Association for the Development of Education in Africa

ADEA Biennial Meeting 2003
(Grand Baie, Mauritius, December 3-6, 2003)

Pedagogical Renewal and Teacher Development in Sub-Saharan Africa: A Thematic Synthesis

by Martial Dembélé and Bé-Rammaj Miaro-II

Working Document
DRAFT

PLEASE DO NOT DISSEMINATE **Doc 4.A**

• Original Version in English •

This document was commissioned by ADEA for its Biennial Meeting (Mauritius, December 3-6, 2003). The views and opinions expressed in this volume are those of the authors and should not be attributed to ADEA, to its members or affiliated organizations or to any individual acting on behalf of ADEA.

The document is a working document still in the stages of production. It has been prepared to serve as a basis for discussions at the ADEA Biennial Meeting and should not be disseminated for other purposes at this stage.

Association for the Development of Education in Africa (ADEA)
International Institute for Educational Planning
7-9 rue Eugène Delacroix
75116 Paris, France
Tel.: +33(0) 1 45 03 77 57
Fax: +33(0)1 45 03 39 65
adea@iiep.unesco.org
Web site: www.ADEAnet.org

Contents

Tables

Graph

Figures

Acronyms and abbreviations

ADEA	Association for the Development of Education in Africa
CONFEMEN	Conference of Ministers of Education of French-speaking Countries
MLA	Monitoring Learning Achievement
NESIS	National Education Statistical Information Systems
PASEC	Programme d'Analyse des Systèmes Educatifs des Pays de la CONFEMEN
PRSP	Poverty Reduction Strategy Papers
SACMEQ	Southern Africa Consortium for Monitoring Educational Quality
SAP	Structural Adjustment Programs
UNESCO	United Nations Educational, Scientific and Cultural Organization

1. SUMMARY

1.1. Background and introduction

1. *Education For All* by the year 2000 emerged as a global imperative from the 1990 International Conference on Education, held in Jomtien, Thailand. Ten years later, it was established that there had been remarkable progress in terms of increased access, but that quality, measured by achievement scores in reading, writing, arithmetic and problem-solving (i.e., the basic learning tools) and internal efficiency among others, was abysmally low, especially in Sub-Saharan Africa. It is therefore not surprising that quality was the dimension most strongly emphasized by the Dakar summit in pursuing the new goal of EFA by 2015.

2. The emphasis thus placed on quality has heightened the **dual challenge of improving the quality of basic education while increasing coverage and retention**. The *Challenge of Learning Study* initiated by ADEA is designed to help meet this dual challenge and thus contribute to the attainment of the 2015 goal. A set of activities were carried out in the framework of the first thematic strand of this study, i.e., *Pedagogical Renewal and Teacher Development*. These include five case studies (Diallo et al, Diané et al, Yakouba et al, Abdulla et al, and van Graan et al), four background papers (Brunet, Dembélé, Gauthier et al, and Weva), literature reviews by two African educational research networks (ERNESA and ERNWACA), and a number of relevant background papers written in the framework of other three thematic strands as well as by other bodies, e.g., ADEA's working groups and development agencies.

1.1.1. Main findings and lessons drawn from this database

3. The main findings and lessons drawn from this database include the following:

4. Undesirable teaching practices persist.

- Such practices can be described in a nutshell as being rigid, chalk-and-talk, teacher-centered/dominated, lecture-driven pedagogy. Such pedagogy places students in a passive role and limits their activity in class to memorizing facts and reciting them back to the teacher. It is also reflected in classroom assessment practices.
- They are reported to be the norm in the vast majority of classrooms in Sub-Saharan Africa and elsewhere, even in the most affluent countries.

5. Reading ability is critical for learning other subject matters as well as a strong predictor of educational "survival"; yet poor literacy levels prevail among Sub-Saharan African students.

- The consequences of poor literacy levels are self-evident, given the importance of reading ability; so there is no need to dwell on them.
- What deserves attention are the causes of low reading ability. Three stand out, including instruction and learning in a foreign language, the above-mentioned undesirable teaching practices, a poor literacy environment (both at school and at home).

6. Implementing desirable teaching practices, however defined, on a large scale remains a formidable challenge for educational policy makers and administrators, and an object of continuous investigation by educational researchers

- Scholars such as Thyack and Cuban attribute this to what they call the 'grammar' of schooling, i.e. "a set of expected patterns we have historically constructed regarding what a 'real school' is. Replacing the terms "schooling" and "real school" respectively by "the teaching-learning process" and "real classroom", helps imagine how difficult it is for teachers to change their practices. One can imagine the difficulty better by construing teaching as a cultural practice; and even better by thinking about habits we have had to alter when we landed in foreign places, including eating habits for instance.

- There is a robust body of knowledge that suggests that teaching practices are informed by ideas, beliefs and images that (a) teachers begin to develop well before embracing teaching as a career and (b) that traditional teacher preparation (if there is one) isn't successful challenging. It may well be that teacher preparation doesn't even attempt to challenge these ideas, beliefs and images simply because teacher educators themselves hold the same. The case studies of Namibia's *Basic Education Teacher Diploma* programs are illustrative in this respect, and one can find many other examples.

- Farrell (2002) has argued that the mechanisms that central governments around the world can control, e.g., "build schools, train, employ and pay teachers, supply furniture, textbooks and other learning materials, alter curriculum documents […], do not alter the traditional model […] nor […] alter the 'core' of the process, the teaching and learning that occurs in thousands of classrooms. Change at that level is *not* what central governments or outside agencies do well".

- This is bad news if we persist in the current top-down, highly centralized mode of educational management. The good news is that there is an emergent international experience base of successful implementation of desirable educational, not just teaching, practices.

- But most of the programs that one finds in this experience base are in their infancy and on a small scale. There is still much to learn about sustaining them and enlarging their scale.

- In light of the point about changing teaching practice, it is not surprising that teacher development stands as a cornerstone in these programs. In other words, teachers play an essential role in the educative process. In order to play that role well, they need opportunities to learn what is required to play the role; and such OTLs must be spread across a continuum of learning "with teachers located at various places along the continuum" (Craig et al, 1998, p. 1).

7. For effective teaching practices to be observed in classrooms, educational systems need to pay more attention to process factors, i.e., how inputs are used in school and in the classroom.

- The case for paying more attention to process factors is built around four enabling conditions that Carron and Châu (1996) argue should be at the heart of planners' concerns. These include:

  - Being more attentive to the demand side
  - Investing more in the human factor
  - Restoring supervision and support mechanisms
  - Bringing the school closer to the community

- Increasing the size of the teaching profession while improving its quality stands as one the most important constraints on achieving UPE by 2015.
- One program that appears to be on the right track in responding to this challenge is Guinea's new pre-service primary teacher education project.
- A lot of research has been carried out in and on the education sector in Africa by Africans, but much of it is unknown to the grand public and has methodological shortcomings.

1.1.2. Main recommendations derived from the findings

8. From the above findings, the following recommendations are put forward:

- Considering the school as the most critical intervention level for educational quality improvement, and acting accordingly
- Investing more in people, including teachers, school heads, parents and community members, school inspectors and pedagogical advisors
- Improving reading instruction and learning, for instance through the use of African languages as media of teaching and learning in the early grades.
- Strengthening and building research capacity.

1.1.3. Selected issues for further discussion and reflection

9. As it appears in the foregoing, there is a strong base for decision and action in a several of areas. But there remains a number of issues that deserve further discussion and reflection. They include:

- How to act upon the evidence supporting the advantages of using African languages as media of instruction and learning in the early grades, towards a strategic bilingualism.
- What to make of the fact that child-centered, activity-oriented instructional practices are reported to be more effective in developing countries (though results are mixed) than in developed countries, but are proving quite difficult for teachers to embrace, and a formidable challenge when it comes to large scale implementation in both contexts.
- What to make of Gauthier et al's recommendation to opt for more structured instructional practices, i.e., direct instruction/explicit teaching.
- How to deal with the re-composition of the teaching force in several countries, given the hiring of contract teachers, with school personnel instability as one of the potential consequences.
- How to reconcile strengthening school leadership with maintaining supervision by mid-level educational leaders (inspectors and pedagogical advisors).
- The enabling conditions for school-based management to yield expected benefits.

2. INTRODUCTION

Quality will happen at the classroom and school level or it will not.

Ultimately, quality education is a function of the interactions between teachers and students in classrooms.

10. *Education For All* by the year 2000 emerged as a global imperative from the 1990 International Conference on Education, held in Jomtien, Thailand. Ten years later, precisely in April 2000, about 1100 participants from 164 countries gathered in Dakar, Senegal, to take stock of progress made toward meeting this imperative. At the Dakar summit, it was established that there had been remarkable progress in terms of increased access, but that quality, measured by achievement scores in reading, writing, arithmetic and problem-solving (i.e., the basic learning tools) and internal efficiency among others, was abysmally low, especially in Sub-Saharan Africa. As a matter of fact, various evaluations, e.g., UNESCO's *Monitoring Learning Achievement* (MLA), the Programme d'analyse des systèmes éducatifs de la *CONFEMEN* (PASEC), and the *Southern African Consortium for Monitoring Education Quality* (SACMEQ), have shown that most students in this part of the world leave primary school with very limited or even no mastery of the basic learning tools. As well, because of its current nature, school does not help them learn how to learn and tend to alienate them from their socio-cultural environment. Such findings are all the more preoccupying as for the vast majority of these children, primary school is involuntarily a terminal cycle (note that a significant number of them drop out before reaching grade 6). In other words, one can argue that the current school systems are preparing future illiterates. The cost of this wastage is estimated at more than 25% of financial resources allocated to primary education. It is therefore not surprising that quality was the dimension most strongly emphasized by the Dakar summit in pursuing the new goal of EFA by 2015 (Ndoye, 2002).

11. The emphasis thus placed on quality has heightened the **dual challenge of improving the quality of basic education while increasing coverage and retention**. The *Challenge of Learning Study* initiated by ADEA is designed to help meet this dual challenge and thus contribute to the attainment of the 2015 goal. What follows is a synthesis of the results of a set of activities that were carried out in the framework of the first thematic strand of this study, i.e., *Pedagogical Renewal and Teacher Development*. These include five case studies (Diallo et al, Diané et al, Yakouba et al, Abdulla et al, and van Graan et al), four background papers (Brunet, Dembélé, Gauthier et al, and Weva), and literature reviews by two African educational research networks (ERNESA and ERNWACA). As appropriate, we draw on documents produced under the other three thematic strands and by other bodies (ADEA's working groups, agencies, and NGOs). We begin with a brief conceptual clarification and discussion of the issues at hand. This is followed by a summary of research on teaching and learning in Sub-Saharan Africa and elsewhere. The third part of the paper is devoted to the human factor as a cornerstone of successful pedagogical renewal. In part 4, we present a set of policy options, strategic directions and priorities for action that Sub-Saharan African countries may wish to consider as they design national programs for quality improvement in basic education. The paper closes with a set of issues for discussion and reflection at the biennial meeting.

3. CONCEPTS AND ISSUES

12. The theme under study is especially important as ultimately educational quality is obtained through pedagogical processes in schools, and particularly in classrooms. Indeed, it is at the school and classroom level that various inputs come or are brought together to foster student learning; and the coming or bringing together of inputs depends primarily on the knowledge, skills, dispositions and commitments of the adults in whose charge children are entrusted, i.e., teachers and school heads. As constituent elements of the practices of these adults, i.e., teaching and school leadership, knowledge, skills, dispositions and commitments cannot be static. As Eraut put it in his preface to Day's 1999 comprehensive review of teachers' learning and the factors which affect it, "[t]he quality of teaching clearly depends on teachers continuing to learn as teaching contexts, pupil behaviour and expectation of teachers change. Even if there was less change the challenge of adapting to the needs of individual pupils and seeking to improve the quality of one's teaching and associated professional activities would require continuing professional development" (p. ix). The same can be said of school heads. As a matter of course, they too have to adjust to changing work contexts, teacher and pupil behavior, and role expectations. In other words, growth in practice for both teachers and school heads is of supreme importance if the children at their charge are to learn effectively. We can enlarge the circle to include the professionals who are mandated by the educational establishment to supervise and support schools and the adults who work there. In Sub-Saharan Africa and in other parts of the world, one finds two principal categories of such professionals, namely inspectors and pedagogical advisors/staff developers. They too have needs to grow in practice.

13. Growth, according to Day (1999), "involves learning which is sometimes natural and evolutionary, sometimes opportunistic and sometimes the result of planning" (p. 1). He goes on to argue that teachers--and we would add school heads, inspectors and pedagogical advisors/staff developers--should "have opportunities to participate in a range of informal and formal activities which will assist them in processes of review, renewal, enhancement of thinking and practice, and, importantly, commitment of the mind and heart" (p.1). In light of the foregoing, we can argue that pedagogical renewal is dependent upon the existence of concentric circles of professional learning communities, the school being the common center.

