EDUCATIONAL RESEARCH IN THE SADCC REGION:
PRESENT AND FUTURE

Edited by
Gaontatlhe Mautle and Frank Youngman
THE SOUTHERN AFRICAN DEVELOPMENT COORDINATION CONFERENCE (SADCC) was formed in 1980. The original SADCC member states were: Angola, Botswana, Lesotho, Malawi, Mozambique Tanzania, Swaziland, Zambia and Zimbabwe. Namibia joined in 1990. The main aims of SADCC are to reduce economic dependence on South Africa and any other country outside the SADCC region; to promote trade between SADCC countries; and to develop joint projects for the benefit of SADCC countries.

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PRESENT AND FUTURE

Proceedings of the BOLESWA Educational Research Symposium, 
Gaborone, August 8-11, 1989

Edited by 
Gaontatlhe Mautle and Frank Youngman

Botswana Educational Research Association 
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The 1989 BOLESWA Educational Research Symposium was organised by a committee made up of F. Youngman (Faculty of Education, University of Botswana), U. Kann, G. Mautle, V. Mogege and C. Mannathoko (Botswana Educational Research Association) and T. Mogami (Ministry of Education). The Committee, which was chaired by G. Mautle, coopted other officers from the three bodies to assist in the organisation of the symposium as the need arose.

The Committee wishes to express its greatest gratitude to different organisations, institutions and individuals for the support they gave to make the symposium a great success. Specifically, it expresses thanks to BP Botswana Ltd., Macmillan Botswana Ltd., Heineman Educational Boleswa Ltd., Longman Botswana Ltd., the Swedish Agency for Research Cooperation with Developing Countries, the International Development Research Centre of Canada, the Norwegian Development Corporation and the Carnegie Corporation of New York for their generous financial support. A word of appreciation must also be extended to the Ministry of Education for providing a mini bus for transportation of participants and other support in kind, the University of Botswana for making its facilities such as buildings, buses and photocopiers, available and to presenters and participants for attending and making contributions during the symposium. Finally, thanks are due to Ms G. Makgale for typing these proceedings and to Dr. K. Datta for her contribution as copy editor.

Readers are advised that copies of the papers presented may be purchased from:

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National Institute for Development Research and Documentation
University of Botswana
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INTRODUCTION

Gaontatle Mautle and Frank Youngman

An important meeting in Gaborone, Botswana in 1981 led to the establishment of educational research associations in Botswana, Lesotho and Swaziland and to their cooperation in the joint publication of the Boeswa Educational Research Journal and in the BOLESWA Educational Research Awards Scheme. The joint activities of the associations also included participation in a symposium on North-South Collaboration in African Educational Research Development held in Ohio, USA in 1986 and the organisation of a symposium on Planning and Coordination of Educational Research in Maseru, Lesotho in 1987. At Maseru it was agreed that such symposiums be biennial and that the next one should be held in Gaborone, Botswana in August 1989. This book presents the proceedings of the Gaborone symposium.

The theme chosen for the symposium was "Educational Research in the SADCC Region: Present and Future". The theme represented an attempt to broaden the sphere of contacts and cooperation beyond the countries of Botswana, Lesotho and Swaziland to the other countries which constitute the Southern African Development Coordination Conference (SADCC). SADCC was established in 1980 by nine independent Southern African countries (with the liberation movements of Namibia and South Africa as observers) in order to provide a framework for regional cooperation aimed at reducing economic dependence on South Africa. During the 1980s SADCC developed as a viable and significant regional grouping and provided a stimulus for increased cooperation among its member countries in a variety of fields, including education. It therefore seemed a good idea for three of the countries within the SADCC region which had already achieved a high degree of cooperation in the educational field to extend their interaction to the other countries. Thus the aim of the symposium was to bring Southern African researchers together in order to get an up-to-date picture of the educational research situation in the region and to strengthen the possibilities of future collaboration.

The symposium brought together well over two hundred people and although the majority came from the BOLESWA countries, ten percent of the participants came from other SADCC countries. The participants from non-BOLESWA countries presented a quarter of the papers discussed in the thematic group sessions and they played an important role in the plenary presentations. Hence the symposium was successful in broadening the base of previous BOLESWA educational research activities and in giving some insight into the wider Southern African situation.

The keynote address by Professor Mbilinyi of the University of Dar es Salaam gives a good indication of the socio-economic context within which educational research in the region is being carried out. The picture portrayed is one of crisis, with the countries of SADCC facing major economic problems so that in many of them there is a deterioration in the quality of social services such as education. A significant element of the crisis is the acts of destabilisation carried out by South Africa, including economic sabotage and military attacks. Mbilinyi provides a critique of the World Bank's prescriptions for education
within this context and argues for alternative forms of education and different kinds of educational research. Thus despite very difficult circumstances, she argues against a reaction of despair and for taking up the challenge of the situation in order to develop more relevant, critical and self-reliant educational research.

In the discussion following her presentation, she drew attention to the recent "Dakar Declaration" of African social scientists, which included the following statements of relevance to educational researchers in Southern Africa:

The task of resolving the African crisis imposes a specific responsibility on the African social science community. To this responsibility it must take stock of its own shortcomings and pool its energies for concerted action . . . .

Among the various relevant tasks is the question of the increasing deterioration of the infrastructure for the practice of social science. The increasing difficulties in the production and dissemination of scientific knowledge in the social sciences should be met by concerted action to promote local publishing enterprises, local sources of research funding, greater coordination among individual researchers, research organisations and professional organisations especially in dealing with external funding agencies . . . .

More importantly, the research process must not only seek to achieve self-reliance within the international social science community in terms of issues and concepts but should also focus on the issues and relations that are of concern to the vast majority of the toiling peoples of Africa . . . . This re-orientation of research will serve to free the social scientific process from extraversion, elitism, neglect of the environment and gender bias. 1

The evidence presented by the symposium is that the educational research community in Southern Africa is confronting the issues posed by the Dakar Declaration and is aware of the need for self-analysis, greater self-reliance and increased cooperation. This is indicated in the record of two major plenary sessions. The first of these sessions had the theme "Issues in the Future Development of Educational Research in the SADCC Region". There was emphasis here on the need for training in educational research as the indispensable condition of greater self-reliance and Namuddu argued for improvements in the work of the universities in this respect. (The record in the Abstracts section of the group session on Graduate Studies in Education documents the problems of advanced research training and highlights the need for cooperation between universities in the SADCC countries.) Other panelists stressed the need for greater relevance - "current research which is based on foreign models does not answer our questions" (Nsibandae).

The other plenary session was entitled "The Development of Educational Research Capacity". The paper by Datta provides a critical analysis of aspects of educational research in the SADCC region and certainly meets the Dakar Declaration's injunction to take stock of shortcomings. The paper explores the interface between society, the research infrastructure and research methodology. It notes the economic problems of the region and their impact on the research infrastructure in different countries - for example, the paucity of documentation
and communication resources. It draws attention to many other weaknesses of educational research capacity. But Datta suggests that in spite of the resource problems facing researchers, there are many actions that they could take themselves to improve the quality, quantity and social significance of their work. More systematic training, a less anarchic institutional climate, increased involvement of educational practitioners and the use of more varied methodologies are some of the improvements he proposes. And surely, despite the inadequacies of libraries in the region, it is possible to transcend the theoretical weakness which affects so much of the research, what Datta calls "piecemeal empiricism, unenlightened by the longterm theoretical and comparative perspective."

But it would be incorrect to over-emphasise the deficiencies of the region's educational research capacity or the debilitating effects of the economic crisis. There was a lot of progress made during the 1980s, as a comparison between the proceedings of the 1981 Gaborone meeting and this book will indicate. One of the gains has been the increased degree of international South-South cooperation, which is documented in Kamba's paper on networking. The importance of such cooperation for increased self-reliance is clear and the establishment of the Educational Research Network in Eastern and Southern Africa (ERNESA) in 1985 was a major step forward. The network has served to strengthen national structures and provides a basis for facilitating collaboration and information exchange between countries.

Another step forward has been the increased importance given to gender issues in education. This is reflected in the plenary session on Gender and Education that the organisers included in the programme and in the papers presented in the group sessions on this theme. In terms of participation in the symposium, women featured prominently in plenary sessions, they presented one third of the papers in group sessions and constituted forty per cent of the participants. Of course, women researchers do not necessarily address gender issues in their work but the impact of sexism of their lives makes it more likely that they will be concerned with issues of sexual inequality and gender bias in educational research. The large number of female-headed households, the key role of women in agriculture, the changes in the labour-migration system, the particular impact of structural adjustment policies on women and children, the strength of patriarchal ideology, are just some of the aspects of the regional socio-economic context which demand that the social inequality of women be taken into account by educational research in SADCC. It is to be hoped that Dirasse's concluding statement will be given the attention it deserves:

I believe all educational research and theory will be the richer if gender factors are systematically included in all research endeavours.

These examples of progress during the 1980s are complemented by the scope of the research papers presented at the symposium. The fifty papers presented in group sessions covered eleven thematic areas and dealt with a wide variety of topics. Of course the quality of research was uneven. There were varying degrees of sophistication and some discernible limitations, such as the total dominance of the positivist paradigm. Also, only a little over half of the presentations were by nationals of SADCC countries. But the important point is that a good number of people in the region are carrying out educational research and over two hundred interested people took the opportunity to come together, to engage in critical discussion of papers, and to exchange ideas. A
favourable research climate seems to be developing in the region and the assertion of Botswana's President Masire quoted in Tlou's welcoming remarks seems to be more widely accepted:

Nations which do not encourage research, and intellectuals who do not uncover new knowledge through serious research, confine their nations to perpetual underdevelopment and poverty.

It can therefore be concluded that the symposium provided an insight into the nature of the educational research environment in the SADCC region at the present time. The question which now faces educational researchers in SADCC in the 1990s is what must be done to improve the educational research capacity in their countries. We hope that this record of the symposium proceedings will help to clarify the ramifications of this question and will suggest some possible answers.

ENDNOTES


WELCOMING REMARKS

Professor Thomas Tlou - Vice Chancellor
University of Botswana

Mr. Chairman, Honourable Minister of Education Rraetsho Morake, Permanent Secretaries of Education or their representatives from the BOLESWA countries, my esteemed colleagues, the Vice Chancellors of the sister Universities of Lesotho and Swaziland, distinguished guests, ladies and gentlemen.

Mine is a simple but pleasant task of welcoming you on behalf of the entire University of Botswana community, and certainly on my own behalf, to BOLESWA's fourth International Educational Research Symposium, and indeed to the University of Botswana. Please permit me to extend a special welcome to colleagues from such far flung places as the Horn of Africa, Europe and the U.S.A., and among them is Professor John Turner of Manchester, former Vice Chancellor of this University.

You have greatly honoured us by holding this great symposium at the University of Botswana, and I hope you will find our humble facilities adequate for your purposes. Mr. Chairman, you indicated in your opening remarks that the main purpose of this symposium is to share ideas and disseminate research findings. It is for this reason, in particular, that we are happy to provide our facilities because conferences and symposia like this one are significant milestones along the road to the realisation of one of the main reasons for our existence as educational institutions, namely, to promote research and disseminate knowledge.

It cannot be over-emphasized that throughout human experience research has contributed and continues to contribute significantly to the creation of knowledge, the realisation of technological breakthroughs resulting in, among other benefits, national development through industrial expansion, which, if properly managed and the wealth therefrom equitably distributed, can result in the enhancement of the quality of life for all. Nations that ignore research or do not invest sufficient resources in research, to state the obvious, do so at their peril. It is countries that invest in education and research that take the lead in technological and industrial expansion, other things being equal, of course.

In this regard, please permit me to quote from an address delivered at our 1988 graduation ceremony by His Excellency the President of Botswana and Chancellor of this University. After declaring that, "the road to prosperity for our nation, to a significant extent, lies in the lecture halls of our University", the Chancellor went on to assert:

"It is not by accident that developed countries pay a great deal of attention to research in their universities in order to make them robust educational entities. The lesson is clear. Nations which ignore the education of their people are doomed to perpetual underdevelopment and dependency. Nations which do not encourage research, and intellectuals who do not uncover new knowledge through serious research, confine their nations to perpetual underdevelopment and poverty."
I am sure you believe with me, ladies and gentlemen, that in BOLESWA we have accepted the challenge to unearth new knowledge through research and this mobile symposium is a clear indication of our determination to broaden the frontiers of knowledge through research.

In this regard, it is immensely gratifying to note that despite the really serious constraints facing them, the governments of BOLESWA, each according to its ability, are increasingly attaching importance to research. Through their Ministries of Education, and in particular the vital role played by their Permanent Secretaries of Education, BOLESWA governments have been involved in this particular series of symposia since 1985. In differing degrees perhaps, this involvement has been in the form of financial commitments to the national research organisations. For example, the Government of Botswana, through the Ministry of Education, makes annual financial provisions not only to the University of Botswana Research and Publications Committee and the National Institute for Research, but it also contributes funds annually to the Botswana Educational Research Association (BERA). Additionally, different officers of the Ministry of Education are BERA members and members of its executive committee. The participation of Government officers in the research associations of BOLESWA is a welcome development because not only should it strengthen the research capacity of our nations, it should also bridge the gap, real or imaginary, between the academic researcher, often regarded as being too idealistic, and the policy maker often portrayed as an individual who does not want to touch research reports because they bear no relation to the real world. Let us move forward, therefore, hand in hand in common pursuit of knowledge for the good of our nations and in order to contribute to the world intellectual pool of knowledge.

What interests me in particular is that these symposia give our young BOLESWA academics the opportunity to exchange views with seasoned scholars, who boast several years of research experience, about research methodologies and the critical questions that have to be asked if one hopes to become an imaginative researcher. The road to success in this regard lies in eschewing easy answers, gullibility and dogmatism. The commitment to research demonstrated by these symposia guarantees a bright future for our universities and our nations. A tradition is being established in our countries, a tradition of scholarship. We have begun on the steep ascent towards the summits of research and we shall get there.

Symposia such as this one are made possible by the generous support of different facilitators. May I take this opportunity to acknowledge our sponsors with gratitude. On the homebase assistance came from BP Botswana Ltd., Macmillan Botswana Ltd., Heinemann and Longman's Botswana Ltd.; on the international front assistance came from the Swedish Agency for Research Cooperation with Developing Countries (SAREC), the Canadian International Development Agency (CIDA), the Norwegian Agency for Development (NORAD), and the Carnegie Corporation of New York. Please accept our gratitude for this magnanimous assistance, without which some of the tasks we are able to achieve would have been unattainable.

It is important to note that some of our donors provide assistance on an on-going basis thus enabling us to provide research grants, in particular, to our budding young citizen researchers to undertake research.
Last but not least we owe a debt of gratitude to the men and women of the Botswana Organising Committee who have done such a splendid job in preparing for this symposium. The Botswana Educational Research Association was firmly associated with these efforts and we must pay them fitting tribute.

Let me conclude by expressing once again my abundant pleasure in welcoming you to the University of Botswana and to the symposium. I hope you will find your stay here both enjoyable and intellectually rewarding.
Mr. Chairman, may I also add a word of welcome on my own behalf and indeed on behalf of the Ministry of Education. This is the fourth of a series of symposia ever since the inception of the movement and the second to be held in this part of the world. I am happy to note that the prime movers of these symposia are here today and I personally am proud to have been associated with these symposia right from the beginning.

I hope that as we go along we can continue to infect others with the same enthusiasm that has turned out to make this a formidable educational organisation indeed. I also feel greatly honoured to have been invited to address you this morning.

Mr. Chairman, at the risk of being considered pedantic, let me first attempt to define the word research. The Oxford Dictionary defines it as "careful search or inquiry after or for; endeavour to discover new facts etc. by scientific study of subject; course of critical investigation etc."

But Mr. Chairman, we live in a world, especially this part of the world, where common sense often dictates that the pursuit of truth is not always the wisest thing to do. And the handful of brave souls who do so do it at their own peril, literally. Within this context the African scholar can be pardoned for what is increasingly becoming apparent as a deliberate evasion of truth or objective inquiry.

Mr. Chairman, it is difficult to speak of research without referring to universities. For now and for the future universities must take a leading role in research. They must do so because they have the time, the best brains, or so I hope, and, hopefully, resources will be made available to them to carry out research. Universities must continue, even with the restraints I have already alluded to, to be independent institutions free of bias and unwarranted outside interference. This is a great privilege and one that must be exercised responsibly.

But universities lose credibility as the guardians of independent thought when they are seen as the propagators of certain ideologies, often to the exclusion of others and often quite intolerant of other viewpoints. Again, I must stress that I give the example of universities since it is here that the basic tenets of research must be established. It is our responsibility to instil in the minds of young researchers that restraint in the use of emotive terms, as well as objectivity, are paramount if that research is to be of any value. Scholarship has many demands and amongst these is an open mind, a mind capable of examining the other side of the coin, no matter how unpalatable the revelations of that side may be.
Yet through the past few years I have been extremely worried about the extent to which our universities have become havens of prejudice, or in some cases of plain naked racism. So many pronouncements are being made not on the basis of research but rather on the basis of political inclination. Just recently I was having a conversation with my counterparts from the English-speaking SADCC countries. I had just read an article that said archaeologists somewhere in Eastern Europe had discovered evidence that a boomerang had been used there possibly before the Aborigines of Australia used it. A heated argument, which completely took me by surprise, then ensued. Just because some of my colleagues identified emotionally with the Aborigines they declared there and then that what I had read was another imperialist plot to discredit the achievement of colonised people. It was a statement which has become all too common to be left unchallenged any longer. It simply did not have any basis in fact. It simply lacked scholarship and an open mind. A few years ago I was having a discussion with one of our staff development fellows who was preparing to go overseas to pursue further studies in history. Quite understandably, he was already worrying about his potential thesis topic and again, quite understandably, his mind was concentrated on Southern Africa, especially on the forces which have led to the present turmoil in this part of the world. During the course of the conversation I suggested to him that he might benefit from reading Piet Retief's manifesto as that tended to articulate quite well the views of the Boers of the time. There and then the young would-be lecturer stated most emphatically that he would never read a racist and imperialistic document.

Yet the same lecturer did not seem to have had any problems in consuming Karl Marx's *Das Kapital* or *The Thoughts of Mao Tse Tung*. Such attitudes do not augur well for scholarship on our continent. Prejudice is also evident in much of the research literature that I have read. Often researchers draw conclusions which have no bearing on the main body of the research, as if they had decided beforehand what was going to be the results. Again, someone decides that the Ministry of Education is not communicating adequately with communities; he then sets out to research and behold the conclusion is that indeed the Ministry is not communicating and yet there is nothing in the body of the research to indicate how that conclusion was reached. In case I have given the impression that I am lecturing on the technicalities of research or research methodology, I must hasten to say that I am not. There are people better qualified than I to do that. Rather, I am speaking of attitudes and the need to be true to ourselves in the first instance. The need to realise that we are not exempted from the rest of the research world to provide empirical evidence for our conclusions in our research activities. We owe it to ourselves as well as to others to recognise and accept this. It would be interesting to know how African historians record the causes of the Angolan civil war or that of Mozambique.

It is true that in the aftermath of the colonial period a considerable number of previously held doctrines should be revised, history books rewritten and new interpretations, from an African perspective, should be made. But in our enthusiasm we have completely outdone ourselves. Increasingly, the African is being portrayed by historians, with a large dose of political bias, as a being that has known no evil, cruelty or corruption. He is a creature who knows only good, and, if occasionally he has exhibited any of the attributes of other humans, such as greed, violence and corruption, then this must be the responsibility of someone else, namely the former colonial master or the schemer in the form of the neocolonialist or the counter-revolutionaries.
In a very widely publicised television series, The Africans, one of Africa's greatest educators, Professor Ali Mazrui, presented just such a picture. The African knew no war, shared everything with his fellow-men etc., until the white man came. In a more recent television series another scholar, Basil Davidson, presents the African in a more balanced picture, by attributing to him human failings as well as strengths.

I cite these examples in order to illustrate the pitfalls that may be in the way of the African researcher; that is, whether to swim and go along with the popular tide of fantasising about Africans and glossing over their mistakes, or to objectively seek after the truth.

Mr. Chairman, if outsiders, because of understandable reasons, cannot say certain things about us, then it should become our duty as researchers to embark upon massive introspection. For what are the consequences of research that is carried out only to confirm certain already strongly held beliefs? The first is of course that there can be no value attached to that research except of a very temporary nature. But what I see as the greatest danger is that because we shy away from what may not be popular we shirk our responsibility as scholars. Because our research is riddled with prejudice and inaccuracies, and because we strive so hard to find scapegoats for our own failures, we cannot be sincere. In the main our research strives so hard to justify ourselves, our mistakes, so that nowadays Africans find nothing wrong in keeping silent when Africans massacre their fellow-men. Totalitarianism reigns supreme on the African continent but we do not run short of reasons to justify it.

There is even a strong school of thought which is gaining currency that Africans are incapable of a democratic form of government. Because there are those who stand to gain by this school of thought, this unfounded and unresearched theory is, to my greatest dismay, being supported by some scholars in Africa. In other words, in our efforts to justify ourselves we are in the process of denying our very humanity. When African governments have embarked upon disastrous economic policies they have often been vociferously cheered on by universities who must surely know, given their education, that such policies have not worked elsewhere. Our failure to admit our own humanity, and therefore our mistakes, makes us incapable of dealing with those mistakes. This can only earn us international scorn and contempt; hence remarks such as, when referring to one African head of state, "Of course the guy is corrupt, but so is everybody else in the Third World".

Let us strive to see that our research is never described in those terms, by not necessarily copying what others have done, so that what we do in our own circumstances can stand on its own to public scrutiny. Let us strive for openness and truth in our research so that future generations do not have to spend valuable time rewriting it. Let the history, sociology, education books be rewritten. But let us honestly record what is, rather than what we would wish it to be.

May I end with a quotation from Shakespeare's Hamlet in Polonius' advice to his son Laertes, "This above all: to thine ownself be true, And it must follow, as the night the day, Thou canst not then be false to any man".

Let it be so with our research.

Thank you Mr. Chairman.
KEYNOTE ADDRESS

CRISIS OF EDUCATION AND RESEARCH IN THE 1980s - CHALLENGES FOR THE FUTURE

Marjorie Mbilinyi

SADCC, SAP and the Crises of the 1980s

The aim of this paper is to raise issues pertaining to SADCC (Southern African Development Coordination Conference) development and liberation from an educationist's perspective. It is tentative and exploratory, reflecting both the urgency of our times and the wealth of relevant literature. Developments in the area of non-governmental organisations (NGOs) are emphasised as they relate to the goals of participatory research methodology, popular education and democratic local government. The assumption is that pedagogy is political and politics is pedagogical; that the connections between pedagogy and politics can and need to be strengthened in order to develop the capacity of "the people" to assert their political and economic citizenship rights vis-a-vis the state.

The first section discusses certain aspects of economic and political developments in the region associated with SADCC and the Structural Adjustment Policy (SAP) of the World Bank/IMF (International Monetary Fund). SAP programmes are conceptualised to be state responses to the crisis while simultaneously deepening the crisis for the majority of people. Space does not allow a more detailed analysis of the dramatic changes which have occurred in the division of labour at household, community, national and international level. At the local level, rural economies have become commoditised, households have been transformed from integrated units of production into consumption units which rely on multiple economic activities and part-time farming, and women have resisted their positions as unpaid family farm labour and become independent petty commodity producers and traders. Research about this wider context has enhanced educationists' ability to analyse and explain changing student expectations and school performance, rising unemployment among secondary and tertiary level graduates, and resistances of teachers and students; and to imagine curriculum reform which is empowering and research which meets the basic needs of the people and is in their control. The second section examines SAP in education in more detail, setting it in its historical context including its correspondence with the retrenchment policies adopted by the British Colonial Office in Africa in the 1930s.

SADCC proposals for human resource development are critically analysed in the third section; the section argues that the adoption of mainstream models of manpower planning and management promote the subjugation of education to the imperatives of the labour market and the interests of big employers, rather than the basic needs of the people. Methodological issues pertaining to the development of two different and opposing approaches, "policy oriented applied research" (POAR) and "participatory research" (PR), are discussed in the fourth section. The fifth section presents key concepts about "transformative intellectuals" and "do-it-yourself" education based on recent critical analyses of counter-reforms and retrenchment policies in Britain and the
United States of America. These are highly relevant as the World Bank/IMF-led donor SAP policy seeks to impose similar policies on a worldwide scale. The sixth section analyses developments and alternatives in the spheres of local government and non-governmental organisations (NGOs) as they relate to issues of popular education, participatory research/management/learning and popular democracy. Research topics which arise out of these considerations are presented in the seventh section. Research implications have been inserted throughout the text, along with methodological considerations.

SADCC and Structural Adjustment

SADCC was established in 1980, in the midst of war, crisis, struggle and significant advances in the southern region of Africa as Zimbabwe became independent after several years of armed struggle. According to the Lusaka Declaration of 1980, SADCC aims "to liberate our economies from their dependence on the Republic of South Africa, to overcome the imposed economic fragmentation, and to coordinate our efforts toward regional and national economic development" (quoted in Hanlon 1986: 19). Reduction of economic dependence "on any single external state or group of states" was also mentioned (Chitala 1987: 33), but according to its own evaluation of the first five years of the programme, the SADCC secretariat noted that concrete programmes had often increased economic dependence on South Africa or on other developed countries, and were heavily dependent on foreign technical expertise (Amin et al 1987: 11).

The economies of all the countries are heavily dependent on that of South Africa, with the exception of Tanzania and Angola, for trade, investment, transport and communications and on foreign exchange earnings from migrant labour wage remittances (Chitala 1987). All nine countries have experienced a variety of forms of destabilisation acts by South Africa, including outright military attack, economic sabotage, trade sanctions and propaganda aimed at delegitimising independent governments (Hanlon 1986, Johnson and Martin 1986). The major donors have adopted a wait-and-see attitude of "constructive engagement" towards the South African regime and have refused to impose substantive economic sanctions. Several within the European Community remain openly opposed to the dependence-reduction objectives of SADCC while prescribing Structural Adjustment Policies on individual governments separately and jointly as reflected in ongoing Lome IV negotiations. Caught in a debt trap partly of their own making, most countries have implemented SAP programmes with or without World Bank/IMF backing.

According to 1985 figures, five of the nine countries' debt was 50% or more of their Gross Domestic Product (GDP): Angola 51%, Botswana 16%, Lesotho 67%, Malawi 84%, Mozambique 44%, Swaziland 24%, Tanzania 50%, Zambia 138% and Zimbabwe 34%, totalling US $12.95 billion (SADCC-EC Briefings 1989 No. 3: 5). Governments faced a severe fiscal crisis during the 1980s, lacking enough money to maintain government recurrent costs, let alone development expenditures. This has led to a major deterioration in social services (e.g. education, health, clean water), setting back the achievements of the redistributionist welfare policies of the immediate post-independence period (Hutchful 1987). The fiscal crisis is associated with the foreign exchange crisis which several (not all) SADCC countries began to experience towards the end of the 1970s, resulting from worsening terms of trade for primary commodities in global markets augmented by the oil price rise. Several have also faced a growing food crisis as food imports rose to supply urban centres and drought-stricken rural localities during the drought years in some cases, and on a
continuous basis in others; only Malawi, Zimbabwe and Tanzania remained self-sufficient in food production at the end of the decade (Mumbengegwi 1987). South Africa's military and economic acts of destabilisation cost an additional US $10.12 billion during the 1980-85 period, equal to the total debt cited above (Hanlon 1986: 265).

Since 1985, the annual conferences have tended to emphasise the strengthening of the productive sector; at the 1989 Luanda Conference, the development of indigenous expertise and science and technology was also stressed (SADCC-NGO Special Report April 1989). The tendency to overlook the political dimension of development (that is, self-sustaining independent economic development, national liberation in all senses) has been noted by several authors with respect to SADCC and Africa in general (Amin et al. 1987, Hutchful 1987, Nyong'o 1987, SAPEM). The ideological and cultural dimensions are of related significance at this moment, with direct implications for intellectual workers, especially teachers, adult educators, teacher educators, educational researchers and others working in education and communication fields.

The stated goals of SADCC and SAP are diametrically opposed. This analysis assumes that SAP in general, and the World Bank's policy on education in particular (1987a), further the process of destabilisation, undermine national and regional autonomy, increase the impoverishment of the people at national and regional levels, reverse redistributionist welfare state policies and promote authoritarian and bureaucratic practices at national and international level. Collective and individual economic and political rights are being denied by the state at national and global level, in its efforts to forcibly impose SAP in education as in other sectors as quickly as possible, without public debate or popular participation. Friedmann's (1989: 709) conceptualisation of rights which are dependent upon differential access to the bases of social power is useful here, including

1. financial resources to secure adequate food, water, health services, shelter, and other basic needs;
2. time free from "work" to engage in educational, political and recreational activities;
3. space in which to carry on production and reproduction activities;
4. relevant knowledge (knowing what and knowing how) about family planning techniques, nutrition, how to organise neighbourhood groups and citizenship rights and entitlements;
5. accurate information concerning the local community as well as the nation, region and world;
6. social organisation to enable the collective struggle for other basic rights;
7. social networks of kin and fictive kin, clientilistic networks of who-knows-who, and networks between grassroots organisations and supporters at a wider level, including political parties, national or global state institutions and donors;
access to the *instruments and tools of production*, including good health.

As Hutchful (1987: 42-3) has argued, SAP

(1) promotes the dominance of international capitalists' interests and the subordination of domestic capitalists;

(2) separates the economic and the political at the level of ideology (hence the special ideological role of neo-classical economists) and promotes "free market" principles while in reality supporting the dominant interests of national and foreign rulers;

(3) represents "bureaucratised social engineering, as deliberate as it is extensive, and the total exclusion of the large masses of the people in this process, in spite of the very great sacrifices that are being imposed. On no other continent have foreign technical personnel so completely and unquestioningly assumed control of crucial aspects of national planning and administrative processes" (ibid, p. 43).

Many of the democratic and participatory programmes discussed in this paper represent "reform" rather than "revolution". Political space for organising needs to be widened within present civil society with the support (or benign neglect) of the state; at the same time, the people have the right to demand social services and other resources from the state as their entitlement. The struggles which emerge represent an invaluable education process, provided that long-term goals and strategies of national liberation and socialist transformation (including liberation from oppressive class, gender, race-ethnic, religious and gerontocratic relations) are regularly discussed and analysed by participants. Moreover, such discussions need to be increasingly led by critical members of the popular classes, i.e. workers, poor and middle peasants, petty traders, beer brewers, including the urban poor united in "their physical segregation in massive suburbs of poor people's housing far from work and out of sight of the middle and upper classes", incorporated into the economy "at the very bottom of the scale" (Friedmann 1989: 3).

**Education for Adaptation in 1990s**

This section summarises the World Bank's policy on education for Africa and then briefly critiques its adjustment programme, with a focus on methodological issues. The implications of the Bank's policy for the development of autonomous and popular-oriented teaching, learning and research seem self-evident; possible research topics to monitor the impact of SAP in education are presented in the seventh section.

*Education in Sub-Saharan Africa. Policies for Adjustment, Revitalization, and Expansion* (World Bank 1988) argues that the main education issues for the continent are enrolment stagnation and erosion of quality (p.2). These are significant but surface-level problems conducive to short-term technical/administrative solutions, in my opinion, and evade more substantive problems and their underlying causes. The Bank emphasises adjustment policies based on austerity measures, especially at secondary and higher levels of education, arguing that presently there is over-production of university graduates who are allegedly of "dubious quality and relevance and generating too little new knowledge and direct development support" (p.5). "Adjustment" means
(1) the reduction of real wages for teachers at secondary and higher levels;

(2) lengthening the working day and year for teachers and educational institutions by means of double shifts, increased classroom size, consolidation of rural schools;

(3) increasing costs of education for individual students and their parents - "cost-sharing";

(4) reducing state expenditures in education, especially at the tertiary level;

(5) at tertiary and university level, reducing enrolment especially in arts and social sciences; reducing teaching and non-academic staff; closing down superfluous colleges and consolidating others at regional level;

(6) depending on foreign experts ("technical assistance") to provide for high-level human resource needs, and on overseas education for course specialisations which are uneconomic in the African context.

Donor support for revitalization and expansion will depend upon prior implementation of structural adjustment in education, consistent with the Bank's conditionality policy in other sectors. The donor "community" should immediately provide "seed money" to cover costs, especially in management improvement; support exchange of ideas and experience (presumably among bureaucrats and high-level intellectuals, not members of the popular classes); and most remarkable of all, "the international donor community should establish and finance a source of high-quality specialized technical expertise without direct financial or political ties to any government or international donor" (p. 6). The latter point mystifies the status of the "international donor community" as an embryonic global state to which such an expert group would certainly be subordinate.

