'conventional' view, but their comments seem not to be based on a broad research base. Such research would gather socio-economic data on who attends schools, who drops out and ultimately who benefits from the education provided. It would need to consider many countries in order to be generalisable.

The introduction of Continuous Assessment

This is where research could involve monitoring an attempt to 'go to scale' with a policy. There has been donor involvement to create a trial process, and its results have widely

regarded as successful. But making it work across the nation raises interesting implementation challenges and is a worthy area for research.

As indicated in Chapter 8, Continuous Assessment was formally introduced in 2007 as a requirement for all teachers. However it seems that many elements that made the trial successful were not being introduced. In early 2008 Grames Chirwa wrote this to me:

Yes, the TALULAR ideas used in Ntcheu have been dropped. Continuous Assessment issue is chaotic. MIE is not even conversant with it. Theoretical message about Continuous Assessment is being preached to teachers. It is practically impossible.

Yes, pupils will be having end of term and year tests and they will be ranked ... and those who have failed will repeat. I am not sure how the teachers are able to come up with valid grades in this chaotic Assessment scenario. I talked much about the issue of Assessment during training of trainers that it is impractical. Even in RSA [Republic of South Africa] it is difficult for the teachers.
(Chirwa, 2008, private correspondence)

There seems to be a warning here for Malawi and for other countries about how not to 'go to scale'. But substantial research is needed to back up initial impressions.

The introduction of PCAR

PCAR is another example of an attempt to 'go to scale' with a policy. The Primary Curriculum and Assessment Reform incorporates Continuous Assessment but is proposing other changes to primary education as well. Moving from good intentions to successful implementation requires the coordination of much effort, and is worth researching.

In early 2008 Grames Chirwa wrote this to me:

Apart from Continuous Assessment, one other change in the education system which PCAR has to come up with which is not a reality is to have the 1:60 teacher pupil ratio. The Ministry of Education kept telling people in the conferences that it will make sure that they have deployed teachers to schools so that when PCAR is implemented, every class in all the schools have to have 1:60 teacher-pupil ratio as this was a basic condition for PCAR to succeed or deliver. This has not happened. The other change suggested in the PCAR Framework was that parents have to be involved in monitoring teachers classroom delivery or performance in the schools and this is not happening.

Education change in my Malawi normally has very excellent theories and nobody including the policy makers care whether these theories are being translated into practice or not at the implementation stage of the educational changes.

(Chirwa, 2008, private correspondence)

The introduction and effect of IPTER in Teachers' Colleges

Along with PCAR is an attempt at 'Initial Primary Teacher Education Reform' (called IPTER). Teacher Training Colleges have now completed the massive task of upgrading the qualifications of untrained teachers under the MIITEP program. Research is needed to monitor these new courses in the newly reformed Teacher Training programs and see how well they are able to assist teachers.

9.2.2 Mathematical education in Malawi

Mathematics education in Africa embodies a complex series of contradictions and cultural clashes; it can be regarded as a form of cultural imperialism (see section 3.1). As in western societies it is used to filter out those who will continue in their education leaving many of those whom the system has 'failed' without even basic numeracy or enough mathematics to enable them to climb out of poverty.

The present and future uses of mathematics in Malawian rural society

I have referred often to the applications of mathematics in a poor rural society. Ethno-mathematical research is needed to establish what these applications might be, both from the past and for the future. Skovsmose (1994) takes the view that we need to consider both

‘background’ (historical cultural values) and ‘foreground’ (desired futures), so there needs to be a study of both the past (e.g. farming practices) and the future (e.g. trading).

The culturally alienating effect of western-style schooling

Malawian schooling represents an attempt to introduce western cultural ideas – particularly in the subjects of mathematics, science and technology (see Bishop, 1990). This is also observed by Malawians, some of whom resent threats to their traditional cultural values (see e.g. Kaunda, 2001; Chimombo, 2005, p. 161).

This research would link mathematics (and possibly science) education and values, and would consider parents, along with teachers, pupils and others as participants in the educational process.

Non-formal numeracy education of children and youth

More recently the government is moving to improve literacy and numeracy with the 85% of school-age pupils who have already dropped out of formal education. This is a massive undertaking and a valuable area for research. Given that these educational drop-outs are the majority of the population their attitudes and future participation in society as farmers, employees or small business owners is critical to the development of the country economically, and to their escape from poverty. Numeracy has a significant role in this. Such a research project might be a design study, an intervention that combines innovation with research.

Improving numeracy education in Standards 1 and 2

There is an urgent need for intervention research (a design study) to explore alternatives in the two lowest levels of education. Standards 1 and 2 have the largest class sizes and the most critical role in the system. They provide the basis of literacy and numeracy for many children who will drop out before completing Standard 4, and enable some others to complete their primary education successfully.

The use of mathematics textbooks and teacher’s guides

Research across Africa suggests that making a good textbook available to each pupil and a teaching guide to each teacher can make a very great difference to quality of education. Alongside this teachers seem to need more help with making the best use of the textbook in the classroom. This also should be a design study in which improved versions of the present textbooks and guides are tried and developed with high quality learning as the major goal.