14. **We take pedagogical renewal to mean '*planned qualitative change toward desirable teaching practices, i.e., practices that ensure hoped for student learning*'**. This is a seemingly simplistic or narrow view of pedagogical renewal; but it is one that has far reaching implications as will appear below. There is agreement on what practices are not desirable, namely rigid, chalk-and-talk, teacher-centered/dominated, lecture-driven pedagogy, which places students in a passive role and limits their activity to memorizing facts and reciting them back to the teacher[1]. This kind of teacher of pedagogy is generally labelled "traditional" teaching. There is also principled agreement on what practices are desirable, namely participatory, more interactive, child-centered, adventurous pedagogy characterized by cooperative learning and inquiry, with a view to foster conceptual understanding, critical thinking, and problem-solving skills. These desirable practices fall under the general category of "opend-ended" instruction. Between traditional teaching and open-ended instruction, Gauthier et al (2003) advocate explicit teaching – a combination of direct instruction and strategy instruction – with advance organizers, modeling, guided practice, and independent practice as central features.

[1] For a summary description of the overall situation in Africa, see Kellaghan and Greaney (2003, p. 33).

15. The intellectual background of open-ended instruction can be traced back to the work of scholars such as John Dewey (1902/1964). It has gained in popularity since the nineteen eighties, to some extent in reaction to the basic skills movement. But it is proving extremely difficult to implement practices associated with open-ended instruction on a large scale, even in developed countries where certain conducive conditions exist, including small class size, abundance of teaching and learning materials, a teacher corps with university education, etc. In fact, **taking good educational practice, however defined, to scale remains a puzzle for educational policy makers and administrators, and an issue of continuous investigation by educational researchers** (see for instance Chazan and Ball, 1995; Cohen, McLaughlin and Talbert, 1993; Elmore, 1996; Fullan, 1982 and 1991). It is safe to ask "What then of countries where such conditions are not in place?"

16. Interestingly enough, there is an emergent international experience base of successful implementation of such practices in the developing world (see Farrell, 2002 and Hopkins, 2002). This emergent experience base will be introduced in the next two sections of the paper. It is taking place in both formal and non formal educational settings. It goes against the grain in that it challenges what Tyack and Cuban (cited by Farrell, 2002) call a standard 'grammar' of schooling, i.e., "a set of expected patterns we have historically constructed regarding what a 'real school' is. Anything that deviates substantially from that 'real school' or 'grammar-of-school' image will, by [Tyack and Cuban's analysis] be resisted by teachers, parents and students" (p. 252). Farrell further argues that the mechanisms that central governments around the world can control, e.g., "build schools, train, employ and pay teachers, supply furniture, textbooks and other learning materials, alter curriculum documents […], do not alter the traditional model […] nor […] alter the 'core' of the process, the teaching and learning that occurs in thousands of classrooms. Change at that level is *not* what central governments or outside agencies do well" (p. 252).

17. This takes us back to the argument we made at the beginning of this section – that teachers and classroom processes are central in any attempt at pedagogical renewal. It is therefore understandable that teacher development was included in the wording of this thematic strand, although based on what we said above, the theme could be *Pedagogical renewal and the development of teachers and educational leaders*. Teacher development has a double meaning. "On the one hand, it refers to the actual learning opportunities which [prospective, beginning and experienced] teachers engage in – their time and place, content and pedagogy, sponsorship and purpose. [It] also refers to the learning that occurs when teachers participate in those activities. From this perspective, professional development means transformations in teachers' knowledge, understandings, skills, and commitments, in what they know and what they are able to do in their individual practice as well as in their shared responsibility" (Feiman-Nemser, 2001, p. 1038). Pedagogical renewal will, in the last analysis, depend on these transformations as well as on teachers' adherence to that which is introduced to renew pedagogy. Teacher knowledge, skills, dispositions and commitments will always serve as filters for any change initiative (their own or others') that bears on classroom processes[2]. Teachers are not mere technicians who apply rules and abide by standard procedures. They are reflective professionals who are constantly making decisions as they plan for and manage instruction in order to help students learn (Brown and Mcintyre, 1992; Clark and Peterson, 1986; Connelly and Clandinin, 1988; Day, 1999; Elbaz, 1983; Jackson, 1968, 1986; Lampert, 1985; Leinhardt, and Greeno, 1986; Ross, Cornett and McCutcheon, 1992; Russell and Munby, 1992). In other words, **teacher development, and the development of other educational personnel who are expected to support them, is one of the critical issues and challenges that Sub-Saharan African countries face as**

[2] The failure of teacher-proof curricula in the US a few decades ago is a case in point in this regard.

they strive to provide universal primary education (UPE) that is equitable and of acceptable quality.

18. The sheer number of teachers needed to achieve UPE makes the challenge a formidable one, not only from the perspective of the financial resources that this will require but also from the perspective of human resource availability; for even if financial resources abound, **how to attract and retain talented individuals in the teaching profession remains an issue**. This is especially true in a context where the profession's image has been adversely affected by a set of interconnected factors: deteriorating working and living conditions due to a decade plus of economic hardships and structural adjustment, widespread dissatisfaction with the current situation of schooling (and with teachers by extension), and the creation of a second class (in the double sense) of teachers in several countries. Redressing this image stands as an important strategic direction toward UPE. Unsurprisingly, enhancing the status, morale and professionalism of teachers was adopted as one of the twelve main strategies for achieving the objectives set by the Dakar Summit. The framework for action reads:

> *Teachers are essential players in promoting quality education, whether in schools or in more flexible community-based programmes; they are advocates for, and catalysts of, change. No education reform is likely to succeed without the active participation and ownership of teachers. Teachers at all levels of the education system should be respected and adequately remunerated; have access to training and ongoing professional development and support, including through open and distance learning; and be able to participate, locally and nationally, in decisions affecting their professional lives and teaching environments. Teachers must also accept their professional responsibilities and be accountable to both learners and communities.*
>
> *Clearly defined and more imaginative strategies to identify, attract, train and retain good teachers must be put in place. These strategies should address the new role of teachers in preparing students for an emerging knowledge-based and technology-driven economy. Teachers must be able to understand diversity in learning styles and in the physical and intellectual development of students, and to create stimulating, participatory learning environments.*

19. Obviously, the implementation of this strategy poses different challenges to different countries in Sub-Saharan Africa in the pursuit of pedagogical renewal. In the third part of the paper, we provide a set of enabling conditions for successful renewal of what goes on in the region's schools and classrooms. We set the stage by reviewing the current situation in part 4 below.

4. TEACHING AND LEARNING IN SUB-SAHARAN AFRICA: A STATE OF THE SCENE

4.1. Historical background

20. In 1968, the Organization of African Unity (OAU) and UNESCO called a "Conference on education and scientific and technical training in relation to development in Africa". Held in Nairobi from 16 to 27 July, this was a major event concerning the education sector, after the meetings in Addis-Ababa (1961), Paris (1962), Tananarive (1962), Abidjan (1964), Lagos (1964). In total, thirty three (33) out of 39 independent African countries (80 %), sent delegates to this conference.

21. The Conference acknowledged the rapid expansion of the education systems in terms of increases in school enrolments and constructions, and felt proud of the progress made, but at the same time, it was pointed out that African countries had failed to reach the enrolments targets for primary and secondary education set in 1961 at the Addis-Ababa Conference. The shortfalls for the two levels were respectively 1.1 million and 387 000. Looking for the causes of the failure, the Conference saw inadequate funding as a result of countries' financial constraints generated by the world economic crisis. However, the Conference pointed out that financial limitations could explain an enrolment slow down, but not poor quality of education as evidenced by dropouts, massive grade repetition, and low outputs of the educational systems. Studies showed indeed that, of 100 pupils enrolled in the first grade, only 32 % completed their sixth year. Furthermore an increasing number of higher education graduates were often unemployed. It should be recalled that the top priority set by the 1961 Addis-Ababa Education Plan was to train the African manpower in order to modernize and boost the post-colonial economy. All the shortcomings mentioned above pushed the costs of schooling up, hence, jeopardizing all education policy measures put forth at the Addis-Ababa Conference.

22. Unable to come up with the true causes of the above major problems, the Conference concluded as follows: "It therefore appears that while there is an obvious need for seeking additional financial resources for the purposes of educational development, African countries are faced with the problem of rethinking the organization and content of their educational systems in relation to their economic and social conditions and requirements" (UNESCO, 1968, p. 9).

23. As recommended by the Conference, countries had to rethink, i.e., to re-examine and modify, according to their economic, social, cultural, and political needs and aspirations, the organization of their education systems as well as the substance of the education given to their population including the youth. Organization refers to structure, planning, and management of human, material, and financial resources, while substance means **what to teach, how to teach it, and what to expect in terms of outcomes**.

24. The experts pointed out that only careful studies of learning and teaching strategies will help to adapt the curriculum content in various specific conditions:

> *There is a need for careful experimental investigation of the learning and the teaching strategies most appropriate to making the curriculum viable in different situations. For example, in many countries, many teachers are either untrained, or poorly trained, school buildings and equipment*

> *are entirely inadequate, and financial resources are strictly limited. Under such conditions what special technique can be evolved and used to improve the quality of education? (p. 15)*

25. The question of what pedagogies (we prefer that term to "special technique") to use to improve the quality of education is still of supreme importance for Sub-Saharan Africa (and indeed for other parts of the world) and is at the heart of the *Challenge of Learning Study*. In the next section, we attempt to provide a response to this question. We draw extensively on research on teaching and learning in Africa, and resort to research from elsewhere as appropriate.

4.2. Research on teaching and learning in African classrooms: An overview of the evidence

26. As it appears in the foregoing, concern about the quality of education in Sub-Saharan Africa is not new. It has simply gained more prominence, unfortunately in response to declining quality indicators. One of the main explanatory factors put forth by both African and non-African scholars has to do with language of instruction. The problem of teaching African pupils to learn to read, write and compute through English, French, Portuguese or Spanish, all foreign languages, without caring about their mother tongues and families' traditional education systems, was pointed out in the early seventies by Pierre Erny in his book "L'enfant et son milieu en Afrique noire" (1972). According to this author, who worked as a primary school teacher during the late fifties and early sixties in Haute Volta (now Burkina Faso), in Congo Brazzaville, and in "Haut-Katanga industriel" (a region of the now Democratic Republic of Congo), ignoring the African child's cultural background in the process of modern education is an enormous nonsense.

27. We will not dwell on the issue of language of instruction as a strong determinant of student achievement, for it is dealt with amply in the fourth thematic strand of the COL study. We do want to point out that language of instruction was reported to be an explanatory factor of poor student performance in several studies reviewed by Maclure (1997).

4.2.1. Research on teaching and learning in West and Central Africa

28. Under the auspices of the Educational Research Network for West and Central Africa (ERNWACA or ROCARE in French), Maclure conducted a review of 1056 research papers by African students and scholars on the education sector during the sixties, seventies and eighties, i.e. over a period of 30 years. The papers were from seven out of the twelve ERNWACA member countries: Benin, Burkina Faso, Cameroon, Ghana, Mali, Togo, Sierra Leone. The studies ranged from end-of-training memoirs by school inspectors and pedagogical advisors, M.A. theses and doctoral dissertations (659), to reports prepared by governments and international development agencies (188), and by NGOs and others (209). Most of these studies were not published. As it appears in the table below, 39% of them dealt explicitly with teaching and learning.

Table 1 Statistics of major themes in Maclure's review[3]

Major themes	Number of studies	Percentages
Education finance and administration	93	9
Learning in the formal education system	238	23
Teachers and teaching	173	16
Education and socio-economic integration	177	17
Formal and non-formal education	151	14
Educational reforms	156	15
General Education policies	68	6
Total	**1 056**	**100,0**

Source: Maclure, R. (1997). Négligée et sous-estimée: la recherche en éducation en Afrique centrale et Afrique Occidentale. Une synthèse d'études nationales du ROCARE. (Annexe C, pp. 181-184).

29. The studies under the theme of learning in the formal education system looked at issues such as: a) reading, spelling, writing, oral communication, science and mathematics; b) factors influencing learning; c) dropouts; and d) problems of pupils' individual adjustment. The 14 studies that focused on the first set of issues are summarized in table 3. It is worth noting that half of them were carried out in one country, namely Togo.

Table 2 Studies on reading, spelling, writing, oral com., math and science[4]

Countries	Studies on reading	Studies on spelling	Studies on writing	Studies on oral com.	Studies on math & science	Total
Benin	1			1		**2**
Cameroon				1		**1**
Ghana		1				**1**
Mali	1					**1**
Sierra Leone					2	**2**
Togo		1	3	1	2	**7**
Total	**2**	**2**	**3**	**3**	**4**	**14**
Achievement level	C	C-	C	C	C	**C**
Major causes	• No books • No reading facilities	• Poor teaching • Lack of practice • Large class size	• Poor teaching • Low level teachers • Lack of feedback on students' work	• Poor teaching • Poor mastery of French by teachers • Mother tongue interference	• Poor mastery of French by teachers • Limited teacher content knowledge	

Source: R. Maclure (1997, pp. 35-39).