Schools and colleges are to be adapted to the labour market and the needs of the workplace with respect to personality characteristics such as "punctuality, persistence, and willingness to accept instruction" (p. 63); intermediate skills are reportedly more efficiently produced in on-the-job training under the control of the employers, largely private sector businessmen by implication (p. 112). Given the low level of skills required (in Africa? worldwide?), "Most entry-level jobs require relatively little in the way of specific skills" (p. 63). The policy does stress the revitalisation of basic curriculum, however, including numeracy, literacy and language, based on a more authoritarian management style at school level and the strengthening of educational testing based on American-style examination systems (Chapter 7).²

The level of arrogance in this report is matched by its outright ignorance, probably a form of defensive ignorance - that is, a political blindness towards aspects of reality which do not fit its particular set of preconceptions and goals. It would be difficult to imagine a more patronising statement than "Hard decisions on education policy should not be postponed", given the seriousness with which education policies have been debated in many countries of the region during the last twenty years. Is it true that "For most African countries, the formulation of a comprehensive and coherent education development program ... will be a new experience"? (p. 3). How has this happened, given the level of donor intervention in the education sector, especially of the World Bank, UNESCO and UNICEF along with bilateral agencies like SIDA? Why
the silence concerning recent efforts by some governments to carry out their own critical evaluation of the education sector and to plan reforms, such as Tanzania's 1982 Presidential Education Commission report?

Most perfidious are its views about African universities, arguing that "no African nation can afford to have. . . World-class university-based programmes of both basic and applied research and of postgraduate education" although "none can afford not to have them in the long run" (p. 73), as if university programmes in Africa were not up to international standards. Here history has been turned upside down; the development of exceptional, high-quality teaching, research, writing and debate after independence and especially in the 1970s in many universities and other tertiary institutions was undermined and largely reversed by the steady erosion of financial and other resource supports by donors and national states during the 1980s. World Bank/IMF SAP policies have augmented the steady decline of real wages; the severe shortage of books, journals, paper, ink, laboratory equipment, research vehicles, even chalk for blackboards; the reduction of donor support for high-level overseas training as well as domestic post graduate programmes.

Related to this is the inaccurate assertion that university staff "do not allocate much time and effort to direct service activities" such as consultancies carried out mainly by expatriate technical assistance (p. 73). As the later discussion on policy-oriented-applied-research (POAR) will argue, a salient dimension of the university crisis is the amount of time that academics spend doing consultancies instead of teaching or doing some form of basic or participatory research. These consultancies are subsistence activities for some and wealth-accumulation for others, along with non-intellectual endeavours like dairy and poultry-raising, taxi and transport services, food processing for sale, real estate and the myriad of other commercial activities engaged in to supplement low wages. Supplement is a misnomer; in 1988 Tanzanian university teachers could feed their families for about three days on the monthly wage, meaning that their labour during the other working days of the month was not supported by wages at all, but by "out-of-classroom" activities.

University austerity measures are not unique in Africa; their imposition in the UK and the United States has led to immediate organised collective action by teachers at secondary and higher level through independent teachers' unions and by student protest organised by the national student movement in British universities. The Bank presumably counts on the fact that there is less space for such organised resistance in Africa, however, reflecting the authoritarian principles it both supports and depends upon to ensure the success of this policy. The policy is highly political, though many of its political implications are left implicit. The demand for "expeditious action" not more than a year in duration connotes authoritarian measures to impose such policies (p. 107). It notes that "The containment of unit costs, i.e. . . . should be aggressively pursued at all levels", "political considerations will inevitably limit the feasibility" of some measures, and that "Determined and very high-level leadership will be needed to overcome resistance" (pp 93, 80). The report is silent about the probability of popular resistance; instead it refers to "powerful groups in society" who are defined as "civil servants, professors, and students" (p. 80). These three groups occupy different class locations; top bureaucrats, politicians and business people - the real powerful groups - are less likely to resist SAP in education because of their access to overseas education or "international schools" within the region.
The Bank has singled out the new educated middle class, not unlike British colonial hostility towards educated Africans in the 1930s and the 1950s (Mbilinyi 1989b). Then, as now, retrenchment policies were adopted to reduce state investment in African education (not European education within the apartheid colonial system), to reduce the number of years of schooling, to vocationalise the curriculum so as to make education correspond to the labour market and the workplace, and to reduce access to higher levels of education and to the kinds of courses which were most highly regarded in the occupational hierarchy of colonial society.

Reference to equity principles as a justification for these policies and the suggestion that teachers are over-paid by comparing their wage levels to national aggregate averages or to wage levels in Asia reflect the way populist ideology has been manipulated. In reality, structural adjustment will probably increase inequalities in resource allocations in favour of higher levels of the educational pyramid, and increase inequalities in access to and performance in school according to differences of class, gender, race-ethnicity, urban-rural location and nationality (including inequalities between children based in Africa and in North America, Western Europe or Japan). The assault on teacher-training, wages, classroom size and the like at primary level exemplifies this, as does the promotion of a "minimum package of textbooks and teaching materials" for African school children, in contrast with the package of computer technology provided to American children in elementary education (pp. 46, 45).

The Bank is resurrecting its 1970s programme of "basic education" which stressed "mass education" which was "functional" and relevant to the needs of different classes and different societies; rural people, for example, to be taught "rural subjects" "adapted to the different groups' needs" (World Bank 1974, critiqued in Mbilinyi 1977). In a position of strength vis-a-vis African states due to their fiscal and other crises and the retreat of progressive social forces worldwide, it can better implement its programme of differentiated education:

The differences between the lower-income countries and the relatively more developed ones will determine the proportion or "mix" of different areas and kinds of assistance. In the poorer countries, basic education and rural training are expected to receive emphasis, together with selective support for the further development of skills. The development of secondary and third levels of education would take a more central place in the education strategies of the middle- and higher-income countries (ibid).

The Bank's "minimum package" policy of the 1970s and 1990s is consistent with earlier policies of the British Colonial Office. According to the seminal policy paper of 1925, Education Policy in British Tropical Africa (cited in Scanlon 1964),

Education should be adapted to the mentality, aptitudes, occupations and traditions of the various peoples, conserving as far as possible all sound and healthy elements in the fabric of their social life; adapting them where necessary to changed circumstances and progressive ideas, as an agent of natural growth and evolution.

The procedures used to evaluate teacher wage levels bias the results in support of austerity measures. Teachers' wages are compared to national average incomes or GDP rather than adopting, for example, the wage levels of teachers in North America or Western Europe. This would be a more correct reflection of the global labour market in high-level skills and technology which...
is absorbing a growing portion of African experts; or of the "TX" or expatriate
labour market which has developed at national level, based on wage levels paid
by foreign institutions and enterprises to foreigners and a few national experts.
Then it would be impossible to claim that university teachers receiving a
monthly wage equivalent of US $50 or less were over-paid. Global
comparisons of the proportion of the relevant age group in higher education
would also invalidate the conclusion that there has been an over-production of
higher level graduates. In 1984 the lowest levels in the world were in Africa
(e.g. 1% or less for Mozambique, Malawi, Tanzania; 2% for Zambia and
Lesotho, 3% for Zimbabwe, compared to 20% in Britain and Cuba, 19% in
West Germany, 38% in Sweden and 57% in the United States of America
(World Bank 1987b: 262-3).

The policy fails to provide supportive research evidence to back up many
of its assertions; those studies referred to are descriptive surveys and
correlational matrices, lacking any kind of substantive causative analysis.
Underlying premises are not made explicit, for example when arguing that
liberalisation and the "unfettered interplay of market forces" will lead to a better
match of high-level education expansion, student career choices and
employment opportunity, i.e. reduce unemployment of graduates. No evidence
is provided and this ignores the impact of general economic decline and
retrenchment policies in the social services and public administration (Brock­
Uine 1988).

Human Resource Development in SADCC

SADCC programmes have been narrowly based on basic production
sectors; there is no sector for social services, education or culture in spite of
their significance for its counter-dependency objectives. The sole exception is
the manpower sector which provides strategies for research, documentation and
training in support of the other SADCC sectors. According to the SADCC
(1987) report for the 1987 annual conference, priority was given to
strengthening the region's data base (inventory of regional training resources,
establishing a Regional Data Processing Analysis and Storage System),
promotion of regional-based training through scholarships, research on future
sectoral training needs, training in management and public administration,
strengthening instruction at elementary and secondary levels in science,
technology and mathematics subjects through teacher-training and text-book
production, and establishing a Manpower Development Resource Centre. Also
mentioned were the development of a regional Educational Network and
Resource Centre for Teacher Education (ENRCTE) and the promotion of
inservice training of school leaders, teacher educators, supervisory and
inspectorate personnel in the field of management and leadership.

Teacher education has been given special significance along with
manpower planning-type programmes. The 1988 Manpower report included
projects on textbooks and teaching manuals for teacher training centres,
ENRCTE's work in curriculum design and reform for teacher education,
imated utilisation of human resources in teacher education and an inventory
of relevant specialist competencies in the region, increased awareness of teacher
educator problems and increased exchange of individuals, ideas and
information. Hopefully teacher educators, teachers and other citizens have been
fully involved in the planning and design of these programmes; this represents
an opportunity to open up debate about curriculum reform in teacher education
at all levels from pre-school and elementary to the university on a national and
regional basis.
Guidelines for project selection reaffirmed the need to relate human resource development (unfortunately labelled as "manpower" by SADCC) to SADCC development objectives. Priority was to be given to training within the region (not overseas), consolidation of training facilities to avoid duplication and the development of self-sustaining capacity at national and regional level (SADCC 1988, Annex 1). By 1989 nine projects were dropped because of lack of funding or relevance (the reasons unspecified), including the Regional Data Processing, Analysis and Storage Department; short-term attachments of people in the region to more advanced systems especially of employment and management information systems (EMI); technical assistance involving personnel from within the region and workshops for EMI people which were intended to harmonise and standardise concepts, definitions, terminology and measures of regional labour force and manpower in order to ensure comparability and reliability of data, adequate coverage, etc. (SADCC 1988, 1989).

Educationists need to query decisions being made in this sector, and seek to secure the widest possible popular participation. Both areas of human resource surveys and planning and teacher education are significant and potentially controversial. For example, the EMI workshops would have been a vital arena to raise issues pertaining to undervaluation of women's work in farming and off-farming activities and occupational hierarchisation according to skills and/or credentials. Financial costs could not have been the problem, given the low sums required compared to most other projects (US $0.159 million). It is also unfortunate that two projects aimed at increasing the utilisation of regional human resources rather than foreign expertise have been dropped (attachment and technical assistance). The Regional Data Processing, Analysis and Storage Department seems to be indispensable for strengthening regional and national capacity to independently carry out human resource development and planning.

Policy statements which prioritise the development of indigenous human resources (like that of the 1989 Luanda Conference) are difficult to reconcile with concrete steps taken to undermine that development, such as dropping the projects discussed above. Donors have reportedly been more supportive of regional programmes which include a large component of technical assistance from their own countries, rather than SADCC efforts to develop its own expertise (Amin et al 1987). This is consistent with "aid" policies of the largest bilateral donors; during 1981 through 1983, more than 55% of bilateral education sector aid to other countries from the four top donors was in the form of technical assistance, i.e. foreign expertise: 82.6% for France, 68% for Belgium, 55% for Britain and 57% for the United States of America (World Bank 1987a: Table A-27).

The failure to utilise "local" expertise undermines the development objectives of all other sectors. In the area of mining, for example, the absence of local participation in feasibility studies has meant that crucial decisions about the pattern of later development, design choices, equipment, procurement and management styles may reflect the best interests of foreign partners including transnational corporations, thus perpetuating rather than countering dependency (Mudenda 1987). This also represents lost opportunities for the vital "on-the-job" learning experience required for the development of self-sustaining and independent science and technology.
Additional questions will be raised here which relate to the issues of popular participation and democracy in education, research, management and government. There has been little or no public debate about appropriate management styles for development; instead, Western hierarchical management systems based on skills-credentials differentiation and bureaucratic models of decision-making have been adopted (Green and Thompson 1986: 267). Related to this is the way that human resource development has been oriented towards employer needs and the existing labour market(s) within underdeveloped economic structures. SADCC has not taken the initiative to develop plans which reflect human resource requirements for self-sustaining independent economies and politics. High-level human resources (defined according to high-level education credentials) have been prioritised and other levels or forms of skills and competences neglected.

This may also be an opportune time to ask whether underdevelopment of human resources is merely a problem of lack of skills and attitudes which can be provided by relevant training or education. Mobilisation of people's energies, creativity, and commitment requires something more, including appropriate conditions of work and life and meaningful moral incentives, especially in difficult economic conditions.

The SADCC manpower coordinating unit has thus far given no direct attention to discrimination against women in all levels and forms of education, training and employment, in comparison, for example, to the section on "women and development" in the Lagos Plan of Action (OAU 1981). Rather than set up a separate sector on women and development as recommended by the Harare Declaration on Women and Development (Zimbabwe 1986), the SADCC Council of Ministers recommended that women participate fully in all sector programmes. The different coordinating units are to build up their women personnel and promote full women's participation, and women's national organisations are to assist in monitoring and strengthening women's positions with the support of UNIFEM and other donors (SADCC-NGO Special Report April 1989). Will this be adequate, especially as it depends on government-level programmes and political will? Moreover, will the issue of women and development relate to full emancipation of women in all classes, race-ethnic categories and nationalities or be reduced to a programme for increasing women's work and maintaining the status quo?3

The final question relates to the issue of methodology which is discussed in the next section. Employing more national experts is a necessary but not sufficient condition for countering dependency, given that national experts may adopt the same development models and identify with dominant social forces rather than with the popular classes in their countries.

Alternative Research Approaches

This section analyses the increasingly prevalent "policy-oriented-applied-research" (POAR) and contrasts it with "participatory research" (PR). Demands for employment of more national experts by foreign, regional and national state institutions and the growing dependence of many national experts on consultancy payments for their monthly incomes raise the issue of the role of the intellectual in society and the politics of research. The urgency of this issue has grown since the late 1970s when "policy-oriented-applied-research" was initially discussed in the debates about "participatory research" in Africa (Mbilinyi et al 1982).
In a context of fiscal and economic crisis, researchers are urged to carry out short-term practical research which is oriented towards policy-making and the policy makers. Hardly any financial support exists to carry out long-term basic research in any field. Researchers in such conditions are less likely to critique reality or participate in organisational activities which oppose the status quo; they ultimately become state servants like the sociologists and social anthropologists who once served the colonial state:

It is assumed that if the policy makers are given correct information, i.e. knowledge about a problem, this will lead to policy changes and/or policy correction and this will lead to social improvement. Underlying such assumptions is the belief that

1. the problem is due to lack of knowledge
2. change is possible within the present context, under the present conditions.

Hence the researcher merely needs to provide the necessary knowledge and transmit it to the policy makers in order to effect change. These assumptions delude the researcher into a false illusion of power, and also falsify reality for any other participants in the research process, namely the researched themselves (Mbilinyi et al 1982:51).

"Policy-oriented-applied-research" (POAR) easily fits a liberal nationalist perspective in contrast with "participatory research" (PR) which is based on the democratic interaction between the researchers and those among whom the research is conducted. This democratic interaction is premised on the political participation of the exploited and oppressed classes in society in conducting research on the causes of their exploitation with a view towards overcoming this exploitation. Participatory research thus represents the general struggle to break down the social division between mental and manual labour and is an important tool for popular education (Mustafa 1986:5).

PR is more therefore than simply involving ordinary people in "needs assessment", project planning and evaluation as found in some "participatory" programmes being funded now by donor agencies. Such programmes may simply provide a more productive and efficient way of gathering information about people while at the same time creating an illusion of grassroots participation to win local support and legitimise state programmes. Class conflict and struggle are recognised by PR as necessary aspects of revolutionary change. Here I would add that "real" national liberation concerns emancipation from oppressive class, gender, national, race-ethnic and cultural relations (AAWORD et al 1985). Researchers do not stay "neutral" as prescribed by positivist social sciences. Instead, they identify with the interests and struggles of oppressed groups and seek to overcome the limitations of their middle class positions through participation in some form of collective organisational framework and constant criticism and self-criticism.4

The research process is considered here as a form of production of knowledge. Questions about the ownership and control of the means of producing knowledge and the means of reproducing and distributing knowledge
can be raised with respect to PR, POAR and any other research endeavour. They include questions about who initiates a research activity and who pays? Who defines the problem area and what is studied? What procedures of data collection and analysis are adopted? How are the results communicated and to whom, by whom? What is learned, including specific sets of skills? What is not learned and why?

More detailed methodological considerations will be presented in the following sections on education alternatives, local organisation and research topics. Specific research strategies will necessarily depend on concrete conditions within each specific situation; current efforts to widen space for different forms of non-governmental organising and open public debate about education and other state policies have incorporated elements of PR while maintaining a dialogue with the state at global and national level and often depending on it for funding and moral support.

**Education Alternatives**

This section draws on recent analyses of education and society which provide an alternative, more optimistic view of the role of schools and educators/educatees than that provided by reproduction theories and other critical analyses. The crisis in education partly reflects contradictions which have developed within the education system itself. Contrary to reproduction theories pertaining to education, this analysis presumes that education does not simply function as a "tool of the ruling class", nor do learners simply internalise dominant cultural values. Students and teachers come to school with cultural identities which may or may not conform to the ideals established for the school system. Conflicts between students and students, teachers and students, teachers and school administrators, sometimes between all school actors and higher level bureaucrats and experts, may lead to unintended consequences.

Most critical scholarship in the region has emphasised the oppressive and hegemonic function of school teachers. This ignores the changing position of teachers in the international division of labour, the proletarianisation process in school and classroom and the increasing alienation of the educational process as higher level experts and managers assume control over decisions in curriculum, examinations, student selection, and choice of books and other teaching materials. It also reproduces the concept of powerless and passive students and denies the possibility of joint, creative, dialogic relations in the teaching and learning situation.

One result is the dearth of research about, for example, the role of teachers in the struggles for national independence; their contributions to the creation of a popular national culture through teaching, writing, and other interventions; their oppositional acts and resistance against colonial, racist, sexist, classist ideologies and practices in and out of the classroom and school (Weiler 1988).

The concept of "transformative intellectuals" of Aronowitz and Giroux (1986) is especially useful to this discussion. Teachers are conceptualised as "reflective practitioners" rather than being mechanically read-off as ideological state agents; they have the potential to become transformative, critical, accommodating or hegemonic intellectuals. Transformative intellectuals advance emancipatory traditions and cultures within and without alternative public spheres. Their practices unite a language of critique with that of possibility, opening the way to considerations of the conditions necessary for
new forms of culture, alternative social practices, new modes of communication (education being only one form of communication), and practical visions for the future. They are engaged in the political terrain, whereas "critical" intellectuals critique dominant ideologies and practices but do not become engaged in political activities nor do they perceive themselves as performing any kind of general political function. Theirs is a retreat from politics, from which position of safety it is possible to say or write in a radical fashion; ironically they are often the first to condemn those engaged in concrete activities, labelling them "reformist" regardless of the content and context of their work. Critical scholars may be highly rewarded so long as they do not step beyond the boundaries of academia; their radical discourse helps to legitimise by exemplifying a form of freedom of speech. Contrasted with critical and transformative intellectuals are accommodating intellectuals who support dominant social structures and their rulers and hegemonic intellectuals who are self-conscious leaders/rulers.

The progressive reform movements of the 1970s (including the Education for Self Reliance reform in Tanzania) were, it is argued, limited because they confined their attention to the schools and other educational institutions and ended up contributing to cooptive development, including a creation of middle class elements within oppressed groups and nations/nationalities who became part of the dominant hegemonic structure. Instrumentalism replaced progressive reform in the 1980s; the hidden curriculum was made overt, as the World Bank report on SAP in education illustrates.

Central to this analysis is the concept of "citizenship" rights - the ability to examine critically public and private life, to decide how and what should be produced, by whom, to make policy (ibid, p. 64). Instrumentalist policies have produced a form of citizenship illiteracy. Educators can combat this process by recognising the existence of oppositional behaviour and discourse, acknowledging or validating the knowledge and attitudes of students/educatees and engaging in a shared critique of the same, which becomes a critique of their daily world and of reality in general.

Aronowitz and Giroux (1986) remind us that rulers cannot rule without some form of consent from the dominated classes. Recent studies of democracy and the state have stressed the greater dependence on direct coercion in Africa compared to the position of rulers in advanced capitalist countries who can rely on ideological hegemony (Nyong'o 1987). While agreeing with this position, it is essential not to disregard the continued significance of coercion in advanced countries, even within the education sector (illustrated by the role of laws, courts and police in support of regular attendance and school behaviour) nor to disregard the significance of ideological struggles in African countries.

Recent concern about the crisis in education in Africa reflects this. Contradictions arising from the difference between reality and expectations of upward mobility fostered by the educational pyramid have created serious alarm, epitomised since the mid-1970s in the debate about the "school-leavers problem". Whereas once the sensitive group were primary school leavers, they have become university graduates in the 1980s. Suggested curriculum reforms in tertiary education resemble earlier developments in the United States of America, career-oriented streaming, the decline of "traditional" classical subjects in humanities and the social sciences and the prioritisation of technical subjects, the emphasis on educational testing with a probable decline in student (and teacher) capacity to think abstractly and engage in critical analysis. Curriculum change also reflects the international division of labour, however, hence the
World Bank opposition to popularisation of computer technology in Africa, compared to the situation in primary and secondary schools in the advanced countries. University graduates will be functionally illiterate in modern computer and information technology, compared to first graders in Britain, Japan and North America.

Cultural relativism underlies recent reform policies including the conceptualisation of different educational needs for different groups of students/educatees in the World Bank proposals. It sometimes emerges in programmes for participatory learning or grassroots organising when middle class intellectuals argue that "the oppressed" have the necessary knowledge about their oppression and the role of the intellectual is to learn this "authentic" knowledge. The work of Stuart Hall and other colleagues in Britain is especially useful here. Middle class intellectuals with access to several forms of analysis and discourse patronise children/educatees in this way.

We have to work with, but also work on experience. We need to be able to deal with it critically. Above all, we need to be able ... to understand the principles and invisible structures on which experience rests and which determine its shape, beyond the naked eye. No curriculum tells itself. It has to be told and learned. To evade that hard issue - an issue, yes, of local control and discipline for the sake of a wider freedom - is to short-change the people we teach (Hall 1983: 8).

The skills necessary to assert citizenship rights are "the basic, general skills of analysis and conceptualization, ... of abstraction and generalization and categorization, at whatever level it is possible to teach them" (ibid: 6). This includes learning about experiences elsewhere, moving beyond the narrow parochialism fostered by mainstream pedagogy.

To be confined to one's experience is to know the world one-dimensionally ... They secrete and monopolize knowledge because they are only too well aware that knowledge is power - real cultural, technical, social, ultimately political power ... We need it in our terms, for our purposes. We need it to break subordination, the chains of domination, but it will not float down the street, asking to be taken. The idea that the best will do for them and the rest will do for us is tantamount to asking to be taken for a ride. That is why education is a struggle - a struggle for something we need and they have never been willing to give (ibid: 8-9).

Who the "we" and the "they" are will depend on the point of intersection of class, nation, race-ethnicity-culture, gender and age. As has already been noted, educators and researchers do not fit unambivalently on either side. They may find themselves patronised as "Third World" researchers, considered sufficiently knowledgeable about their own reality though ignorant of more abstract debates in international academic circles. People may thereby be lulled into complacency about themselves and their work, unchallenged to excel, and ultimately be unable to compete in the global market place of academia or create the original analysis required for national and regional independence.

The next section presents concepts drawn from analyses of popular mobilisation and participatory planning at the level of local government and the NGOs which may be useful in guiding the development of alternative education and research.
Non-Governmental Organisations and the Democratisation of Local Government

The relationship between structural adjustment and authoritarian rule has been discussed in the first section, along with the centrality of the concept of popular democracy in discussions about self-sustaining economic development and national liberation. "Collective self-empowerment" (Friedmann 1989) is based on struggles for collective and individual citizens' rights to the bases of social power outlined in the first section (financial resources, time, space, relative knowledge, accurate information, social organisation, social networks and access to the instruments and tools of production). Households, local communities and the NGOs lack the necessary resources to provide these for the popular labouring classes; socially organized effort is required to extract resources from wealthy and powerful social forces at the national and international level and to democratise the state at local, national and global levels so that its social policies facilitate and support collective self-empowerment.

This necessitates a shift in our perception of the state. Rather than conceptualise welfare state provisions of public health, education, water and access to land as simply aspects of social control and class domination, it means recognising them as entitlements resulting from popular demand and struggle (Gordon 1986). The form and content of the provision of basic needs (including the bases of social power) must be constantly struggled over. At the same time, oppressed groups are entitled to demand that the state guarantee collective and individual rights which powerful forces seek to deny; collective organisation becomes necessary to ensure that the state carries out this function. An example is collective organisation in support of workers' security of employment or against male violence against women or against child abuse (Gordon 1986).

Participation in collective organising and struggles at the local level strengthens people's capacities to govern. This may be in the context of local self-help projects to provide for basic needs like community schools and hospitals. This process of social accumulation can be empowering so long as an organisational framework is developed which increases accountability of central government to local government and local and national NGOs based on popular participation and control (Mackintosh and Wuyts 1987). This necessitates, for example, the decentralisation of finance functions of accumulation and allocation, of planning and expertise, and the development of local capacity to produce and use information relevant to planning and management.

Examples exist of NGO efforts to organise along these lines at the local level in SADCC region and in other Third World countries (IFDA Dossier regularly provides information about relevant developments, see No. 71, 1989 about a Philippines programme). Elements of the same conceptualisation have been produced by international NGOs; Oxfam (USA) recently created a programme of participatory evaluation of aid projects in Zambia, Zimbabwe and Tanzania (Kalyalya et al 1988). At the 1986 Harare workshop on women and development, working groups discussed the development of an evolved (not imposed) information data base system which derived from research which was self-defining in terms of priorities of women, reflecting options for new initiatives and creative solutions, accountable to the grassroots constituency for women and development programmes (Zimbabwe 1986).
Especially promising is the rapid expansion of local and national NGO activity in the 1980s. Contradictory as they may be, they have contributed to the creation of more political space for organising at all levels. Lessons learned from studies of women's NGOs reflect many of the issues raised in this paper: dependence on foreign funding in some cases, hierarchical and bureaucratic management styles, the creation of one-person leadership and undemocratic processes of decision-making and middle class dominance at local or national level. Conflicts emerge between donor prioritisation of short-term quantifiable outcomes and NGO emphasis on process and long-term qualitative outcomes. Many Women in Development (WID) programmes and projects become reformist and act as palliatives, easing adaptation to oppression rather than promoting efforts to change society. This includes local NGOs which remain silent about such issues as sexual harassment at work, violence in the home, police harassment of prostitutes, beer brewers and street hawkers and the lack of freedom to walk safely alone at night (SADCC Women 1986).

NGOs including both Women and Development groups and PR programmes tend to target low income groups as if they were the problem, reflecting the persistence of a welfarist framework, instead of "studying up", investigating powerful groups in society responsible for maintaining underdevelopment and exploitation. Similarly, the NGOs based in the North often focus on African governments, NGOs or local communities instead of transnational corporations and other powerful social forces in their own countries. Networking among progressive scholars becomes difficult due to differential access to resources; cooperative work may actually strengthen the division of labour because Northern-based scholars are in a stronger position to publish or get access to resources derived from the work carried out by their SADCC-based colleagues. Similarly, local middle class researchers may build careers on the basis of their expropriation of the experiences of grassroots organisations if accountability structures are lacking.

WID and PR programmes patronise women with aims of "activating" them, connoting a power relation in which "I" the actor - who knows and who acts already to change society - will act upon "the other" who is ignorant and passive (Mohanty 1987). Participants in the 1987 Eastern Africa Rural Development Experience seminar in Nairobi, for example, concluded that "There is also a pressing need to assist local communities to regain their lost confidence and pride in managing their own development by helping them to overcome the passive and recipient mentality" (UNCRD 1987: 9, para 8). Elsewhere the concept of "culture of poverty" was resurrected. One of the major preconditions for local development was purported to be "the creation of an environment favourable towards making rural people shoulder responsibility for their own development" (para 5, p. 8). This presupposes that rural people are not already overwhelmed with the burdens of debt and structural adjustment, about which they have no voice, and exemplifies the way participatory discourse has been used on behalf of the state.

Similarly, popular knowledge is often conceptualised as "technical" (McCall 1988: 47), ignoring the possibility that low income people acquire "social knowledge" about their oppression, assuming that "the social knowledge [is] held by dominant groups". Emphasis on "local roots" may also deny the significance of the role of organic intellectuals in participatory programmes and reflects a cultural relativist position.
Women's groups and projects have experienced many problems arising from domineering leadership and management styles and exploitative practices (e.g. embezzlement of proceeds by leaders). The resulting conflict and struggles have led to growing class and gender consciousness among the participants.

There is an education process taking place as women learn how to organise; to seek and acquire different resources; to manipulate the bureaucracy (or they learn the need to organise in order to be able to do so better in the future); how to plan; how to combat undemocratic tendencies within the organisation. Women thus are able to develop self-confidence and solidarity (Koda et al 1987: 13).

This is as true of intellectual groups oriented to research and documentation in universities and other locations as it is of working women's cooperatives.

The next section develops some research topics in education, participatory planning and human resources development; some apply elements of participatory research and collective self-empowerment.

Some Research Topics

(1) The impact of SAP in education and SAP generally on access to different levels of education, streams and subject specialisations according to class, gender, race-ethnicity, culture and nationality; special attention to differential access to high- and low-performing schools in terms of "upward mobility" within the educational system and to "public" and "private" schools in the nation, region and overseas.

(2) Historical analysis of resistances and struggles within and over the educational system at different levels, and their relationship to changes in the labour market and the division of labour at local, national, regional and international level, changing forms of capital accumulation and state responses. Concrete analysis of specific situations and actors, i.e. the role of specific transnational corporations in shaping policies pertaining to labour, education and urban influx control, carefully periodised within colonial and post-colonial eras. This could be part of the development of community- or workplace-based groups to monitor SAP and SAP in education policies and to mobilise communities in defence of those redistributionist policies which protect their rights to basic needs and the bases of social power, including universal primary education, expansion of access to higher and tertiary education, relevant knowledge and accurate information.

(3) Create an alternative cost-sharing model on the basis of research which considers differential incomes of different social classes and the beneficiaries including individual students and households, communities, employers including the state, transnational corporations and national capitalists which profit from the higher levels of productivity resulting from mass education in smallholder agriculture, non farming reproduction activities, etc. Clearly the state cannot pay alone for social services nor should it subsidize the costs of training a more productive labour force for big companies. Different patterns of cost-sharing to be designed for different levels and kinds of education, without relinquishing control over curriculum content to employers. Popular organisations should be the
main initiators of this programme as part of the endeavour to increase popular participation and control over education.

(4) Analyse the extremely oppressive treatment of adolescent women in schools and colleges through participatory research groups involving adolescent students and others; critically study problems and strengths of self-image and sexual relations through life history and other approaches which critique the mainstream ideologies underlying their behaviour; design programmes to counter sexual harassment by teachers, fellow students and other men; promote the protection of privacy of young women through legal reform if necessary.

(5) Study how people are organising cooperative self-help kinds of programmes to secure basic needs within the context of some form of popular or participatory research group. What kinds of needs have been identified? How have people organised themselves? In relation to what agents? For what resources? What kind of "really useful" information has emerged (Johnson 1983)? Who educates? Who are the educatees? What are other kinds of skills and forms of knowledge which would strengthen economic and political citizenship rights? How can they be best secured without losing the initiative of the groups concerned? How do groups cope with conflicts and contradictions within the group or emanating from outside? How can their positive mechanisms be strengthened?

(6) Develop textbooks and teaching materials with alternative forms of research, writing and non-writing production activities. Popular curriculum design groups involving teachers, students, members of popular classes would develop the knowledge and information to be incorporated in teaching materials on the basis of life histories, group histories, community histories, creative writing in songs, drama, stories, etc. Allow people's own interpretations of reality to be presented in e.g. literacy and follow-up literacy materials, radio programmes, popular theatre, history courses and studies of literature and the arts. Questions of style, language and form of presentation to be posed in terms of popularising knowledge from all forms of science, including the social sciences.

ENDNOTES

1 The following provide more detailed analysis of the issues posed here: Amin et al 1987; Hanlon 1986; Hutchful 1987; Nyong'o 1987; SADCC-EC Briefings and SADCC-NGO Newsletter and Southern African Political & Economic Monthly.

2 "The headteacher should have a genuine voice, if not the final say, in all of the following: the appointment, discipline, and dismissal of teachers; the adaptation of curriculum and classroom schedules to local circumstances; the establishment of effective relationships with community organizations; the generation of local resources; and, most important, . . . the use of locally generated revenues" (p. 84).

3 For further discussion, see AAWORD 1985; 1986; Bujra 1986; Mbilinyi 1987; Sen & Grown 1985.
4 Mustafa 1986; see APRN 1986; Kassam and Mustafa 1982; Mustafa 1982 for further discussion in the region, also Voices Rising produced by the Participatory Research Network based in Toronto. Relevant discussion about the politics of research is in the Eastern Africa Social Science Review 1 (1), 1985.