9.3 Concluding remarks

Personalities and politics

In my research I was granted the privilege of interviewing six dedicated teachers and over 30 wonderful educators and administrators in Malawi. The willingness and availability of these people helped me (an outsider) to feel at home, and to quickly learn about Malawi and its people. I have had the privilege of continuing correspondence with many Malawians, and in particular one observed teacher – Gift Kawiza, my research assistant – Grames Chirwa and my supervisor – Dr Mwakapenda. Their feedback has grounded my analysis in reality, and for that I am very grateful.

I have virtually ignored the personal aspects of this enquiry. Except for the six teachers who were observed and interviewed, for whom aspects of personality will have inevitably come through, I have ignored many important things about the people I met. Each person has a complex and probably tragic story to tell, but I had no time to ask, although some were kind enough to share, so that I might appreciate this side of life. If this were a novel these stories

might feature much more prominently, and could help to suggest why people acted and spoke as they did.

I have ignored the politics involved in a large bureaucratic system.

- There are cooperative relationships between the government and donors that inevitably constrain the actions of both sides. Donors have timetables from their own countries that often do not mesh well with the need for patience in Malawi.
- There are competitive relationships between government departments for scarce resources, both money and people, and this can undermine the cooperation that might enable more to be achieved. As an example, just after I left Malawi the Principal Secretary (head position in the Ministry of Education) was transferred to another Ministry. Dr Hau had been a highly-regarded, experienced mathematics educator at all levels and had an excellent understanding of the complex education system; his transfer sideways was a severe loss to education policy.
- Such transfers are unfortunately common in a country where many are taken by HIV/AIDS and malaria. They are even more common within government departments, where teachers are pulled in from schools to replace deceased officers, and perform tasks with minimal training or support. There appears to be no adequate process of *capacity building* in place to support the constant movement of people in and out of jobs.

There are some authors who believe that the politics of education is a very critical factor in the implementation process (e.g. Ward et al, 2000; Vithal & Valero, 2003), but I was unable to explore this area within the four weeks of research at my disposal.

Aspects of a complex education system

Although Malawi is relatively small geographically its education system is complex. I have been unable to adequately comment on many important groups and organisations. Some of these are annotated below.

- There is a Teachers Union of Malawi (TUM) that is a significant part of the political landscape. They have about 47 000 members, and are involved in upgrading teacher qualifications through short courses. They have acted as a pressure group on the Ministry of Education regarding teacher's conditions and pay and teacher training. The following are some quotes from my interview with Mr Masebo (TUM) in 2005. They will remind us of the way things are.

Since 1999 the government has not recruited any new primary teachers.

The current teacher pupil ratio is 1:120.

A Malawian primary teacher who is just beginning is getting US\$50, and a secondary teacher gets US\$132. So many qualified teachers are leaving the profession.

Teachers received no annual increments to their salaries from 1999 to 2004.

We currently need about 18 000 primary teachers in Malawi.

- Primary Education Advisors are a significant group who interact with teachers in a supportive way. They are not inspectors, but are located at Teacher Development Centres. Their role would seem to be very important, but already they are under-trained and over-worked.
- Teachers' Training Colleges and their lecturers and tutors have an important role. In 2005 I met the group of those responsible for mathematics teacher preparation as part of the PCAR development process. They also are under-prepared for their role, and need support.

- Staff at the Domasi College and University of Malawi are involved in preparation of secondary mathematics teachers. This staff is critically small, and yet Domasi College is the only secondary teacher training college in Malawi.
- Secondary school teachers of mathematics are in very short supply and poorly paid. Those who have qualifications must ask themselves ‘Why teach?’
- The donor organizations (from several developed nations and UN organisations) have staff located in Malawi. They now cooperate and meet regularly with the Ministry of Education. I met informally with several of these, from Japan, Canada, USA, UK and Germany.
- Other sectors of government, such as the Ministries of Gender, Agriculture and Health, clearly relate to education.
- Churches, both within Malawi and from overseas, are significantly involved in education, particularly through private secondary schools.

Conditions

I cannot stress enough the extent to which the conditions experienced by Malawian teachers and educators should be acknowledged. Readers who are used to the way things are done in the West must not expect that conditions allow such expectations in Malawi.

The physical conditions impose enormous constraints: in most primary schools no electricity, no water, little furniture, few teachers, few books, etc. Even in the Malawi Institute for Education, which was responsible for producing curriculum, textbooks and for teacher training in their use, in 2005 there was no access to the internet for most staff members and one photocopier that breaks down regularly.

The conditions under which people operate are dominated by periodic drought, food insecurity (a euphemism for hunger), disease, and death often by HIV/AIDS or malaria. Many children have lost at least one parent, teachers die and are often not replaced. Educational administrators die and are replaced, but often by someone who has no knowledge of the job, frequently a teacher taken from an already under-staffed school.

International conditions are not kind to small African nations: rapidly rising petrol prices undermine infrastructure, lack of trade opportunities (Malawi’s chief export is tobacco, which is gradually losing its world market), while disturbances in nearby countries periodically cause influx of refugees (e.g. from Zimbabwe or Kenya).

In the midst of all this, Malawians are still able to celebrate life. I sincerely hope that some of the suggestions and ideas I have made above might start a process that will stimulate the development of a realistic planning process to take account of these massive constraints and allow Malawians to achieve some small successes at last. I certainly wish them well.