[3] We prepared this table based on information in annex C of Maclure (1997, pp. 181-184).

[4] We prepared this table based on information reported by Maclure (pp. 35-39).

30. The overall conclusion one can draw from these studies is that the students' levels in reading, spelling, writing, oral communication, and mathematics and science are low, and could be graded "C"; and "C-" for spelling, in a grading system where "A" corresponds to mastery of the subject learned, and "C" to the lowest level of learning. This suggests that these students have not developed or are not developing the pre-requisite skills and competencies in the basic school disciplines. This is worrisome as these skills are critical for success in any education system. The obvious question that follows is *why are the achievement levels of these students so low?*

31. **Teaching reading and learning to read**. According to the researchers, the students were weak in reading because there were not enough books at their schools and homes for reading practice. This is a common problem in the vast majority of schools in Sub-Saharan Africa. In fact the issue runs across all school subjects matters. There is a chronic lack of reference books even for teachers. Most primary and secondary schools do not have libraries. In addition to lack of books, we surmise that reading instruction may be principally at fault. As a matter of fact, rote-memorization of facts prevails in reading as well in classrooms worldwide, including in Africa. Students working on a second language in such classrooms often memorize sentences and recite them back to the teacher without understanding what they are saying. Teachers seem primarily preoccupied with correct pronunciation of words, correct intonation, and respect of punctuation and link ups as evidence of their students' ability to read. They typically focus marginally on *comprehension* in assessing students in this area. And this goes unchallenged in many places up to now.

32. Educators, including teachers, acknowledge that the ability to read is critical to the extent that it is a learning tool. "La lecture est la clé du savoir", i.e., reading is the key to knowledge, is a saying one often hears teachers use in Francophone Africa. There is also a robust research base in support of this claim. Indeed, ability to read is reported to be one of the best predictors of educational achievement. Juel (1991) for instance reports that a student who has reading difficulties at the end of his or her first year of formal schooling has 9 chances out of 10 to be at risk at the end of grade 4; and the probabilities that this student will have difficulties at the secondary level are as high as 90%. Because reading permeates all other subject matters, it is arguable that a student who is behind in reading at the end of grade 1 is a potential drop out (Carnine, 1998). The research reported by Juel, Carnine and others (.e.g, Hanson and Farrell, 1995, National Reading Panel, 2000) call for intervening as early as possible to help children develop reading ability, especially those from low socio-economic backgrounds.

33. Hanson and Farrell's eleven-year-longitudinal study involving 3,959 students from kindergarten to end of junior high school, showed that early literacy instruction has a positive impact on attitude toward reading at secondary level. These results were corroborated by Hirsch (1996) based on a longitudinal study conducted in France and reported in *The Schools We Need, And Why We Don 't Have Them.*

34. Based on a review of 100, 000 experimental studies conducted during a period of thirty years on the processes of learning to read, the National Reading Panel (an expert panel mandated by the US Congress) concluded that teaching students how to read using a variety of methods was the most effective way to help them become competent readers. In particular, the Panel recommended explicit, systematic and intensive teaching of the various components of reading, such as: phonological awareness and phonemes, grapho-phonetic entry point, guided oral and silent reading, as well as vocabulary. According to the Panel, learning to read ought to take place in a context of modeling and numerous occasions for guided practice during which students will receive needed feedback in order to be able to read successfully on their own subsequently.

35. In light of the foregoing, one cannot insist unduly on the need to improve reading instruction and learning in Sub-Saharan Africa. There are already promising practices in several countries. These can be sources of inspiration for others. They include:

- the experience of *Bilingual Education in Burkina Faso* (see Ilboudo, 2003),
- the *Nouvelle Approche Pédagogique in Cameroon* (see Yakouba et al),
- the "eclectic and play-play methods" in Cameroon (see Nkongho Ashu, 1997)
- Mali's experience with *Pedagogie Convergente* (see Fomba et al, 2003), and
- the *Zambian Primary Reading Program* (see Sampa et al, 2003).

36. Interestingly, three of these experiences involve the use of African languages as media of teaching and learning, in addition to French or English. **Bilingual education appears therefore as one of the promising paths to follow for improving the quality of basic education in Sub-Saharan Africa**. (see theme 4 for details on these experiences).

37. **Teaching and learning spelling, writing and oral communication**. In the studies reviewed by Maclure (1997), low levels in spelling, writing, oral communication were reportedly also due to low quality teaching resulting from teachers' low level of general education, including difficulties they have with the languages used at school.

38. **Teaching and learning mathematics and science**. All four studies reviewed by Maclure attribute low student achievement in these two subject matters to poor teaching and limited content knowledge on the part of teachers. One of the studies carried out in Togo, demonstrates that there is a correlation between weak language skills and corresponding results in mathematics and science (Maclure, 1997, p. 39). According to Maclure, these conclusions bring to light "a vicious cycle where poorly-trained teachers provide students with less than satisfactory quality of teaching; and several of these students will subsequently be recruited as teachers" (p. 39).

39. A recurrent recommendation of all the studies reviewed has to do with curriculum reform. **To improve curriculum relevance and thereby the quality of education, the researchers put forward the following actions: (i) providing more space for African languages in reading materials and as media of instruction and learning; (ii) adapting school curricula to local socio-economic and socio-cultural realities particularly for rural areas; and (iii) strengthening collaboration between local communities, especially student parents' associations, and the leadership of schools.**

40. **Looking more closely at teacher characteristics and teaching behaviors**. Teacher characteristics and teaching behaviors embody the core external factors influencing student learning. Maclure's review included 173 studies pertaining to this strand of investigation, of which 140 (81 %) are end-of-training or degree program memoirs, theses or dissertations. The studies showed that West and Central African teachers do not have the know-how, nor the minimum knowledge of the subject to be able to teach effectively. Furthermore they do not master the foreign languages of instruction, i.e., English, French, or Portuguese. In sum, these studies suggest that poor quality teaching is due to poor teacher qualification. Teachers are not effective because they are ill-prepared for their job. Their preparation is insufficient or irrelevant, or sometimes both (Maclure, 1997, pp. 58-60). Unfortunately, these studies do not show why pre-service and in-service teacher education cannot produce good teachers. Are they too long or too short? Are the curriculum and pedagogy of teacher education appropriate? No clear answers are given because investigations were not designed to address these specific issues.

41. Teachers' status and socio-economic conditions were also investigated, essentially in Mali and Ghana. In the Malian study, low social prestige and socio-economic status were put forward as explanatory factors of teachers' lack of motivation and intention to leave teaching or take early retirement. In the case of Ghana, it was reported that certain Ghanaian teachers abandoned their students for personal business in town during their service-time because of low salaries. But the lack of information on the research designs and sampling in both studies does not allow comparison of the findings in the two countries.

4.2.2. Research on teaching and learning in Eastern and Southern Africa

42. Our information base for this sub-section is constituted primarily by the annotated bibliographies and limited literature reviews that ERNESA – the Eastern and Southern counterpart of ERNWACA – carried out in the framework of the COL study. Although it may not be representative of educational research in all the countries in the two sub-regions, it corroborates most of what is reported above about teaching and learning in West and Central Africa. As a matter of fact, educational quality is reported to be below desired standards in both Eastern and Southern Africa (see reports by SACMEQ and MLA). The explanatory factors/conditions that account for this situation are briefly sketched out below.

- Instructional practices in various subject matters are said to be predominantly teacher-dominated and drill-oriented in both sub-regions (Ackers et al, 2001; Ansell, 2002; Kotta, 1986; O-Saki and Agu, 2002; Prophet and Rowel, 1993; Tabulawa, 1998 and 1997; Tafa, 2001; Sprey, 1994).
- Most countries in the two sub-regions are yet to resolve the issue of language of teaching and learning, even largely monolingual countries such as Burundi, Rwanda and Swaziland, as well as countries like Botswana and Tanzania where a national lingua franca exists[5] (Arthur, 1996 and 2002; Ishumi, 1998; Legwaila, 1993; Le Roux, 1999; Nyathi-Ramahobo, 1996; Prophet and Rowel, 1993; Tsonope, 1994).
- Literacy levels are reported to be low, which negatively affects learning achievement in other subject matters (Matlanyane, 1993; Qorro, 2001 and 1997; Roy-Campbell and Qorro, 1997; Rubagumya, 1999 and 1997).
- Teacher quality and motivation are persisting issues (Kimane, Matsoso and Lefoka, 2000; Muze, 1987; Rajabu, 1997).
- The need to improve teacher education, or to reform it altogether, appears consensual (Anon, 1989; Mazibuko, 1998; Mbaakanyi, 1991; Moorosi, 1996; Ofusu, 1996; Polonyana, 2000; Rathedi, 1991; Shongwe, 1996).
- There are numerous calls for strengthening continuous teacher development systems and making teacher development school-based and responsive to teachers' felt needs (Anderson, 2002; Dlamini, 1999; Dlamini et al, 1999 and 1996; Khiba, 1997; Kinshaga, 1989).
- School heads are reported to be appointed on bureaucratic grounds, to lack managerial and instructional leadership skills, and to need special training (Magagula, 1997 and 1991; Matshameko, n.d).
- The inspectorate system is criticized as a weak intervention (Gumbi, 1997; Mosisili, 1999).

[5] Note, however, that in the case of Tanzania, all primary education is conducted in Kiswahili. It is at the post-primary level that the issue of language of instruction remains unresolved.

43. One striking feature of pedagogical renewal in the two sub-regions has to do with attempts to switch to child/learner-centered, activity-oriented pedagogy, away from teacher-dominated instructional practices (Anderson, 2002; Kotta, 1986; Tabulawa, 1997 and 1998; Storeng, 2001; van Graan et al, 2003). The experiences of most, if not all, countries can be summed up as follows: attempts to institutionalize child-centered pedagogy both in schools and teacher education institutions have produced inconclusive results so far. Tabulawa (1998, 1997) provided a compelling explanation of why it is proving so difficult to implement child-centered pedagogy in Botswana. In his view, the inconclusive results have often been rationalized in simplistic, technicist terms such as lack of resources and/or poorly-trained teachers, whereas the real explanatory factors have to do with teachers' assumptions about the nature of knowledge and how it ought to be transmitted, their perceptions of students, and what they consider to be the goal of schooling. Students' epistemological assumptions as well as social factors such as authoritarianism inherent in Tswana society must also be factored in. These assumptions (teachers' and students'), Tabulawa argued, are incongruent with the basic tenets of child-centered pedagogy; taking them for granted when affecting change in classroom practices can lead to disappointing results. This is congruent with an assertion made earlier in this paper: breaking the mold of 'traditional' teaching to embrace and practice open-ended instructional approaches is extremely difficult for teachers because it requires changing deeply rooted beliefs about knowledge, teaching, learning, learners and the purpose of schooling. Tabulawa therefore recommended getting rid of the technical rational model of curriculum development and implementation applied in Botswana.

44. The not so rosy situation depicted above does not mean at all that there are no success stories in the two sub-regions. One such story is the Zim-Sci project in Zimbabwe where the lack of qualified science teachers and equipment, which led a group of researchers at the University of Zimbabwe in bthe early eighties to come up with a creative idea for teaching science. This consisted in using low-cost, simple and less conventional science kits. Along with the kits, the group of researchers developed a tailor-made curriculum, syllabi and instructional manuals to enable less qualified teachers to teach science. The Zim-Sci project reached 78% of the secondary schools during its implementation and in 1984 it was taken to scale by the Ministry of Education. In terms of achievement, students taught through the Zim-Sci approach were able to successfully pass their O' level exams. The approach was "exported" and adapted to other countries in the Southern Africa, namely South Africa and Botswana (ADEA, 1999).

45. Continuous assessment in Swaziland is another case in point. Despite the difficulties encountered and the shortcomings, this innovation is reported to be impacting instructional practices and school effectiveness positively (Aronson, 1996; Clark and Pearons, 1996; Gule, 1999; Magagula et al, 1995; Thwala, 1999; Thwala et al, 1996; Tungesvik, 1999). The difficulties encountered are said to have to do primarily with the absence of enabling conditions such as teaching materials and equipment, and with large class size and strenuous record keeping workloads. These explanatory factors are not unique to this particular pedagogical innovation. Most innovations fail because the enabling conditions were not in place or were underestimated by designers; and also because of the typically top-down nature of innovations, which results unsurprisingly in designers and those at the receiving end, i.e., classroom teachers, having different interpretations of what the innovation entails in practice (Fullan, 1991).

46. Finally, teacher Resource Centers (TRCs) constitute an organizational innovation characteristic of Eastern and Southern Africa worth mentioning. Despite its shortcomings, it appears potentially beneficial for teachers and educational quality. In Zanzibar for instance (see Abdulla et al, 2003), TRCs' activities are reported to have positive effects on student achievement on both national examinations and SACMEQ evaluations.