6 This analysis could be applied to other forms of education besides schools and classrooms referred to here.

7 Further information about the NGOs in SADCC is found in APRN Newsletter and the SADCC-NGO and SADCC-EC newsletters.

8 For critical analysis of women's grassroots organisations, see Koda et al 1987, Mbilinyi 1989a, Muntembia 1985a, b, Tadesse 1985.

9 The ICDA SADCC Programme is a welcome exception; under the leadership of An Snoeks-Lyamuya, it has contributed to the promotion of SADCC-based NGOs, channeled EEC and other donor funding to local NGOs, supported active lobbying of European Community Institutions and engaged in a communication campaign in support of SADCC objectives (SADCC-EC and SADCC-NGO Newsletters).

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DISCUSSION

In the lively discussion that followed Professor Mbilinyi's presentation, questions were asked and comments and observations made. One such contribution questioned if the responsibility of researchers extended only as far as the research findings and not to the orientation towards policy makers. In response to that, Participatory Research was seen here as a facilitation and promotion of dialogue especially at grassroots level, so a need to redefine our research was deemed quite relevant.

Another comment challenged the Permanent Secretary's assertion that researchers should "honestly record what is, rather than what we would wish it to be", as the latter is a necessary ingredient if one is to make utopian visions for the future. Of course it is not enough to be critical of reality without providing an analysis of what we want the future to be.

The contradictory statements in the study which was conducted by the World Bank came under criticism, especially the parts which assert that African countries cannot afford world class universities, but later turn and say the states cannot afford not to have such universities. Also in the Bank's report was a statement to the effect that there was a "dubious" over-production of graduates in African universities while at the same time a great proportion of their economic aid has to do with inviting foreign "expertise" thus reducing the employment market for the said graduates. Professor Mbilinyi commented that the Bank's statements should in fact raise consciousness in researchers and that one thing that is quite clear to the Bank is that university education is in high demand in African states; that is why a lot of lecturers in African universities are going to have to make a sacrifice and survive on starvation wages.

One researcher was worried about "empowering the powerless". He asked if it was necessary to be researching on the powerless when we know that they will never be powerful, and in response to that it was noted that the position of the powerless was not as hopeless as it seemed to be, especially if researchers are going to carry out the responsibilities that they have to bridge the gap between "studying up" and "studying down". In the process, strategies for the emancipation of women and all oppressed groups of society could be sought.

It was revealed that there will be a conference which will be sponsored by UNICEF/UNESCO in Thailand in March '90 entitled Education for All: Meeting Basic Human Needs. A question on what the present conference could do in preparation for the Thailand conference was then asked. Some of the suggestions in fact had been already brought up in the paper under discussion and maybe which further preparation could be done would be to gather some more suggestions and make resolutions on the subject of basic learning needs, of course bearing in mind the reformation of the existing formal education systems.
ISSUES IN THE FUTURE DEVELOPMENT OF EDUCATIONAL RESEARCH IN THE SADCC REGION

TRAINING IN EDUCATIONAL RESEARCH

Katherine Namuddu

During the opening of this symposium, in both the speech by the Permanent Secretary, Ministry of Education, and the Keynote Address by Professor Mbilinyi, participants were asked to reflect on the kind of strategies which might be used to encourage researchers to achieve their objectives better. Researchers, we were reminded, have to collect, share information, disseminate research findings and generate new knowledge, all for use in the practical tasks of national development. As this symposium progresses, many innovative ideas and solutions toward solving these problems will, no doubt, be suggested. I would however like to share with the participants my personal experiences and ideas on training in educational research.

As we are all aware, a very important aspect of university teaching involves not only conducting research but also ensuring that the students we teach leave university as critical intellectuals who are prepared to pursue their various careers using research data and, if possible, also able to conduct some research of their own.

The task of equipping students, particularly postgraduate students, with research skills is entirely in the hands of those who teach students courses on research methodology. Three years ago, the Fellowship and Awards Division of IDRC (The International Development Research Centre) asked me to undertake a brief exercise to assess the status of training in educational research in the region. The product was a report entitled *The Status of Training in Educational Research in Eastern, Central and Southern Africa (1987)*. Those colleagues who belong to ERNESA have already seen the report and what I want to do here is simply to reflect on some of the recommendations in that report in the light of the kind of strategies we might adopt for cooperation in research training in this region as well as in the light of my experiences as a non-teaching researcher over the past three years.

**Findings**

The main finding of the report concerned the multiplicity of "courses" in educational research available in the various countries and the nature of what is normally referred to as "supervision" of higher degrees. There was no doubt that in all universities there were a number of courses set up for postgraduate and even undergraduate students to learn research methodology skills. At the undergraduate level, students usually attended a course in measurement and something akin to development studies. After this, students were usually expected to go out and conduct a project in education. I found, unfortunately, that the lecturers lacked the time to work with individual students to clarify the most appropriate methodology for the project and indeed to ensure that the students actually collected and analysed data using systematic means. There were, of course, exceptions but frequently students' projects were filled with unexamined and definitely uncritical descriptions of what was purported to have been observed.
At the postgraduate levels, in all universities students were expected to attend, at least, a course in research methodology. The content and concentration on various issues, as judged from examples of course outlines which I obtained for 15 countries, varied immensely. Even though in many of the countries more or less the same textbooks (with Gall and Ball's *Educational Research* being a universal bible) were used, it was clear that lecturers, in most cases, designed the course outlines paying greater emphasis to those sections of content and methodology which reflected their own training and biases in current research. There was an overwhelming concentration on quantitative aspects of research and if qualitative methodologies were mentioned, attention tended to stop at the case study method. This meant that there were very few course sections that made an effort to teach students the kind of techniques which would enable them to become proficient in participatory research, for example.

But a much more serious issue, in my view, concerned the way in which the postgraduate student was inducted into the culture of research. As we are all aware, it is one thing to attend a nine week course on research methodology where something like 20 different research techniques are imparted through lectures, and quite another matter to go out in the field and be able to judge which of these 20 techniques are the most suitable for answering the specific questions one has in mind. I found very little evidence of research methodology courses where practice was inbuilt in the actual course. Moreover, it was very rare to find the same lecturer conducting the research methodology courses as well as being a supervisor of the research project of students, which would ultimately be converted into a Masters or Ph.D thesis. Therefore, not only were there discontinuities in the processes of induction and gaining research experience and skills for the apprentice researchers, but also their progress as able apprentices to an expert supervisor was constantly threatened by the possibility of importing, from their research methodology class to their thesis work, techniques which might be regarded as unacceptable by their supervisor.

**The Real Nature and Importance of Apprenticeship**

I have had time to reflect a great deal on the intellectual and cultural processes by which teachers at all levels become educational researchers. From 1982-1985 I worked consistently with 9 secondary school teachers in Kenya and part of my interest was to document the processes by which teachers come to be reflective intellectuals and, indeed, researchers in their classrooms, schools and communities. I learned one main lesson from that project, namely that change in attitude and therefore practice was a long-term and time consuming exercise in which in reality few institutions and individuals are prepared to invest since great sacrifices are *always* demanded. (These experiences are documented in *5 IDRC Manuscript Reports* now available from IDRC, Ottawa.)

Since I left university teaching nearly three years ago, I have had two main research experiences which have increasingly convinced me that it is too much to expect university teachers working within the political, economic, and administrative context of many of our African universities to do teaching, to conduct good and indepth research, while at the same time training adequately future educational researchers. I believe that the very ingredients which make for a good researcher are extremely hard to come by in many of our universities. Let me briefly try to summarise the kinds of research experiences with which I am now involved so that you might get a clear picture of the basis for the statement I have just made.
The Computers in Education Project in Kenya (CEPAK)

Since 1983, the Aga Khan Foundation has been supporting the CEPAK project. Essentially 8 secondary schools in Kenya were given 8 computers each. The Foundation set up a central project office in Nairobi and provided a large and up-to-date library of educational software in all subjects of the secondary school curriculum. The Foundation then set up two sets of project teams: The Implementation Team, consisting of a project director assisted by 4 technicians, and a Research Team of 5 to 4 fulltime researchers. The role of the implementation team was to give training to classroom teachers in the use of the computer and in selecting relevant software. The research team had at its disposal 5 computers, equipped offices, a good salary and, perhaps much more important, we had each other. Our task was to document the processes of how teachers and students came to learn to use computers in teaching and learning, in educational assessment, in school management and as a tool for entertainment. We formed a strong team where each person's weakness either in research methodology or inexperience with various research literature was compensated for by other colleagues. We planned and executed research together. We visited schools and held discussions with school personnel and undertook observations both as individuals and as a group. But the important thing was that we had an inbuilt mechanism of validating or invalidating each researcher's assertions, biases and observations. Equally significant, we spent a great deal of time discussing our projected observations as well as our findings. We were able to order and consult literature based on our discussions so that our activities were always grounded in both relevant theory and the practical realities of Kenya.

In this context we found writing reports easy since peer support and criticism was genuine and always available. Equally significant, even though all of us started the project considering ourselves as consultant researchers and therefore experts, we found that we still had a great deal to learn and teach one another by way of research methodology and skills, particularly in the areas of conducting observations, analysing quantitative and word data, interpreting results, integrating data from different people and sources, and not least, deciding on the most profitable research activity to pursue further in the light of available data.

The Mindsacross Project in Uganda

While still a member of the research team in the CEPAK project, I now also work as a researcher on a project designed to assist primary school children to consolidate their functional and conceptual literacy in the core curriculum. In the Uganda primary school syllabus, each subject has areas where children are expected to go out in the community and collect data and information so as to understand the classroom concepts better. But teachers never seem to be able to cover such activities due to a variety of reasons. In Mindsacross a team of three researchers work with teachers in 4 primary schools by discussing topics requiring research by children. Then the teachers discuss with children how to collect the data, analyse it and then write their stories. The researchers in the project then work with the writers at various levels of collecting the data, writing, display and compiling work in small booklets and in disseminating the findings back to the community of both school and village.
But once again, as in the case of the CEPAK project, the researchers have time and money to immerse themselves in the lives of the teachers, children and their communities. We have time to discuss all the plans for writing and research and we have the time to work with teachers so that all of us can become both transformative and critical intellectuals.

Let me summarise by pointing out that I am not saying that university teachers cannot conduct good research unless they do what we have done in CEPAK and Mindsacross. What I am saying, however, is that if university teachers want to improve on the quality of their research in terms of its usability in the developmental process, (here development is conceptualized in its broadest sense which includes training for self-reliance and empowerment at all levels of both the formal and non-formal education systems) then genuine team work is indispensable. But any sort of profitable team work, where people work as equals and as mutual transformative and critical intellectuals, requires sacrifices in time, effort and mutual recognition and support. These are factors I find glaringly missing in many African universities and in many places where teaching and learning takes place. Therefore in considering future development in educational research it is critical to make proposals that eschew mere rhetoric so that the reality of what is possible is made bare.
PANEL DISCUSSION

Panelists:

Dr. Namuddu - Uganda
Mr. Temu - Tanzania
Mr. Nsibande - Swaziland

Dr. Namuddu's contribution focused on strategies for achieving goals of research in the SADCC region. One of the strategies is the training of researchers at local universities. Current research trainers are often foreign to the countries and to the issues and therefore less critical in enhancing student's work. Research textbooks are foreign authored since it is difficult for African authors to publish. Another strategy is that of cooperation in research by SADCC countries.

Mr. Temu was more concerned with the utilization of research by policy makers. Most of the research carried out by university students, lecturers and professors does not reach policy makers and education practitioners. Research carried out by consultants usually gets more attention even though it is often carried out by foreigners. He however observed that the use of jargon in research often makes it difficult for policy makers to understand and therefore to utilize research findings.

The following observations were made:

(a) The future of research findings will remain bleak as long as the economy remains in crisis.

(b) Policy makers are impatient for findings and instead depend on experience when results are not forthcoming.

(c) Donor bodies have greater impact on policy makers.

(d) Research budgets for policy makers are usually very low which means that ministries do not value research that much, hence the low value for local research findings.

Mr. Nsibande, a policy maker and a research consumer, acknowledged the use of jargon in research as a barrier to the utilisation of research by policy makers. He called for a model of research relevant to problems in Africa. Current research which is based on foreign models does not answer our questions. He outlined six critical issues which need research in Swaziland and in Africa:

(a) The composition of school enrolment: how do we teach people with different characteristics?

(b) Colonial education was for assimilation and elitism: how can we design education for our own goals of societal and communal development?

(c) Can there be integration between formal and non-formal education for employment and self-reliance?
(d) Political independence is not enough. There is need for more participation in the economy by citizens. How can such opportunities be provided?

(e) If the past is wrong, what is wrong with us? Why not take an inventory of our own actions?

(f) There is need to develop the potential of each child for self-determination, creativity and employment. How can we provide this when the education system is examination oriented?

In conclusion, policy makers are hungry for research findings well communicated and relevant to their needs.
THE USE OF VIDEO IN EDUCATIONAL RESEARCH

RE-EMPOWERING THE RESPONDENT: COLLECTING DATA VIA VIDEO FOR EDUCATIONAL RESEARCH

Ulla Kann and Andrew Quarmby

Some data collectors who used to administer research questionnaires recently in parts of Gaborone were greeted by more than one potential respondent with the words: "Oh, not another questionnaire. I'm sick of them. You people are always coming round with them and we never see any results from them".

Much social science research, on both educational and other subjects, makes heavy use of structured questionnaires, completed either by the respondents themselves or by their interviewers. Clearly the questionnaire approach is convenient to a researcher faced with the time and labour problems of collecting, codifying and analysing masses of data. Certainly the increasing use of computers for this analysis has strengthened the attractions of the questionnaire approach and encouraged the use of questions whose answers are easily coded for computer entry. Open-ended questions do not give answers that are easily coded. Questions that are easy to code include those requiring "yes" or "no" as answer, or questions giving a choice of, for example, five proffered possible answers. So, if we take as our main research tool one that makes it easy for us to get the data onto a computer for analysis, e.g. a firmly structured questionnaire, then obviously we gain important advantages. However, perhaps the more interesting point is - in achieving this gain, what do we lose in the process? This question becomes even more important when it is separated from the general of social science research worldwide, and applied to the particular of social science research in an African country, for example Botswana.

What do we Lose?

What do we lose, if anything, if we choose to use structured questionnaires as our main or only data-gathering tool for a social science research project in Botswana? If you are among those who have had any significant experience of administering structured questionnaires to members of the Botswana public, particularly to the 80% who live in rural areas, you will undoubtedly have noticed that the answers given to the questions asked are very rarely yes or no, even when these are all that are asked for. Similarly, asking respondents to choose one of several possible proffered answers does not by any means always result in a clear choice being made. A more likely experience is for the interviewer to find him/herself listening to an often long and complicated discourse which comments on both sides of the issue that the question addresses, leaving the interviewer to judge which side of the issue the respondent favours.

Thus a great deal depends on the immediate judgement of data collectors in interpreting the answers and converting them into a form that fits the structured questionnaire - and researchers using questionnaires often employ relatively inexperienced students to administer them, thereby (often without realising it) delegating the vitally important task of interpretation of large quantities of data to relatively inexperienced people.
"Yes" can mean "No, I don't want to Talk"

With regard to questionnaires that are designed with many questions requiring "yes" or "no" only as an answer, it is worth quoting the words of one Motswana used to administering questionnaires in a research project: "If a Motswana answers a question with either "yes" or "no" only, without any other longer explanatory statement, it is often their way of saying that they do not want to be talking to you."

If, in gathering our data, we find ourselves listening to long and complicated answers to what we think are simple questions, we should not be surprised that this is so, because the practice is deeply rooted in local culture. Attendance at a kgotla meeting\(^1\), one of the cornerstones of Botswana society and culture, reveals exactly the same pattern of behaviour by speaker after speaker as they discuss the issue before the kgotla. No vote is ever taken. It is left for the kgosi\(^2\) and his advisers to make their own judgements, tempered by long experience, as to the position on the matter of each individual speaker and the feeling of the meeting as a whole. Researchers planning social science research projects based on computer-friendly questionnaires should perhaps, as a training exercise, tape-record a kgotla meeting discussion and then try coding that discussion for computer entry.

A heavy reliance on the structured questionnaire approach to social science research no doubt works quite effectively in some societies, in particular those whose pattern of interpersonal communication has become very economical of time. It is in these societies that this approach to research has developed, and it is from these societies that it has been exported to Africa. The exporters have been researchers from those societies working in Africa, together with Africans trained by similar people either in their own countries or overseas, and they have undoubtedly meant well in their export drive.

But the fact that the structured questionnaire approach works in time-conscious societies does not mean that it works equally well, or is the most relevant approach, for African societies that value the quality, and sometimes the quantity, of interpersonal communication more than they value time.

A very common complaint by Batswana about many expatriates (including from time to time the authors of this paper) is that they do not value, and often ignore, the lengthy greeting procedures of Botswana society that go far beyond just the ritual opening exchange, into discussion of wider family well-being and even broader issues. The contrast between the American "Hi", the British "Good Morning, How are you?" (and its other European equivalents) and the Australasian "G'day" on the one hand, and the lengthy greeting exchange of two Batswana (particularly in rural areas) on the other hand, perhaps gives a very close parallel to the difference between using a firmly structured questionnaire, and using a data-gathering technique that is in tune with the information communication practices of Botswana society.

This is not to say that structured questionnaires have no place in social science research in Botswana. Clearly, in certain circumstances, they can be very valuable. Rather it is to suggest that researchers should consider very carefully whether structured questionnaires should be the only, or even the main, data-gathering tool used in each project they plan, particularly as there are
signs of growing resistance to questionnaires among respondents who have been exposed to them too frequently.

**An Alternative to Questionnaires?**

If, after careful consideration, a researcher decides to limit the use of structured questionnaires, the next obvious question is - what alternative tool might be more effective by being more in tune with local societal norms and practices? There is no single or easy answer to that, not least because very little organised study has been done on that subject. However, even a simple analysis of cultural practices gives some clues.

Perhaps the most obvious relevant characteristic is the preference in Botswana society for oral over written communication - itself an immediate reason to be cautious of the questionnaire approach, even when the interviewer does the writing. The strength of this preference comes through in the presence in the language of the saying "Mafoko a matlhong". The literal meaning is "the words are in the eyes". The effective meaning is "if you tell me face to face I'll believe you" - with a strong hint that other means of communication, for example, in writing, will not be anywhere near as believable. This is in marked contrast to such sayings in the English language as "I'll only believe that if I see it in writing".

This strong preference for face-to-face oral communication, combined with the already mentioned preference for discussing many aspects of an issue rather than making simple "yes" or "no" statements, encourages the choice of a data-gathering tool which will allow respondents to follow these preferences, while still allowing the researcher to identify and record useful data.

Two such "tools" suggest themselves and both have already been used by the authors of this paper with success. They are:

- largely unstructured interviews with individuals, using open-ended questions; and
- largely unstructured group interviews, also using open-ended questions.

In both cases there is not the interruption and distraction of the answers being recorded in writing, and in both cases there is an input of supplementary questions and comment where needed to encourage the discussion to remain on or near to the target topics.

These approaches have the very obvious advantages of being attractive to respondents because of their close affinity with everyday interpersonal communication practices. They put the respondents at their ease because of the familiarity of the communication form.

**Re-empowering the Respondent**

Even more than that, the above mentioned tools correct some of the imbalance that has developed in the interviewer-respondent relationship whenever structured questionnaires are used, an imbalance that causes respondents to be diminished by being compelled to limit and channel what they want to say through the narrow gateways of the pre-set and confining questions. To use fashionable jargon, they "empower" the respondents. In fact, they "re-empower" the respondents, in the sense that the structured
questionnaire approach has taken away respondents' existing normal control over the flow of ideas in their communication, while this approach restores it.

However, in addition to these obvious advantages, they have also the equally very obvious disadvantage of the difficulty of identifying and recording the useful data produced. One answer to this problem, and it is certainly not necessarily the only answer, is to record the discussion electronically for later analysis at leisure. There is nothing new in electronically recording interviews. Many researchers use audio tape recorders for this purpose, and various techniques have been developed for analysing and codifying the mass of (very often diffuse) material collected by this method.

What is as yet not so common is videofilming such interviews, i.e. combined video and audio recording. This gives the same advantage as an audio recording of the opportunity for later analysis, and adds a record of body-language and other useful visual indicators, which in some situations can be very informative. It of course has the disadvantage of the camera tending to distract or inhibit, but in practice in Botswana this has been found to be far less than might be expected.

Gathering Data that can be Used to Help Dissemination

In addition to providing a record for later analysis, videofilming gives something else too, perhaps even more important. Videofilming the interviews gives a wealth of material which can later be used to construct a video film that helps to effectively disseminate the results of the research.

Now the question of using videofilm for effective dissemination of research results is a whole big subject in itself, far too big to be added to the existing focus of this paper, and the two authors have already addressed it in previous papers, in particular those entitled Mafoko A Matlhong and Mightier than the Pen. So instead of going on now to discuss the dissemination question, we propose instead to give a little more detail as to the techniques we follow in using video for data collection, illustrated by the videofilm made specially for this symposium.

Who, Where and Why?

To make these details more focused, we are using as an example the research project recently completed on the children of Botswana who do not get education.

This research was undertaken by the National Institute for Development Research and Documentation, usually known as "the NIR", for the Ministry of Education. The research team comprised one of the two authors of this paper, Ulla Kann, together with Dumma Mapolelo and Paul Nleya from the Faculty of Education, University of Botswana.

At the same time as it commissioned the research, the Ministry of Education also commissioned Educational Videofilms the Gaborone-based videofilm producer, to make a videofilm, in Setswana (its title is Mang, Goreng Jegone Kae? - or "Who, Where and Why?") to help disseminate the research findings as widely as possible. In practice, Educational Videofilms, in the person of Andrew Quarmby, the other author of this paper, became in effect assimilated into the research team as his camera was used to help collect data, simultaneously with collecting footage for the results dissemination film.
In collecting data for this research project, several different methods were employed. In addition to the analysis of statistics, two different structured questionnaires were used. One was administered to about 50% of the headteachers of primary schools in the country, and the other to various community members in those parts of the country towards which the research was focused.

The administration of these questionnaires clearly showed the limitations of using structured questionnaires for social science research in Botswana. The flood of information that many of the questions produced was just not easy to record as an answer, requiring much judgement on the part of the research assistants in interpreting it (and therefore risking error in interpretation). However, despite this limitation, the use of these questionnaires did give indications of the main reasons why some children never got any education.

A Pilot Field Visit

So, with these main reasons roughly identified, a pilot field visit to gather further data via videocamera was made to Western Kweneng. The techniques used were very simple. They proved successful from the start and were not significantly modified for the later field visits.

In a technique usually referred to as "purposive sampling", potentially helpful respondents were identified, in some cases headteachers, teachers or local government officials, in other cases community members (some being Parent Teacher Association or Village Development Committee members or officers). Following normal social conventions of greetings and so forth, a member or members of the research team would engage the respondent in conversation about the research subject in a very informal way, i.e. without holding any questionnaire or other paper and therefore without taking notes. The purpose of the research would be explained and open-ended questions would be asked, and every encouragement given to the respondent to range freely and widely over the subject while answering.

If it seemed that the respondent was not very articulate, or had little to offer on the research subject, normal conventions of leaving were observed after a suitable period and the team moved on to another respondent. This situation happened only rarely. Most people had something useful to say.

Where it appeared that the respondent had a useful contribution to make to the research data, after a while a research team member would ask the respondent if he or she would be willing to contribute his or her opinions directly to the rest of the country via the video camera.

Direct use of Face and Voice

The ability of the camera to carry both a picture of the respondent, and the words of the respondent, directly to the audience, without potential distortion by note-taking, was emphasised. Almost every respondent asked in this way agreed to a filmed interview, most quite enthusiastically. The idea of direct communication by face and voice seemed to have particular appeal. At this point, and only then, was the camera unloaded and set up. Interviews were recorded with the respondent talking directly to the camera or to a research team member standing directly behind the camera asking questions.
Respondents were told that the team member's questions would not be included in the film for reasons of space and were asked to make their answers complete statements (i.e. incorporating the meat of the question also) rather than obviously answers to questions. One of the most notable aspects of this interviewing was an almost complete absence of signs of the camera inhibiting or otherwise significantly affecting the respondents' behaviour, particularly those who were relatively unsophisticated rural dwellers.

In fact, the experience of Educational Videofilms in making this and several other films containing many interviews is that what inhibiting or otherwise disturbing effects there may be from the camera tend to increase with the level of sophistication of the interviewee, the most affected being the people coming from cultures where film is much more widely used than in Botswana.

Footage from the West Kweneng field visit was edited into a short film of mainly interview extracts that was then used to start a short workshop (one and a half days) held in May 1988. This was attended by relevant officials from research target Districts and from relevant Central Government organisations, such as, the Departments of Non-Formal Education, Tirelo Setshaba, Remote Area Development and other individuals.

This brief trial film set this workshop off to a flying start and it was subsequently used in other situations, (e.g. at a meeting of Gansii's District Extension Team) where it proved remarkably effective in stimulating very frank and useful discussion of the issues that were the target of the research.

Later in 1988 members of the research team and Educational Videofilms made an extensive field visit which included some of Botswana's remotest areas (e.g. across the Okavango River). Using the technique described above, a mass of interview material was videorecorded.

**Group Discussions**

In addition to interviews with individuals, some group discussions on the subject were videofilmed, with the discussion stimulated by open-ended questions from research team members.

An example is the discussion of a combined Parents Teachers Association and Village Development Committee meeting at a small village North West of Shakawe, very near the Caprivi border. Filming of this discussion was not planned. When the research team drove into the village, it found the meeting in progress, and asked if it could record some of the discussion related to the problems of education. Another such group discussion was filmed with a meeting of the leaders of one of the communities at the Tsodilo Hills. The footage collected on this long field visit was supplemented by additional filmed material obtained, for example, from visits to Serowe, and to Vapostori or Mazezuru living in Gaborone.

The mass of videofilm footage (approximately 26 hours of it) was carefully viewed, logged, analysed and sorted both by research team members and by Educational Videofilms. From this analysis, from the questionnaire data and from other data (e.g. analysis of relevant statistics), a preliminary report was prepared. From this preliminary report were identified five main reasons for some children not getting education, together with five suggestions for reducing the impact of those basic reasons.
These five reasons and five suggestions were then scripted into a trial version of the final dissemination film. The script was a mixture of commentary and extracts from the many interviews recorded, with both commentary and interviews overlaid with footage (mainly shot on the field visits) that illustrated the points being made. It was made in a mixture of Setswana and English. This trial film was used as the basis for a second workshop involving relevant District and Central Government officials (including the officer responsible for commissioning the research) and other individuals.

It proved to be noticeably effective in conveying the main points of the research findings to the workshop members. Even more important, it seemed to help greatly in getting them to accept those findings, even some which had the potential to be sensitive, a result that was echoed in its use at other conferences and meetings. It appeared that the use of many interview extracts, in which those most directly involved in the problem (e.g. teachers, parents, children, District officials) gave their views directly, face-to-face, to the audience, via the video camera, played a very important role in this acceptance - mafoko a mat/hong.

After minor modifications resulting from this workshop's discussion and suggestions about the research report and the film, a final all-Setswana version of the film was prepared and recently delivered to the Ministry of Education. It is proposed to use it widely at District level all over the country.

Two Footnotes

Finally, two footnotes, the first a footnote to data gathering via video. Earlier, this paper noted the value of videofilm in recording body language and other indicators, as well as spoken words. An example is an interview conducted with a mother discussing why severe physical handicap prevents her daughter from getting education. The body language of the mother in the interview, the sorrow and concern in her face as she discusses her daughter's problems, are as telling as her words. Neither note-taking nor audio taping would have done justice to what she says by visual means in addition to her spoken words.

And a footnote to the dissemination process. There has been a tendency until now for some people to play down the use of video in Botswana because of the technical problems of showing videofilms to rural audiences. Where possible, it is good to show those people who generously give interviews the films that result from those interviews. As many of the interviews are with rural people, this is of course not easy, given the absence of electricity and video equipment in rural area.

However, Educational Videofilms has developed a way of doing this, that is a mobile video kit consisting of very heavily cushioned video equipment, audio amplification, and a small generator. It is designed to allow the showing of videofilms at kgotla meetings in any village in Botswana, in daylight, after the kit has been taken there, in any vehicle, over rough roads, by even rougher drivers. It has an obvious potential for extension workers to use. The creation of a prototype of this kit was finished just in time this symposium started.
Summary

To summarise, the use of videorecording adds an extra and very important dimension to more traditional means of data collecting for social science research. It does not necessarily replace these other methods. More, it supplements and complements them. It has of course its own built-in disadvantages, for example its cost, and the time needed.

However, in societies such as that of Botswana, where face-to-face oral communication is so important, where time itself has less value than the way in which that time is used, some more traditional data-collecting methods (such as firmly structured questionnaires) have clear limitations, and the use of video has some clear advantages.

ENDNOTES

1. Traditional village decision-making assembly
2. Literally chief, used here also to include chief's representative and headman

DISCUSSION (following the videofilm presentation)

The questions and comments raised were in relation to:

(a) Content analysis (i.e. how it was done).

(b) Reliability and validity of the findings e.g.
   i) Important social factors such as gender, teenage pregnancy, socio-economic background were missing.
   ii) Sampling procedures and therefore representativeness of the data was questionable.
   iii) It appears there was no control for intervening variables.
   iv) There could be a high possibility of "manipulation of the naivety of the timid rural people".

(c) The cost incurred. It was felt that the use of a video could be quite expensive especially for countries with limited resources or those already in debt. When it comes to research especially for young researchers, "let the man use pen and paper".

Reactions from Presenters

(a) Content Analysis

In terms of the content analysis, it was pointed that a crude analysis was used, i.e. a checklist of the main points.

(b) Reliability and Validity

With regard to the missing social factors, the explanation provided was that the film was itself quite long so that what was shown did not necessarily represent all that the film was about.
Referring to the general reliability and validity of the data, it was argued that a triangulation approach was used, thus making up for some of the shortcoming of the video approach.

Generally it was agreed that like any other data-gathering tool, video has its own limitations and has to be used with care.

(c) **Cost Incurred**

Time and money costs were not unreasonably enormous. It was pointed out that what was important was the quality of the product.

**Recommendations**

All in all it was agreed that video is indeed a powerful research tool. The following recommendations were therefore made:

a) The presenters recommended that some research be done on the cost-effectiveness of video films.

b) Some participants felt that rather than be used to collect data, the videofilm should be used to demonstrate the research findings.
GENDER AND EDUCATION
SELECTED ISSUES IN GENDER AND EDUCATION RESEARCH
IN THE SADCC REGION
Laketch Dirasse

Introduction

Equality of opportunity and access to quality education and training for all is an explicit policy objective of all SADCC countries. But I am sure you would agree with me that the task of actualizing such objectives has been more complicated than the mere provision of educational facilities. Indeed, what the Director of the Institute for International Educational Planning argued about the state of education in 1981 is just as true today in the SADCC region as elsewhere in Africa. Debeauvais argued that:

"... Despite an unprecedented increase in overall enrolments, inequalities - often very wide - still exist between the sexes, between socio-professional categories, between regions, between urban and rural areas; sometimes, in fact, there is a noticeable increase, whether one takes as indicators access to education, achievement level, or the transition from one educational level to the next. These inequalities in education are followed by inequalities in the labour market; and these in their turn produce and reinforce inequalities between individuals and social groups in income, in living standards and in power."

My concern today is with one dimension that crosscuts and is circumscribed by all other dimensions implicit in Debeauvais' argument. This is gender. Looking at this dimension in educational research in the SADCC region, I must admit that there is a fairly long tradition of research into sex differences in schooling. However, a concern with the intricate and dynamic relationship between gender and education/training is of recent development. My presentation will thus focus on some of the critical gender issues that I believe educational researchers in the SADCC region could or ought to address. It is not intended to review the state of the art in the field, though I will attempt to illustrate the types of issues that seem to have received adequate attention from researchers and isolate those requiring further research.

A necessary point of departure for this presentation is to clarify what is meant by gender.

The Concept of Gender

As we all know, every human being at birth is classified on the basis of morphological characteristics into one of two categories, male or female; thus, male sex or female sex. These terms are biological givens. However the content of the identity that attaches to these givens, the specific roles and modes of behaviour that go with them are culturally acquired and variable across cultures. We can further clarify this by looking at two related concepts - gender identity and gender roles.
Gender identity refers to the subjective awareness that one is a member of the male or female sex, with the consequence that one conforms to culturally determined expectations of appropriate masculine or feminine behaviour. How does one acquire gender identity? There have been many social science explanations to account for the acquisition of gender identity. The earliest account was that of Sigmund Freud. Freud believed that appropriate sex role behaviour and identity followed the successful resolution of what he called the Oedipus complex in the male and the Elektra complex in the female. Though highly influential in the 19th and early 20th century psychological and psychoanalytic theory, this explanation has very few adherents today.

A much more widely accepted account of gender acquisition is provided by the behaviourist or social learning model. This model regards the identities as the product of a conditioning process - for example, children are selectively rewarded or punished for gender appropriate or inappropriate behaviour and so learn their adult roles. In the recent decades this approach has also been attacked as being mechanistic and anti-humanistic. It has also been argued that it does not take adequate account of the self as an important and active constructor of meanings, and cannot provide adequate explanation for many psychological phenomena such as the acquisition of language.

The newer cognitive developmental school of psychology building on the work of Jean Piaget regards gender identity as the result of a personal judgement emphasizing the individual's active construction of and judgement about reality. Hence, children take their cues from the surrounding culture, but actively construct their own identities and roles.

Gender Roles

As we are all aware, certain patterns of behaviour are expected of males and of females in different cultures. These patterns include personality attributes, economic, social, domestic, and other tasks and responsibilities, relations of dominance and submission, and so forth. Furthermore, all cultures elaborate the basic biological, morphological differences into secondary, non-biological differences. These are cultural notions of masculine and feminine.

Each society also tends to regard these concepts of masculinity and femininity to be rooted in biology. This view is rejected by most contemporary social scientists. Perhaps the most influential research into masculine and feminine personality types and gender roles was conducted by Margaret Mead in the South Pacific. Among three societies she studied (the Arapesh, the Mundugumor and the Tchambuli), Mead found striking differences in male/female temperament and gender roles. Among the Arapesh there were no temperamental differences between men and women and both manifest what are normally viewed as feminine attributes in the West. Child-bearing and child-rearing were culturally recognized as the main work for both male and female adults. Among the Mundugumor the reverse was true whereby both sexes manifested more masculine attributes. Women were as aggressive as the men. They did not like bearing and rearing children nor do the men like to see their wives pregnant. Both young boys and girls were socialized to be independent and hostile.
Other anthropological research has confirmed that there is a very wide variation in the content of gender roles in different cultures. Clearly this variation cannot be attributed to genetic (biological) differences and must be a product of cultural influences. It is now generally accepted that most differences in male and female sex roles are the result of socialization into the norms considered appropriate in each society. Furthermore, the cross-cultural evidence strongly indicates that all roles with the exception of those of the primary reproductive roles are interchangeable and can be and are being performed by either gender in different cultural contexts.

By way of summary, the following operational definitions are proposed for the concepts reviewed above:

**Gender**

denotes the socio-cultural as opposed to the biological aspect of sex. It is a relational term referring to the manner in which males and females are differentiated and ordered in a given socio-cultural system. As such it is an important social organizational variable.

**Gender Identity**

refers to the subjective awareness that one is a member of the male or female sex, with the consequence that one conforms to culturally determined expectations of appropriate masculine or feminine behaviour.

**Gender Roles**

refers to culturally determined patterns of behaviour in terms of rights, duties, obligations, and prerogatives assigned to males and females in society. As key variables in the socio-economic system of any society, gender roles are not static but dynamic.

Gender, thus defined, is an important social organizational variable in all human societies. It is also important to note that gender roles are varied even within the same society in consonance with other important socio-economic variables such as age, class and ethnicity. Therefore, gender ought to be a key variable in any social research undertaking including educational research.

**Selected Gender Issues in Education**

Accumulated data from Africa and the rest of the Third World indicates that there is clear differentiation along gender lines in terms of people's ability to take advantage of educational and training opportunities, the way they fare during the educational process, and their ability to translate acquired skills and knowledge into meaningful income-earning opportunities.

1. **Issues of Access to Education and Training**

(a) Within the formal educational system access is determined by a variety of factors including the socio-economic background of students, cultural attitudes towards the education of boys and girls, the nature of the educational system (for example whether there is universal primary education or not), the cost of schooling (whether it is free or fees are required), the location of schools, the types of facilities provided, etc.
There is a fairly large body of empirical data on the differential access of boys and girls to schools in the different countries of the SADCC region. Most findings indicate that girls, relative to boys, seem to have less access to educational opportunities. But there are also exceptions that make it impossible to generalize at a regional level (see Table 1). For example, in Botswana and Lesotho primary schools draw more girls than boys. In fact, Lesotho is an exception at all three levels of the educational system. What does this imply? Accounting for anomalous data will enable us to theorize better about the gender dimension in access to education.

Table 1

<table>
<thead>
<tr>
<th>Country</th>
<th>Adult Literacy Rate</th>
<th>Numbers Enrolled</th>
<th>1st &amp; 2nd Level</th>
<th>3rd Level</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angola</td>
<td>53</td>
<td>62</td>
<td>N/A</td>
<td>58</td>
<td></td>
</tr>
<tr>
<td>Botswana</td>
<td>94</td>
<td>120</td>
<td>62</td>
<td>93</td>
<td></td>
</tr>
<tr>
<td>Lesotho</td>
<td>140</td>
<td>144</td>
<td>162</td>
<td>149</td>
<td></td>
</tr>
<tr>
<td>Malawi</td>
<td>52</td>
<td>69</td>
<td>31</td>
<td>51</td>
<td></td>
</tr>
<tr>
<td>Mozambique</td>
<td>52</td>
<td>71</td>
<td>60</td>
<td>61</td>
<td></td>
</tr>
<tr>
<td>Swaziland</td>
<td>91</td>
<td>100</td>
<td>57</td>
<td>83</td>
<td></td>
</tr>
<tr>
<td>Tanzania</td>
<td>90</td>
<td>88</td>
<td>21</td>
<td>66</td>
<td></td>
</tr>
<tr>
<td>Zambia</td>
<td>73</td>
<td>85</td>
<td>17</td>
<td>58</td>
<td></td>
</tr>
<tr>
<td>Zimbabwe</td>
<td>80</td>
<td>83</td>
<td>56</td>
<td>73</td>
<td></td>
</tr>
</tbody>
</table>


The paucity of systematic analyses of the interplay between gender and other socio-economic variables in terms of access to education at national level further limits our knowledge about the critical variables that determine access. The available research, though, indicates a much more complex picture. For example, Mbilinyi, in her earlier work on Tanzania, found that it was even "impossible to generalize about primary schooling among girls in rural areas ... Rich peasants, kulaks, traders, primary school teachers and other government functionaries enrolled all of their children in school. Poor peasants in Mwanza tended to select one or two boys to go to school, whereas in Tanga poor peasants did not invest in schooling for any of their children. Boy preference persisted among middle peasants in Mwanza, but in Tanga both boys and girls were sent to school up to standard IV, after which time girls were married off."
Another important issue that is consistently reported by researchers in this region is the high rate of attrition for girls as they move up the education hierarchy. It also appears that teenage pregnancy accounts for the majority of the female school drop outs. This is an issue of great policy concern in the SADCC region.

(b) Access to vocational and technical training programmes is also differentiated by gender. Girls' overall access appears to have been limited to home science and related fields by educational planners' preconceived notions of proper gender roles. Such bias is more evident at the technical and vocational training level than in the rest of the formal school system. During the colonial and immediate post-colonial period, most technical schools were in fact constructed with dormitory and other facilities only for boys. The situation in the region seems to have improved over the past few years with more girls entering technical and scientific oriented programmes.

(c) In terms of access to non-formal education and training opportunities, the scales are again weighted against women. The critical issues in this regard are women's multiple and often conflicting roles that necessitate solutions such as the provision of labour saving devices, easily accessible sources of water and fuel, and child care facilities. Different approaches are being tried by governmental as well as non-governmental organizations throughout the region. Perhaps the challenge for educational researchers is to assess these varied efforts at both national and regional levels and document the success factors as a basis for planning more effective coordinated programmes.

2. The Educational Process

The most systematic studies into the gender dimension in the educational process covering important issues such as curriculum content, teachers' attitudes and expectations, student's own perceptions, teacher-student and peer group interactions in schools, etc., have been carried out mostly in Europe and North America. This is an area of gender and educational research that is least developed throughout Africa.

Most curricula used in schools have been adopted from the Western world with all the built-in biases, including gender bias. Recent studies into race and gender issues in the schooling process in Europe and North America have clearly demonstrated how, for example, reading schemes in primary schools that portray white middle-class gender roles and overall worldview are irrelevant and potentially detrimental to working class black children.

Lobban's content analysis of 225 stories in reading schemes such as the Ladybird series are worth noting since the same books are being used in most schools in this region (see Table 2). What is the impact of such stories on children of the SADCC region, on their world view, their aspirations and how they see their future roles as adults? Such studies are badly needed in every subject area in order to inform curricular reform that is in progress throughout the region. (I recently found that Professor L.P. Tembo of the of University of Zambia has completed a study...
entitled, *Men and Women in Textbooks: A National Survey on Sex Biases in Zambian Textbooks in Primary and Junior Secondary School and their Implication for Education in Zambia*).

Another important issue in the educational process is performance. Research indicates that almost all over the world, girls perform less than boys in examinations and particularly in science and mathematical subjects. A number of studies have documented this in the SADCC Countries. Duncan's recent work, *Engendering School Learning - Science, Attitudes and Achievement Among Girls and Boys in Botswana*, is an impressive work that analyzes the effects of gender typing in secondary schools upon achievement, from a holistic perspective. It is hoped that more researchers in this region will follow her example.

### Table 2

**The Sex Roles That Occurred in Three or More of the Six Schemes Coded**

<table>
<thead>
<tr>
<th>The sex for which the role was prescribed</th>
<th>Toys and Pets</th>
<th>Activities</th>
<th>Taking the lead in both sexes activities</th>
<th>Learning a new skill</th>
<th>The adult roles presented</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Girls only</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Doll</td>
<td>1 Preparing the tea</td>
<td>1 Hopping</td>
<td>1 Taking care of younger siblings</td>
<td>1 Mother</td>
<td></td>
</tr>
<tr>
<td>2 Skipping Rope</td>
<td>2 Playing with dolls</td>
<td>2 Shopping with parents</td>
<td>2 Aunt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Doll's prank</td>
<td>3 Taking care of younger siblings</td>
<td>3 Skipping</td>
<td>3 Grandmother</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Boys only</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>1 Car</td>
<td>1 Playing with cats</td>
<td>1 Going exploring alone</td>
<td>1 Father</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Train</td>
<td>2 Playing with trains</td>
<td>2 Climbing trees</td>
<td>1 Uncle</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Aeroplane</td>
<td>3 Playing football</td>
<td>3 Building things</td>
<td>3 Grandfather</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Boat</td>
<td>4 Lifting or pulling heavy objects</td>
<td>4 Taking care of pets</td>
<td>4 Policeman</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 Football</td>
<td>5 Playing cricket</td>
<td>5 Sailing boats</td>
<td>5 Builder</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Both sexes</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Book</td>
<td>1 Playing with pets</td>
<td>1 Taking care of pets</td>
<td>2 Teacher</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Ball</td>
<td>2 Writing</td>
<td>2 Making buildings</td>
<td>2 Shop assistant</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Paints</td>
<td>3 Reading</td>
<td>3 Saving people or pets</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Bucket</td>
<td>4 Going to the seaside</td>
<td>4 Playing sports</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 Dog</td>
<td>5 Going on a family outing</td>
<td>5 Fishing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 Cat</td>
<td>6 Going on a family outing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 Shop</td>
<td>7 Family outing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3. Outcomes of Education

The education/training and employment linkage is indeed complex. The empirical evidence clearly shows gender-segmented patterns in labour force participation whereby women tend to be concentrated in the services sector and in secretarial and clerical occupations. A considerable number of studies on women's occupational status and participation in both the formal and informal sectors are widely available. However, analytic studies that directly trace and explicate the linkage between education and the gender segmented labour market are rare.

For example, how do we explain the changes that took place in primary school teaching and clerical occupations that were predominantly reserved for males during colonial times in Botswana but are now a female preserve? Historical analyses of the intersection between gender, the process of schooling and employment could provide us with clear answers.

The outcome of non-formal education has been generally to keep women in the same service and domestic oriented sectors. However, it is also true that some of the innovative approaches in participatory training and training with production have been tried under the rubric of non-formal education.

Conclusion

In conclusion, I would like to reiterate that gender is one of the most fundamental social organizational variables in all human societies and should be a basis for any research and planning undertaking including educational research. Until recently many have assumed gender analysis is merely a preoccupation of women and only about women. I must admit that while stimulus came from the worldwide women's movements, the concerns are much more fundamental to all human development efforts. I believe all educational research and theory will be the richer if gender factors are systematically included in all research endeavours.

ENDNOTES


5. I. Robertson "Sex Identity"; also B. F. Skinner, Beyond Freedom.
6. I. Robertson, "Sex Identity"; B. F. Skinner, Beyond Freedom


19. Botswana's Women's Affairs Unit pilot project combining training with production is an example. There are also many lessons to be drawn from the activities of the *Foundation for Education with Production* in most countries of the region.

DISCUSSION

The discussant, Professor Mbilinyi, elaborated on a few of the points made by Dr. Dirasse. These included the importance of stressing that gender is a social construct, and the need to work on access to education.

In her discussion, Professor Mbilinyi drew upon some recent research carried out by female academicians at the University of Dar es Salaam. This study brought out the issues of patronisation by male staff, difficulty of female staff in fully relating to their positions, the problem of women cementing work relationships by informal means, and the sexual bias in relations between male staff and female students.

In order to help redress some of the current imbalances, Professor Mbilinyi believes that it is necessary to identify the possible allies or bases of support that women might have in the system.

The point that gender is about both male and female was stressed.

Questions brought up the following issues:-

a) the role of pre-school education: the role of parents and toys in inculcating gender identities;

b) the changing nature of the family: the trend from extended to nuclear family, and the interplay of subsistence as well as non-economic factors;

c) the relation between socio-economic background of males and their attitude towards the goals of equality of access to education in terms of gender.
The following were therefore stressed:

a) that gender is a social construct, a product of history and not a natural issue, hence a need for sociological analysis of gender issues;

b) that both women's and men's attitudes have contributed to gender biases so that gender issues need to be addressed from the context of both;

c) that there is need to look into the curriculum content stereotypes as these perpetuate the problem of gender bias;

d) that there is a wage gap between men and women; therefore, it is important to minimize this inequality especially that it increases with the rise in the level of education acquired,
THE DEVELOPMENT OF EDUCATIONAL RESEARCH CAPACITY

INFRASTRUCTURE AND METHODOLOGY: ASPECTS OF EDUCATIONAL RESEARCH IN THE SADCC REGION

Ansu Datta

Introduction

In the sociology of research much has been written about the social determination of research, including what is investigated, the manner in which investigations are conducted, the methodology of research, the style of interpretation, and the dissemination and utilisation of research findings. What often remains unexplored is the dialectical interconnection between the research infrastructure a society may choose to build up and the research methodology that enjoys general currency among its members. It is sometimes forgotten that each of them impinges on the other and that both are influenced by society. The present paper aims at shedding light on this interface.

Although the paper deals generally with the SADCC region, illustrative data will relate mainly to Botswana and Zambia with which countries the present author is personally familiar.

For the purpose of this paper, research has been broadly defined as any organised enquiry for collecting facts, or for interpreting them. Research methodology comprises the sum total of the tools and techniques that individual researchers take recourse to for collecting, analysing and interpreting data on a given issue. It also includes the philosophical assumptions underlying such methods and techniques as well as the analytical paradigms that sustain them. In fact it is the assumptions and the paradigms, having a strong social basis and closely linked to the dominant value system of the society, that are emphasised in the present context. Finally, research infrastructure consists of all that contributes to the pursuit of research -- human, material, and institutional factors that constitute the foundation of the research capabilities in a society.

The paper is divided into four parts. The present introduction is followed by a section dealing with a description of the constituent elements of the research infrastructure in a society. In the third section an attempt is made to underscore the characteristics of the dominant research methodology in the SADCC region and spell out the interface between research infrastructure and research methodology. The final section rounds off the paper with some concluding remarks.

Research Infrastructure

The major components of the research infrastructure in any country consist of research expertise, research equipment and resources, and research environment. The last-named element is itself comprised of the institutional arrangement that facilitates the use of the research equipment and resources a country may possess and the manner in which this is effected. In discussing the institutional structure, it is as important to focus on the rules and regulations governing the conduct of research as it is to examine the totality of social relationships which researchers create and sustain while pursuing their profession. Of course in dealing with all these, due attention is to be paid to the
actors in the situation -- the human agencies who operate on the research scenario either singly or in groups.

*Research Expertise*

The most essential element in the research infrastructure consists of research expertise -- the skills to launch and carry out research. Broadly these can be categorized into technical and organizational capabilities.

Technical capabilities go beyond what is generally provided through a university academic programme in conventional disciplines. They are of an assorted sort, from the ability to pose a problem and prepare a research design, to collect and analyse data, and ultimately to prepare a report incorporating the findings of the research. Clearly training in no single discipline can furnish a researcher with such skills. These can be imparted only through an integrated programme comprising elements of different subjects such as the ability to ask a question and spell out its implications (logic), to select the rationale for an interpretive approach (philosophy), to prepare a research design on a particular theme (grounding in the relevant discipline), to analyse data (knowledge of statistics; familiarity with computer use), and prepare a report (training in the use of language and logic). There are in addition various other skills the development of which is nobody's business, such as the aptitude to formulate a fruitful hypothesis. A second example is the ability to collect data through the application of the interview and questionnaire techniques, and by means of observation which is fraught with even greater difficulties. Then there is the great challenge of theory building involving the strategic leap from induction to deduction, interpretation and prediction.

Development of skills for performing these jobs is attempted in the research methodology courses offered in various subjects, but we do not unfortunately have a specific instructional strategy for instilling skills in performing such tasks as the formulation of hypotheses perse, the collection of data relating to any field, and helping ourselves make the crucial jump from fact to theory.

Of course, we researchers from the SADCC region are not rare specimens. Like our counterparts elsewhere, we acquire these abilities by fits and starts -- through self-teaching, itself taking place via simulation or subconscious imitation or following a more systematic course of instruction on our own; interaction with more experienced colleagues; and going through a process of trial and error. The apprenticeship of the evolving researchers is thus like a form of art known by its French name *collage* which is composed of diverse materials culled from different places and set in an organic perspective by the "collagist". If with a gifted artist this can be a delightful creation, there is also the danger that the net result may turn out to be an impossible potpourri when the mix is a mismatch.

At the individual level the discordant elements of the expertise of a researcher, like the components of a collage, may suffer a stressful coexistence -- leading to a methodological bedlam. At the collective level team research may be difficult to coordinate because of the waywardness of collages which are supposed to be co-functioning. All this is suggestive of how expertise, a component of the research infrastructure, can have a bearing on the dominant methodology. There is thus a case for opting for a mundane but stable course of "training" in preference to the possibility of rare flashes of brilliance through
unbridled laissez-faire. In short, we are recommending a straightforward programme of skills development in research.

Organizational capabilities relate to the activities undertaken in connection with an investigation such as the ability to coordinate the work of researchers and to supervise the jobs done by research assistants, and other operations including the preparation for the fieldwork, the establishment of rapport with the subjects, negotiating with the donor agencies, and maintaining liaison with the sponsors.

As has been pointed out elsewhere, in most SADCC countries today educational research is undertaken by non-practitioners -- the university professor, the planning officer and the curriculum designer and evaluator in the ministry of education. The exclusion of the practitioner -- not necessarily by design -- has the effect of narrowing down the catchment area of expertise and also of leaving out a large section of potential researchers, an overwhelming majority of them having a permanent stake in the development of research expertise in the country.

Research equipment

Research infrastructure consists also of the totality of research equipment a country may possess and make use of. This includes libraries, documentation and archival sources, scientific laboratories, audio-visual equipment, and other information and informatics equipment. Some of these will be discussed now with reference to their impact on the currency of specific elements of methodology of social and educational research.

In the SADCC region libraries are mostly geared to the needs of general readers and students. The university library, almost in all cases the largest in a given country, mostly assists undergraduate teaching -- the principal thrust of a typical university in the region. SADCC countries could do a lot by helping themselves promote research through library cooperation. Instead, some of them are members of the Southern African Interlibrary Lending (ILL) System with its headquarters in the State Library in Pretoria (Datta & Awuah, 1989). By themselves, a SADCC country's library (and documentation and archival) resources are hopelessly inadequate for carrying out good theoretical research. This is one of several reasons why the educational researcher of the SADCC region is deeply immersed in uninformed and uncoordinated empiricism -- an example of the infrastructure conditioning the methodology.

In the field of information and informatics, the introduction of personal computers and the creation of local, national, regional and international networking have the potentiality of revolutionizing the process of collection, storage, dissemination and utilization of data among researchers. SADCC countries have reached different stages in the process. Probably the most advanced country in this respect is Zimbabwe where computer use has reached a relatively high standard and a national network (ZIMNET) has been set up (Zwangobani, 1988). Two problems which hamper the process are shortage of funds to acquire a sufficient number of computers with the relevant software, and computer illiteracy. A solution of these problems is likely to contribute to a greater popularization of large-scale investigations, with the possible use of the survey technique.
Finally, the research infrastructure of a country consists of what has been designated here as the research environment, that is, the manner in which research is organized collectively in the entire society. The pertinent questions to be posed in this context are: Who operate on the research scene? What are the rules and regulations governing their behaviour? What kinds of social relations are entered into by researchers while pursuing their profession? Is there a central institution coordinating research in the country?

In most SADCC countries and more particularly in Botswana and Zambia, educational research is carried out principally by university academics, private consultants, ministry of education officials, especially educational planners, and curriculum designers and evaluators. There is very little participation in research activities by teachers -- practitioners of teaching. This point has been elaborated elsewhere in the present paper and its implications for the research methodology have been underlined. Apart from the research personnel in the true sense of the term, there are various other categories of persons who are associated with research. Some of these are: representatives of donor agencies, spokesmen of consumers, that is, government departments, and parastatal and private organizations, and research assistants.

In pursuing research the investigators enter into social relationships with some of these people which gradually emerge as identifiable patterns. This is facilitated in a country which has a national research council with or without a code of conduct for researchers. Elsewhere research relationships are an extension of professional relationships from related fields such as the education system or the general civil service.

It is easy to see that much of the research effort and output with its characteristic bias can be traced to the institutional arrangement of research in a society. The existence of a central organization is a prerequisite of coordination; and whether or not there is any link between the micro and macro level may depend on coordination or lack of it.

An important feature of the research environment is what we have chosen to call the research ethos. This is predicated on elements of the dominant culture in a society that impinge on such questions as the existence or absence of a belief in the possibility of controlling nature and the social environment; reverence for traditions; the attitude towards the unknown; the value attached to a critical and sceptic bent of mind; and the relative importance given to the established authority as a source of information.

It is of course unwise to generalize without thorough investigation, but in many societies of the region the research ethos seems only to be partly developed. Belief in the intervention-potential of the supernatural and the ancestors may set limits to our capability to influence nature and society. This atrophy complex may be supplemented by the alienation of a part of the urban population, while traditions still hold sway over large sections of the rural masses. If the unquestioning acceptance of authority is embedded in such traditions, the formal system of education fails to remedy the situation by its stress on classroom regimentation of pupils and on the authoritarian teaching style.

In such circumstances, research is reduced to an artificial and formal process, limited to the ivory tower and divorced from its base. It is endowed
with a strong tinge of elitism and is as indigenous to the local society as is a
grafted plant in a hothouse -- an inviting shelter for the expatriate.

Infrastructure and Methodology

In the region we are thus thinking of a research infrastructure
categorized by the absence of a systematic inculcation of research skills, and
inadequate complement of equipment, and a near anarchic institutional climate in
which modern, scientific research enjoys a sheltered existence among a chosen
few.

Each of these separately casts its shadow over the prevalent methodology
as do all of them operating together. For instance, the "collagist" approach in
the development of expertise stands in the way of a triangulated methodology.
The gap between the required and the available research equipment results in
piecemeal empiricism, unenlightened by a long-term theoretical and comparative
perspective. The absence of a coordinating body or even of an interacting
operation does not allow the evolution of a community of researchers which
could have led to the creation of patterns of professional behaviour among
different categories of persons associated with research. The top-down
implantation of a research ethos has turned research into a hothouse experi­ence
- - unable to enrich its methodology by borrowing from the large world of
practitioners.

The dominant methodology with its roots in the infrastructure is marked
by certain distinctive features:

1. It is an uneasy amalgam of case studies and globalism -- a direct
consequence of the weak articulation of the research environment.

2. Research is marked by a laissez-faire approach. This goes without an
adequate stress on the accumulation of knowledge which every
worthwhile methodology should seek to achieve for the purpose of theory
building.

3. The methodology is practised by a small number of researchers. This is
so because for all practical purposes the practitioners are excluded from
the arena of research which itself is an artificial creation like a hothouse.

4. At the same time, the methodology is characterized by a sort of blind
empiricism -- a joint product of "collagism" in skills development,
inadequate support through equipment, and an absence of a genuine
research ethos deeply rooted in the soil.

5. A major aspect of this empiricism is the often uncritical use of the social
survey technique which is the result of a weak background in research
skills, insufficient support in equipment, and the sheltered and rootless
existence of the research ethos.

6. A surfeit of empiricism through survey research notwithstanding, the
research methodology in the region has so far failed to emphasize
experimental and predictive studies in education. In a way this is
embedded in the very nature of educational research, but it can
additionally be traced to all the three components of the infrastructure.
We may now address ourselves to the task of elaborating on the points made above. The methodology of educational research in the SADCC region vacillates between microlevel case studies and macrolevel global research. Everywhere the incidence of microlevel case studies is high in the departments of education as evidenced by students' term papers and dissertations. Just to give an example, between 1970 and 1984, about 60 percent of the M.Ed. dissertations at the University of Zambia involved studies of individual cases. If we add the correlational projects involving a small select sample of two or three cases, the proportion goes up to about 90 percent (Datta, 1987). As against this, macrolevel studies are frequently undertaken by various agencies attached to the ministry of education and consultants commissioned by development facilitating bodies. There is nothing wrong in this dichotomy; in fact this is as it should be. Given the constraints of time and budget and the desirability of providing the students with some opportunity of carrying out research, investigation of individual cases can fruitfully be mounted by students. What is unacceptable in this practice is the absence of a link between the two aspects. Thus the selection of case studies is generally made on grounds of administrative convenience, and not in terms of professional and scientific criteria such as how they can supplement and deepen the understanding of a phenomenon obtained by means of a global macrolevel study or how they can lead to the establishment of empirical generalizations based on cumulative knowledge through induction.

The absence of a serious effort to set out the micro-macro link in unambiguous terms is symptomatic of the laissez-faire atmosphere which, as has been mentioned above, reigns on the research scene. Its consequence has been the collection of unconnected facts that cannot be compared and added together -- that does not highlight the manner in which global forces assume the form of macro-level reality.

An example from the field of curriculum development and evaluation will drive home the point. It is now generally accepted that the curriculum embodies the values of the dominant social class or the ethnic group in society. The question is: How does it transmit them to the individual pupil? In answering the question, we may like to refer to Bernstein's analysis (slightly modified in this paper) of the relationship between the structure of educational knowledge and the structure of individual experience in the classroom (in Young: 1971).
A MODIFIED VERSION OF BERNSTEIN'S MODEL OF SOCIAL STRUCTURE, CURRICULUM AND CLASSROOM INSTRUCTION

| Level 1  | SOCIAL STRUCTURE  
Social Division of Labour |
<table>
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<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Level 2</td>
<td>DOMINANT CULTURAL PRINCIPLES</td>
</tr>
</tbody>
</table>
| Level 3  | PRINCIPLES GOVERNING RELATIONS BETWEEN DISCIPLINES ('CLASSIFICATION')  
MODE OF SOCIAL CONTROL ('FRAME') |
| Level 4  | FORM OF ACQUISITION (CURRICULUM, PEDAGOGY, EVALUATION)  
FORM OF TRANSMISSION (AUTHORITY & POWER STRUCTURE) |
| Level 5  | CONSCIOUSNESS OF TEACHERS & PUPILS  
(IDENTITY, POWER & CONTROL) |

Source: Adapted from *The Curriculum and Cultural Reproduction* prepared by Madeleine Macdonald (The Open University Press, 1977), p.29

Bernstein's model underlines the importance of conceptualizing the different levels of the process right at the top with the level of social structure down to the lowest level of the classroom. He argues that the dominant values and interests of the "establishment" percolate down to the classroom through what he calls the "educational codes". The two components of the educational codes are:

1. the principles governing the relations between disciplines ("classification" according to Bernstein's terminology); and
2. the extent and manner of social control exercised by the teacher ("frame" according to his terminology).

The elements borrowed from Europe which form part of the contemporary educational scene in English-speaking African countries are also included in their dominant cultural principles (level 2 of the model). It is suggested that through the use of appropriate educational codes, combining the curriculum and the authority of the teacher (levels 3 & 4), the dominant values are reproduced in the classroom (level 5) where a large part of the socialization process takes place.

We do not have to accept the validity of Bernstein's model in its entirety to see the relevance of this example to the research scene. For obvious reasons research on education, like that on most social phenomena, will continue to have a global and a local dimension. This is to enable us to combine our familiarity with the general trends at the national level with a deeper, qualitative understanding of the same phenomenon at the local level. But the desideratum for enjoying this opportunity is to highlight the links between the different levels: How are the values of the dominant social class incorporated into the dominant cultural principles and through them into the curriculum? How is the impact of the curriculum felt on the mode of social control ("frame" according to
impact of the curriculum felt on the mode of social control ("frame" according to Bernstein) in school? How does the teacher-pupil equation affect the pupil's consciousness in the classroom which after all is supposed to be the end product of the whole process of cultural reproduction? Research on these questions will yield information about the manner in which the entire education system functions in a society. In their absence, a mere duplication of case studies will lead to the piling of data without direction, information without insight.

Another characteristic of educational research in the SADCC region is its laissez-faire atmosphere verging on near-anarchy. Research efforts are fragmented, being made within a variety of different agencies such as the university, the curriculum development centre, the planning unit of the ministry of education and increasingly, under the sponsorship of donor agencies. This by itself is not to be abhorred; what is unacceptable is the absence of coordination which it is associated with. Absence of coordination leads to wasteful repetition and stands in the way of accumulation of knowledge through systematic operations -- a goal to which scarce resources allotted to research in the region should be directed. It is only recently, i.e. during the past decade or so, that some attempt at coordination of educational research is being made. Thus educational research associations have sprung up in most countries of the region. The national coordination is also to some extent supplemented by the operation at the regional level of ERNESA, the acronym for the Educational Research Network of East and Southern Africa.

The methodology of educational research in the SADCC region is also marked by its elitist bias as evident from the very limited role that practitioners play in it. Research is mainly conducted at the university and in some government agencies. People who are directly involved in teaching in schools hardly engage in research. This is particularly true of primary schools, but the research output of secondary school teachers and even of lecturers in teacher training colleges has been trivial. A random sample of 37 educational researchers in Zambia since independence had the following breakdown: University academics 26; Lecturers of teacher training colleges 2; Secondary school teachers 2; Graduate students 3; Senior undergraduate students 2; and persons whose status could not be identified 2 (Msiska, 1986: p.91). In Botswana between 1974 and 1986 at least about 80 percent of educational researchers were either university academics or were on the teaching staff of university-related institutes (Kann et al., 1986: tables 2-3). The cognitive background of primary school teachers is perhaps one of the reasons for this state of affairs. Add to this the fact that most primary and secondary school teachers of SADCC countries work in places where it is difficult to have access to books, journals and other materials necessary for launching worthwhile projects.

An additional factor contributing to this situation is the mystique woven around the very concept of research. The stereotype of research is that it is a sealed book involving certain esoteric operations which take place away from one's daily pursuit; consequently, the main actor in these operations, the researcher, remains a professional sphinx -- an unknown quantity. Thus a teacher's job, we are told, is to teach; s/he can at best learn of what should be the quintessence of the instructional process from the researcher and the educationist who remains an outsider to the school.
This disjunction between the practitioner of the art of instruction, that is, the teacher, and the generator of knowledge about the process of instruction, that is, the researcher, has profound implications both for the content and style of research and the instructional process. Research in this atmosphere tends to be controlled by outside forces and does not grow from the inherent logic of the workplace. Sometimes its theme is determined first, followed by desperate efforts to find its relevance and relate it to the needs of the teacher — an appropriate example of putting the academic cart before the practitioner's horse. Even when some consultations are held with the practitioner, the researcher maintains his or her grip over the situation, the ultimate decision resting with him or her. Likewise, in carrying out the investigation and interpreting its findings, the expert sets the pace. True, some kind of association is sought with the practitioners, but cases of active cooperation between the researcher and the practitioner are few and far between. When they do take place, they are in fact initiated and guided by the investigator on his or her own terms.