4.2.3. Research on teacher effectiveness in developing countries

47. The first major reviews of the literature on teaching effectiveness and teacher education in developing countries were carried out at the end of the seventies. Two important reviews were sponsored by the World Bank (Husén et al. 1978), and by Canada's International Development Research Center (IDRC) (Avalos 1979). Husén and Avalos, later on, published their works in two educational journals (Husén, 1979; Avalos, 1980). The reviews covered countries of different developing regions, namely Africa (Egypt, Kenya, Uganda), the Middle East (Iraq), Asia (India, Malaysia, Philippines), and Latin-America (Brazil, Chile, Paraguay).

48. One of the questions addressed in these reviews is the lasting and provocative question: **Does teacher training make any difference?** This question in the Coleman's report on equality of educational opportunity in the USA stirred up heated debate in the mid sixties (Coleman et al, 1966). It is still in the mind of any stakeholder when it comes to making a decision about putting money in teacher education. Nambia's case study could well elicit the same question following the mixed results of the Basic Education Teacher Diploma programs (see van Graan et al, 2003).

49. Both Husén et al's and Avalos' reviews responded positively for the developing countries, and provided mixed answers for developed countries, i.e. European countries, Canada and the US (Husén, et al, 1978, Husén, 1980; Avalos, et al., 1979, Avalos, 1980). But, demonstrating that **Teacher training does make or not a difference** is not so straightforward as many factors and variables are embedded in the statistical multivariate analyses related to the Education Production Function (EPF). But most studies did agree that teacher education makes a difference in developing countries including the African region:

> *The ecology of education differs considerably between traditional and modern societies. In the traditional societies the school tends to have almost the monopoly of the inculcation of certain skills and the transmission of certain information, whereas in modern societies there are several competing institutions of which the family is the most important. This makes the teacher a more powerful agent of competence-transmission in the developing countries than in the developed countries, a fact, which, as we shall see, is also reflected in the findings from our studies…In addition, in the traditional society the school is perceived as the gate to the modern sector with its more attractive jobs and enhanced status (Husén, 1979, p.137).*

50. More recent studies using meta-analyses brought further confirmation that the influence of the school on pupil learning in developing countries is more important than the effect of other external factors (Ridell 1989, 1997; Scheerens, 1999, 2000). However, such a general positive response to the question is in fact an over generalization of findings, because not all training programs benefit to teachers, and not all trained teachers, nor all schools have a positive effect on student learning. According Husén et al., out 11 findings of studies on teacher training, six show a positive effect, three show no effect and two show a negative effect. That is roughly 50 %, which is not good and could be graded C! Furthermore, teacher training is just one set of variables among numerous other factors likely to influence positively student learning. Indeed, the reviews of 32 studies of teacher effects in developing countries by Husén et al (1978, pp. 37-38) identified 16 teacher variables likely to affect student learning (see Annex 1).

4.2.4. Effective educational practices: Toward universal principles?

51. UNESCO's International Academy of Education (IAE) uses the expression "Effective Educational Practices" to include good teaching and various other arrangements that facilitate student learning. The following extract from Brophy's conclusion to the first booklet of IAE's series under the above expression explains why some principles are believed to be universal :

> *To date, most research on teaching has been conducted in the United States, Canada, Western Europe and Australia, and so the degree to which findings apply to other countries has yet to be addressed. The principles presented in this booklet are believed to apply universally, however, for two reasons. Research done all over the world suggests that schooling is much more similar than different across countries and cultures. The day is divided into periods used for teaching, each of the subjects included in the curriculum, and teaching includes whole class lessons in which content is developed through teacher explanation and teacher/student interactions, followed by practice and application activities that students work on individually, or in pairs or small groups. Second, the principles refer to generic aspects of teaching that cut across grade levels and school subjects, not to particular curriculum content. In summary, these principles ought to apply universally because they focus on basic and universal aspects of formal schooling. They still require adaptation to the local context, however, including relevant characteristics of the nation's school system and the students' cultures. (Brophy, 1999, p. 33).*

52. Further along the above explanations, Brophy lists 12 conditions likely to ensure the effect of teaching on student learning. Some of these conditions could be summarized as follows:

- "A supportive classroom climate": a) The teacher creates a warm classroom climate, "a cheerful disposition, friendliness, emotional maturity, sincerity, and caring about students as individuals as well as learners; b) the teacher keeps close contact with parents, extending the classroom warmth to the student home: "..the teacher establishes and maintains collaborative relationships with parents and encourage their active involvement in their children's learning";
- Opportunity to learn: "Students learn more when most of the available time is allocated to curriculum-related activities and the classroom management system emphasizes maintaining their engagement in those activities"
- Clear learning orientations and instruction content: "Teachers can prepare students for learning by providing an initial structure to clarify intended outcomes and cue desired learning strategies". "To facilitate meaningful learning, and retention, content is explained clearly and developed with emphasis on its structure and connections."
- Practice and application activities and cooperative learning: Students should be given opportunities, support and feedback, to practice and apply what they are taught. They would construct better understanding of the subjects matters, and help one another mastering skills if they are given opportunities to work in pairs or small groups.

53. As pointed out above, a critical aspect of teaching effectiveness is the variable clarity. Good and Grouws (1977) described as follows teacher/students interactions in classroom situations, showing what good teachers, in general, do:

> *One of the necessary skills for effective whole class instruction is the ability to make clear presentations. Highs regularly exceed lows in clarity scores. They generally introduced and explained material more clearly than did lows. Interestingly, in whole class settings, high asked more product questions and appeared to keep the "ball moving." However, when students did experience difficulty, highs were more likely to give process feedback than lows. In contrast, lows were more likely to ask process questions and less likely to give process feedback. It seems that highs did not focus upon process as a ritual, but rather, they used process responses when student responses indicated some error or misunderstanding" (p. 126).*

54. A classroom presentation should follow a clear, phased procedure in order to facilitate student learning. Under the title "Direct teaching", Walberg and Paik (2000) list six phased functions of this type of teaching: "1) Daily review, homework check and, if necessary, re-teaching; 2) Presentation of new content and skills in small steps; 3) Guided student practice with close teaching monitoring; 4) corrective feedback and instructional reinforcement; 5) Independent practice in work at the desk and in home-work with a high (more than 90 %) success rate; and 6) Weekly and monthly reviews" (p. 12). Gauthier et al (2003), draw on Giroux and Forget (2001), Boyer (2001 and 1993), Rosenshine (1997a, 1997b, 1986a, 1986b) and Rosenshine et al (1986) to provide further detail on what is advocated in the foregoing.

4.2.5. Pedagogical innovations in developing countries: An overview of promising paths

55. Specific pedagogical arrangements were experimented in South-East Asia (Indonesia and Philippines) and in Latin-America (Mexico, Chile) under the name of "The IMPACT" (Avalos, 1980). In order to alleviate the critical shortages of teachers in Indonesia and Philippines, IDRC sponsored experiments "to restructure the role of the teacher by introducing self-learning and peer or older student teaching through means of programmed material and module work, thereby allowing teachers to concentrate on functions such as supervision, contact with parents and community, and preparation of teaching materials. In the Philippines setting, younger children are taught by older ones in small groups, while in Indonesia peer tutors lead groups of three to five pupils who are proceeding through their modules of instruction". (Avalos, pp 47-48).

56. The experiments in Mexico consisted of training youth below the age of 25 years with uncompleted secondary studies and assisting them to teach in small communities with no schools. Chile ran the same type of experiments. But no evaluation conclusions of these experiments are available. But as pointed out by Avalos (p. 48), "In both the Chilean and the Mexican experience the 'would be teachers' are provided with short training courses, but the most salient factor may not be this training, but their enthusiasm and commitment to the task". This type of group-age teaching and learning reproduces, in a certain extent, patterns of socialization and enculturation of youth in "traditional" African societies. They may be considered as well by Africans to solve the problem of overcrowded classrooms and poor teaching and learning.

57. Avalos (1980) reviewed also studies dealing with various teaching strategies, particularly discovery-oriented and traditional expository methods. The discovery teaching method, according to Avalos, is "…an inductive approach to learning where the teacher minimizes the 'fact-giving' aspects of teaching and the students are encouraged to solve problems through their own activities". This method involves high-level cognitive skills in Bloom's learning taxonomy, such as comprehension, application of knowledge, divergent thinking, problem solving. It is the opposite of teaching that is characterized by "..use of fact-giving techniques emphasizing rote learning and minimal student activity". It is interesting to note that the Cameroonian case study in the framework of the present ADEA exercise looks at an experience of discovery method of teaching science and mathematics under the name of "reflective thinking" method. The results of the project are mixed because of the small size of the sample (12 schools including control ones) not at all representative of the population of thousands of schools in Cameroon. However, it includes a set of promising practices.

58. More recently, Farrell (2002) has been systematically gathering information about what he calls "radical alternatives" (p. 247). These include, among others:

- the ***Escuela Nueva program*** in Colombia;
- the ***Non-Formal Primary Education program*** of the Bangladesh Rural Advancement Commission (BRAC);
- the ***Escuela Nueva Unitaria program*** in Guatemala;
- the ***Fe y Alegria schools*** in Latin America;
- the ***multi-grade programs*** in Guinea and Zambia;
- the ***Convergent Pedagogy*** in Mali;
- the UNICEF-sponsored ***Community Schools program*** in Egypt;
- the ***MECE Rural program*** in Chile; and
- a ***Network of 'education for production' programs*** in Latin America.

59. Typically, [these alternatives] have some or all of the following characteristics:

- Child-centered, rather than teacher-driven, pedagogy.
- Active, rather than passive, learning.
- Multi-graded classroom with continuous-progress learning.
- Combinations of fully trained teachers, partially trained teachers and community resource people […] heavily involved in the learning of the children and in the management of the school.
- Peer tutoring [among children].
- Carefully developed self-guided learning materials [for children].
- Teacher- and student-constructed learning materials.
- Active student involvement in the governance and management of the school.
- Use of radio, correspondence lesson materials, in some cases television, and, in a few cases, computers.
- Ongoing and regular in-service training and peer mentoring for teachers.
- Ongoing monitoring, evaluation and feedback systems […]
- Free flow of children and adults between the school and the community.

- Community involvement that includes attention to the nutrition and health of young children long before they reach school age.
- Locally adapted changes in the cycle of the school day or the school year.
- A focus for the school that is much less on 'teaching' and much more on 'learning' (Farrell, pp. 255-256).

60. As already noted, it is proving quite difficult to implement child-centered, active pedagogy as a desirable practice on a large scale. This is due in part to the fact that teachers are typically unprepared and lack needed support from school heads and supervisors to espouse and enact such a practice. In fact, in most cases, the latter may not be better informed about child-centered pedagogy than the teachers themselves. The case of Namibia's Basic Education Teacher Diploma is illustrative in this respect. So are the Aga Khan Foundation-supported Dar-es-Salam Primary Schools Projects (see Anderson, 2000), and Botswana's University-Based Teacher Education Model in the framework of this country's Primary Education Improvement Project (see Craig et al, 1998, Hopkin, 1997). This does not mean, however, that the idea(l) of child-centered pedagogy should be abandoned. It is simply a call to be cognizant that implementation of such a pedagogy poses formidable challenges, even in contexts where the requisite conditions are in place. It should also be noted that most of the above-listed radical alternatives are in their infancy and on a small scale. There is therefore still much to learn about sustaining them and enlarging their scale. It may well be that the heart of the matter is not child-centeredness per se, but how best to help children learn more than unconnected facts. For sure, teaching as information delivery is not effective in this respect.

4.3. What lessons have we learned

61. What lessons could be learned from the various reviews of African and international research and experiences with respect to "Pedagogical Renewal and Teacher Development"? What can be done to improve teaching and learning in schools in Sub-Saharan Africa? How to raise the quality of education in terms developing the intellectual capacity and competencies of the learners, with a view to improving school learning and reducing grade repetitions and dropouts?

62. **First**, with respect to African studies and reports, we found that thousands of investigations have been carried out from the sixties to now. But these studies represent only a small part of the research effort in the sector of education because thousands of other studies are not published. Dissertations are not known because they are restricted to the academic "tours d'Ivoire" limited to scholars. The reports prepared by government and international agencies are not known to the public because they are considered top-secrets; they contain indeed projects costs and bank transfers of funds. These are in general kept secret from the population.

63. This is a great prejudice for everybody. Indeed millions of whatever currencies have been spent on the research but the conclusions are not known, because they are kept in dusty drawers or hidden from the public. This is wasting money of the taxpayers. Each year more studies are carried out and more money is spent but nothing significant happens. Furthermore, useful findings and knowledge exist, but they are not used to seek a better understanding, and addressing the youth's learning and development needs and problems. **It is therefore recommended that measures be taken to improve the publication and dissemination to the grand public, if not complete dissertations and government reports, at least abstracts of these documents**. The annotated bibliographies that ERNESA and ERNWACA did as part of the COL study is a right step in this direction.

64. **Second**, we found that the designs of a significant number of studies, including theses and dissertations, do not follow rigorous scientific methods. There are problems with the hypotheses and variables involved, research instruments, sampling, data collection and analysis, and the findings. Most studies are based on surveys and on cross-tabular analyses. These kinds of studies are useful, but the time has come where Africans should engage in more experimental research to have meaningful findings likely to be compared with other research results of the same type. **It is therefore recommended that more researchers use experimental designs in their investigations in education and in the social sector in general**. This means that experimental design methods and related statistical analyses should be taught in the African higher education institutions, including various departments and schools of education.

65. We found two examples of such research design in the annotated bibliography prepared by ERNWACA/Cameroon. The first study "investigates the effects of pedagogical factors on the development of reading readiness skills of class one pupils" (Ayuknso Nkongho Ashu, 1997), while the second "investigates the effects of mime techniques in improving pupils' performance in vocabulary learning in junior primary school" (Nso Mantab, 1999). Both studies used experimental designs and the participants were randomly assigned to different groups. It should be noted that the two studies concern grades one and two of primary school. These are primary school grade levels with highest dropouts and class repetitions, and relatively low passes.

66. A. N. Ashu used a survey design. Her research instruments were an "observational checklist and questionnaire for teachers, and teacher-made reading readiness test of visual and auditory discrimination skills. Data were collected from 50 randomly selected grade one teachers and 122 grade one pupils of Government Primary School, Group IV, Kumba Town. The Z-test was used for data analysis". The research abstract does not describe in detail eclectic and play-play methods used by the teachers. Her findings were summarized as follows:

- The mean performance of pupils exposed to the eclectic methods of teaching is significantly better than those exposed to the phonic method in auditory and visual.
- The mean performance of pupils exposed to the play-play method of teaching is significantly better than that of pupils exposed to the traditional method in auditory and visual discrimination.
- The mean performance of pupils taught using classroom resources is significantly better than those taught with no classroom resources in auditory and visual discrimination.

67. Based on these findings, she recommended that teachers use the eclectic method to teaching reading to grade one pupils.

68. Nso Mantab (1999) picked randomly 122 pupils "from the Central Government English primary school in Yaoundé and they were divided into the experimental and control groups. Selected vocabulary items were taught to the experimental group using mime techniques while the control group was taught the same items using the memorization technique. The teacher-made achievement test was administered after teaching and the data collected was analyzed using the Z-test. The results of the analysis indicated that mime techniques improve pupils' performance in target language vocabulary. Pupils show feedback at and motivation in learning vocabulary presented through mime techniques and not through memorization technique".

69. The call for more experimental research should not, however, be construed as an either or choice in terms of research paradigm. As a matter of fact, there are other ways of looking at teachers' work and lives, and at teaching and learning processes, that are equally important and valid. For instance, classroom-anchored research carried out in several developing countries, using mixed methodologies, in the framework of the USAID-funded *Improvement Educational Quality* project is a good case in point in this respect (see IEQ, 1999, 2002; Schubert, 2003; Prouty-Harris, 2003). Such research conducted in Ghana, Malawi and Uganda led to important insights on the dynamics of classrooms, which in turn influenced policy and planning. We must bear in mind that in education, as in most other practices of human improvement, *all that counts may not necessarily be countable and all that can be counted does not necessarily count*. In the final analysis, regardless of what research paradigm one espouses, what is important is to carry out good quality research. The study of Namibia's in-service Basic Education Teacher Development (BETD) program reported in van Graan (2003) is a good example in this respect.

70. In order to promote good research as a development tool, African ministries of education should strengthen their planning and statistics units, for any investigation in the social sector implies access to reliable and up-to-date databanks[6]. **It is therefore recommended that measures be taken to update information and statistical concerning the education sector**. But gathering statistical information and statistical data without using them in the planning process or in the decision-making is wasting of time and resources. Consequently, **it is further recommended that Ministries of education communicate their research priorities to higher education institutions in order to help orient academic research programs toward the top priority development areas**.

71. **Third**, teacher effect is consistently reported across studies carried out in both developing and developed countries. There is also a consistent finding across studies that school has a stronger influence on student achievement than home and other external factors in developing countries, compared with developed countries. Despite a cautionary note about the methodological quality of the studies that led to this finding, it makes sense, considering the fact that sources of school-sanctionned knowledge and skills are more varied in developed countries than in developing countries. For developing countries, and Sub-Saharan Africa in particular, this has implications for policy and planning in two apparently opposed ways. On the one hand, assuming that schooling is maintained in its present form, this finding calls for considering the school as "the best level of intervention for improving the quality of education" (Carron and Châu, 1996, p. 151). On the other hand, one can take the option to transform schooling in Sub-Saharan Africa with the dual aim to reduce the discrepancy between school-sanctioned knowledge and skills and out of school knowledge and skills, and thus create a situation where sources of school-sanctioned knowledge and skills are varied. Taking either option means **pushing decision-making to lower levels of the organizational structure of the education sector and strengthening school leadership and community participation**.

72. **Fourth**, and this may be redundant, reading ability stands as a sine qua non condition for learning other subject matters. It is also a strong predictor of educational "survival". **Reading must therefore be considered a priority area in efforts to improve the quality of basic education in Sub-Saharan Africa**. In fact, it appears that countries worldwide accord substantial space to language and reading in their curricula. The difference in achievement may lie in how effectively time for teaching reading and learning to read is used in the classroom. Opportunity to learn to read stands therefore as an area where more investigation and special policy measures are needed. Ongoing

[6] Most education statistics published by UNESCO in World Education, 4th edition, 2001, date back to 1996.

bilingual education programs, using African and foreign languages, appear to be good sites for such investigation and for trialing such policy measures.

73. **Fifth**, there seems to be little attention to multi-grade teaching. This is a pity as multi-grading appears essential in the context of striving for quality EFA, a context where reaching the hard to reach stands as both a challenge and a means, as well as a matter of equity.

5. THE PRIMACY OF THE HUMAN FACTOR IN PEDAGOGICAL RENEWAL: A STATE OF THE SCENE AND PROPOSALS FOR IMPROVING THE SITUATION

> *The quality of education depends, in the final instance, on what goes on in the classroom. [...] The main differences [in the achievements of pupils] have to do with teacher motivation, with the headteacher's role, when there is one, with the strength and intensity of supervision and with the school's general atmosphere and its relations with the community. In other words, the impact of process factors (in particular the relationships between the different actors: teachers, supervisors, headteacher, pupils, parents) on quality is greater than the impact of input factors (e.g. textbooks, teacher training, teaching aids). Is this to say that input factors are of no importance at all? That schools can function effortlessly without the bare necessities? Obviously not. But to believe that the mere provision of those necessities, without attention to how they will be used in school and in the classroom, will guarantee a high-quality teaching process, is unrealistic (Carron and Châu, 1996, pp. 201 and 203).*

74. Evidence from both developed and developing countries suggests that for desirable, i.e., effective, teaching practices to be observed in classrooms, educational systems need to **pay more attention to how input factors are used in school and in the classroom**. As we pointed out above, the effective use of input factors at that level depends primarily on the knowledge, skills, dispositions and commitments of the adults in whose charge children are entrusted, i.e., teachers and school heads. It depends also on how these actors interact with children, among themselves and with the professionals mandated by the system to supervise and support them, as well as with the community that hosts the school and which the latter is supposed to serve. The **development of teachers and educational leaders**, and **school leadership** stand therefore as key enabling conditions for effective teaching and learning. This is in line with what emerged from the comparative analysis of national case studies conducted by Carron and Châu (1996) in different development contexts: Guinea in West Africa, the State of Madhya Pradesh in India, the Province of Zhejiang in China, and the State of Puebla in Mexico. Carron et Châu identified the following as "themes that should be at the heart of planners' concerns" (p. 269):

- Being more attentive to the demand side;
- Investing more in the human factor;
- Restoring supervision and support mechanisms; and
- Bringing the school closer to the community.

75. All four themes speak to this thematic strand of the *Challenge of Learning Study*. We see these themes as enabling conditions; and we now turn to fleshing them out, drawing on the theme-related background papers and case studies, as well as other sources.

5.1. Attracting talented individuals to the teaching profession, supporting their professional development and retaining them

5.1.1. Attracting and retaining a competent teaching force

76. Attracting talented individuals to teaching has become a major concern worldwide, including in developed countries (see for instance OECD, 2002 and 2003). Besides the well known factors, namely decent salaries and working conditions, having a career plan stands as a critical, motivational factor. The latter factor takes on a special significance at a time when many countries in Sub-Saharan Africa, e.g., Burkina Faso, Chad, Guinea, Cameroon, Mali, Niger, Senegal, Togo, etc., are having to resort massively to contract, volunteer or community teachers, in response to teacher shortage and economic hardships. Indeed, this category of teachers is likely to outnumber regular teachers rapidly (they may have already in some cases), as countries strive to achieve UPE by 2015.

77. It is important to think prospectively about how to deal with the consequences of this unavoidable situation. These include, among others, the changing composition of the teaching force and the potentially harmful instability of the teaching staff in many schools, especially in areas where there are competing job opportunities. In this respect, the experience of Senegal is worth looking at. This country has since the mid nineties resorted to volunteer teachers to face a severe teacher shortage. Initially, there was no career plan for these teachers, many of whom had completed three or four years of higher education. Pressure from various stakeholders, including the critical mass of volunteer teachers themselves, led to the establishment of a career ladder. This retention incentive has financial, administrative as well as legal implications. How these implications will be handled in the long run remains an open question.

78. In their case study of the new primary teacher preparation program in Guinea, Diané et al (2003) recommend a career plan as a strategy for making teaching an attractive career, sustaining the enthusiasm of prospective teachers, and retaining them in teaching upon graduating from the program. What the foregoing suggests is that the hiring of contract, volunteer or community teachers is not a panacea to the problem of teacher shortage and the financial burden that teachers place on the budget of the education sector. Countries considering this solution need to be cognizant of its limitations and consequences.

5.1.2. Teacher learning and professional development across a career

> *After decades of school reform, a consensus is building that the quality of our nation's schools depends on the quality of our nation's teachers. […] If we want schools to produce more powerful learning on the part of students, we have to offer more powerful learning opportunities to teachers. […] Unless teachers have access to serious and sustained learning opportunities at every stage in their career, they are unlikely to teach in ways that meet demanding new standards for student learning or to participate in the solution of educational problems (Feiman-Nemser, 2001, p. 1014).*

> *[E]ven small changes with teachers and their learning environments – changes of the right type, that is – can make a difference to children's learning and retention in the educational system. Helping teachers be knowledgeable and responsible enough to make needed adjustments to the learning environment is one of these changes of the "right type" (Craig, Kraft and du Plessis, 1998, p. 1).*

79. Beyond attracting talented individuals to teaching, countries are also preoccupied with the professional learning and development of teachers. In this respect, it is worth noting that there are no clear cut, definitive answers to the question *How best to prepare teachers for teaching and provide for their further development in service*? In fact, there may never be such answers, as schooling, teaching and teacher education must, in principle, adapt to societal changes. However, the literature is replete with useful conceptual frameworks for thinking about and designing teacher education. As well, the literature contains promising practices that can inspire. From a conceptual perspective, what we know can be stated in a nutshell as follows:

- **Learning to teach involves the dual task of constructing a practice and a professional identity**. In more practical terms, it entails learning (to accomplish) the central tasks of teaching and the professional norms and ethics associated with desirable practices. Notwithstanding the fact that desirable practices in teaching are context-bound, it is agreeable that the central tasks of teaching include planning for instruction, managing instruction (including the learning environment), and assessing student learning. Each of these tasks can be further broken down and associated with particular aspects of "what teachers need to know, care about, and be able to do in order to promote substantial learning for all students" (Feiman-Nemser, 2001, p. 1016). Some of these aspects can be found in the following characteristics of effective teachers, defined by Craig et al (1998, p. 12) as "teachers who are able to develop sound achievement with their pupils." They According to them,

  Effective teachers at a mature stage of development tend to:

  - know their subject matter
  - use pedagogy appropriate for the content;
  - use an appropriate language of instruction, and have mastery of that language;
  - create and sustain an effective learning environment;
  - find out about and respond to the needs and interests of their students and communities;
  - reflect on their teaching and children's responses and make changes to the learning environment as necessary;
  - have strong work ethics;
  - are committed to teaching; and
  - care about their students.

- **Constructing a practice is not a one-time event; hence the need for opportunities to learn as one practices**. In fact, given the ever changing nature of schools and teaching, one must periodically reconstruct one's practice. But the reconstruction of practice is hard because it requires changes in deep-rooted ideas that form the basis of one's practice. This has implications for in-service teacher education, beyond the early years (Ball, 1988; Cohen, 1988; Craig et al, 1998; Day, 1999; Elmore, 1996;

Hargreaves and Fullan, 1992; Lieberman and Miller, 1979, 1992 and 2001; Ross, Cornett, and McCutcheon, 1992; Thompson and Zeuli, 1999).