Unfortunately, the wedge between the researcher and the practitioner goes deeper because of other reasons. First, in many of the SADCC countries, while the practitioner, especially at the primary school level, is predominantly local, the researcher who usually operates from the university and the curriculum development centre and the planning unit of the government, is often expatriate. This state of affairs results in the possibility of research being mediated on an inadequate knowledge of the classroom and of the school situation — a possibility which may be aggravated by the culture gap that handicaps the foreign researcher. Things do not improve when research is commissioned by external bodies, including donor agencies and private organisations, in terms of their own priorities which may be different from those of the practitioners and the local researchers.

A second source of danger for the coordination between the researcher and the practitioner is the difference in the interests of the two. The practitioner is faced with some practical problems the solution of which is important to him or her. The researcher on the other hand is at least equally interested in ensuring his or her academic credibility through contribution to knowledge — in cumulative theory building. This is often attempted in an associate discipline in the light of whose theories, concepts and methodology s/he studies educational problems. Thus in investigating classroom interaction his or her focus is not only on the transmission of knowledge, affective ideas, and psychomotor skills, s/he is also deeply interested in identifying and interpreting patterns of behaviour between the teacher and the pupils and among the pupils themselves. In some cases his or her wish to contribute to the sociology or the psychology of human behaviour (in school) may outweigh his or her interest in finding solutions to problems surrounding the organisation and functioning of the school. The same point may be made in regard to the educational planner, educational administrator and the historian of education.

The issue is not very new. Since many decades a lively controversy has been raging as to whether the correct appellation for the study of human groups in school should be the sociology of education or educational sociology — whether learning should fall under the psychology of education or educational psychology, and so forth. The dispute in a way symbolises the dual origin of many of the constituent disciplines of what are generally known as the "educational foundations", but it is also indicative of the divided loyalty of academics engaged in research in these fields, with a hint that the balance may not always be tilted in favour of an urge to solve the problems of the practitioner. Obviously how we look at our subject matter inevitably affects the
manner in which we define the problem; and the definition of the problem raises a whole host of issues including whether or not the theme of the research should be operationalized, the design of the investigation to collect data, and the logic of possible lines of analysis and interpretation, complete with its own expectations of outcomes.

Another characteristic of the research methodology currently in vogue in the region is its blind empiricism, blind because without theory it can go berserk. Analogy is no proof and drawing parallels from times and societies far removed from ours may be misleading. But I cannot resist the temptation of referring to a biblical figure, Samson. Samson Agonistes, immortalised by Milton in his tragedy bearing the same name, in the last phase of his life stood "eyeless in Gaza", a prisoner of the Philistines. Can there be anything more similar to the position of the empiricist researchers doting on what they call their "facts"? Without theory they are without a sense of direction, eyeless. Also like Samson, they are a prisoner of Philistinism, all that characterizes the absence of enlightenment -- of a broad perspective, of holism, and of the ability to take cognizance of comparative happenings, generalizations leading to theories, and the sense and sensibilities behind facts.

Education is an area where elements of many conventional disciplines converge. A basic theoretical perspective is a common thread that can integrate their apparently disparate approaches. A common theoretical approach can also impart meaning to studies on the dynamics of an educational situation as reflected in longitudinal investigations. That such longitudinal studies have rarely been mounted in the region is partly accounted for by the absence of a coordinating body. But it is also due to the absence of any concern for theoretical considerations.

Perhaps we should re-state our position. What is being alleged is the lack of an explicit theoretical perspective, for the absence of a theory can itself be interpreted as a kind of theory, only that it is a poor theory because it tends to be unsystematic, depleted of conscious efforts, and hence ineffective. What is more, theoretical nuances are often implied in the orientations of investigators. One of the fascinating tasks of the sociologist of research methodology is to make manifest what is latent in the assumptions and postulates surrounding the concepts, terminology and assertions of the researcher. Let us give an example from the growing literature on the education-employment interface. Some investigators have used the term "dropout" to denote a pupil who, for one reason or another, is unable to complete his programme of studies. We do not need an elaborate discussion to lay bare the psychologism inherent in this approach because the use of this term places the onus of severing connection with the school system squarely on the individual, rather than on the school system and the society in which it is embedded.

Sadly, the empiricism of our educational research is not only blind, it virtually nibbles at the surface to the neglect of what, following the usage in linguistics, we may call the "deep structure" of reality. The methodology of educational research in the region has until recently remained largely descriptive, based on library work and archival studies. In some cases this has been supplemented by field investigations involving, principally, the administration of one or more questionnaires and some interviewing in terms of a list of questions. Large-scale studies are organised with the help of the usual techniques of survey research and with sampling to capture the representativeness of the population in the specimen subjects. Of course the scenario is changing, with the questionnaire technique gaining rapid
ascendancy, probably to cope with the brevity of time and the inconvenience emerging from the need of the principal researcher to go out of station for field investigation.

The survey technique attended by the use of one or more questionnaires is suggestive of an asociological tendency on the part of researchers to be preoccupied with the surface representation of reality; in this basically they de-emphasise the informal because the administration of questionnaire(s) is not the best tool to capture the subtle nuances of what transpires beyond the limits of formal behaviour. Social surveys furthermore focus on the factual to the neglect of the significance attached subjectively to such facts by the actor(s). Therefore a researcher studying a phenomenon by means of the social survey technique pays insufficient attention to the link between different dimensions of reality -- the reality as it appears to the investigator and the reality as it is perceived by the subjects themselves.

The stunted empiricism of educational research in the region is also evident from the heavy stress on post facto analysis and the relative neglect of predictive studies. According to an estimate, experimental studies and tests accounted for less than six percent of all research carried out in Botswana between 1977 and 1984 (Kann et al., 1986: table 8). In the list of educational research under way in Zambia in May, 1986 only one out of 14 was based on experimentation (Msiska, 1986: Section C, pp. 85-87). In historical and even in sociological research on education there is little scope for experimental manipulation which is the major instrument for predictive analysis. The use of the comparative method or systematic observation of a phenomenon in its natural setting as a substitute for the experimental method is cumbersome and is not always amenable to easy manipulation. The frequently used design of contrasting an experimental and a control group which are supposed to differ in only one major attribute is endowed with a predictive element in the formulation of a null vs. alternative hypothesis. But this is at best pseudo-predictive because of the problem of maintaining equivalence between the two groups throughout the experiment and the difficulty of controlling the impact of extraneous variables.

Conclusion

Above an attempt has been made to examine the interface between research infrastructure and methodology. Our major focus has been on the impact of infrastructure on methodology, although it is noted that the relationship between them is dialectical. The discussion highlights two areas of tension in the interface arising out of an element of contradiction in each case. These are:

(a) the opposition between the need to bridge the micro-macro gap and the currency of the laissez-faire approach in the research scenario; and

(b) a surfeit of empiricism, presumably to serve the pragmatic needs of the education system, with little feedback as to how such empiricism helps the practitioner.

To me, a partial solution of the problem in either case lies in getting the practitioners involved in actual research and in the coordination of research.

An important problem in micro-macro coordination is the absence of information as to how the total system percolates down to the micro level and
how it is conceptualized by people operating at that level. Similarly empiricism focused on the study of practical problems has to be geared to the needs of the practitioner. In both cases SADCC countries can benefit considerably from the demystification of educational research -- from ideas and other input of the practitioner.

But this by no means implies that the methodological rigour of research has to be diluted. Whatever the theme of research and the level at which it is conducted, the data collected should be valid and reliable, its analysis has to be thorough and foolproof, and its interpretation must satisfy the criteria of coherence and logic. Associating practitioners with worthwhile projects need not be at the expense of the methodological credibility of an investigation, although it may involve the adaptation of some techniques to the prevailing conditions. Parenthetically, what can be done in this regard may, in a country like Botswana, be jointly considered by the National Institute of Development Research and Documentation (NIR), the Faculty of Education Research Committee, the Botswana Educational Research Association (BERA), and researchers operating from the Ministry of Education.

The feasibility and desirability of utilising the pool of resources at the base while doing this, of maintaining the scientific standards of research, may be questioned by both the "ivory towerians" -- the mystifiers of research -- and the practitioners. At a recent workshop in a district town when a resource person set out the statistical preconditions for constructing social indicators, a participant remarked that what people needed in the field was "facts, facts -- simple, straightforward facts, and not abstruse formulae involving complicated calculations which serve to confuse us", as he put it. This view, representative of a kind of methodological populism, is at one end of the relevance spectrum, the polar opposite of the mystified view of research to which none other than the initiated -- the fortunate, or should we say, the unfortunate, few? -- may have access. What in fact is suggested by the proponents of this philosophy is that we give up all that has been achieved through decades, or even centuries, of collaborative efforts for guarding against the pitfalls of pedestrianism in which "facts" are often identified with what someone may have said to someone else somewhere or what someone is reported to have seen some time in the past. Of course, I am not saying that verbal behaviour should be left out of data collection. Nor is it being suggested that observation should not be employed as a technique for the same purpose. But both should be used systematically with a careful eye on the criteria developed by social scientists for gauging the authenticity of data.

This does not mean that all heuristic devices designed elsewhere are automatically applicable to our context; as has been said above, particular instruments may need adaptation to local conditions -- a task that has to be performed with great care. But what has been emerging as the methodology of educational research through the efforts of people from many different countries is the common heritage of the international academia. We can hope to enrich this common legacy in two ways: first by pointing out that the instruments, already being employed elsewhere, need modifications before they can be tried in the local environment -- probably in itself a minor offering. But a more substantive contribution may be made by us through the development of fresh research paradigms, of novel instruments of collection, analysis, and interpretation of data, and of innovative ways of presenting the findings and results of research. And since educational research in a country like Botswana is bound to be pragmatic in the foreseeable future and has to be deeply concerned with its subjects, our substantive contribution to the methodology of educational
research will be facilitated if we enrich ourselves with experiences gathered in the field by large masses of practitioners.

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EDUCATIONAL RESEARCH NETWORKING IN EASTERN AND SOUTHERN AFRICA: OPPORTUNITIES, CHALLENGES AND PROSPECTS

Donatus Komba

Introduction

It is perhaps no longer a matter of debate whether education is an art or a science. The real issue now is to articulate what the scientific basis of the art of education is. The effort to inform educational policy decisions and practice by research findings is indeed one of the major ways of gradually building the much needed scientific basis for educational policy and practice.

Understood as "systematic activity to create or organize information that can be used by policy makers and educators to improve educational policy and practice"², educational research has been very high on the agenda in recent years. According to studies on research environments in developing countries,³ one of the major concerns of the researchers has been and still is how to maximize the utilization of research findings in improving policy and practice in education.⁴

Since the late 1970s many of the researchers in this field have come to believe that "the obvious potential for increasing the use of research results lies in the improvement of communication and interaction among researchers".⁵ One of the most promising mechanisms for enhancing coordination, collaboration and information-sharing among researchers has been the formation of educational research networks at various levels: international, regional and national. In this paper we are going to chart out opportunities and problems that have emerged in the effort of creating viable research communities (at various levels) and the prospects they hold in maximizing the impact of research in educational policy and practice in the Eastern and Southern African region. In the first section we are going to look at an example of an international network the success of which called for the formation of regional networks as its base. In the second section we are going to present two examples of regional networks in Eastern and Southern Africa, one of which called for the formation of national networks as a necessary base. In the third section we are going to sum up the opportunities, problems and prospects of networking in the region in view of enhancing educational development policy and practice.

Networking at International Level

At the international level one of the well known educational research networks was the Research Review and Advisory Group (RRAG). This was formed in 1977 with funding support from the International Development Research Centre (IDRC) after it had held consultations with fellow donor agencies as well as researchers from developing countries. The group set out to review and synthesise the large volume of educational research which already existed with the explicit aim of giving it greater visibility to policy makers both in developing countries and in the donor community.⁶

As the group went about the task of trying to come up with a global review of educational research, two impediments quickly arose:
One, there was very little sense of a professional community among researchers working in this field in the developing world, and two, that regional reviews of educational research were more appropriate and feasible than global reviews.7

Obviously, these two problems as identified were interrelated in that meaningful global reviews of research in/on the Third World could only be made on the basis of reviews from the diverse regions of that world. In turn, regional reviews could only be done where the local researchers worked at the local level as a professional community and not in isolation from one another and with no structure and facilities for effective coordination, collaboration and information sharing among themselves.

These ideas led to the decision to "regionalise", as it were, the RRAG. One of the greatest contributions of the group that was made in connection with this thinking was, according to Susanne Mowat, the idea of identifying and assessing elements comprising a national research environment. It was this that guided the commissioning of a number of case studies of donor agency efforts to increase national educational research capacity in various regions of the Third World.8 The regionalisation of "RRAG" took yet another form. With the support of IDRC some of the original members of the group from Asia, for example, created in 1982 the Southeast Asian Research Review and Advisory Group (SEARRAG). Other regional RRAGs included the Latin American Research Review and Advisory Group (LARRAG), the Carribean Research Review and Advisory Group (CARRAG) and the Northern American and European Research Review and Advisory Group (NORRAG). This, however, should not be interpreted to mean that all regional networks of educational research are of a RRAG origin. REDUC in Latin America dates back to 1962.9 Indeed, even in the Eastern and Southern African region we do have examples of non-RRAG types as well as RRAG-inspired types of networks. Let us examine these networks in the next section.

Regional Networking in Eastern and Southern Africa

ESAURP

Within our region the Eastern and Southern African Universities Research Programme (ESAURP) is one of the oldest non-RRAG types of educational research networks. According to its secretariat,10 this network was established by the Regional Conference of Eastern African Universities held in 1976 in Maseru. As one can tell from the name, it is a research network of universities built around the research area of manpower training facilities and appropriate models. Its objectives included:

1. to look into issues raised by foreign training of Africans from the region and specifically to assess the impact of overseas training on development;

2. to look into the possibilities of strengthening local training institutions in order to train most of the manpower locally.

In relation to these objectives ESAURP has done and continues to do research and undertake consultancies in the region.
Structurally, ESAURP has a secretariat headed by an Executive Director. This liaises with national coordinators in the member countries. The coordinators are flanked by national researchers or research committees.

The problems which ESAURP faces include:

1. high job mobility of its staff in research to "greener pastures";
2. how to appeal to and maintain the interest of people and donors so that they may continue to support it;
3. communication bottlenecks between member countries including differences in political approaches, level of educational development, etc.
4. need to create a status of permanency as a programme rather than as the temporary project it was initially.

To date ESAURP has gone through three phases of operation in the region. In the first phase it completed a study on the impact of overseas training; in the second phase it was engaged in a study of the training capacities of tertiary institutions in the region; and in the third (current) phase launched in 1987 it is studying technical education and the labour market in the region. Out of this work ESAURP has published a list of at least eight publications.

In terms of lessons for networking in the region a self-evaluation of ESAURP reveals that the success of a regional network depends on the presence of committed individuals, a clear definition of purpose behind which to rally members and supporters as well as good funding blended with creativity in building a self-reliant base from small beginnings.\textsuperscript{11}

**ERNESA**

A more recent, more broad-based and RRAG-inspired network in the region is the Educational Research Network in Eastern and Southern Africa (ERNESA). Its origin was a meeting of senior educational researchers from nine countries of the region which was jointly sponsored by IDRC, the Rockefeller Foundation and GTZ, and convened by IDRC in Nairobi, October 3rd-6th, 1985. Inspired by the RRAG networking mode, IDRC chose for discussion the theme "possibilities for collaboration and information sharing in educational research in the region" in view of optimising the use of research to inform decision-making regarding policy and practice in education.

During the deliberations participants commended the organisers for the timeliness and appropriateness of the theme because they felt that, as researchers, they indeed worked in isolation from one another; that is, there was no mechanism to enable researchers of one country to be regularly informed of what their counterparts in the neighbouring country were doing. They also pointed out the irony where research done in and about the southern region was invariably available and known to researchers and donors outside the region, especially in the North, rather than inside it. They went further to point out that the isolation problem was experienced not only across countries in the region but also within countries. For it was not too unusual to find researchers within the same institution, let alone from different institutions in the same country, not knowing what each other was doing in research until they met at an international
meeting abroad! Research thus became a secretive activity, a form of "moonlighting"!

As a consequence of this, it was accepted that the lack of professional collegiality, collaboration and information-sharing invariably led to poor quality research as there was unnecessary duplication and fragmentation of efforts and resources, as well as unsystematic and uncoordinated information-building. This, they believed, explained, in part, the failure of research to have the much sought-for impact on educational policy and practice. For it was logical for policy makers and practitioners not to take seriously isolated, uncoordinated and haphazard case studies which did not add up to any meaningful and strong message for them to act on.

It was therefore unanimously endorsed that a regional network of educational researchers be formed by the name of ERNESA. However, realising much earlier than RRAG did the emptiness that could befall a global network, the meeting insisted that, in the short run and as a matter of priority, "ERNESA would have to work toward the creation or strengthening of national frameworks for information sharing within countries."12 This should form a good basis for facilitating collaboration and information exchange across countries in the long run.

For this purpose and as a follow-up to the Nairobi meeting, IDRC did two things. One, it generously made available in 1986 funds to each participating country of the network to facilitate the formation from scratch of local research communities where none existed or the strengthening of those in existence. Thanks to that assistance and additional funding, national ERNESA facilitators who had been earmarked have managed over the last three years to create or strengthen national structures for networking and information-sharing. These have followed different modalities reflecting the heterogeneity of the countries making up the regional research environment in terms of their political, economic and cultural histories and orientations. Two, IDRC extended its time-tested small Research Grants Scheme and put it at the service of the nascent ERNESA. The Scheme is regarded as vital for the very survival of the young research network. Without it, it would be difficult to go beyond the mere creation of national organisational structures to the activities of practical networking. For these require, inter alia, the presence of a critical mass of trained local research expertise and infrastructure. In the final analysis structures such as research associations are meaningless unless they constitute a growing pool of trained indigenous researchers.

One can say, therefore, that ERNESA up to this point in time has directed its efforts at creating nationally recognised structures or frameworks for networking on the one hand and, on the other, at research training through the IDRC-sponsored Educational Research Awards Scheme operating as KUTERA in Eastern Africa and as BOLESWA in Southern Africa.13 It is only now that we start evolving regional activities of networking beyond regular planning meetings and the launching of a newsletter to keep members in touch. As we look back at the overview of networking particularly at the regional and national levels, what can we say are the opportunities and problems for networking in the region, and what are the prospects of achieving our objective of facilitating the cross-fertilization of ideas among the local research community, the national policy makers, the practitioners and the donor community? Let us look at these issues in the third section.
Opportunities, Challenges and Prospects of Networking in the Region

Ideally one would require a sound study of "the research environment" in the region in order to come up with a clear picture of what opportunities we could exploit and what challenges stand before us in our efforts to promote educational research networking in the region. In its absence we can perhaps identify only the most obvious on the basis of the limited number of examples of networking that we have examined above and then assess the chances for their success at least in the immediate future.

Opportunities

One can think of at least six elements in our regional research environment which can positively be exploited to enhance networking.

1. There is a significant group of educational researchers who are very keen to overcome their institutional and national isolation and have decided to pursue research in a spirit of solidarity, collaboration and sharing, believing that unity will lead to research quality and research impact at the national and international levels. This is evidenced by the positive response received in the growing membership of ERNESA. The spirit and momentum created should never be let to die. Let the associations themselves proactively solicit and mobilise support from local and international sources. They should realise that IDRC has taken more than its share in supporting ERNESA and the small Research Grants Scheme thus far.

2. Participatory and action methods of research are now well developed. Researchers should learn to have policy makers and practitioners involved in the research process from the very beginning rather than confront them with research results of a process they never were part of. This should maximise the chances of utilising the research results in their respective educational roles.

3. As a corollary of the above, there exists modern communication media not only to link up members of the research community but also to help disseminate more efficiently research results to the consumer. A good example in this regard was the use of the video for educational research in Lesotho and Botswana.

4. IDRC has been very active in mobilizing other donor agencies to support both ERNESA and the small Research Awards Scheme. The Rockefeller Foundation, GTZ, and SIDA, to mention but a few, have expressed genuine interest to support the development of a viable educational research community in the region.

5. The international cooperation that national governments in the region enlist for education has invariably called for exposure of policy makers to startling research results as a basis of their decisions about significant areas of educational investments. All this has awakened a good amount of appreciation for research generally, and has made governments realize the importance of having a pool of indigenous researchers who are likely to be more sensitive to the socio-cultural, political and ideological milieu of the country.
6. The existence of SADCC and the PTA as tangible structures that mediate cooperation across national, cultural, political and economic barriers, is a very favourable climate for educational research networking. This should make it possible to mount a regional research environment study, identify research priority areas of focus and mount collaboratively research to address regionally pressing educational concerns. The quality and quantity of information that the network could handle would give it great credibility.

**Challenges**

However, just as there are no roses without thorns, these opportunities are not without accompanying problems or challenges that may require creative responses. First, by its very nature research is critical. As such it tends to unsettle conventional policies and practices and is against sweeping problems under the carpet for political or other expediency. Now these and other things may not be acceptable in all political settings in the region. Those who accept the utility of research may also be impatient in respecting the procedures of research which may take time in responding to their urgent needs. Either way researchers will find it difficult to work smoothly with practitioners and policy makers.

Secondly, for historical and other reasons research is very much underfunded locally. In that situation researchers can do meaningful research only by soliciting funding from outside. Alternatively, external donors give funds for research in those areas in which they are interested even though they may not be of priority locally. In general, it is the payer of the piper who calls the research tune. Consequently the issue facing researchers is whose interest they should serve. If they behave in a particular way, they risk being alienated sometimes from the policy makers, sometimes from practitioners, sometimes from fellow researchers and sometimes from the donors/funders. It is therefore important for the network to evolve a clear sense of direction and values in determining whose interest they would like to serve. That will perhaps determine their degree of autonomy, and therefore their survival and even development. Ultimately they must develop to a stage where they must be self-reliant to a good degree.

Thirdly, given the large range of needs against limited resources that the young research network normally faces, it is critically important to make the right choices and to decide to concentrate its energies and resources in a few activities and make them tangibly productive. Dispersed energies may not achieve much and in a world where tangible results matter the most, the network may lose support. If there is any lesson that has been learnt about success it is that nothing succeeds like success. A network should therefore produce tangible products that is the content of exchange.

Finally, the lack of development of a communication infrastructure is perhaps the greatest bottleneck in information-sharing. For by definition networking is communication that requires people willing to communicate and having something to communicate and sharing a medium for communication. The network cannot really take off and be sustained without a minimum of communication infrastructure. Even a commitment to keep a newsletter going can go a long way towards strengthening a regional network. Given the soaring costs for communication for the region there is need to select media that are affordable and practical rather than jump for the high telematics.
So much for the opportunities and challenges of networking in our region. When these are put on balance what are the real prospects of networking in the region?

Prospects and Conclusion

Well, it is no good to indulge in wishful thinking at this point. We need to correctly assess the realities of our region and chart our path accordingly. We cannot afford to have a static view of the realities either; we must be ready to learn from each other and help one another. The problems of networking as they emerge should be shared by members of the network and let collective wisdom be used to arrive at solutions. The same problem must be the object of research. In addition, by working in close collaboration with other regional networks such as SEARRAG, REDUC and NORRAG we should be able to work out solutions on the basis of lessons learned from them.

Looking at the opportunities and challenges as above, it seems as if the future of the regional network in terms of its goals will depend primarily on developing trust and collaboration between researchers, policy makers and practitioners in the context of meaningful collaborative relationships between the countries and donors. It will also greatly depend on how the regional network succeeds in strengthening existing national networks as a primary resource base on which it can thrive, and in relating with other networks from a position of strength through its ability to contribute and not merely to take. It will also depend on how judiciously it will use donations, both local and external, to build a self-reliant base as well as build the reputation of delivering good quality work reflecting commitment and concern for educational development in the SADCC region and even in Africa as a whole.

ENDNOTES

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THE ROLE OF INTERNATIONAL COOPERATION IN THE DEVELOPMENT OF EDUCATIONAL RESEARCH

Ingemar Fagerlind

In this paper I want to share with you my own experiences from building up educational research in Sweden and abroad and the role that international cooperation can play in such an endeavour. I started my professional life as an elementary school teacher in the Swedish countryside. I liked my job very much and felt that young teachers were potentially very important for the changes that were taking place in Swedish education at that time, when an elite system was being transferred to a comprehensive one. Already in my teacher training I had been in some contact with empirical educational research which at the beginning of the 1960s was something new in Sweden. As a teacher I also had the opportunity to get information from the first educational research department established in 1956 at the Stockholm School of Education under the leadership of Professor Torsten Husen. This department had been established to perform educational research needed for the comprehensive school reforms which were about to be implemented. The department was also intended to support the new teacher training set up for the comprehensive school system. At an early stage this department started external university courses for teachers interested in educational research. I was one of the young teachers that signed up for such a course. I felt that it would be useful for me to learn new things that could also be tested by myself in my own classroom. After the completion of a one year course which was taken in the evenings, I decided to find a job in Stockholm where it would be possible for me to work as a teacher during the day and to study in the evenings. After my completion of a BA degree I was asked to come to the department of education as a research assistant. There were approximately 15 people involved in research activities at the department which at the time was quite a dynamic place at which to work. There were several research projects going on and every week the most important thing was an open seminar where ongoing research and research plans were discussed and scrutinised. Teachers and school administrators from outside the department could participate, as well as the staff members and graduate students. Already from the beginning of my work at the department I found that international cooperation was one of the best ways of improving the quality of ongoing work.

We had foreign guest researchers who spent shorter or longer times with us, and who also participated in the seminars. As they came from other research environments their questions were usually stimulating for us. They sometimes questioned things that we took for granted in our own environment; things which were most unusual in their own countries. At this time our department started an international cooperation with eleven departments in other countries. This was the first international mathematics study performed by the International Association for the Evaluation of Educational Achievement (IEA). The researchers in our department learnt many things from cooperating with researchers at institutions in other countries.

Looking back at the competence building program that took place in our department through comparative educational research, I think it was important that many of the young people participating had experience as teachers. Among the senior people there were people with different kinds of experiences. Usually funds were available for us to work together for a certain number of years. It is difficult for single individuals to develop further competence
without close cooperation with others. It is also important that there is stability and continuity in a research group and in the research performed. Secure funding for some years makes it easier to plan ahead. In our cooperation we found that smaller institutions functioned better and were more productive than large ones. The best learning took place when practical problems had to be solved in the projects, and when practical work was done in the cooperative projects. We also had other examples of international cooperation through international agencies like UNESCO, OECD, Council of Europe and others. However, over and above the contacts at different seminars and meetings, our work with these organizations was not as useful for developing research capacity as the practical work done within the comparative projects. Contacts with other university institutions helped us to find the new textbooks for our courses and also to develop new course programs. Even though my example is taken from a rich country in the North, and most of our contacts at that time were with other university institutions in the North, I am arguing that most of our experiences can be valid worldwide.

I have mainly presented the advantages of collaboration between groups of academics in different countries. There are also dangers of dominance by some groups over others. In the IEA studies the Anglo-Saxon dominance is quite clear. Groups with languages other than English have sometimes found it difficult to get their voices heard. There has also been a dominance of more prosperous institutions over the poorer. In spite of this I think that the advantages in these collaborations outweighed the disadvantages.

**North-South Academic Collaboration**

*The Role of Donor Agencies*

One major reason for North-South collaboration in education is the existence of external aid projects in the Third World. The need for accountability by the aid agencies generates appraisal missions, feasibility studies, mid-term monitoring, and final reports or evaluations. The actors in such collaboration processes -- funders and analysts in the Northern donor countries, and sponsors, analysts and users in the Southern, recipient countries -- are not equal. It becomes a collaboration between Northern donors and Southern recipients. The collaboration is often a process initiated by the North with a Southern counterpart. There has been a tendency by aid agencies to involve more Third World researchers partly because of a desire by agencies for greater legitimacy of their evaluations. If we are aware of the inequalities in such an enterprise between the Northern donors and the Southern recipients and also between the Northern donors and the Northern evaluators, and the Southern evaluators and the users of the money, I am arguing that we as researchers will have much to gain. Such evaluations make it possible for us to obtain and summarise quite a lot of interesting statistics. There is a possibility for us as researchers to look into and understand the difficulties in educational planning. There are advantages in having academic institutions involved in such studies, because academic institutions are less dependent than consultancy firms on the next contract. However, I think there is a need among educational researchers both in the North and the South for training to carry out such evaluations. Work on programme preparation and evaluation stimulates research communities to study the role of education from a macro perspective.

There are many horror stories about the role that donor agencies play in developing countries. However, there are agencies that are interested in dialogue, that want more in-country researchers to take part in their work, more
local research to be used in programme documents, and that see to it that publications of Southern researchers get published. Most of the Nordic aid agencies are interested in this and they are also supporting the participation of researchers from developing countries at international conferences. I think it is important for the research community both in the North and the South to utilise these opportunities for international cooperation in developing educational research. I also suggest more participation of researchers from the same region in such work, not always from the country to be evaluated. Within the SADCC countries I see a development of researchers competent in this field.

The Role of Research Development Agencies

There are plenty of research councils in the world that have funds for research development. Among the councils interested in promoting research in the Southern region, the Canadian IDRC and the Swedish SAREC are the most prominent. Among other things, IDRC gives support to research networks such as the Education Research Network of Eastern and Southern Africa (ERNESA) and the Educational Research Network of Western and Central Africa (ERNWACA). Both networks have the training of researchers in policy and evaluation research on their agenda. The dissemination of research findings and information exchange has also started. ERNESA has a newsletter which is quite interesting. Another network which is getting support both from IDRC and Swedish SIDA is the Northern Research Review and Advisory Group (NORRAG) which is publishing a newsletter with information from the North important to the South. The NORRAG network consist of researchers from the North who are or have been involved in research in the South. Research networks and their newsletters in the North and the South facilitate informal research cooperation. The NORRAG newsletter is a vehicle for dissemination of agency and NGO policies. It gives information on conferences and meetings, both lists of forthcoming meetings and reports from meetings. The news and network contacts are also used to get access to major policy papers such as the World Bank paper on Sub-Saharan Africa, and to make such documents available to the Southern research community. As is quite well-known in this audience, IDRC also supports small scale research within the field of education.

SAREC is an agency with the main purpose of promoting research in developing countries. Already when this fund was established it was emphasised that the social sciences should not be forgotten. During its first ten years, applications from developing countries were usually channelled through the established research councils in the country concerned. This meant that medicine, technology and engineering and other prestigious areas got most of the money, while very little went to building up research in the social sciences. After an evaluation of the first ten years it was emphasised that the "soft" sciences should not be forgotten. Support should be given to South-North cooperation initiated by the Southern partner. Our institute is just about to start such cooperation with the Faculty of Education and the National Institute of Development Research and Documentation (NIR) at the University of Botswana. The goal for our cooperation is capacity building at both ends. We are going to work together on a joint project. The grant gives us in Sweden the opportunity to come to the University of Botswana for short periods of time and also possibilities for Batswana researchers to work with us in Stockholm for some time. Over and above this, some equipment will be made available. I hope that this programme will strengthen educational research in this country. I also hope that other departments or institutes in other SADCC countries will
take the opportunity to utilise resources available through SAREC. This agency is also supporting universities in Africa in other ways.

Within Sweden some departments or institutes have been selected as key institutions for a special field. Through competition my own institute in Stockholm, the Institute of International Education, was selected for institutional support. This means that our institute is a centre where students and researchers from many different developing countries can come for M.A. and Ph.D. studies. Some of our students also get funding for their field work and their dissertations have usually been published through grants from SAREC. However, our institute is also promoting regional research training programmes at certificate, diploma and degree levels in education and education-related sciences. We have also been involved in developing regional short courses, seminars and workshops in educational research methodology including research design, instrument construction, sampling procedures, data collection and data analysis.

Problems and Challenges for the Future

The best thing would be if all research institutions could be funded nationally. However, with the present economic situation in many African countries, this cannot be the case. If research institutions in such countries want to receive money through aid agencies they must remember that such agencies want research linked to their own programmes. For this reason, there will be a lack of micro-level projects. If institutions want money from research development agencies, large investments in time and institutional resources must go to project preparation. Even with such investments, there is no certainty of obtaining funding. It should be mentioned that recently the IDRC budget has been cut by one-third. This could cause difficulties when the ERNESA and ERNWACA networks are in crucial stages of development.

However, there is quite a lot of interest in education around the world and money is also available. UNESCO, UNICEF and the World Bank have jointly launched a worldwide education initiative to review the present problems in meeting basic education needs and to explore realistic strategies for rapid expansion. This will be discussed at the World Conference on Education For All: Meeting Basic Learning Needs to be held in Thailand 5-9 March, 1990. The initiative is good, but there is a danger if the agencies are running this show without participation of the educational research community. It is important for all of us to find out how we in our own countries can influence what is going to happen in Bangkok and perhaps also initiate alternative discussions in our home countries. There is a monthly bulletin for the World Conference on Education for All giving information about the preparations being made. As the time is short we have to take action immediately and this symposium provides a good opportunity.