- **Constructing a professional identity or learning the professional norms and ethics associated with desirable practices requires being in a community of practice and being enculturated into that community** (Britton, Paine, Pimm, and Raizen, 2003; Feiman-Nemser, 2001; Lave, 19xx; Tharp and Gallimore, 19xx). This also has implications for teacher education. In particular it implies thinking differently about practical experience at the pre-service level and makes a case for structured induction.

80. Based on a broad review of the literature and the evaluation of various programs, Craig, Kraft and du Plessis (1998) argued for seeing teacher development as

> *a continuum of learning, with teachers located at various places along the continuum. (The stage of a country's development will also affect the range of learning experiences on this continuum. Long term goals for excellence in teaching should be ambitious, but short and mid-term goals must reflect the reality of the everyday working situation for teachers. Even if only very modest changes are produced, such as getting a teacher to come to class each day and undertake basic skills training with rote methods, this represents progress if before the teacher did not even make it to class. While there are certainly better methods than rote to help children learn, the point is that planners and administrators may need to have modest goals in the initial stages of enacting a teacher development program. However, they should never lose sight of moving forward to the goal of creating a teacher who will use a variety of interesting and effective learning methods (pp. 1-2).*

81. Feiman-Nemser (2001, p. 1050) provided a useful framework that operationalizes the idea of a continuum of learning to teach as follows:

Central tasks of learning to teach

Preservice	Induction	Continuing Professional Development
1. Examine beliefs critically in relation to vision of good teaching	1. Learn the context – students, curriculum, school community	1. Extend and deepen subject matter knowledge for teaching
2. Develop subject matter knowledge for teaching	2. Design responsive instructional program	2. Extend and refine repertoire in curriculum, instruction, and assessment
3. Develop an understanding of learners, learning, and issues of diversity	3. Create a classroom learning community	3. Strengthen skills and dispositions to study and improve teaching
4. Develop a beginning repertoire	4. Enact a beginning repertoire	4. Expand responsibilities and develop leadership skills
5. Develop the tools and dispositions to study teaching	5. Develop a professional identity	

82. This task-oriented framework forms a practical agenda for both teachers and teacher educators. Most of the tasks identified are well known to teacher educators. One

that deserves particular attention but that is often neglected in teacher education programs is the first task at the pre-service stage. *Analyzing beliefs and forming new visions* is based on the "well established fact that the images and beliefs which pre-service students bring to their teacher preparation influence what they are able to learn" (Feiman-Nemser, 2001, p. 1016). In other words, the construction of practice can be said to begin well before formal teacher preparation (see also Ball and McDiarmid, 1990; Calderhead and Robson, 1991; Craig, Kraft and du Plessis, 1998; Evans, 1999; Lortie, 1975; Nemser, 1983). Consequently, prospective teachers' entering beliefs must be part of the curriculum of teacher education. In fact, this first task is relevant as well for experienced teachers engaged in learning new practices, as most of them have been taught and must have been teaching in ways that are very different from the kind of practices that are currently advocated by reformers as desirable. According to Thompson and Zeuli (1999), simply getting experienced teachers to internalize and act upon the fact that what is called for is *not* **helping students learn to think** *but* **making them think to learn** is a major challenge in in-service teacher education.

83. *Developing tools to study teaching* is also a task that is not often well accomplished in teacher education programs. It involves developing skills of observation, interpretation, and analysis, and can "foster norms for professional discourse such as respect for evidence, openness to questions, valuing of alternative perspectives, a search for common understandings, and shared standards" (Feiman-Nemser, 2001, p. 1019). The rationale for this task can be traced back to Dewey's conception of reflection--a conception that was popularized in the early eighties by Schön (1983, 1987) as reflective practice, and that then caught the imagination of the teacher education community (see for instance Clift, Houston, and Pugah, 1990; Loughran, 1996). In Dewey's view, if they are to foster student growth, teachers must be students of both subject matter and "mind activity". "Dewey took seriously "the injunction that teachers should be engaged in genuine intellectual activity and sought ways to involve them in research investigations. [His] notion of the classroom laboratory placed the teacher squarely in the center of efforts to understand educational practice and develop educational theory" (Ross, Cornett and McCutcheon, 1992, p. 11).

84. Teacher education discourse, research and practice since the late eighties have also been significantly marked by Shulman and colleagues' concept of pedagogical content knowledge (PCK) or knowing subject matter from a pedagogical perspective (Shulman, 1986, 1987; Wilson, Shulman and Richert, 1987). Shulman (1986) defines PCK as a special kind of knowledge that distinguishes teachers from lay people and other educators. It includes "for the most regularly taught topics in one's subject area, the most useful forms of representations of those ideas, the most powerful analogies, illustrations, examples, explanations, and demonstrations – in a word, ways of representing and formulating the subject that make it comprehensible to others" (p. 9). Pedagogical content knowledge allows a teacher to build bridges between his or her sophisticated understanding of the subject matter and the students' developing understanding, and to adapt instruction to the variations in ability and background presented by the students. Developing this special kind of knowledge is therefore an important part of the agenda of teacher education.

85. Feiman-Nemser (2001) proposes as well, a set of essential elements of well-designed pre-service teacher education programs, including: (i) *conceptual coherence*, (ii) *purposeful, integrated field experiences*, and (iii) *attention to teachers as learners*[7]. At the induction phase, she proposes the following: (i) *appropriate assignments*, (ii) *a developmental stance, time frame, and curriculum*, (iii) *integration of assistance and*

[7] See Craig et al (1998) for a comparable set of "essential elements of coherent and successful [pre-service] teacher education programs (pp. 60-63). They also provide a 64-item comparative list of "more and less effective teacher education strategies in developing countries" (pp. 147-151).

assessment, (iv) *a strong mentorship component*, and (v) *partnerships and collaboration*. Finally, essential elements of well-designed programs for teacher development beyond the early years, include: (i) *serious talk about teaching, learning, learners and other aspects of schooling as a medium of professional development*, (ii) *professional communities of practice*, and (iii) *grounding in the particulars of teaching and learning*. It may be difficult for a given program to have all these elements, but they provide helpful guidance for designing opportunities for teacher learning at each phase of the learning-to-teach continuum.

86. One may think that the foregoing is beyond the reaches of developing countries, especially Sub-Saharan Africa. This is not the case as it appears in the promising experiences in the framework of the *Challenge of Learning Study*. They include Guinea's new pre-service primary teacher education program (FIM-G), a small grants program for teacher-led professional development and school improvement projects (PPSE) in the same country, Zanzibar's Teacher Resource Centers, Namibia's Basic Education Teacher Diploma (BETD) pre- and in-service programs, and Uganda's Teacher Development and Management System. Other promising experiences worth highlighting are a set of school improvement projects supported by the Aga Khan Foundation in East Africa, with teacher development as a cornerstone (see Anderson, 2002). For the purpose of this thematic synthesis, we provide summaries of the experiences in Guinea, Namibia, and Uganda.

- **Pre-service Primary Teacher Education Reform in Guinea**
  (based on Diané et al, 2003)

87. From 1992 until 1998, Guinea recruited its prospective primary teachers among grade 12 students and provided them with a 3-year program. In a context of declining quality at secondary level, a significant number of prospective teachers showed serious weaknesses in content knowledge. As a result, the 3-year training program was principally focused on content knowledge and made little room from pedagogical knowledge and educational psychology. Student teaching was carried out in the cozy context of the laboratory school (École d'application) attached to each Normal School (ENI in French). The student teachers/normal school teacher ratio was as low as 10/1 on average, which resulted in high unit costs and low outputs in terms of trained teachers. At the same time, demand for new teachers was increasing steadily, so much so that by 1998, the 8 ENIs taken together could not even provide 200 new teachers per year, whereas there was a projected shortage of 2,000 for the 1998-1999 school year.

88. It was in this context that in February 1998, the Government of Guinea obtained a *Learning Innovation Loan* (LIL) from the World Bank with a view to mitigate the foreseen crisis. The country needed 2,000 thousand new teachers in October 1998! In addition to this pressing need, there was a need to rethink pre-service teacher education given the soaring costs and low productivity of the existing model. The challenge was therefore to design a program that could provide the country with 6000 contract teachers in three years and at lower unit costs while preserving quality. With technical support from a university of Quebec, Guinea designed a two-year model (known by its French acronym FIM-G) based on the German dual system of professional training, and conceptually oriented by active pedagogy, learning-centeredness, reflective practice, and socio-constructivism.

89. The first year of the program consists of coursework at the ENI (focused on the teaching of the basic subjects such as French, mathematics, science and technology, and humanities, as well as on educational psychology and learning assessment). The year of coursework is interspersed with periods of student teaching (formation pratique) in specially selected ordinary schools (écoles associées). Courses at the ENI are taught by the normal school teachers and periods of student teaching are supervised by pedagogical

advisors (conseillers pédagogiques-maîtres formateurs) in collaboration with the host teacher (maître associé) and school head (directeur associé). The second year is a school year-long student teaching experience where the prospective teacher assumes full responsibility for a classroom. During this year, he or she still receives support from a pedagogical advisor as well as a maître associé. Several student teachers are placed in a given school so that they can support each other as well as engage in peer socialization.

90. The quantitative objective was met beyond expectations as the program delivered 7,162 new teachers (37% of whom are women) by June 2003. Put differently, the program delivered 2,496 new teachers per year, compared with less than 200 previously. The unit cost is estimated to be 1,484,288 Guinean Francs, or approximately US$677.

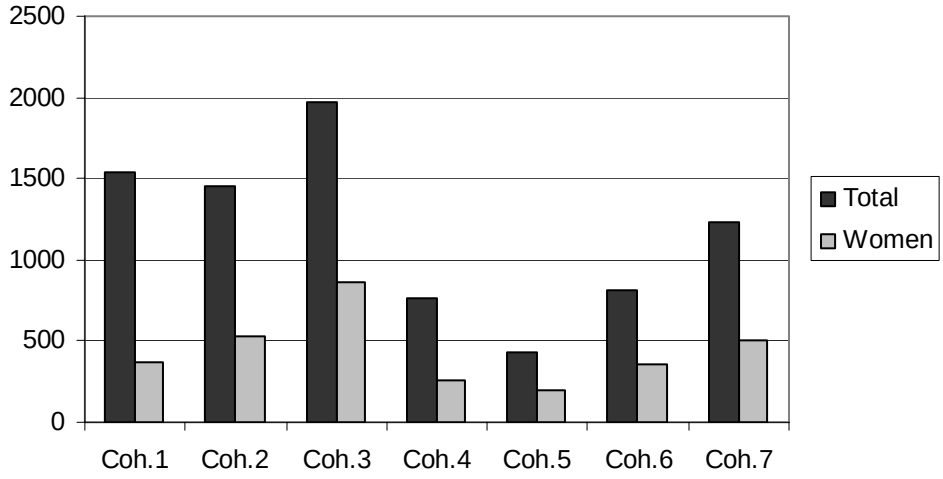
91. This remarkable accomplishment can be attributed mainly to the design and implementation of two versions of the model: a short cycle (called formation d'urgence) and long cycle (called formation régulière). The short cycle consists of three phases: 3 months of coursework at the ENI (from July to September), followed by 9 months of student teaching (from October to June), and finally 3 months of further coursework at the ENI (July to September). The regular model consists of two phases: 9 months of coursework at the ENI (from October to June), interspersed by three periods of student teaching conceptualized respectively as periods of observation, immersion (imprégnation) and responsibility; followed by 9 months of student teaching with full responsibility for a classroom.

92. This strategy helped increase the productivity of the ENIs. They have been operating 12 months a year since 1998 and have catered to 7 cohorts of prospective teachers from August 1998 to June 2003 (see the table and graphic below). The 7th cohort is expected to be certified in December of this year.

Table 3 Distribution of student teachers across cohorts

Cohorts	Total	Women
1.	1534	370
2.	1451	525
3.	1967	858
4.	768	264
5.	431	203
6.	815	352
7.	1233	505
Total	8199	3077

Graph 1 Graphical representation of distribution of cohorts



93. Beyond these figures, the graduates of the program are reported to be at least as good as graduates of previous programs. This assertion is based on an evaluation conducted in 2002 by the *Programme d'Analyse des Systèmes Éducatifs de la CONFEMEN (PASEC)*. One of the objectives of this evaluation was to ascertain the effectiveness of the first two cohorts of graduates from the new teacher education program, compared with graduates from the previous ENI model and the former Normal Primary Schools (ENP in French). Teacher effectiveness was measured by the student scores on two written tests (a French test and a mathematics test) administered to a national sample of 2880 grade 2 and grade 5 students at the beginning and end of the school year. The results of the analysis of student test data revealed the following:

- 5th grade students taught by FIMG graduates scored higher than students taught by graduates of former teacher education programs.
- The reverse is obtained in grade 2, even though the scores of students taught by FIMG are very close to the scores of students taught by graduates of the previous ENI model.
- But overall, students taught by FIMG graduates performed better than students taught by graduates of non-FIMG graduates, i.e., graduates of the ENP and old ENI models.
- Interestingly, students taught by the 2nd FIMG cohort scored higher than students taught not only by the 1st FIMG cohort but also by graduates of the ENP and old ENI models.