International cooperation, be it among individuals or institutions in the South or in the North or between the South and the North, is important for the development of educational research. Being an optimist I think there are great opportunities for us to see the development of skilful and useful groups of educational researchers in most countries. It is our obligation to see to it that young people get training of such a quality that when they are using their skills, the results and findings can be useful for politicians and policy makers. It is also important for all of us to participate in the debate going on in our own countries. Education is a topic frequently discussed in newspapers and the media. It is important that we present our message in a way that everybody can understand, and also that we use different media. We should remember that
parents and students may be very interested in our findings. If we write or speak in a way that parents and students can understand, the policy makers and politicians will also be able to understand and our work might influence what is happening in education both in our own countries and the rest of the world.

**DISCUSSION**

Following the three paper presentations, a discussion arose. Specific points raised included:

1. Researchers were encouraged to find an effective way of delivering research results. Presentation skills (how to present facts, findings and to which audience) are important.

2. Philosophical and theoretical bases are necessary. Networking emphasises three variables - policy, practice and research - which have links with philosophy and theory.

3. Emphasis was given to a positive theory - self-reliance, under normal circumstances. One question raised was "Can we be absolutely self-reliant?"

4. Researchers were encouraged to categorize specific areas of need when requesting help from donor agencies.

5. The ultimate goal for research is to make education relevant and easier for students, teachers, administrators policy makers, etc. within education. Researchers have the responsibility to see that the work done is relevant and disseminated in ways others can understand.

6. Researchers are a force that policy makers can call upon, especially if research is done in a collaborative effort. Research associations should help challenge donor agency policies or proposals.

7. Information on the South is available in the North. There is no way we can cut ourselves from the North. The North has facilities, manpower to carry out research, etc., thus it would be best to relate with them.

8. Researchers should be encouraged to work together as much as possible. Reports should be made available to the public, especially when public funds are used.

9. Donations should be viewed as entitlements rather than as charity, without the researchers being given limited freedom to speak. Every recipient should be free to ask questions.

10. There is no trend of research in African universities. Research training should be established through universities.
Ladies and Gentlemen,

I have the privilege this morning to tell you something of what I have learnt and enjoyed through participating in this symposium.

As you all know, many interesting and inspiring ideas were given in the plenary sessions. Similarly, stimulating discussion and exchange of experiences took place during the various group sessions. Since it was not possible for me to participate in all sessions, and since this distillation is a personal and subjective exercise, I would like to request forgiveness from those who will probably feel that my summary has not done justice to their contributions.

This symposium's theme was Educational Research in the SADCC Region: Present and Future. I have no doubt that we are all satisfied that at present there is a large amount of data and knowledge which has been accumulated as evidenced by the papers presented. This implies that our future work in research and action will concern at least three important questions, namely:

1. In what ways should the knowledge already generated be treated and packaged so as to ensure that it is accessible to various consumers such as students, policy makers, teachers and parents?
2. Within the context of our present knowledge and our future needs, what are critical issues requiring further pursuit?
3. What are the most economic and productive ways of organising further pursuit of the identified critical issues, knowing that the results we are seeking are urgently needed in national development, in an era of economic austerity and perhaps inadequate communication?

Let me therefore briefly give my own reflections on each of these three questions.

Packaging Research Knowledge

I am glad that the seminar has generated suggestions on the packaging of research results. The Permanent Secretary of the Ministry of Education, Botswana, in his opening speech to the symposium, stressed that the existence of universities is justified by their role as generators of knowledge. But I feel that we do not use most of the knowledge we have gathered through research. What we teach to our students should increasingly be informed and consist of locally generated knowledge. But this means that this wealth of research data has to be integrated and this is a task to be accomplished locally. ENERSA might take upon itself this important task.

We were also reminded that our written communication is still riddled with jargon which tends to discourage policy makers from taking the results seriously. No doubt this is an important issue. However, a more fundamental question concerns the quality of students we train, students who later become
policy makers, who are unable to understand, interpret and use research results. Let us by all means write clearly, simply but accurately. But let us at the same time ensure that our students gain those skills of understanding and interpreting research literature before we lose them as a serious captive audience.

In this context of effective communication participants will agree with me that we were all much refreshed by the videofilm *Mafoko A Matlhong* This film provided us with new insights in packaging and disseminating research results. No doubt many of us will continue to search for equally effective strategies.

**Critical Issues**

On the second question, namely the critical issues arising out of this symposium, your choices are as good as mine. It was gratifying to note that there was not a single paper presented in the various sessions where topics, ideas, themes and issues for further pursuit were not raised. The pace was set by the Keynote Address, but the later discussions too reiterated many of the same issues raised in that address. In my view five elements seem crucial to the process of research in the contexts of our various countries.

(a) The present social, economic, and educational crisis often blinds us to the tremendous achievements made by the working people and professional and non-formal communities. Therefore, while it is important to look for and implement new solutions for seemingly old problems, we need to take stock of the nature and quality of our achievements. We tend to regard educational achievement as a grey area all over Africa. The reality, however, is that there are many examples of successful practices in university departments, in departments of ministries, in schools, in non-formal education. These centres of successful practice are scattered all over Africa. Research has not identified and documented the ethos of such successful practice. As a result, we are all prone to manipulation by the periodic policy fads and whims emanating from international donors. Documenting successful practice in institutions which thrive within the socio-economic context would enable us to have genuine working models whenever we have to argue our case for the adoption of local rather than international initiatives for financial support.

(b) In considering strategies for human resources development, concepts such as democratisation, empowerment and critical analysis of gender issues are now becoming popular - as they should indeed be. But there is need for researchers to ascertain that their work creates a broad-based mass constituency. Researchers must eschew models that appear to popularise the provision of differentiated education - even if this comes in the guise of basic education for all. Researchers must ensure that their activities uplift themselves as well as their fellowmen.

(c) A key issue mentioned in the Keynote Address but one which received little discussion in the rest of the symposium concerns the management of educational delivery. Fortunately, that problem was beautifully exemplified in *Mafoko A Matlhong*. We have stuck for far too long to a delivery system that obviously excludes large sections of the populations. As a resident of a materially poor and economically battered nation (Uganda) I was greatly impressed by the affluence of the Botswana I saw. And it is within this context that I found it difficult to understand the basis of poverty revealed in sections of the film. As researchers, it is our responsibility to engage in experimentation in order to see how rural and remote populations can benefit from national
independence through alternative educational delivery systems. Our motto here should perhaps be the statement made by a 12 year old girl in an essay on Poverty. She said "It is horrid to hear of death because of Poverty. Yet God raised all men to live in his riches."

(d) Experimenting with alternative modes of educational delivery is related to our need for utopian ideas. We all agree that it is important to be critical but we definitely need visions and images of a desirable future. In my view, nowhere is this more urgent than in the area of adult education. As we all know, we have now more or less stagnated in our endeavours in this area. In fact, even our achievements in adult functional literacy are now threatened by regression as a result of non practice of reading and writing due to lack of books. It is important to remember that there is a wide gap between the ideologies of our foreign experts in this area and the social contexts of African adults. The experts come from societies where mainstream adults have not suffered colonialism, racism, and other forms of deprivation. In addition, these adults have had formal schooling often followed by long and productive careers. The adults in Africa have very different life experiences. It is up to the researcher to come up with a new vision of the future of such adults.

The Organisation of Research

On the third question, namely the most economic and productive ways of organising ourselves for further pursuit of knowledge, this morning's session has fortunately considered all aspects of collaboration. I will therefore make the following brief points:

(a) We all need to understand the research process from its simplest and "pedestrian" sense to its complex and unfortunately obscurantist nature.

This symposium has stressed the need for participatory research methodology which encourages both researchers and "subjects" to become critical and transformative intellectuals for purposes of self-emancipation and self-reliance.

(c) Collaboration is a multi-level technique. It seems to me that at present it is easier to practice North-South than either regional or local collaboration. In this regard it might be useful to research into the "real" factors that vitiate local collaboration. In my experience there are real important obstacles to local collaboration whose nature, unfortunately, general etiquette makes it impossible to discuss in meetings of this nature. But until we get "things off our chest" so to speak, we shall continue to urge local researchers to collaborate but with little success.

(d) It is heartening to note that ERNESHA will be meeting from this afternoon to Sunday. Hopefully the practical modalities of regional cooperation and collaboration, particularly in the area of training in research, will be addressed and their implementation will soon become a frequent activity.

Let me finish by paying tribute to our hosts - the Botswana Educational Research Association. In this era of economic austerity, we are all grateful for BERA's around-the-clock care and attention. I hope the Chairman will convey our gratitude to Dr. Mautle and his colleagues. Thank you Mr. Chairman.
CLOSING ADDRESS

EDUCATIONAL RESEARCH IN THE SADCC REGION - LOOKING FORWARD TO THE 1990s

Frank Youngman
Dean, Faculty of Education, University of Botswana

Distinguished guests, and fellow participants:

We have come to the end of a most interesting week. The Symposium has been a major international gathering - 231 people registered, coming from most of the countries of East and Southern Africa, from the African National Congress of South Africa, from Europe and America. There have been five plenary sessions with various kinds of presentation and over fifty papers have been presented in group sessions, stimulating extensive discussions. I think this represents a significant coming together of people concerned with educational research in the SADCC region and neighbouring countries. I therefore feel privileged to be making the closing address in my capacity as a member of the University of Botswana, which has provided the facilities for our meeting. Normally, a closing speech is designed to round off the proceedings, to conclude the deliberations and to bring an end to debate. However, I have decided to conceptualise my talk not as an end point but as a moment for looking to the future.

So I would like to entitle my address: Educational Research in the SADCC Region: Looking Forward to the 1990s.

A Review of the 1980s

In order to look forward, it is helpful to start by looking backwards. A quick review of the 1980s would indicate that important developments did take place in the region in terms of its educational research capacity. For the Botswana, Lesotho and Swaziland grouping of countries, a good reference point is the seminar held here in Gaborone in May 1981 on the theme Educational Research in BOLESWA Countries.1 This seminar, sponsored by the IDRC, stimulated the development of national educational research associations and regional cooperation between them, including the joint publication of the BOLESWA Educational Research Journal and the granting of research awards.

Considerable steps forward have been made since that seminar. Among the milestones along the way are, of course, the BOLESWA symposia referred to on the opening day, which took place in 1986 in Ohio, USA and in 1987 in Maseru, Lesotho.2 The symposia provided opportunities for the exchange of experience and ideas, for the presentation and discussion of research papers, and for consideration of issues in educational research.

Meanwhile, at the level of a wider region, namely Eastern and Southern Africa, progress was also being made in building up national educational research associations and developing linkages between them, as Dr. Komba has described in his paper.3 The Educational Research Network in Eastern and Southern Africa (ERNESA), established in 1985 with IDRC support, has provided a valuable forum for collaboration and information exchange amongst
educational researchers from nine countries and a stimulus to the strengthening of national structures in those countries.

Of course, neither the BOLESWA region nor the ERNESA region is contiguous with the SADCC region, which is perhaps the most defined regional entity in terms of political and economic cooperation between national governments and therefore also provides a natural framework for international collaboration in educational research development. It is a pity that we were unable to organise participation from Angola and Mozambique this week, as I suspect we know very little about educational research in these countries. (It is worth noting in passing that Professor Fagerlind's Institute of International Education at the University of Stockholm has recently awarded two Ph.Ds for theses on education in Mozambique)\(^4\). But I think that this Symposium, with its SADCC focus, has helped to generate increased contacts between educational researchers in this region which should provide the basis for further activities. Certainly there is a lot of evidence of interesting developments within the countries of the region, such as the exciting inaugural issue a few months ago of the *Zimbabwe Journal of Education Research* and the increasing focus in Botswana on gender issues in education.

It seems to me, from this brief retrospective, that the 1980s did see significant progress take place in terms of improved educational research capacity at the national level, and in terms of international cooperation between the countries in this part of Africa. Whatever difficulties we have faced and whatever weaknesses remain - and these should not be underestimated - the broad view suggests that the situation at the end of the 1980s is much better than it was at the beginning of the decade.

**Issues for the Future**

Dr. Namuddu has just provided us with a personal view identifying some of the key points which have arisen during the week. I would like to make some additional comments which I think are relevant to future development. I hope that they will provide further food for thought, so that the Symposium does not signify an end to discussion but rather a starting point for renewed debate. My comments are therefore deliberately rather open-ended, considering dilemmas or simply posing questions in relation to some of the central issues in educational research in the region.

*The links between research and policy application*

A recurring theme in our discussions has been the problem of research impact, with many speakers expressing concern about the limited utilisation of results. My feeling here is that there are a number of assumptions which need further examination and debate. For example, is the criterion of utility in fact as important as other criteria? Is there any relationship between the intrinsic value of a piece of research and its likelihood of adoption in the policy process? Are we in fact using an erroneous model of decision-making based on a belief in technical rationality (in which policy makers systematically appraise available information) rather than an understanding of political rationality (in which decisions result from a complex interplay of power relationships)\(^5\)? I don't think the impact of research is simply a question of language or presentation or methodological soundness.
Let me quote from the well-known study edited by Shaeffer and Nkinyangi:

Research is very much a cultural phenomenon tied on to subtle but significant factors such as ideology and worldview, communication patterns and decision-making styles. More obviously, research is also a social and political process. The funds it consumes and the knowledge it generates represent power, and it can be used . . . to promote dialogue and induce a particular climate of thought and action, to rationalise policies and legitimate decisions, and, as propaganda, to gain personal influence and win political battles. Research, in other words, is seldom the neutral and benign process so often claimed by the scientific community or assumed by donor agencies.6

The use of research results by the World Bank, for example, is often highly tendentious. The Economic Commission for Africa has recently challenged the evidence used in the Bank's analysis of Africa's economic situation. More specifically, the first edition of the Zimbabwe Journal of Education Research, has revealed how deeply ideological the World Bank's Report on Education in Sub-Saharan Africa7 is and how its policy prescriptions often bear a tenuous or selective relation to the research cited.

My point here, Mr. Chairman, is simply that we should regard as much more problematic the question of how to analyse the relationship between our research and its use.

The funding of research

Educational researchers are highly dependent on funding sources for doing their work. I believe genuine dilemmas arise here which have to be squarely confronted and considered. Alvin Gouldner, twenty years ago, argued that patterns of funding can distort the quest for truth.8 Perhaps Dr. Komba put it more directly earlier this morning when he said "It is the payer of the piper who calls the research tune".9 It is a salient question to ask whether funding can be uncoupled from control over research activities. In the international context, as the ERNESÄ meeting in April of this year noted, dependence on external donor support is to be regretted. But it is equally true that in a national context educational research sponsored by governments will be limited, insofar as they will normally determine the direction of the research. Commissioned evaluation research which has accompanied the accountability movement in educational programmes is now a major component of the educational research undertaken in many countries in the region and exerts a very powerful influence on research agendas. What do we do in this situation? What does self-reliance mean? How can researchers gain the space that enables them to set their own agendas and to follow paths which may turn out to be critical of the status quo? There are no easy answers to such questions and while for some researchers they may be unproblematic (- the consultancy syndrome has certainly spread infectiously in recent years), for others they will pose major dilemmas in the 1990s.
The question of theory

Here I would like to support some of the observations made by Professor Datta in his paper earlier this morning. I too have a strong impression that much educational research in the region avoids or ignores the question of theory. At one level, there is a tendency to undertake small-scale empirical studies and there are few attempts to make broader theoretical analyses with wider conceptualisations and generalisations. (Of course, this is one consequence of the kind of short-term applied research on specific problems for which funding is most easily available.) But at another level, there is a lack of scrutiny of the theoretical underpinnings of the research being undertaken.

Let me illustrate. Following Popkewitz\(^\text{11}\), I think it's reasonable to identify three major paradigms (or schools of thought) in educational research within contemporary Western social science. The first, rooted in positivism, is based on a natural science model of research, and favours the mathematical expression of data. It is exemplified by functionalist sociology and behavioural psychology. Popkewitz labels it the "empirical-analytical" paradigm. Its typical research concerns would include, for example, socialisation processes in education, questions of selection and psychometric analysis. The second, derived from phenomenology, is exemplified by interpretive sociology and humanistic psychology. He labels this the "symbolic science" paradigm. Its typical concerns are with issues of language, curricular knowledge and classroom interaction. Finally, he identifies the "critical science" paradigm, with its origins in the tradition of Marx, Gramsci and Habermas. Its typical concerns are with questions of power, ideology and social interest in the form and content of education. A cursory analysis of the research presented this week indicates two things. First, hardly any presenters discussed the theoretical premises of their work in any direct way. Secondly, the "empirical-analytical" paradigm was totally dominant. Only a couple of papers employed the paradigm of "symbolic science"\(^\text{12}\) And perhaps only one paper during the entire week self-consciously employed critical theory.\(^\text{13}\)

I think this indicates a lack of paradigm diversity that may provide a serious obstacle to future development. As Kuhn has argued\(^\text{14}\), the development of science is dependent on the interaction and conflict of different paradigms. This does not appear to be happening. And yet the Permanent Secretary of the Ministry of Education in Swaziland posed an important question in the panel on Wednesday: he said, have we developed a research paradigm suitable to the needs of the people of Southern Africa? This seems to me an important question to be addressed in the 1990s.

A Call for Critical Reflection

I could continue exploring other issues in this vein, such as the demystification of research, the question of establishing research priorities, research training, and other issues raised in the plenary discussion this morning. But I think I have used enough examples to come to the central point of my talk. And that is a call for increased critical reflection on the purposes and nature of educational research in Southern Africa at this point in its development. I think we need to spend more time asking ourselves very fundamental questions such as: why do we do research? who will benefit from it? what is its social significance? I would like to see more debate of these kind of questions, because I believe they take precedence over the problems of research design, data collection techniques and procedures of analysis which are
the kinds of thing that preoccupy us on a day-to-day basis. I would therefore hope that a spirit of critical reflexivity would guide our research endeavours in the coming decade. I think this morning's discussion has pointed in that direction.

Conclusion

Mr. Chairman, I chose the title Looking Forward to the 1990s deliberately, because of its ambiguity of meaning. In one sense, which I have been using so far, the phrase "looking forward" denotes an attempt to look into the future, to predict what could and should be done. But in its other sense, it denotes hopeful expectancy, excitement and possibility. And I think that is the emphasis I would like to give at the end of these remarks. Despite the economic problems of the region, despite the destabilisation and destruction created in our countries by the apartheid regime in South Africa, despite the crisis in education expounded by Professor Mbilinyi in her Keynote Address, and despite the day-to-day practical problems of researchers who lack funds, library resources, computers, communication infrastructure and so forth, I do believe that the challenges of this economic, political and intellectual situation provide the opportunity for creativity, innovation and socially significant activity within the field of educational research. Building on the momentum already created by symposia such as this, by our networks and contacts, by our expanding publications, I believe we can look forward to progressive development in the educational research environment of the region in the 1990s. And certainly I look forward very much to the next symposium in this BOLESWA series, which our colleagues in the Swaziland Educational Research Association have agreed to host in Swaziland in 1991.

Mr. Chairman, I wish to end by repeating the acknowledgements made by Professor Tlou, our Vice Chancellor, in his welcoming remarks when he thanked the Organising Committee and the various sponsors of the Symposium. And on my own behalf, I would like to thank everyone here who has participated in a most stimulating and exciting gathering.

Valediction

Finally, I would like to end with a valediction. Firstly, in Setswana:

Borra le bomma, tsamayang sentle. Pula e le nele tseleng. Re tla kopana gape ko Swazing.

Which, in translation, is:

Ladies and gentlemen go well. May it rain on the way home. We will meet again in Swaziland.

THANK YOU VERY MUCH.

ENDNOTES


5. For a discussion on the distinction between technical rationality and political rationality, see C. A. Torres 1988 "Adult education as public policy: a perspective from Latin America", *Prospects*, 13, 3: 379-388.


EDUCATIONAL MANAGEMENT
GRASSROOTS PARTICIPATION IN MANAGEMENT OF EDUCATIONAL RESOURCES

B. M. Makoni

This is an evaluation study on the supply of education. Education in Africa today is in a state of crisis. The crisis surfaced soon after independence and it manifests itself in the form of increased enrolment and resource inadequacy. The crisis is partly a function of history because colonized African countries were denied secondary education. So upon independence the majority of the governments decided to democratise secondary education. Zimbabwe did likewise.

In Zimbabwe the decision to democratise secondary education was a political one. It was not a systematic decision arising out of a systematic planning process. The State wanted all children who finish primary school to continue with secondary education; but the country could not afford this. Because of this Zimbabwe found herself in a dilemma. The situation was made worse by the debt crisis and destabilisation as the state had to cut down government expenditure in essential services, including education, and redirect resources elsewhere. Faced with such a resource crisis Zimbabwe had to innovate in educational resources.

The strategy of innovation was to decentralise the task of providing resources for schools from the central government to local authorities. Zimbabwe however is not the first country to innovate in educational resources. Tanzania has a policy of Education for Self Reliance which encourages schools to set up productive units to meet educational costs. Kenya has "Harambee" schools, Botswana has "Community" schools. Zimbabwe's innovation is Rural Day Secondary Schools (RDSSs). In the Zimbabwe programme of Rural Day Secondary Schools the responsibility of providing resources for the schools is largely relegated to grass roots communities. This study focuses on the role of grass roots communities in providing resources for RDSSs. It is an attempt at reviewing educational policy/planning.

Objective of Paper

To assess the capacity of grassroots communities in managing physical, financial and human resources for their schools.

Scope of Paper

A case study of Chivi District, Zimbabwe, 1988

Methodology of Study

1. Sources of information include published documents, institutional data bank, and a survey. The survey investigates two main populations: the District Education Committee and six School Committees purposefully selected. A structured interview schedule, informal interviews, participatory and listening methods were used to collect data.

2. Presentation includes a historical overview of secondary education in Zimbabwe, background information on Rural Day Secondary Schools, methodology, data presentation and analysis, and a report write up.
A CASE STUDY OF THE ROLE OF BOARDS OF GOVERNORS IN SELECTED COMMUNITY JUNIOR SECONDARY SCHOOLS IN BOTSWANA

Changu Mannathoko and Johnson Odharo

The case-study approach was used to investigate the role of boards of governors in selected community junior secondary schools. This was done by exploring the relationship between the role of boards of governors and the partnership policy in the education system. Research data was used to discuss emergent trends of the concept of community and the functions of boards of governors; role conflict between school boards and school administrators; school boards and control of power and authority in the school; and school boards' efficiency and effectiveness. The centralised education system emerged as a crucial issue and the role of school boards being confined to fund raising for the schools limits the boards' participation in the development of the community schools. The paper provides indicators towards strategies for the solution of some of the issues raised.
TERTIARY EDUCATION
PREDICTIVE VALUE OF 'O' LEVEL RESULTS FOR UNIVERSITY ADMISSION: A CASE STUDY FOR THE UNIVERSITY OF SWAZILAND

R. A. Sargent

'O' level aggregates, based on the total mark from six subjects, have commonly been used as the criteria for selecting candidates for admission to tertiary education in Africa. Is the 'O' level assessment score the best selection procedure? Does it really distinguish potentially good students from poor ones? These are the significant questions dealt with in this paper.

A total of 811 students from five distinct degree programmes offered in the Faculties of Humanities, Social Science, and Science, formed the target population for the study. The population included the students that were admitted for degree programmes between 1984 and 1987.

Admission data was compared with the results earned by students in their first year of university work. The data was subjected to a number of statistical tests for correlation and covariance.

In the study some serious and worrying anomalies in the predictive values of entry qualifications regarding university performance were identified. In summary there is a generally weak correlation between the entry requirements and eventual university performance.

THE 'O' LEVEL CONTROVERSY: DOES THE CAMBRIDGE 'O' LEVEL IN ENGLISH LANGUAGE PREDICT COMPETENCE IN ENGLISH AS A SECOND LANGUAGE FOR ADMISSION TO THE FACULTY OF HUMANITIES, UNIVERSITY OF SWAZILAND?

Maureen Anne Sargent

Rising numbers of qualified candidates for admission to the University of Swaziland (UNISWA) have highlighted the need for a more efficient selection process for the purpose of admission into the university. This research attempted to determine the validity of using the Cambridge Overseas School Certificate (COSC) English Language 'O' level examination as a predictor of academic success in UNISWA's Faculty of Humanities. In order to determine if the COSC 'O' level English Language examination effectively discriminated between varying levels of English language competence, the first year students of UNISWA's Faculty of Humanities were given a series of English language tests including a standardised EFL placement test, cloze test and reading comprehension test in the form of a written free recall exercise which was also analysed using the concept of Hunt's (1965) 'T'unit. Results showed that the 'O' level scores displayed low to moderate correlations with the other language tests, but that there was no statistically significant variance among the scores obtained on the various tests when analysed by the students' achieved 'O' level English Language scores. This research seems to support the contention that UNISWA must develop a proficiency test in English as a Second Language (ESL) based on a needs analysis of UNISWA's ESL requirements, as part of its selection process for university admission.
TEST ANXIETY AND ITS EFFECTS ON THE ACHIEVEMENT OF MATHEMATICS STUDENTS

P. Bhatia

The aim of this research was to investigate the effects of test anxiety on the achievement of the university students within the Department of Mathematics and Science Education, University of Botswana, in their Mathematical Studies. Test anxiety can be described as the diffused feeling of apprehension students have when they react to any testing situation.

A questionnaire was given to the DSE and BEd (Primary) students and the test anxiety was graded. The results are compared with the students' achievement. The mean test anxiety score was higher for below-average mathematics students and the students with low test anxiety showed a higher mathematics achievement.

It is observed that to some extent the level of anxiety influences the performance of the students in Mathematics. It would perhaps be very useful to include a special package for the students in the course, "Guidance and Counselling" in order to reduce the anxiety associated with anything mathematical and to build up the structure needed for a better student achievement.

SOME ASPECTS OF LEGAL EDUCATION IN SOUTHERN AFRICA

Evance Kalula

Although legal education has been established longer than many other fields of education in Africa, little research has been undertaken about its nature and role in development. In particular, there has hardly been any comparative study of the relative merits of different programmes of legal education now obtaining in African countries. This lack of research has been in spite of the recognition that a properly structured programme of legal education could be one of the most creative and directive forces of any African modern society. Legal education, it has been frequently said, could not only play a leading role in the ordering of society but could be crucial in the enhancement of the citizens' appreciation of their duties to society and also of their ability to uphold their fundamental rights. More than twenty-five years after the decolonisation process first got underway in the SADCC region, there appears to have been little substantial reform in the organisation of programmes of legal education to take account of the changed conditions. Legal education is for the most part still based on the notions of the lawyer's role in colonial society. This paper seeks to make a start in filling part of this gap. It looks at the main features of legal education in the region in the light of the various countries' development aspirations and seeks to identify the major shortcomings. It argues that legal education is too important to be left to lawyers and urges other educationists to contribute to a coherent programme of research in the region on which viable reform could be based.
Distance education and development: A case study of university innovation for rural development

D. M. Mutava

Distance education as a mode of teaching is fairly new in Botswana having been used for the first time only twenty years ago by Francistown Teacher Training College to upgrade unqualified primary school teachers. The apparent success of this initial effort sparked a lot of interest and enthusiasm to the effect that in 1973 a presidential directive established the then Botswana Extension College, which is now the Department of Non-Formal Education, to absorb those who could not get places in the formal school system. Currently the Department offers secondary education courses at the Junior Certificate level (JC) and at the General Certificate of Education (GCE) ordinary level.

The University of Botswana has been involved in distance education since 1979, the year in which the Diploma in Theology was started. The two-year Certificate in Adult Education (CAE) programme which started in 1983 is the university's latest innovation to initiate and promote development at the community level by equipping community-based development extension workers with the necessary skills, knowledge and attitudes through distance education.

This paper, therefore, discusses the findings of the evaluation of the CAE programme at the University of Botswana. The major purpose of the investigation was to determine the relevance and usefulness of the programme in terms of meeting students' as well as employers' needs and expectations. The study further looks at the andragogical and administrative aspects of the programme.

The population investigated included former students and their employers/supervisors as well as their former lecturers/tutors. Questionnaires and interviews were used to collect data from the target population. In spite of some identified operational constraints the results clearly indicate that the programme as a whole meets the needs of both the learners and their employers. All courses offered have been found relevant to the respondents' work.

On the basis of the findings some conclusions and recommendations have been drawn on how the programme as a whole can be improved.

The needs of physically handicapped students at the University of Zambia

R. F. Zimba

Fourteen physically handicapped undergraduate students at the University of Zambia were interviewed to examine their mobility, academic, social, and emotional problems. According to particular categories, the following summary represents major findings of the study.
Mobility problems

Given a physical environment in which almost all university buildings have narrow stairways and non-working elevators, physically handicapped students on crutches and those confined to wheelchairs report to have difficulties in going for classes taking place on the first, second, third and fourth floors. As a result of this they arrive at lecture locations late and tired. Because of their slow movements these students also indicate that they fail to rush for limited numbers of chairs in lecture rooms and for library and bookshop books, papers, journals and other reading materials in high demand. Moreover, those in natural sciences find it difficult to move about in laboratories without breaking delicate equipment and conduct experiments that require the movement of apparatus from one location to another. In the university library those in wheelchairs fail to move between bookshelves. Furthermore, mobility constraints make bath taking and toilet use hazardous for students on crutches and in wheelchairs. This is so because in the absence of bathtubs in most student bathrooms, taking a shower on crutches and in a wheelchair becomes extremely difficult. This is especially so if bathrooms are dirty and slippery. In addition, squatting above a wet and dirty toilet seat is reported to be difficult for students on crutches and those in wheelchairs.

Academic Problems

A number of academic problems that physically handicapped students face at the University of Zambia are associated with mobility difficulties. For example, because these students cannot use the library as efficiently as those that are not handicapped, their assignments are not usually done as well as they would wish them done. One popular limitation here is that of being unable to carry as many books as they need in and out of the library since they have to use their hands for both carrying things and locomotion. Related to this is these students' inability to have access to books and other reading material that are in short supply; they fail to reach these materials earlier than those who can run for them.

Another problem is the failure of physically handicapped students in the natural science faculty to conduct experiments that require standing up for a long time. It is reported that this can be extremely tiring when on crutches.

In general, subjects in the study reported that they spent less of their time on academic matters than necessary, because of mobility related exhaustion.

Social Problems

Social problems faced by these students were ascertained by finding out the number of friends they had, what they did during their spare time, the type of recreational clubs they were members of and by finding out if they had problems interacting with those who were not disabled. 13 of the 14 subjects reported that they had many friends. One reported he had one friend - God! On what they did with their spare time, almost all of the subjects reported that they visited and chatted with friends, slept, read novels, went to religious meetings, listened to music and watched TV. Nine of the 14 students were not members of recreational clubs.
The most popular problem of interacting with non-disabled students was that of feeling out of place. This arose from the fact that physically handicapped students could not join in a number of activities that the non-disabled students engaged in. For example, they could not play football. Another problem was that most non-disabled students were thought of as individuals who did not expect physically handicapped students to engage in some social activities (e.g. having girl friends or boy friends). This inhibited disabled students from acts that were taken to be out of their bounds.

**Emotional Problems**

Emotional problems were expressed in the following way:

1. Disabled students felt that they were looked down upon by the non-disabled.

2. Because they felt that they were inferior and that they belonged to no recreational clubs, most disabled students felt lonely.

3. Subjects reported that they were ignored by the non-disabled when it came to inviting them to social events.

4. It was felt that non-disabled lecturers and students behaved in an ambivalent manner. They at times become over-protective and at other times they over-estimated the ability of the disabled to act independently. This left the disabled in a confused state.

In terms of solutions, the 14 handicapped students urged the University of Zambia administration to alter the physical, academic and social environment in such a way that their needs are taken into account. Furthermore, they urged lecturers and fellow students to perceive them to be as human as any other student.
LANGUAGE AND READING
RESEARCH IN TESOL (TEACHING ENGLISH TO SPEAKERS OF OTHER LANGUAGES): THE STATE OF THE ART

John P. Milon

This paper will review the current research work being done into the acquisition of English by non-native speakers and the teaching of English to non-native speakers of English. It will review work being done both internationally and locally. The international review will be based on the contents of current journals and an analysis of the papers presented at the 1989 TESOL Convention. This paper will include a number of suggestions for TESOL research in the SADCC countries.

Within the past fifteen years the emphasis of the research being done internationally on "second language" acquisition and teaching has shifted quite dramatically. In the early seventies, the research emphasis was on speech, with little attention being paid to literacy. In the research on speech there was significant emphasis on grammatical issues; this was done by using quantitative techniques in procedures such as morpheme counts to investigate the acquisition of plurals or of negation.

The research papers presented at the 1989 TESOL Convention reflected the shift in emphasis over the past decade away from speech and into the realm of literacy. Research interest at the Convention was clearly centered in the area of literacy rather than speech. There has been a great deal of work done recently on the acquisition of reading and writing skills. Much of this work is being done from an ethnographic orientation rather than from the formerly dominant quantitative orientation. A decade ago, most of the research was experimental, with subjects being tested or observed under carefully controlled circumstances. Much of the current research on reading and writing is naturalistic and ethnographic. The data are coming from classroom observations.