94. The fourth finding suggests that there was an improvement in the program's effectiveness from the first cohort to the second. This is all the more important as the 20,000 new teachers that Guinea needs over the next 10 years, in the framework of its basic education for all program, will receive their pre-service education under this new model. This will mean doubling the size of the current teaching force. An issue that needs urgent attention has to do with a career plan for contract teachers, promised since the inception of the program but yet to be seen. As indicated above, this has important financial, administrative and legal implications. Other issues that need attention as well include:

- difficulties encountered in implementing practice teaching in associated schools;
- difficulties encountered in implementing reflective practice; and
- lack of preparation of prospective teachers for the reality of large classes, double shift, multi-grade teaching and lack of instructional materials.

▪ **Making primary school teachers full partners in their own professional development in Guinea**

95. Since the mid-nineties, Guinea has been developing a program to help teams of elementary school teachers take more responsibility for their own professional development, and thereby improve student achievement. With World Bank funding, Guinea created a competitive small grants program which provides substantial organizational, material and financial support for the many teachers who have previously had very limited opportunities for formal education and professional development. The underlying idea is, nevertheless, that the teachers have within themselves the motivation and capability it takes to improve.

96. The program is premised on the assumption that for teachers to pursue effective professional development, they need to be engaged. A starting point for engaging teachers is to involve them in a genuine way in determining the content and organization of that professional development. This is more than eliciting teacher participation through surveys, questionnaires or interviews which are intended to allow teachers to express their needs and preferences, and which then become the basis for decisions and actions that others take in their favor. Instead, it entails allowing teachers to make decisions and initiate actions that will naturally respond to their felt needs (Colleta & Perkins, 1995). Doing so provides an important intrinsic incentive in that it acknowledges teachers' importance as key actors in the improvement of teaching and learning. In practice, in Guinea this has meant [i] designing an organizational support system that consists of a set of extrinsic and intrinsic incentives, and assistance from a specially qualified support personnel; [ii] balancing such a support system with teacher autonomy and self-direction; and [iii] having a system to ensure transparency and accountability in terms of (a) student and teacher learning, and (b) use of financial resources.

97. Before this program the Guinean authorities had been disappointed with the unsatisfactory results of earlier programs which viewed teachers as passive receptacles for knowledge and skills that they were to be taught by outside experts. Therefore, they were ready for a program that seeks to develop the capacity of primary school teachers to:

- Analyze the various problems they encounter in their classroom practice and that affect student learning negatively
- Choose the problem they think most important to address with a small grant project
- Design and implement a pedagogical renewal project consisting of professional development activities to deal with this problem
- Evaluate the project and be able to show others what was learned and how it improved student achievement, and
- Manage and account for the funds received.

98. In just six years this program grew from a pilot in one region to a nation-wide effort which reaches into the most isolated rural areas as well as the overcrowded schools of the national capital. Nearly all elementary school teachers in the country (more than 15,000 or 89% of the national teaching force) have been involved in the writing of around 3,000 proposals. About 6000 teachers (or 35% of the teaching force) have had the chance to participate in one of the 1,200 funded projects between 1996 and 2002. In addition, as the program offers the possibility to extend a project twice, several hundreds have had the opportunity to participate in the implementation of two or three projects consecutively.

99. Initially, most of the projects focused on problems teachers had with the officially authorized methods of teaching students how to read French, the only language of instruction in Guinea, but the second language of virtually all the students. Progressively, the projects diversified. There have been more and more projects dealing with mathematics, science and social studies as well as non-curricular topics such as how to reduce gender inequalities in classrooms or how to teach effectively in a multigrade classroom.

100. In these projects, teachers decide not only what activities to carry out, but also how to spend the grants of approximately $750 per year (this is a substantial amount in schools which have heretofore had no discretionary funds and extremely limited material resources of any kind). Notwithstanding this autonomy, the teachers do get a good deal of outside help for their projects. About 200 facilitators drawn from ministry staff across the country help teachers in non-directive fashion to write proposals and carry out projects; resource persons provide school-based workshops requested by the teachers; and about 100 evaluators help the teacher teams evaluate and report on what they are doing. This has meant among other things that mid-level ministry personnel have worked with teachers in their schools much more frequently and for longer periods than in the past. This was in line with the program's long term objective to revitalize the deconcentrated structures of the Ministry of Pre-University and Civic Education. The program has also mobilized prefectoral and regional educational leaders through the two-tiered jury system put in place for selecting projects to be funded. The program was thus successful in strengthening the pedagogical leadership role of regional and local educational leaders whose role was previously limited to administrative supervision of schools and teachers. At the central level, the program is managed by a small team led by the national deputy director of elementary education.

101. Since the program went to national scale, dissemination seminars for the program have been held annually in each of the eight administrative regions of the country and have involved each time and at each site over one hundred teachers, program facilitators, evaluators and other prominent educators at the regional level. In addition, a national dissemination seminar was held in 2000 in the capital city and involved about 300 participants from all over the country, including teachers who had never before left their own region. Since each teacher team has its own booth at the dissemination seminars to exhibit what it has accomplished, the Guineans have come to think of these events as pedagogical fairs or expositions which serve to demonstrate the initiative, creativity and productivity of the participating teachers.

102. In short, this is a program that is based on much of what we know from research on teacher education, namely, that teacher learning is most enhanced when professional development (1) is a team rather than an individual effort; (2) focuses on what teachers feel they need, with priority given to the teaching of basic subjects, (3) is conducted in or close to the classrooms of participating teachers with extensive practice, follow-up, and formative evaluation as well as sufficient material support and outside expertise provided in a non-directive manner (Craig, Kraft, and du Plessis, 1998; Colleta

and Perkins, 1995; Darling-Hammond and Sykes, 1999; Day, 1999; Elmore, 1996; Fullan, 1982; Hargreaves and Fullan, 1992; Lieberman and Miller, 1999; and McLaughlin, 1991)[8]. Nevertheless, this program faced a number of challenges including:

- the double-edged nature of competition;
- difficulty to reach teachers in some very isolated school;
- short supply of facilitators in some regions, which implied slowing down program expansion plans in such regions;
- insufficient means of transportation for facilitators and evaluators who, in fulfilling their obligations, are often required to travel long distances;
- delays in making funds and requested materials available to regional coordination offices and consequently to teacher teams.

- **Learning to practice critical reflection in in-service teacher education in Namibia** (based on van Graan et al, 2003)

103. After more than a 100 years of colonial domination and apartheid oppression, Namibia emerged as an independent and free nation in 1990. The apartheid legacy led the new government to enter into a social transformation process to equalize society; and a re-evaluation and reconstruction of the educational system was central to this process. In order to achieve the national goals of *access, equity, quality* (pedagogical effectiveness and internal efficiency) and *democratic participation*, a paradigmatic shift was made from a content-based education system for a few to a learner-centered system for all. Teacher education was considered one of the most important areas of reform, because of teachers' strategic role in the reform efforts. Within the new paradigm of education, teachers were seen to be 'both agents and implementers of change', and thus had to be adequately prepared for the task. Indeed, the paradigmatic shift required fundamental changes in the content and processes of teacher education as well. Given the socio-political context and the adoption of learner-centeredness, critical practitioner inquiry and reflective practice were adopted and became key concepts orientating teacher education. These concepts permeate the pre-service (PRESET) and in-service (INSET) Basic Education Teachers Diploma (BETD) programs that the National Institute for Educational Development (NIED) was mandated to design and develop.

104. The design and development of the program were guided by questions such as *How do student teachers learn best? What do they need to learn?* The BETD program places a stronger emphasis on the professional aspects of teacher education than the pre-Independence programs, i.e. the pedagogical and social aspects of teaching have a much larger portion in the school-based component of the program of study. It emphasizes learner-centered, reflective, analytical and productive methods and approaches. It attempts to integrate various types of exposure to classroom situations so that theory and practice can be integrated meaningfully for the benefit of the student teacher.

105. Since most of the teachers and teacher educators at Independence were educated and trained according to the pre-Independence paradigm of education, it was necessary to orient all teachers and teacher educators toward the new paradigm, and to incorporate notions such as reflective practice, critical practitioner inquiry, and learner-

[8] For further information on this program, see Diallo, A.M., Camara, K., Schwille, J., Dembélé, M. et Bah, T. H. (2001, octobre). La mobilisation des éducateurs guinéens en faveur de la généralisation d'un programme focalisé sur la qualité de l'enseignement élémentaire. Document prepared for the 2001 biennial meeting of ADEA ; and Schwille, J., Dembélé, M. and Diallo, A. M. (2001). Teacher Improvement Projects in Guinea: Lessons Learned From Taking a Program to National Scale. Peabody Journal of Education, Global Issues in Education, Stephen P. Heyneman (Ed.), Vol. 76, numbers 3 & 4, 102-121.

centered education into both the pre-service and in-service program. The in-service program was introduced in 1994 as a one-year pilot project. In 1995, it was revised and developed, first to a five-year program and later to a four-year program. The program is based on a practice-based inquiry (PBI) approach. The model assumes that improvement in teachers' pedagogical and theoretical understanding of their practice leads to improvement in classroom practice. The model also assumes that improved pedagogical understanding and classroom practice result from teachers reflecting critically on what they do.

106. The in-service consisted of face-to-face and distance training programs. The face-to-face is made of assistance and support to teachers by tutors three times a year. These help sessions are held during the school holidays at six centers scattered throughout the countries. Each contact sessions lasted for five days during which part-time tutors assist teachers on how to study the module guides as well as give teachers feedback on their assessment tasks. The distance mode is conducted through distance teaching materials including a series of instructional module guides.

107. In the framework of the *Challenge of Learning Study*, NIED carried out a case study of the in-service program seeking to find out whether at the end of the training programs, teachers will have learned effective teaching behaviors, and whether or nor this contributes to improving students' learning. A sample of 30 practicing teachers was drawn from a population of 187 teachers of a first cohort to be introduced in 1997 to the "Practice-Based Inquiry" Model. The sample included six unqualified and 24 certificate teachers. Experiences in teaching range from 0 to 9 (6 teachers), 10 to 15 (12 teachers), 16 and more (9 teachers). Six module guides out of 12 had been covered at the time of the study. Using a a classroom observation schedule, a teacher understanding assessment schedule and a teacher reflection assessment schedule to gather date, the study attempted to measure teachers' reflection, pedagogical understanding and classroom practice. The analysis of the data yielded the following findings:

- Only 23% of sample teachers demonstrated adequate teaching according to desired teaching approaches. Generally it was felt that teachers are aware of the necessity to incorporate learner-centered principles (e.g. promoting collaborative learning, accommodating individual differences and incorporating an integrated approach to learning and teaching) in their teaching, but that they lack the skills to do it.
- None of the teachers in the sample of the study demonstrated a link between understanding and teaching skills at an adequate level of accomplishment. Only three teachers demonstrated 'adequate' understanding. The study also reveals that teachers did not reach high levels of reflection.
- While the model assumes that teachers will relate theory to practice or practice to theory, the findings indicates that teachers have difficulties in making a connection between theory (readings in the support material) and practice (inquiry activities). They seemed to have read the support material without reflecting on the inquiry activities. The researcher concluded that teachers are not likely to relate theory to practice if there is no mediation and they have limited analytical tools.

108. The lessons learned from the case study are summarized as follows:

- Teachers' academic and professional backgrounds are crucial in adapting a model such as practice-base inquiry for in-service training of teachers. Most teachers in the sample had poor academic and professional backgrounds. They had been exposed to a school system that was mainly based on factual information. Skills for active learning and critical thinking were largely absent from their school curriculum.

- Planning in-service teacher education courses based on an inquiry-based practice model is demanding and therefore requires slow, small-scale inception and demands intense facilitation.
- Engaging teachers in material that require critical thinking does not benefit many teachers who were not exposed to critical thinking in both schooling system and teacher education programs.
- Advanced reflective skills take time to be acquired. The study indicates that, even though inquiry activities were designed to help teachers reflect in a systematic way, teachers could not reflect to the level requires in the courses.

109. These results and lessons drawn from this case study illustrate well the challenge involved in learning and enacting a pedagogy that one has not experienced prior to becoming a teacher. In addition, the lessons, the second and fourth in particular, embody some of the enabling conditions for successful pedagogical renewal.