The paper concludes with a call for research of all kinds into language acquisition in the SADCC area, with a special appeal for the kinds of basic classroom research which, although they require significant investments of time and energy, can be conducted at little monetary cost and with little equipment.

THE NATIONAL LANGUAGE AND EDUCATION FOR DEMOCRACY IN BOTSWANA

Lydia Nyati

The formation of the Setswana National Language Committee in 1979 and its subsequent replacement by the National Setswana Language Council in 1984 must be seen as language planning efforts. In trying to develop a language planning theory through case studies around the world, linguists such as Haugen, Ferguson, Rubin, Ruiz, Fishman and others have provided a language planning framework which encompasses types, processes, goals and orientations in language planning. Such notions can serve to guide new case studies.
Basing on this framework, this paper examines Botswana's national language policy in the context of status planning and the Policy/Cultivation distinction (Haugen, 1983). The paper goes further to relate the language policy to education policy for democracy, as one of the national principles, by examining the types of education models that exist in the country. Looking at case studies around the world, scholars have identified three types of bilingual education models which are: Maintenance, Transitional and Enrichment (Fishman 1976, Paulston 1980, Conklin and Lourie 1983). Education around the world is seen as a means to carry out language policies.

THE USE OF MOTHER TONGUE AND ENGLISH IN THE LEARNING AND EXPRESSION OF SCIENCE CONCEPTS - A CLASSROOM BASED STUDY

Marissa Rollnick

The research described in this paper was carried out from a constructivist perspective, that is, learners play an active role in the learning process by constructing their own meaning for concepts.

Groups of primary teacher trainees in Swaziland were involved in a teaching intervention where four different treatments involving language and teaching methods were being used. During this intervention group experimental work was audiotaped and transcribed. This paper deals with the analysis of these tapes for ascertaining the following issues:

1. Whether the use of both English and SiSwati in the classroom assisted the eradication of alternate conceptions and the acquisition of scientific conceptions.
2. How the two languages were used in the classroom.
3. Concept development as defined by cognitive level of the activity and the conceptions displayed.
4. Language changes - where the changes take place, how frequently, and the function, if any, of the change.
5. Overall structure of each transcript.
6. Social interaction of the group and the way it promotes learning.
7. Consciousness of the presence of the tape recorder.
8. Role played by the lecturer

In general analysis of the transcripts of the tapes showed that the use of SiSwati served several important functions including

- voicing of alternate conceptions
- clarifying of concepts
- eliminating misconceptions
- formulating ideas.
No problems were experienced with the absence of scientific words in SiSwati as the students simply used the English words in conversation. In many cases, alternate conceptions were voiced in SiSwati and the "right" answer formulated in English. The alternate conceptions found were consistent with those found in other parts of this research, not reported in this paper.

AN INVESTIGATION INTO THE FACTORS THAT INFLUENCE PERFORMANCE IN ENGLISH COSC EXAMINATION IN SWAZILAND HIGH SCHOOLS

Junda S. Kalyegira Wagana

The study investigates the causes of poor performance in English COSC examination in Swaziland high Schools. An analysis of COSC examination results since 1974 shows that performance in COSC Examination has generally improved except for English Language. Since English plays a central role in the educational system of the country - as a medium of instruction and passing subject - it is important that remedy for the poor performance is found.

Four research instruments were used in our study: observation, written tests, interviews, and questionnaires. The research involved 700 subjects: form five candidates, teachers of English, and first year university and T.T.C. undergraduates. The research instruments were meant

1. to find out the perceptions of those involved directly with COSC English language examination;

2. to find out how adequately high schools prepare their candidates for the English language COSC examination; and

3. to find out what those involved in COSC examination think would be an appropriate remedy for the high rate of failure in English language.

The study has identified several causes for the poor quality of English language in Swaziland high schools, which inevitably leads to the poor performance at COSC level. We have made several suggestions to improve the quality of English language in schools; further, we have suggested related areas for future researchers.

It is hoped that the conclusions and recommendations of our study will prove valuable not only to Swaziland, but also to other countries in the Southern Africa region.

INVESTIGATING THE READABILITY OF PRIMARY AND SECONDARY TEXTBOOKS AND THEIR SUITABILITY FOR SECOND-LANGUAGE LEARNERS

T. Gumbi and M. Rollnick

The study was undertaken to investigate the readability of the current Primary and Secondary textbooks used in Swaziland. The Cloze Test and the Fry Readability Formula were used as the main testing instruments.
The Cloze Tests were administered to pupils in ten different schools in Swaziland, selected to represent different types of schools in the Swaziland educational system.

Fry's Readability Formula was used to measure the readability of three-quarters of the books used in the schools. These textbooks included prescribed textbooks and recommended textbooks currently used in schools.

The passages used for the Cloze Tests and the resulting scores were interpreted in terms of functional reading levels (instructional, independent and frustration). The results showed that the majority of students were operating at frustration level.

The results from Fry's Readability Graph showed the readability level of the textbooks to be far higher than the grade level of the target population.

The survey found it a matter of grave concern that textbooks used in general throughout the country are so out of line with their readers' ability.

**INFORMATION: AN ESSENTIAL INGREDIENT TO QUALITY TEACHING AND LEARNING**

P. Havard-Williams and Josiah S. Tlou

The quality of education is dependent upon the quality of its teachers, the availability of instructional materials and the quality of instruction. Information is fundamental for quality education. Information processing is vital, and therefore teaching children how to process information is important for developing quality instruction. In the school it is necessary to lay the foundations for the selection and interpretation of information which is essential learning for living in contemporary society. Society is inundated on a daily basis by numerous sources of information, including government publications, schools and college prospecti, university calendars and catalogues, conversations with neighbours and family, colleagues and friends in city, town and hamlet. It is, therefore, essential for teachers to educate students, not only for passing examinations or for satisfying other educational criteria, but for life. The teachers must understand the vital role of information. In the past the role of the teacher was seen to be essentially conservative - a source of "received" knowledge! The teacher passed on knowledge which was found in textbooks. Today, teachers must be innovators helping pupils to understand and to fit into a world of change and development where information is being created everyday. Teachers must be on a voyage of discovery and need to convey this feeling to their pupils.

To be more effective conveyors of knowledge to pupils, teachers and schools must encourage their pupils to read books broadly. Books fulfil different functions. They may be works of reference, textbooks or recommended reading. All books are valuable for reading or looking at. But the emphasis on information must not limit our view of books. As Francis Bacon once said "Some books are to be tasted, others to be swallowed, and some few to be chewed and digested . . . Reading makes a full man, conference a ready man and writing an exact man . . ."
John Milton said that books not only provide pupils with factual information, but develop their imagination and open worlds of affective influence in a pupil's development. *The Wind in the Willows* can open a world of nature, and human-animal relationships to a child of ten or twelve. BOOKS ARE A WINDOW ON THE WORLD. A library of books can give numerous world views from which pupils can select the appropriate elements to build their own world view. It is, therefore, necessary for all schools to build library resource centres to provide children in schools with this opportunity to create their own world view. Schools should encourage reading groups.

In developing societies, reading alone may not be a congenial occupation, but reading in a group gives a sense of social cohesion, and encourages poor readers who can be assisted by the more advanced.

Library centres should be established in all communities and in all schools. It is necessary to provide this service to all children if quality education is to be maintained. In the classroom, information is necessary to provide quality education.
EDUCATIONAL POLICY
Education has become one of the major concerns of the newly independent countries of Africa. At almost every point in the modernisation process, education is the critical factor, for without it members in the SADCC region would be unable to enter the so-called modern technological world. Each economical phase demands skilled manpower that is drawn from the reservoir of the educated population. With the popular faith in the efficacy of education as the motor of social improvement, control and planning of education has become a political issue of crucial magnitude.

Most of the SADCC countries have gone on an educational expansion rampage. In Zimbabwe, for instance, free education for all primary schools pupils was introduced barely a year after the country's independence in 1981. It is this massive expansionist approach to education that has posed challenges for policy makers. For mass education to be successful, there should be qualitative curriculum changes.

There is urgent need for the examination of the articulation between educational systems and the socio-economic structure of a country. For instance, each country has to be analysed in terms of the interaction of the economic, educational, socio-political and other individualistic complexities in language, religion and cultural differences.

Massive budgets have been allocated to formal education in many SADCC countries. In Zimbabwe, for example, education is allocated the highest percentage of the country's budget. All these efforts are almost wasted as the needs of most school leavers have not been met. Some of the characteristic problems of mass education are:

1. some costly inefficiencies within the educational system;
2. an imbalance between what the schools are teaching and what the vast majority of youth need to learn in order to secure jobs, raise children in their adult life and become productive and useful citizens; and
3. continuing inadequacy of educational opportunities for rural and urban poor.

The role of formal education has been stressed as an instrument of economic development. However, educational planners and policy makers have no clear idea of the strategies needed to achieve this objective. In practice, most independent countries assume that more education, indiscriminate of the type, is conducive to economic progress.

In conclusion, there is, therefore, a serious need for a review of the policy of mass education in SADCC countries. Policy makers should address developmental policies as a matter of urgency and come up with solutions that will suit the socio-economic situations in their respective countries in order to enhance economic growth.
Throughout many of the sub-Saharan African countries, the contemporary issue in education is how to meet the basic educational needs of the increasing numbers of children. What makes the issue a major policy concern is that the need for more educational provision has emerged at the time of major economic constraints. The policy climate in education in African nations focuses on strategies that can effectively address the problem of education for the ever increasing numbers of children. Population growth has become such a major preoccupation that other variables in educational provision are rarely considered. In particular, rarely does the problem of educational provision in sparsely populated areas within a country raise much concern. The issue of meeting the basic educational needs of children living in sparsely populated areas was given due consideration by the education authorities in Zambia. In 1985, a policy decision was made to use a system of multigrade teaching considered to be cost effective as a method of educational delivery in sparsely populated areas. In order to test this hypothesis, four multigrade pilot schools were established in 1985 and evaluated in 1988. This paper presents the findings of this Zambian policy experiment in basic education.

RESEARCH PROJECT ON RESOURCE WORK IN ZAMBIA’S SCHOOLS: PRELIMINARY FINDINGS

C. D. Mkangaza, S. M. Kunda, M. Chimowa and S. M. Kasanda

Self Help Action Programme in Education (SHAPE)

This is a national programme aimed at improving the capacity of teachers to look after their own development in professional and material terms with the help of inspectors, administrators and colleges. An important component of the programme is the development of school-based in-service training for teachers through school-based Teachers Centres and District Resource Centres. Through these centres local committees of teachers and inspectors organise workshops and seminars related to teaching methods, school/classroom organisation, curriculum development, the design and production of teaching and learning materials.

SHAPE assists this process by supplementing locally generated funds, providing simple equipment and furnishings for Resource Centres, and forms of transport. Central to the programme is the support through training of the teacher coordinators.

Research

SHAPE has now embarked upon a research project to analyse the value and effectiveness of the above activities (resource work). The research is carried out by teams located in six colleges around the country, coordinated by a national committee with persons from the Ministry of Education, the Curriculum Development Centre and the University of Zambia. The project is
organised in phases, starting with basic data collection about the school and classroom environment, and about resource work undertaken and later on moving into observation of classroom activities, use of learning resources and teacher pupil interaction. Ultimately it is hoped to be able to evaluate the effect of the improvement of classroom practice on pupil achievement. The rationale for the above includes the need for training the college teams in research methods and a gradual increase of meaningful interaction between colleges and schools.

Presentation

The SHAPE team will be able to present the findings of the first phase of the research project, concentrating on the general school environment, school management and organisation; the nature, scope and quality of resource activities undertaken; resource facilities and nature of teaching and learning materials, and funding arrangements. The team will synthesise the findings for schools in six zones (sub-district level) across the country.

THE INDIGENOUS EDUCATION OF THE SWAZI AND ITS IMPLICATIONS FOR MODERN EDUCATIONAL DEVELOPMENT

Anderson Mbawula Nxumalo

The orientation of the school system focuses mainly on academic work and does not enable the Swazi child to identify himself adequately with his cultural background. It is assumed that this is partly a result of the continuation of a purely Western tailored system of education, a heritage of the pre-independence period. Delving into Swazi roots to identify those cultural elements that are relevant to today's lifestyle is considered likely to help make social and educational goals compatible.

The purpose of the study is to describe the methods of socialization in the Swazi traditions. The source of the data are Swazi adult respondents. Since any concepts of learning must be systematically incorporated into the educational system, it is envisaged that suggestions will be made about how this can be done.

The study revealed that the indigenous Swazi methods of child upbringing are comprehensive, pragmatic, practical, and integrated into the lifestyle of the people, as well as suitable for orienting the child to the social expectations of that environment. Character building, morality, the development of good attitudes, social obligations and the value of work are examples of its strengths.

While some of its valuable elements still persist in social practices, the school system has not taken advantage of them to enrich the child's education. This question must be addressed by the system of education. It is suggested that community participation in relevant school activities and overall decisions will not only help remove the apparent lack of social values in the school curriculum but will coordinate learning in the home, the school, and life in general.
Although programmes building on children caring for children have taken hold in many places, such experience is still relatively recent. Moreover, in the execution of activities and programmes, the original idea has often been transformed. A number of issues and ideas have emerged that deserve systematic review. That is the principal purpose of this paper.

More specifically, the objectives of this review are:

1. To examine the idea of children caring for children, placing it in historical context.
2. To describe and analyse the translation of the idea into various programme forms.
3. To review selected projects and report results of project evaluations.
4. To present the Child-to-Child programme and its activities launched by the Institute of Child Health and Education, University of London.
5. To draw some conclusions about the Child-to-Child approach, with a view to aiding policy formulation and promoting better care and development of vulnerable young children.

The paper is organized in five sections, each dealing with one of the objectives listed above. A list of references is attached.

INPUT/OUTPUT MEASURES: TOWARDS AN INDEX OF THE ACADEMIC EFFECTIVENESS OF SCHOOLS

Bagele Chilesa and John Yoder

In-depth study of academically effective schools must begin with identification of those schools. Too often this has been attempted by inspecting the mean scores achieved by completing students in different schools without consideration of the differences in entering levels of students in those schools. This study explores a methodology for using the mean entering and leaving scores of students, aggregated at the school level, as input/output variables for establishing an index of a school's academic effectiveness. Mean Primary School Leaving Examination (PSLE) scores of the intake for 1987 and 1988 are calculated for each Junior Secondary School along with mean scores for the Junior Certificate (JC) of those schools. The two sets of scores are then compared by means of regression analysis. The residuals of this analysis yield an index of the extent to which average student performance has increased (or decreased) during the time of their enrolment in each school. The index is calculated using both longitudinal and cross-sectional data and its stability compared across the two. Results of school rankings based on the inputs/outputs index is compared with the rankings obtained by use of JC scores (i.e. output measures) alone. The implications of the methodology are discussed.
THE ROLE OF THE BOTSWANA TEACHERS' ASSOCIATION/UNION IN THE DEVELOPMENT OF EDUCATION, 1931-1987

T. Vanqa

The paper is a resume of a broader project - the History of the Bechuanaland Protectorate African Teachers' Association/Botswana Teachers Union. It traces the formation and the evolution of the organisation from its formative years to a militant, articulate and organised body of teachers. The paper also tries to unravel the delicate and sensitive relationships between the teachers and Tribal Administration on one hand and the Central Government on the other as the teachers make their contribution to the development of education in the country.

EDUCATION AND SOCIETY IN BOTSWANA: A CASE STUDY OF SELECTED COMMUNITY JUNIOR SECONDARY SCHOOLS IN SOUTHERN BOTSWANA

L. Tshireletso

Education in Botswana, as in most Third World countries, is seen as investment in development by both parents and the society at large (H.E. Dr. Q. K. J. Masire inaugurating the University of Botswana, 1982; World Bank Sector Policy Paper on Education, April 1980 p.12). It is mainly for this reason that education has always been a top priority in the country's development agenda (Botswana National Development Plan, 1976-1981). However, due to financial constraints and the increasing cost of education, the Botswana government has not been able to meet the increasing cost of education alone. As a result an Education Through Partnership policy was formulated by the government which aimed at encouraging community involvement in the financing and management of Intermediate Schools, now popularly referred to as "Community Schools" (Education Through Partnership, Ministry of Education 1984).

In accordance with the recommendations made by the National Commission on Education 1977 (NCE), it was hoped that the community schools would "bridge the widening gap between the school and the community" (NCE 1977) by:

1. making communities feel responsible and committed to efficient running of the school;
2. enriching the curriculum by incorporating local variants brought in by the community;
3. reducing the distance between the school and the community by making the community school a day school;
4. allowing community access to school facilities for its education and non-education activities, and
5. enabling the community to have a share in the cost of providing secondary education in the country. (Education Through Partnership, Ministry of Education 1984).

The main aim of this study is to find out if there is any improved relation between the school and the community following the establishment of community schools. This research made an evaluation of the above stated aspects of integration between the school and the community in Botswana. In the process of the evaluation a model was developed on how to improve the present school and community relations.

The major methods of data collection in this study were literature reviews related to the subject of education and society, especially on school and community links. Structured questionnaires were administered to a selected group of community members, teachers and students, including headmasters and assistant headmasters of the selected schools.

A total of four localities were randomly selected where case studies were conducted for this research. The selection was mainly determined by the following variables:

1. Population size
2. Geographical location
3. Socio-economic background
4. Politics
5. Culture
6. Religion of the locality.
TEACHER EDUCATION
SWAZILAND'S NATIONAL INSERVICE PROGRAMME FOR PRIMARY TEACHERS: DEVELOPMENT, IMPLEMENTATION AND EVALUATION

Irma A. Allen

In 1985 a national inservice programme for primary school teachers was developed under the auspices of the Ohio University/Swaziland Teacher Education Programme. The target population was the primary school teachers in Swaziland. Objectives were formulated and a two-year programme per school of week-long residential and one-day workshops on the six major curriculum areas was developed. One of the main objectives of the programme was to develop a cadre of local and district teachers and inspectors who would ultimately and continuously facilitate in-service education for their colleagues in the schools. One of its major features was delivery at national, district, and local levels. Another feature was the high degree of cooperation and interaction required by staff from the National Curriculum Centre, teacher educators from the Teacher Training Colleges, inspectors from the Regional Education Offices, community workers, and lecturers from the In-service Unit.

The programme has been implemented through the In-service Unit for four years. Two lots of local and district in-service teachers have been trained, and the primary school teachers in over 350 primary schools throughout the country have participated.

This research paper presents the following:
1. the objectives of the programme,
2. the steps followed in its development and implementation,
3. the results of an evaluation of the programme to date, and
4. recommendations for improvement.

The results of this research should be of interest and of use to other existing and future in-service education programmes in the region.

EVALUATING SCHOOL BASED SUPPORT PROGRAMMES

Ernst Engels

The Department of Science Education of the National University of Lesotho has established a "Centre for Inservice Education of Maths and Science Teachers" (CIEMST). The Centre offers a number of in-service activities and has recently started a new programme, a School Based Support Programme (SBSP). In the pilot programme support is offered by the CIEMST staff to a cluster of 7 schools, concentrated in the Mafeteng area. The support team consists of teacher trainers in Biology, Chemistry, Physics and Mathematics. The support concentrates on assistance to the teaching in Forms D and E, the 'O' level classes, but it will also assist at the Junior levels in individual cases.

The pre- and in-service programmes are in principle based on a common underlying philosophy from which aims and objectives have been developed. These could be used to identify indicators of achievement during the pilot programme. However one of the characteristics of the programme is that it
does not contain a preplanned schedule of activities. The CIEMST offers a "menu of activities" to teachers in the cluster schools and together with the teachers the programme will be progressing. Principals and teachers have to be the owners of the problems to which CIEMST could give support, otherwise motivation might be lacking. One interesting aspect of the evaluation is the request from the Ministry of Education to increase the number of COSC passes in the cluster schools to 100%. Ironically, apart from the time scale problem of this effect, the over-emphasis on these outcome measures may have the effect of reducing the quality of education and could therefore not be stressed as an indicator for success of the pilot. The paper will show the approach of the CIEMST team to deal with this type of evaluation problem.

*Science includes mathematics

**IN-SERVICE FOR BEGINNING TEACHERS**

Gerard Mathot

The Induction Programme aims to help newly graduated Science Education students to survive their first year of teaching. The shock from being relatively protected students to suddenly being responsible for the learning of many pupils can frighten new teachers so much that they feel lost and discouraged. The Science Education Department of the National University of Lesotho felt that after the mainly theoretical training provided on campus, it still had a professional responsibility of supporting its graduates during their first year.

The idea was developed by Drs. G. B. Mathot as from 1985, and after studying some experiences in other countries and researching on the perceived needs of beginning teachers in Lesotho, a report was made of these findings and a proposal was put forward. This proposal was extensively discussed and amended, where necessary. AMSTIP EEC agreed to fund the post of Induction Programme (IP) Coordinator.

**Aims**

It is hoped that the beginning teachers taking part in IP will:

1. develop confidence and job satisfaction;
2. learn to care for their pupils and to appreciate their individual problems and strengths;
3. be able to analyse their own strengths and weaknesses and find ways to improve on them.

**Methodology**

Participation in IP is voluntary and in consultation with the Principal and the Beginning Teacher (BT) a Mentor is found. The mentor is trained during the seminars. She is always available to provide:

1. general school information;
2. information about the teaching subject;
3. professional support including:
   (a) clinical supervision,
(b) analysis of pupils’ questionnaires and logbook,
(c) informal discussions;
4. personal support.

Quarterly seminars for all participants and district peer meetings are organised, a handbook with relevant materials is provided and the schools are visited by the IP Coordinator.

Implementation

The 1988 graduands were informed in April, a total of eight BTs applied and the Pilot Year had started. The Introduction Seminar took place in July and in March 1988 seven BTs and their mentors completed IP successfully.

Evaluation

Formative evaluation of all aspects of the Programme has helped to improve the different methodologies. This took place through questionnaires, discussions during the seminars, as well as through the feedback the coordinator received during the school visits. A summative evaluation took place during the Final Seminar in March 1989, to which were invited some beginning teachers, and Science Education Graduates from NUL who had not taken part in IP. A battery of attitude tests, guided discussion and questionnaires were used.

Conclusion

The evaluation lead to the conclusion that the Induction Programme reaches its objectives and should be continued. After they had been informed by the 1988/89 participants, 32 graduands had already applied for the 1989/90 Programme.

DISTANCE VERSUS RESIDENTIALLY TRAINED PRIMARY SCHOOL TEACHERS: THE TANZANIAN EXPERIENCE

E. B. Temu and Lars Mahlick

The adoption of non-conventional methods of training teachers in Tanzania to meet the demands for the universalisation of primary education produced at least quantitatively impressive results. But sooner or later the quality of the teachers who were trained through the distance approach was questioned by various observers including parents of the children. They argued that the new approach which was characterised by a combination of on-the-job training and studies at a distance could not compete with the college-based training. But the debate suffered from lack of empirical evidence.

This study aimed at comparing the curricula of the college-based and the distance education programmes as well as evaluating the professional competence of their products. It also aimed at a more detailed analysis of the characteristics of the participants in the two programmes in terms of age, family background, previous teaching experience, motivation, reasons for becoming a teacher, factors that directly or indirectly might have influenced their subsequent professional attitudes and behaviours; not to mention components that had worked well and the problematic ones. It aimed at assessing the teachers'
knowledge of subject matter, their teaching competence, and attitudes three years after their graduation.

The sample comprised 700 serving teachers from three different regions who graduated in 1981; two-thirds of whom were trained through the distance approach and the remaining one-third at the teacher training colleges.

Data were collected by school inspectors using instruments such as questionnaires, cognitive tests and assessment sheets. Data were coded, computerised and analysed using the Statistical Package for the Social Sciences.

The findings and ensuing conclusions are very interesting:

1. The teaching pattern among the distance-trained teachers was found to be quite similar to the one displayed by the college-based teachers.

2. The level of achievement demonstrated by the sample varied considerably from subject to subject with the highest in Kiswahili and the lowest in English. College-based teachers excelled their colleagues in all the subjects but the differences were marginal except in science.

3. On-the-job training and counselling coupled with face to face tuition by experienced teachers were the main assets of the training strategy.

4. In terms of cost effectiveness the distance programme proved a viable alternative to the conventional college-based alternative.

5. Both training programmes have succeeded in developing teachers' confidence in their own competence but the distance one has been less successful in reinforcing self-confidence among female teachers.

6. The distance component of the strategy proved difficult but its correspondence part was very useful and has great potential for future development.
RESEARCH
ADULT EDUCATION RESEARCH IN ZAMBIA

Harry L. Mtonga

Adult Education Research in Zambia has characteristically emulated the evolutionary tradition of the field. More than being disciplined enquiry, it has predominantly remained a field of social practice. Compared with programmes that concern the practice of the field, adult education research activities in this country are evidently negligible; thereby validating the assertion of the apparent paucity of these activities.

Referring to the "Psychology of the Adult Learner", Lungu (1986) noted with dismay that most of the available literature on the topic was Western and predominantly American in both authorship and content. He admitted having no knowledge of any psychological studies on adults in the SADCC region, let alone in Zambia. It will therefore be argued that the thinness of research activities in the field mirrors of historical development adult education in Africa and in the whole world. The thrust of the paper though will be a relative analysis of traditional research areas, most of which are concerned with needs assessment and programme evaluation, with a slight variation in specific areas of research. Save for Kamwengo's (1987) attempt at experimental study, the rest are simply descriptive or historical researches.

The paper goes on to suggest possible "Research Needs". The areas and methods suggested are those which are often ignored in the traditional research areas. Instead of concentrating research on adult education activities, it is suggested that the scope should widen to include studies on learners, content, curricula and institutions that are concerned with the provision of adult education in this country. When coming up with these suggestions one takes cognizance of possible impediments a researcher may encounter which may be related to erroneous perception of adult education by some policy makers and the lay academics. These and more constitute research problems in Adult Education in Zambia.

Adult education is a poor cousin and it is often the most neglected sector of the education enterprise. Therefore, the first problem in adult education research stems from the field's inferior status in relation to other social sciences.

This has bearing on its funding in general and funding research activities in particular, which can be properly described as negligible. The preoccupation with teaching rather than researching at the University of Zambia, which is a result of insufficiently trained adult educators, is yet another problem resulting from the former. Lack of coordination between adult education researchers poses one of the biggest problems. Research findings are personalised and rarely find their way into the libraries. Even the "witch-hunt" technique is no match to the rigour associated with research report custody.

In conclusion the paper lays emphasis on the desirability of more appropriate research which should take account of acceptable social science methodologies, the poor, the undereducated, and approaches that underly adult education principles. The complementary role of research in the growth of the field is no doubt central and illustrates the interdependence between research and practice; more so it is a challenge to researchers to explain what they mean when they talk of "Adult Education Research".
EDUCATIONAL RESEARCH IN ZIMBABWE: PRIORITIES AND KEY QUESTIONS

Obert E. Maravanyika

The paper aims at mapping out key issues and teasing out key questions that we need to consider when examining the state-of-the-art in educational research in general and implications of these for educational research in Zimbabwe in particular. It reviews two models of analysis, one by Shaeffer (1983) and another provided as a guideline for a meeting in Nairobi on "The State of Educational Research in Eastern and Southern Africa and Potential for Regional Co-operation" in 1985. The analysis of Zimbabwe is based on the former model. The paper comes to the sad conclusion that in Zimbabwe as well as in other Third World countries, the research that is done is more for use in academia (whether in Northern or Southern universities) than for influencing policy decisions in schools. It proposes ways by which town and gown could meet (for their mutual benefit) in an effort to solve some of the more serious educational and curriculum problems.

OPEN DISCUSSION ON GRADUATE STUDIES IN EDUCATION

CHAIRLED BY DR. JOHN YODER,
UNIVERSITY OF BOTSWANA

Graduate Studies representatives were from the following Universities:

Botswana
Kenyatta (Kenya)
Manchester (UK)
Stockholm (Sweden)
Swaziland
Zambia
Zimbabwe

Structure of the Discussion

The discussion included a brief description of the graduate programmes, identification of major concerns and how such concerns are being solved, by each university. The whole idea was to share experiences concerning graduate studies in Education by different universities and, if possible, learn from each other.

Issues Raised

1. The problem of teaching efficiently so as to provide a sound basis of research skills in preparation for actual research. The problem is a result of lack of experience with research methods courses during the undergraduate programmes.

2. Students' supervision is a problem where part-time courses are offered. This is because the students would be scattered all over the country and it becomes too expensive to reach them. As a result, it becomes difficult for both the lecturers and students to understand each other's point of view.
3. Problems of distance make it difficult for assignments to reach either students or supervisors.

4. Across faculty/department problems and inconsistencies.

5. Finance. Research grants are too few.

6. Research methods courses have a problem of questionnaire resistance by the sample participants or research respondents with schools in particular. Data collection and analysis therefore still remain problems.

7. The governments find it easier and cheaper to send M.Ed. students abroad than to have them trained at home. In this process, the relevance of the education acquired abroad still remains questionable. Attempts to train locally do not resolve this problem because the countries which provide aid prefer training students in their own countries. If training locally were to become the new trend, aid is likely to become minimal.

8. Inadequate resources such as journals, library, space, etc.

9. Selection and setting the standard which can enable the securing of the right calibre of student still remains a problem.

10. There are at times conflicts between the university and the Ministry of Education in what criteria to use for admitting candidates.

11. A supervisor may be discontinued by the final postgraduate committee if he is deemed incapable. He may be replaced by what is referred to as a senior scholar. This may lead to a student starting all over again with his work (especially in Kenya).

12. Due to more than one supervisor, mostly a senior and a junior, the tendency is to have conflicting ideas over what a student needs to do, and this might inhibit the student's progress.

13. Problems of dropouts. Those students who fail to finish and sometimes secure a job while at the same time working on their papers, may lose touch with the lecturers and ultimately forget about their paper or stop working and therefore become dropouts.

14. Shortage of academic staff.

15. High fees.

16. Lack of vertical employment mobility (no scales to appropriately match the qualifications).

17. Continuous changes of structure when government changes the study programmes. This leads to a need to change the resources and the infrastructure.
DISCUSSION

After the presentations the conclusions drawn were that there were very few Ph.D. programmes in African countries and it that there was very little cooperation amongst these countries.

It was also suggested that there is a need to identify the strengths of some SADCC countries so that these could be utilised by other SADCC countries which are lacking in such resources. Sending some graduate students from one SADCC country to another and even sharing the programmes might strengthen the research capacity in the region.

It was however pointed out that a lot of SADCC countries depend on donor agencies for postgraduate funding, and that the donors always prefer the students to go and train in their countries (donors). In such a case, sending Batswana students to Zimbabwe for example, might have implications for funding, that is, donors mostly from the North may hesitate to fund students attending in Africa.

Another issue raised was the load of teaching and supervision by lecturers. This is seen as being too demanding and negatively affecting the quality of research produced.

RESEARCH AND ITS MODES

John A. Sealey

There are different kinds of research. Empirical (scientific) research is only one of them. Problems may arise if some, but not others, are recognised. Chief among the problems is the possibility of misunderstanding and therefore of misusing empirical research and the consequent proliferation of inadequate research with inappropriate objectives.

Research arises from the human urge and capacity to promote progress in knowledge and understanding of the world. The specialist in a discipline wishes to further the boundaries of that discipline. It is not a coincidence that the distinctive disciplines in which research begins are reflected in the curriculum of a liberal education. Those areas are: empirical (scientific), mathematic (formal), ethical (value), literary (aesthetic), theological (religion), and philosophical (analytic). The peculiarity of the scientific field (and therefore of progress in empirical research) is that it does not originate in mere observation and investigations of the empirical world, but in ideas arising from the other fields. Moreover, the results, too, of empirical investigation are intended to serve not its own, scientific, discipline but one or more of the other disciplines. This is not simply contingently so; it is necessarily the case.

But if empirical research neither arises, nor has its final objectives, in itself then it is necessary to be clear on two issues. First, to recognise the limitations (not the same thing as "failings") of empirical research. Secondly, to have some grasp of those other areas of human experience empirical research is intended to serve. Further, since "education" is not itself a discipline, and since all research must be related to one or other of the disciplines, there can be no such thing as "educational research". It would seem to follow, therefore, that
some examination of the relationship between research and the amorphous process of education which it serves has to be made.

The idea of "Third World", introduced by Karl Popper into an analysis of the development of knowledge in science in particular, is peculiarly apt for the Third World, especially sub-Saharan Africa. In the first place it enables the researcher, I believe, to distinguish between "quality" and "quantity" in research. And from this dichotomy it can be readily inferred that "quantity" research arises in the notion of 'quality' (of hypothesis, of vision etc.).

RESEARCH SUPPORTING BASIC SCIENCE EDUCATION EDUCATIONAL RESEARCH AND MATERIALS DEVELOPMENT RELATED TO PRE-ENTRY SCIENCE COURSES AND SCIENCE TEACHER TRAINING - OVERVIEW OF A DECADE

Gerard D. Thijs

Over a decade the Free University of Amsterdam, together with a number of partner universities in Southern Africa, has developed and implemented a basic science programme. This programme refers to pre-entry science courses for school leavers intending to take up science-based studies at tertiary level, and teacher training projects in the field of science and mathematics.

Within these projects attention is given to aspects of education at the following levels:

1. the level of the pupil (insight in learning difficulties, conceptual development, study methods);
2. the level of the subject matter (curriculum analysis, development of curriculum materials, test development);
3. the level of the teacher (teaching strategies, teacher-pupil interaction, designing of lessons);
4. methods and problems of selection and assessment;
5. the position of the projects in the educational system.

During the course of the years, specific issues which require educational research and development of new materials have been identified. Issues for research were either related to the micro-levels of pupil/subject-matter/teaching aspects, or to more general features of the educational intervention as indicated under 4 and 5 above. The latter studies refer to research concerning predictors for successful performance in science subjects. Issues of equity, future supply and demand of science and mathematics teachers, etc.

The issues that arose could sometimes be linked to existing research interests and activities in the field of science and mathematics education at the partner universities or at FUA. In a number of cases however, the issues generated new cooperation activities between project staff and FUA, exploring merits of particular research and development approaches.
The paper will briefly overview the various research and development activities in the past decade. The outline will be illustrated by examples for each type of support activity. Methods of educational research will be discussed, in particular for tracing and characterising conceptual difficulties in the field of mechanics.

COLLABORATIVE RESEARCH AND THE "LESS EXPERIENCED" RESEARCHER: WHO GAINS FROM THIS EXPERIENCE?
A CASE STUDY

Baraang E. Mpotokwane

The purpose of this paper is to point out how collaborative research, although a very noble idea, is sometimes misused by the "more experienced researchers" at the expense of the "less experienced" ones in Botswana. The major question being addressed is, "who stands to benefit in collaborative research, when one of the 'collaborators' is a more experienced and the other a less experienced researcher?" The paper hopes to generate a discussion which will lead to suggestions of some guidelines pertaining to this matter.

The case study design has been used.

ENHANCING SOUTH-SOUTH COOPERATION IN EDUCATIONAL RESEARCH: NEEDS FOR ACTION - RECONSIDERED!

Vinayagum Chinapah

Much has been professed about the needs, importance and prospects for enhancing South-South cooperation in educational research. Relatively very little has been achieved. This paper treats some strategies and modalities for regional and national capacity building in educational research in developing countries, and in Africa, in particular. The first section of the paper will provide an overview of the barriers, limitations and implications for research capacity building in these countries. In the second section, some strategies for South-South cooperation in educational research will be presented and discussed. Finally, in the third section of the paper, various modalities for enhancing regional and national capacity for educational research in Africa will be examined.
SECONDARY CURRICULUM
THE POSITION OF AGRICULTURE IN SECONDARY EDUCATION IN BOTSWANA

Michael Kahn

This is an exploratory study of the changing attitude in education circles toward the inclusion of agriculture as a subject in the school curriculum. The paper offers a brief history of the position of the subject earlier this century, and then moves through to the present, when agriculture has become part of the core curriculum at junior secondary level. Reasons are suggested for this dramatic shift in the fortunes of the subject. The study concludes with a brief look at possible change in pupil attitude which inclusion of the subject may have caused.

PLANNED USE OF SUBJECT MATTER CONTENT BY FINAL YEAR SWAZILAND SECONDARY AGRICULTURAL STUDENTS

Malangeni J. Simelane

The purpose of the study was to determine the use of subject matter content taught in Agricultural Education in Swaziland high schools. The variables of interest in this study were knowledge and/or skill utilisation by students. The descriptive correlation was used as the basic design of the study. Data concerning the extent to which students used the subject matter content and the intent to use the subject matter content in the future were obtained through questionnaires administered by the researcher to the students at their schools. A systematic random sample of 2 parents from each school was selected to provide validation for the content. The population was composed of 493 students from 16 schools offering the 'O' level Agriculture Programme in Swaziland. During the period April, 1988 to June, 1988 the total response was 100%. Statistical procedures used for analysing data were frequencies, percentages, means, standard deviations, and correlations. Significant levels were set at .05.

Students in the 'O' level Agriculture Programme in all four areas of the syllabus reported that they rarely used the skills and knowledge taught in the programme. The majority of the students stated they do not intend to use the skills and knowledge taught in the programme. Selected students' personal characteristics and the current use/or intent to use subject matter content taught in the 'O' level Agriculture program revealed a negligible to a moderate degree of association.

Parents were not aware of the agriculture skills and knowledge taught to their children in the 'O' level Agriculture Programme.
THE COEFFICIENT OF GENERALISABILITY AS AN ALTERNATIVE MODEL FOR ASSESSING STUDENTS EDUCATIONAL ACHIEVEMENT

Donton S. J. Mkandawire

The basic teaching model as developed by Glaser (1962) has four major components conceptualising the teaching process which are

1. instructional objectives
2. entering behaviour of students
3. instructional procedures, and
4. performance assessment.

The computer-based teaching model developed by Stolurow and Davies (1965) divides the teaching process into two: the pre-tutorial phase and the tutorial phase. Mager (1962) stresses that in any teaching programme several classes of decisions are made by the teacher. Prior to teaching a decision must be made regarding the goals of instruction, then one must select the procedures and methods which will accomplish these goals and after the subject matter has been taught the student's performance or achievement must be evaluated in terms of the domain of knowledge the teacher originally had stated.

Various models have been suggested as to how educational achievement could be assessed and/or reported to ensure that the measurement of the learner's achievement on tests indicate a level of mastery from the universal domain of subject or course content.

The primary focus of the study was to examine the utilisation of coefficient of generalisability when tests are constructed by random sampling or stratified sampling procedures from cognitive domain and to ascertain how to generalise a student's educational achievement on the test administered to the entire domain of the subject content area.

Two mastery tests were constructed and administered to a group of students and both coefficient alpha (a) and alphas \(a_s\) as indices of generalisability were computed to establish the extent of generalisability.

The results indicated that if the cognitive domain is properly determined, tests constructed through the stratified procedure had a higher generalisability than the one constructed through random procedures.
EDUCATING FOR THINKING AND EDUCATING FOR BEHAVING IN SOCIAL SCIENCES: A STUDY OF LEARNER CLASSROOM ACTIVITIES IN SOME SADCC SECONDARY SCHOOLS

Sichalwe M. Kasanda

Context of the Problem

In a situation of underdevelopment teachers need to constantly re-investigate their learning materials and objectives, content, methods, methodologies and evaluation procedures. From the point of view of knowledge production, dissemination and utilisation, our countries are (like many other areas) underdeveloped. The knowledge that we acquire and use today as learners and tomorrow as workers is essentially obtained from the classroom. But is the nature of knowledge given (and the classroom conditions and circumstances under which it is given) aimed at promoting thinking or merely behaving?

The Problem

The proposed research is aimed at measuring the extent to which senior secondary school learners in some selected SADCC countries are exposed to a teaching-learning classroom environment that is designed to assess their acquired knowledge on the one hand (educating for behaving) and to stimulate their thinking capacities on the other (educating for thinking) in the social sciences.

Main Research Questions

Given the above problem some of the key questions to which the study should provide answers are as follows:

1. Does Social Sciences education in SADCC secondary schools prepare learners more for intellectual behaviour rather than for the mastery of thought processes?

2. What factors influence classroom teaching strategies that emphasise learners' intellectual behaviour?

3. What factors influence classroom teaching strategies that promote learners' thinking ability?

Research Method

Classroom observations, questionnaires and interviews will be used. Teachers, pupils, teacher trainers and policy makers (education) will be the main sources of data. However, Social Science syllabi and past examination question papers will also be consulted in order to determine the kinds of knowledge and skills expected of the learners in the following disciplines: development studies, geography, history, political education, economics, social and civic education. The number of countries, secondary schools and disciplines to be covered will depend on the strength of the sponsorship secured.
Data Analysis

The study is essentially comparative. As such latest trends in the analysis of qualitative and quantitative data collected will be used to handle the correlations and the significance of the results obtained on a spectrum of variables. Recommendations on future educational practice in the region will be made in light of the findings and in relation to the research problem.

Literature Review

The formulation of the problem was based on my own classroom experiences as well as on the latest theories on the multiplicity of intelligences: Gardner (1987); creativity and culture: Torrance (1963), Leacock (1976), Ghuman (1977), Siann and Ugwuegbu (1985); and teaching for thinking: Peel (1971), Taba (1971), de Bono (1978) and Stuart (case studies) 1985.
GENDER AND EDUCATION
GENDER, EDUCATION, EMPLOYMENT AND INCOME IN BOTSWANA

Ulla Kann

Almost all over the world girls and women are disadvantaged when it comes to access to education. Therefore education for girls and women has been given a high priority by organisations such as UNESCO, UNICEF and most bilateral donor agencies.

It is believed that providing increased educational opportunities for girls and women would help improve their general position in society and also improve the health status of the family.

Botswana is one of very few countries in the world which historically has had a higher enrolment of girls than of boys at primary and lower secondary level. This has been explained by the fact that the young boys are used as cattle herders, which hinders them from attending school.

The high participation of females in education in Botswana makes it an interesting case study regarding the role of gender in education, employment and income.

Using existing data from official sources and previous research, this paper gives an overview of the situation of boys and girls regarding access to education, progress and performance in the educational system.

This is followed by a closer look at the roles men and women perform in the labour market, i.e. to what extent are they employed or unemployed, in what sectors are they working and what occupations do they hold.

Finally, the paper looks at the financial benefits that men and women receive from the work they do.

EQUALITY OF EDUCATIONAL OPPORTUNITY AND OUTCOME IN RELATION TO GENDER, EDUCATION AND EMPLOYMENT (UNIVERSITY COLLEGE OF BOTSWANA COHORT OF 1980)

Changu Edith Mannathoko

The purpose of the study will be to contribute to the development of empirical baseline research on education and gender issues in Botswana. The research will strive to improve information on what the state of the art is in terms of quality of educational access and outcome in relation to gender, education, and employment. Throughout the discourse the paper will aim to describe and analyse the relationships between the three variables of gender, education and employment with reference to educational access and outcome.
The research methodology will fundamentally be based on a tracer study of the 1980 cohort and a career appraisal schedule of the same cohort. The study will attempt to explore equality of educational access and outcome in relation to gender, education and employment. The University of Botswana cohort of 1980 will make up the sample. Further, the sample cohort group of 1980 will be made up of groups from the Faculties of Education, Science, Humanities and Social Sciences.

The research data will be made use of to provide the scenario on what the social, economic and political structure of the country is like in relation to gender and education. The background data will also provide information on how the above structure in which the University of Botswana operates affects gender and education issues.

Trends which throw light on the below-mentioned issues will be described and analysed:

1. the relationship between equality of educational access and outcome and gender;
2. educational access and outcome in relation to gender and employment;
3. educational access and outcome in relation to gender and administrative duties;
4. educational access and outcome in relation to gender and performance appraisal in the various professions of the 1980 cohort.

HIDDEN LANGUAGE AND EDUCATIONAL LIFE CHANCES OF MALE AND FEMALE STUDENTS IN THE SCIENCES IN SENIOR SCHOOLS IN BOTSWANA

Kgomotso Dinaane Motlotle

Prior to 1989, senior secondary schools in Botswana were not compelled to offer all 'O' level students either separate or combined sciences. The hidden language of schools' curricula was such that fewer girls than boys opted for the sciences. Ministry of Education policy has changed recently. All senior secondary schools are compelled to offer science to all students.

This paper looks at the total number of 'O' level students taking science (separate and combined) in all senior secondary schools in Botswana. The survey investigates the total number of girls taking science prior to 1989.

The paper also investigates the total number of first year boys and girls reading science at the University of Botswana, during academic year 1988/89.

The study claims that the hidden language of the schools' selection procedures for science students and the schools' subject packaging and linguistic features of science textbooks have indirectly contributed to fewer girls than boys taking science courses.
The paper briefly discusses the implications of such hidden language for Botswana's manpower needs in scientific and technological areas and how this relates Botswana to other countries in the SADCC region.

GENDER STEREOTYPING AND SCHOOL ACHIEVEMENT IN BOTSWANA

Wendy A. Duncan

There is considerable concern today over the low numbers of women entering the fields of science and technology. For African countries, this represents a loss of valuable resources, and hinders women's full participation in the development process. This study examines and explains gender disparities in education in Botswana in terms of gender stereotyping. The study argues that the gender-typing by students of school subjects and fields of work fosters gender differences in attitudes and performance across subjects. These propositions are tested using partial least squares (PLS) path analysis to analyze data collected from a national survey of attitudes and school achievement among secondary school students in Botswana. The study focuses upon the example of science.

Clear and consistent gender-typing of attitudes towards gender roles, occupations and school subjects is evident among both girls and boys. There is strong support for the idea that women should be primarily responsible for domestic work, although both sexes consider that women should also have an economic role. Occupations in the fields of science and technology are all judged by students to be masculine, as are the majority of school subjects.

The findings show that gender role ideology is a significant factor in the achievement process, especially for girls. Socio-economic background is more influential for boys. Girls and boys with feminine gender role identities tend to perform worse in almost all school subjects, including science. Furthermore, both girls and boys show a strong tendency to regard science and science careers, as well as school science, as areas of masculine activity. The causal analysis reveals that, among boys, the gender-typing of school science as male has a small positive influence upon science attitudes and performance. For girls, however, it has a small negative influence. The fact that it is the gender-typing of school science, rather than of science in general, which depresses the achievement of girls suggests that the school plays a significant role in the gender-typing process. Another finding implicating the school is the consistent negative association between femininity and achievement, which implies that many girls are being forced to choose between competence and their femininity.

A SURVEY CASE-STUDY OF THE RELATIONSHIP BETWEEN EDUCATION AND ATTITUDES TOWARDS FAMILY PLANNING AMONGST MEN AND WOMEN IN THE MAGELE RURAL AREA OF SWAZILAND

Dumsani Thwala and James Lwanga-Lukwago

This case-study is an enquiry into the relationship between education and attitudes towards family planning (FP). It examined the relationship between education of Swazi men and women in the Magele rural area and their
attitudes towards the current FP and related practices/programmes; and analysed and attempted to establish the extent to which FP is practised in a specific rural area of Swaziland. Forty (40) subjects (20 males and 20 females) of varying ages (above 16 years) and educational level was drawn from a total relevant population of 214.

The researchers personally conducted the interview using researcher-developed structured questionnaire. Whereas four out of the six a priori hypotheses were accepted, the remainder were rejected. It was discovered that, to a limited extent, education has an influence on attitudes towards FP. Although knowledge and practice of FP did not seem to be widespread, for the few subjects who knew and practised family planning, the majority of them had some secondary education or above. The implications of these findings for the current/future FP policy/practices and for further research were identified and discussed.
PRIMARY AND PRE-SCHOOL EDUCATION
THE TEACHING OF SOCIAL STUDIES IN PRIMARY SCHOOLS IN BOTSWANA


Although Social Studies has been taught in the primary schools in Botswana for the past nine years, very little research has been done to determine its effectiveness as a subject. The purpose of the current research is to determine the perceptions and attitudes of the pre-service teacher educators, education officers, serving teachers, and the learners towards "social studies" and the various strategies and techniques used in teaching and assessing student performance in the subject.

The above research spans the period of two years. The sample consists of personnel (teachers, school supervisors and pupils) involved in "social studies". It is hoped that the results of the study will help to improve the status of the subject in terms of its value as an educational subject. It will also make recommendations which will guide all those involved in the development and implementation of the social studies programme in Botswana.

WHAT MAKES A GOOD PRIMARY TEACHER: UNIVERSITY STUDENTS' PERCEPTIONS OF THEIR MOST EFFECTIVE AND INEFFECTIVE PRIMARY SCHOOL TEACHERS

John Yoder

This study focuses on those characteristics which university students identify as having been most important in determining which of their primary school teachers they consider to have been the most effective and ineffective. In addition to gathering information about the sex, age, qualifications and experience of the teachers perceived as having been most effective and ineffective, the study asked that students rank in order of importance 14 teacher characteristics which may contribute to the perception of a teacher as being effective or ineffective. The 14 characteristics are classified as being either personality, instructional, personal relationship or class management variables.

The analysis of the results will thus explore whether any of these variables will consistently appear as contributing most to the perception of effective and ineffective teaching. It will also explore relationships between characteristics such as age, sex, experience and qualifications of primary school teachers and the likelihood of them being perceived as particularly effective or ineffective. Comparisons will be made between the responses of male and female students within different faculties/departments of the university and at different levels in their programmes.
THE HISTORICAL DEVELOPMENT OF PRIMARY EDUCATION IN BOTSWANA AS A TWO-TIER SYSTEM

S. A. F. Shaw

It may be said that Botswana's system of primary education operates on two tiers, each tier being identified by the instructional language or languages used. Education in the medium of English is in great demand by both Batswana and expatriates. In order to appreciate this demand and the high status accorded English, as the official language, as compared to that accorded Setswana, designated the national language, it is necessary to trace the historical development of both educational and language policies from pre-colonial times.

It is suggested that there was a relationship between education, Christianity and elitism and this is explored through various reactions to the introduction of a Western model of schooling. Language policy in education is central to this relationship. As language is accepted to be an expression of culture, the condemnation of Setswana cultural practices by many missionaries reflected a negative attitude towards the language itself.
MATHS AND SCIENCE EDUCATION
CURRICULUM-IN-ACTION: AN ETHNOGRAPHIC ANALYSIS OF SCIENCE CURRICULUM IMPLEMENTATION IN THE JUNIOR SECONDARY CLASSROOM

R. B. Prophet

The education system in Botswana at Junior Secondary level is at present undergoing a massive expansion, and within this programme of change curriculum materials for "Nine Years Basic Education" for all are being developed and modified. Integrated Science as one of the core curriculum subjects is intimately involved in this process. The curriculum, developed from an early 1970's science curriculum imported from the UK, is seen as unproblematic and apart from some minor changes in content, the most recent revisions are already in position in the schools. However, an ethnographic study of the curriculum-in-action in the classrooms is revealing large discrepancies from the curriculum-as-planned by developers within the Ministry of Education. This paper identifies recurrent teaching strategies utilised by teachers in the classroom and attempts a descriptive analysis of the effect of these strategies on one aspect of science stressed in the syllabus - the development of manipulative skills through pupil-centred practical work.

AWARENESS OF STUDENTS' CONCEPTS IN MECHANICS - POSSIBILITIES TO IMPROVE TEACHING

Ir. J. Andringa

The paper presents some of the misconceptions in mechanics generally found among secondary school students in Botswana. Researchers in this field have proposed alternative teaching strategies that aim at an improved understanding of the basic concepts by the students, some of these strategies are given. The teaching material for the 1989 PESC Physics Course has been rewritten in order to incorporate these alternative teaching strategies. The results of pre- and post questionnaires, and tests that have been given during the 1989 course to monitor the effectiveness of these strategies, are given in this paper.

UNIVERSITY STUDENTS' ERRORS IN BASIC ALGEBRA: A FUNCTION OF THEIR SECONDARY EDUCATION?

J. M. Deurwaarder

Students entering the Pre-Entry Science Course (PESC) bring with them their educational past. The PESC staff are confronted with both good and bad aspects of prior instruction at the secondary school, as well as with the ideas, knowledge and concepts the students hold. Some of these ideas and concepts need reinforcement during the course while others are erroneous ideas and concepts which need to be corrected. The first is the revision and upgrading aspect of PESC while the second touches on the remedial component of the course. In order to reinforce the remedial component, a well documented knowledge of error techniques and error types of the students is an essential
prerequisite for teachers. Misconceptions and learning difficulties do not disappear simply by teaching the same material again.

The paper presents some results of an analysis of errors by the students of the 1989 PESC course in Basic Algebra before the start of PESC and how these errors changed during the first four weeks of the course. The paper investigates the correlations between various error types and:

1. the sex of the student
2. the secondary school where the student completed Form V
3. the science combination the student took in the COSC examination
4. the COSC science-mathematics aggregate score of the student.

By reassessing errors after instruction it is possible to identify persistent errors and hence indicate serious misconceptions not overcome during the normal PESC mathematics course.

One possible solution to help overcome misconceptions is to design special computer based lessons. The error analysis will be used to improve the MASCART (Mathematics and Science Computer Assisted Remedial Teaching) material tried out in a pilot in PESC 1988 and further refined during PESC 1989. MASCART was developed by a unit in the Centre for Development Services of the Free University of Amsterdam. The findings of the error analysis will be related to the MASCART materials to investigate how well the material is designed to correct the errors and misconceptions of the students.

IS ARITHMETIC NOT AN ESSENTIAL PREREQUISITE FOR LEARNING MATHEMATICS?

Ngozi M. Mawande

In this paper the writer does the following: discusses his conviction that some aspects of Arithmetic are essential prerequisites for learning Mathematics; cites certain topics and concepts in Arithmetic whose teaching in pre-university years would facilitate learning Mathematics; and recommends specific topics which need to be taught in pre-university years.

Examples of where a firm foundation in certain Arithmetic topics would make learning Mathematics easier are discussed. Certain topics in Arithmetic and some aspects of these topics are considered to be essential beginnings of Mathematics. Research conclusions which indicate that these topics are poorly taught in many countries and that children and students generally do not have a firm understanding of concepts and operations associated with these topics are cited.

Performance levels of Botswana students in four sets of tests which tested them on some Arithmetic topics referred to above are discussed. Examples of experiences with how other students who are not the sample for this study deal with similar topics are cited and discussed. Based on these findings and experiences, topics which need to be taught in pre-university years to improve the situation are recommended. Gains that students are likely to
make in future Mathematics courses from the teaching of these topics are also presented in the paper.

FORM 3 PUPILS' UNDERSTANDING OF SOME CONCEPTS IN 3 MALAWI SECONDARY SCHOOLS

D. A. Knox and L. Mkandawire

A test with five pairs of short answer questions was given to all Form 3 students in 3 secondary schools in and near Zomba, Malawi. The first question of each pair could be answered purely from memory, while the second - on the same topic - required comprehension or higher order thinking on "Bloom's Taxonomy" (cognitive domain). Each answer was scored with a mark indicating the amount of correct material it contained, and a code to indicate the kind of errors and/or incorrect material, if any.

Comparisons will be made between the scores of (a) different schools, (b) boys and girls, and (c) children from different parental backgrounds. Some possible explanations will be suggested.

LEVELS OF UNDERSTANDING OF SELECTED GENETICS PRINCIPLES

Cephas David Yandila

Problem

Modern philosophers of science and science educators have pointed out that science principles are hierarchical from definitions of component concepts to definitions of the principles themselves to explanation to prediction. A study conducted by Abdel-Wahab in Egypt in 1978 confirmed this hierarchy. The purpose of the present study was to determine which levels relative to selected genetics principles were achieved by grade eight classes in Lusaka schools when a lecture method of instruction was employed.

Procedure

A sample of grade eight classes was randomly drawn from Lusaka secondary schools and these classes were assigned at random to experimental and control groups. The experimental classes received instruction related to three selected genetics principles. The principles were selected according to specified criteria. They were analysed and component concepts of each identified for the purpose of both teaching and testing. A multiple-choice test was administered to the experimental and control classes. Tests were designed to determine the level of achievement of understanding each principle and component concept.

Data were analysed using the Mann-Whitney U test.
Conclusions

1. The instruction had a significant effect on the achievement of grade eight classes of Lusaka secondary schools in relation to the definition of component concepts, definition of principles and prediction of the same principles.

2. There was some evidence that the proposed hierarchy for learning genetics principles from definition of component concepts to definition of principles to prediction principles may be cognitively valid.

STUDENT PROBLEMS IN MICROSCOPY: A PROPOSAL FOR A COLLABORATIVE STUDY

Cantrell M. A. and Kreuels, T.

Perhaps the most commonly used instrument in school and undergraduate biology courses is the compound microscope. Yet even students with prior experience in microscopy find the topic demanding and their performance is often disappointing.

Various skills can be ascribed to the mastery of a microscope but in general they can be grouped under the headings of - manipulative, conceptual and interpretative skills. The paper describes some preliminary findings of a study involving Pre-Entry Science students at the University of Botswana. It discusses the problems they experienced in using microscopes in a course designed to provide upgrading and remediation for 'O' level school leavers. The paper focuses on conceptual problems students have in using a microscope, particularly those relating to the measurement of structures and the computation of a suitable scale.

Proposals for further work and collaboration are discussed with a view to producing a handbook for 'O' level and post 'O' level biology students. Such support material could be valuable in providing students with a step-by-step approach to microscopy, a field which they normally traverse with trepidation.

PERCEPTION OF SCIENCE, SCIENCE TEACHING AND APPLICATION BY STUDENTS OF THE FACULTY OF EDUCATION, THE UNIVERSITY OF BOTSWANA

B. O. Okatch

Much of the research in science education has been along the line of cognitive performance of the learner and the variables that come into play in learning science. This study has focused on the affective element in science education; an attempt was made to get students' feelings about science, science teaching and science application. Central to the study was to find out if more exposure to science resulted in a change in perception of science and its application by the students. Hence the students made responses to questions on their experience in secondary schools and on their current University experience. Data collected have been analysed to reflect correlation between an
expressed feeling and the following variables: course of study, year of study, sex and age.
EDUCATION AND EMPLOYMENT
OCCUPATIONAL ASPIRATIONS OF HIGH SCHOOL STUDENTS IN SWAZILAND

K. K. Asante and B. M. Dlamini

The study was designed to determine the occupational aspirations of high school students in Swaziland. A descriptive correlational research employing a questionnaire technique was used in this study. A random cluster sample size of 395 was obtained (comprising 12 high schools) from a target population of 2,904 high school students. Sampling and measurement errors were controlled.

Results revealed that students were interested in such occupations as business, dentistry, radio, television, clerical and secretarial work. Students were least interested in occupations that relate to fisheries and mining. Students' occupational intentions after high school included going to the university or other tertiary institutions. Students were not intending to start small-enterprise occupations (self-employment). Negligible to low associations were observed between the educational level of mother or father and students' occupational goals or intentions after high school. However, low to substantial relationships were observed between students' work experience and their occupational goals and intentions after high school.

Conclusions drawn were that students' occupational intentions relate to white collar jobs; and students' previous work experience influence their decisions on future careers.

A SURVEY STUDY OF SECONDARY/HIGH SCHOOL STUDENTS' EMPLOYMENT ASPIRATIONS IN SWAZILAND

Z. Mpapane and J. Lwanga-Lukwago

This study examined the employment aspirations of a sample of 320 secondary/high school pupils/subjects (Ss) enrolled in 5 schools in Swaziland.

The following variables were investigated in relation to the Ss' employment aspirations: gender differences, schools'/Ss' environmental location (rural or urban) and schools' modes of foundation - (i.e.: missionary versus government).

A researcher-developed questionnaire, group-administered to the respective Ss, was used to collect data which were then presented, in tabulated form, using descriptive statistical measures.

Using the same measures for testing the a priori hypotheses, the following results emerged. First, gender differences in the respondents' employment aspirations were observed. The female respondents were more oriented towards professional and non-technical occupations. Conversely, their male counterparts were oriented towards technical and professional occupations. Furthermore, more male respondents tended to aspire for high prestige jobs than girls, thereby confirming the first hypothesis. Secondly, no significant differences were observed amongst the employment aspirations of
Ss in rural or urban, and missionary - or government-founded, schools. Thirdly, while the majority of male respondents tended to aspire for engineering the majority of their female counterparts aspired for nursing. Thus, the second and third hypotheses were rejected on the basis of the gender differences observed therein. Lastly, whereas male respondents' aspirations tended to be unrealistic, those of their female counterparts were apparently more realistic.

It was concluded, generally, that the majority of the Ss in the sample prefer white collar to practical/manual jobs.

The major implication of the study's findings for educational planning and curriculum development is that the existing school vocational and career guidance programmes need to be diversified and strengthened further.

A DISCUSSION PAPER ON GUIDANCE AND COUNSELING AS A LINK BETWEEN EDUCATION AND EMPLOYMENT

Joyce Maphorisa

In Botswana, guidance has primarily been career-oriented and dominated by dissemination of career information. Little emphasis has been placed on issues like decision making, career development, etc. The programme has, during the last few years, received increased attention including several consultancies. It has been recommended that a special unit be established within the Ministry of Education for the implementation of guidance and counselling throughout the education system.

The paper discusses the role of guidance and counselling as a link between education and employment. With the present educational reform in Botswana the issue of youth unemployment has come to the forefront of the discussion. It is envisaged that career guidance could have a role to play also in designing the curriculum, i.e. the various subject syllabi should be more oriented to include aspects of career guidance also. Can guidance contribute to the overall content of the curriculum, especially as related to skills training?

Alternatively, career guidance could passively disseminate information, but not be involved in promoting change in the system.

The paper calls for research that could help in defining the role of guidance as a link between education and employment in Botswana as related to the two different options outlined above.

PRODUCTIVE ACTIVITIES IN BOTSWANA'S COMMUNITY JUNIOR SECONDARY SCHOOLS

Mary Pigozzi, David Stern and Bagele Chilisa

The purpose of the study was to examine school-based productive activities in order to:

1. establish the extent to which schools can contribute to students awareness of entrepreneurial possibilities and develop skills related to income generating activities;
2. to assess the potential of school productive activities as sources of school finance and link to the community.

The study identified 10 distinct productive activities. Of these, gardening, carpentry, tree planting and sewing or knitting were seen as activities that provide pre-vocational skills and awareness. However, on the whole, coordinators of the school activities stated that enhancing students' academic performance was the most important reason for starting the activities. It was found that most of the productive activities did not seem to generate revenue in excess of costs and that the local community did not contribute much to these activities in the way of ideas. The local community is to a large extent the recipient, consumer and purchaser of school-manufactured ideas and products.
APPENDIX
MONDAY AUGUST 7

Arrival and Registration

TUESDAY AUGUST 8

08.00 Registration
08.30 OPENING SESSION
  Introduction: Dr. G. Mautle, Chair, Symposium Organising Committee
  Welcome: Prof. T. Tlou, Vice Chancellor, University of Botswana
  Opening Speech: Mr. K. M. Masogo, Permanent Secretary, Ministry of Education, Botswana
10.00 T E A
10.30 INTRODUCTORY SESSION
  Chair: Dr. G. Mautle
  Keynote Address: "Crisis of Education and Research in the 1980s – Challenges for the Future".
  Prof. M. Mbilinyi, University of Dar es Salaam.
  Open discussion
12.30 L U N C H
14.00 PARALLEL GROUP SESSION 1
For details, see Group Session Schedule

16.00 FINISH

17.00 Meeting of Organising Committee

19.30 Reception hosted by the Vice Chancellor of the University of Botswana

WEDNESDAY AUGUST 9

08.30 PLENARY SESSION: Issues in the Future Development of Educational Research in the SADCC Region
Chair: Prof. J. D. Turner, Dean, Faculty of Education, University of Manchester
Panel: Dr. Namuddu, Dr. Temu and Mr. Nsibande
Open Discussion

10.00 TEA

10.30 PARALLEL GROUP SESSION 2
For details, see Group Session Schedule

12.30 LUNCH

14.00 PARALLEL GROUP SESSION 3
For details, see Group Session Schedule

16.00 FINISH

17.00 Meeting of Organising Committee
Chair: Dr. B. Dlamini, Ag. Chair, Swaziland Educational Research Association
"Re-empowering the Respondent - Collecting data via video for educational research". Dr. U. Kann,
THURSDAY AUGUST 10
08.30 PLENARY SESSION: Research on Gender and Education
Chair: Ms. C. Mannathoko, Treasurer, Botswana Educational Research Association
"Selected Issues in Gender and Educational Research in the SADCC Region". Dr. L. Dirasse, Women's Affairs Unit, Ministry of Labour and Home Affairs, Botswana.
Discussant's Response: Prof. M. Mbilinyi, University of Dar es Salaam, Dar es Salaam

Open Discussion
10.00 TEA
10.30 PARALLEL GROUP SESSION 4
For details, see Group Session Schedule
12.30 LUNCH
14.00 PARALLEL GROUP SESSION 5
For details, see Group Session Schedule
16.00 FINISH
17.00 Meeting of Organising Committee
19.00 Reception hosted by the Botswana Educational Research Association
FRIDAY AUGUST 11

08.30  PLENARY SESSION: The development of Educational Research Capacity.
Chair: Dr. S. Gaborone, Chair, Botswana Educational Research Association

- "Infrastructure and Methodology: Aspects of Educational Research in the SADCC Region". Prof. A. Datta, Director, National Institute of Development Research and Documentation, University of Botswana.


Open Discussion

10.00  T E A
10.30  Continuation of Discussion
Chair: Dr. G. Mautle, Chair, Symposium Organising Committee

11.30  Summary Remarks: Ms K. Nammuddu
12.00  Closing Address: Mr. F. Youngman, Dean, Faculty of Education, University of Botswana
12.30  L U N C H