110. The results of the case study of the pre-service BETD were not any better. They further confirm the challenge noted above. Notwithstanding these results, what is striking and remarkable about the BETD programs is the strong link that the program designers have attempted to establish between teacher education and school curriculum reform. In this respect, we are dealing with a good example of system coherence, something that is not present in many Sub-Saharan African countries. As a matter of fact, in many cases, teacher education does not reflect at all the curriculum that future teachers will encounter in schools, let alone ongoing educational innovations.

- **Teacher development and management system in Uganda**
  (based on Eilor et al, 2003)

111. In 1993, after an extensive education sector review and consultations with key stakeholders that began in 1987, Uganda launched its *Primary Education Reform Program* (PERP). This program was designed to: (i) increase access to quality learning opportunities; (ii) improve school management and instructional quality; and (iii) strengthen planning, management and implementation. *The Teacher Development and Management System* (TDMS) was set up to contribute to the achievement of the first two objectives of the PERP. Among the issues to be addressed by this system were: high attrition rates among teachers, the presence of a large number of unqualified teachers (40-50%) in the system, the demoralization of the teaching force due in part to low salaries, low attractiveness of the teaching profession, an inadequate human and material base of Primary Teacher Colleges (PTCs), PTCs' reliance on an overly academic curriculum.

112. TDMS is a primary teacher training delivery mechanism centered on a reformed Primary Teachers' Training College called a Core Primary Teachers' College (Core-PTC). In terms of content, it is important to note that (i) the teacher education curriculum was revised to align it with the primary school study programs and (ii) pre-service and in-service teacher education were integrated for uniformity and effectiveness.

113. A total of 23 Core-PTCs were established, and each of them has two departments, namely the Outreach department and the traditional pre-service department. The pre-service department runs the Primary Teacher Education (PTE) two-year residential course for prospective teachers recruited at O' Level and above, and a three-year, on-the-job training course intended to upgrade untrained and under trained teachers. The pre-service course leads to the award of a PTE Grade III Certificate, a minimum requirement for teaching in primary schools in Uganda.

114. The outreach department employs a combination of distance education and short residential face-to-face sessions during the holidays to deliver in-service training

and professional support for all serving teachers, head teachers, outreach tutors, education managers (particularly district inspectors of schools), school management committees, PTAs, and community mobilizers. Head teachers undergo a special one-year certificate course in basic management skills. It is important to note here that the outreach component of TDMS had no predecessor.

115. The outreach programs are implemented through a network of coordinating centers, each of which coordinates a cluster of an average of 22 outreach schools. One school in each cluster is selected to serve as a coordinating center school. The coordinating center tutors (CCTs) are provided with motorcycles and/or bicycles to facilitate their mobility. They are expected to visit each outreach school for at least half a day each month. They also relate with their local communities through Coordinating Center Committee meetings and are in regular contact with their respective District Education Offices.

116. The implementation of the PERP, especially the TDMS, is reported to have boosted teachers' morale, promoted equity in the distribution of qualified teachers across the country, and revitalized the primary teaching profession in Uganda by:

- restoring the status and integrity of teachers through training, continuous professional support, targeted incentives and better management of the teacher payroll;
- increasing the output and supply of qualified teachers (the percentage of unqualified teachers has decreased by half from about 50% in 1993 to 25% currently);
- ensuring a fairly equitable distribution of primary teachers across the country through implementation of school staff ceiling formula – a system that has provided a framework for systematic staffing of primary schools and that has been used to determine the annual recurrent budget for the primary teachers wage bill and to detect "ghost teachers";
- improving the welfare of teachers by up-grading the salaries of qualified teachers from Ug. Shs. 11,000/ in 1992/1993 FY to Ug. Shs. 105,000/ presently, representing a ten-fold increase in nominal terms over a period of ten years; and,
- providing incentives for untrained and under-trained teachers to upgrade to Grade III Certificate.

117. The implementation of TDMS has also improved the human resource base of the Core-PTCs. By early 1990s, PTCs were under-staffed and the tutors in-post were mainly under-trained and worked part time. Under the TDMS, a network of Core-PTCs and associated Coordinating Centres have been created. Tutor training wings have been added to the two Core PTCs of Gulu and Bushenyi to specifically train tutors for deployment at Coordinating centers. As a result, these institutions are now staffed with a large team of well-trained tutors who have been specially inducted to implement both pre-service and in-service teacher-training programs. In sum, the country now has a sustainable pool of qualified teacher educators.

118. The above-summarized experiences provide a glimpse of changes in teacher education in Sub-Saharan Africa. There are indeed efforts to reform pre-service teacher education and systematize professional development for practicing teachers. With respect to pre-service teacher education, the tendency is toward shortening the length of training and making more space for the practical aspects. As regards continuous professional development, there is a clear tendency, at least based on the experiences reviewed, to bring training closer to teachers' workplace, and to involve them in decisions regarding the content and organization of such training. However, there remain, unsurprisingly, formidable challenges of various kinds.

5.2. Improving supervision and support mechanisms or transforming them radically

> *Arguably, what is most striking when considering the history and present situation of school supervision and support services, is the endurance of the idea that school supervision is necessary and useful (Carron and De Grauwe, 1997, p. 18).*
>
> *The impact of supervision and support on classroom teaching and on student achievement is far below expectation. […] Equally significant is that dissatisfaction is shared by many teachers in better off countries, with better organized resources (Carron and De Grauwe, 1997, 41).*

119. Supervisors often ask how they can both help teachers grow as classroom instructors when they must also make a written evaluation of their effectiveness. This conflict is so great, that some countries have attempted to separate the roles, with some supervisors evaluating teachers in a traditional inspector role and others promoting teacher development (Craig, Kraft and du Plessis, 1998, p. 72).

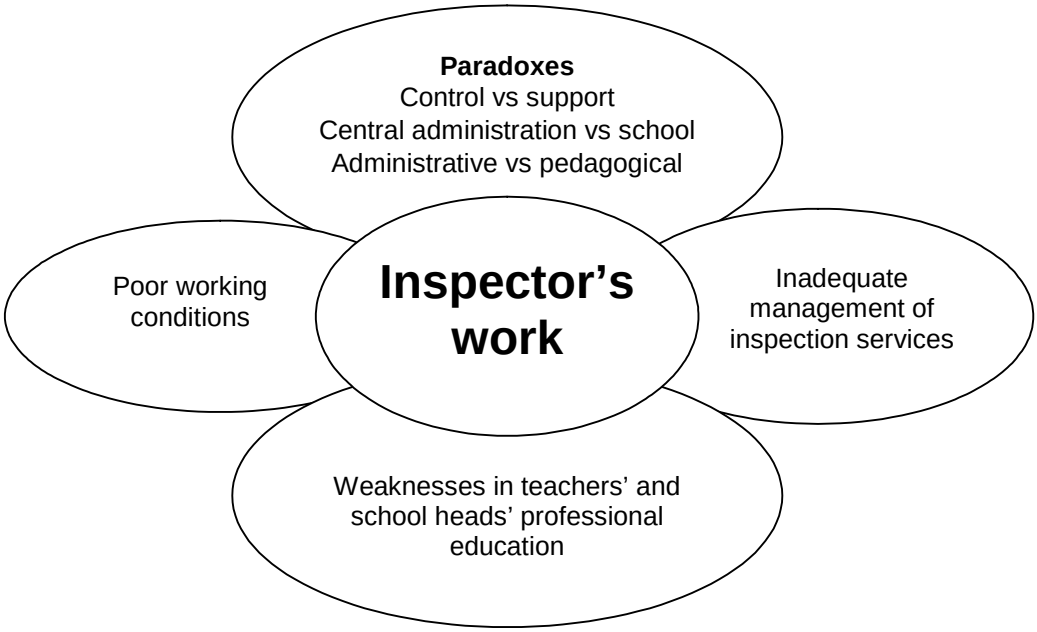
120. It is generally agreed that administrative and instructional supervision and support play an important role in improving what goes on in schools and in classrooms. There is also, and paradoxically, evidence that the supervision and support that schools and teachers typically receive from inspectors and pedagogical advisors are insufficient and ineffective. This is particularly the case in most Sub-Saharan African countries (see for instance Gumbi, 1997; Maclure, 1997; Mosisili, 1999). From a quantitative viewpoint, the situation has deteriorated with the expansion of educational systems. There are simply not enough inspectors and pedagogical advisors to cater to all schools and teachers on a regular basis. Small, remote schools are especially ill-served (Carron and Châu, 1996). The situation will most likely get worse as countries make progress toward EFA; and for several countries, this means doubling the current gross enrollment rate.

121. One of the vexing problems of inspectors' and pedagogical advisors' work is that they have to reconcile two tasks that are construed by school personnel as dichotomous: teacher support and teacher evaluation. They face the same dilemma vis-à-vis the school as a unit: administrative control of versus advice for the pedagogical development. Typically, the tendency has been to give priority to evaluation and administrative control, thus postponing pedagogical support (forever in some cases). Finally, inspectors and pedagogical advisors are caught between mandates they receive from central administration and the expectations of schools and teachers. Since they perceive themselves as being in the service of central administration, they often opt to attend first and primarily to the mandates of the latter. As a result, they are perceived by schools, including both school personnel and parents, as strangers at best and intruders or enemies at worst.

122. If one adds poor working conditions (in both schools and inspectorate offices) and work overload to the above problems, one can easily understand why "the impact of supervision and support on classroom teaching and on student achievement is far below expectation" (Carron and De Grauwe, 1997, p. 41). But, as Carron et De Grauwe put it, notwithstanding limited resources, the main difficulty faced by school supervisors has to do with diversity of roles, tasks and expectations. As a matter of fact, they are torn between schools' claim for actions tailored to their needs and central administration's preoccupation with providing standardized services for all schools (p. 30).

123. Figure 1 illustrates the set of constraints that determine the work of inspectors as well as pedagogical advisors, the latter playing the same roles in practice as discussed below.

Figure 1 Factors influencing the Inspector's work (Brunet, 2003, p. 16)



124. In the foregoing, inspectors and pedagogical advisors are lumped together. This is not an oversight. It reflects the fact that, in reality, they pretty much play the same roles in most Sub-Saharan African countries. As Carron and De Grauwe (1997, p. 16) suggest, work division among these two categories of personnel is typically imprecise. Despite attempts to distinguish their roles, personnel shortage leads to their sharing the task at hand, thus erasing the hoped for distinction of function in practice.

125. In order to improve the situation depicted above, Brunet (2003) proposes the following:

- Strengthen the credibility and competence of supervisors by selecting them on the basis of merit and providing them with adequate professional preparation.
- Separate pedagogical support from evaluation leading to promotion.
- Maintain administrative supervision of school and make the exclusive role of inspectors. Such supervision would be limited to auditing financial and material resources. Inspectors would take advantage of their visits to provide school heads with on-the-job training in financial and material resource management. Implicit in this recommendation is the recommendation to allocate directly to schools the budgetary resources necessary to carry out teaching and learning activities.
- Establish school councils, with membership including teachers, parents and community members. Their mandates would be, among others, to make decisions about how to use of the budget allocated to the school, keep an eye on the management of the school's financial and material resources, and evaluate teachers' work. Inspectors would play and advisory and support role vis-à-vis the councils.
- Strengthen the role of school heads as principal animators of schools.

126. Carron and De Grauwe (1997, pp. 55-64) suggest five actions that can lead to improved supervision services:

- A more coherent description of the roles, tasks and functions, separating control from support activities, and administrative from pedagogical tasks
- More openness and transparency, by making evaluation reports available to the school and the community and communicating information to relevant individuals
- Strengthening follow up, through action plans derived from school visits
- Emphasis on school evaluation rather than teacher evaluation
- More involvement in system evaluation.

127. According to Carron et al, the main challenge in implementing these actions will undoubtedly have to do with changes in the mindset of inspectors and their adopting a genuine attitude of facilitation and support instead of control and sanction.

Brunet (2003) has identified several promising experiences that could inspire ADEA member countries, despite their shortcomings and the challenges they pose. They include :

- ***A results-based management system in Burkina Faso*** (see Samoff, Sebatane and Dembélé, 2001, p. 19).
- ***School Management Committees and Community Participation in Ghana*** (ERNWACA, USAID and SARA, 2002).
- ***Guinea's small grants program for teacher-led professional development and school improvement projects*** (see Diallo, Camara, Schwille, Dembélé and Bah, 2001; and Schwille, Dembélé and Diallo, 2001).
- ***The Creating Learning Communities for Children Program in Indonesia*** (see Government of Indonesia et al, 2000).
- ***The use of "cahiers de charge" in Senegal*** (see Sow, 2001).
- ***In school supervision in South Korea*** (see Carron, De Grauwe et Govinda, 1998, 93).
- ***The system of Master Teachers in Sri Lanka*** (see Carron, De Grauwe et Govinda, 1998, p. 92).
- ***Cluster Schools in Nepal, Thailand and Zimbabwe*** (see Gaynor, 1998, p. 22).

128. There are certainly many more similar experiences going on in other countries. What they all have in common is a focus on the school as "the best level of intervention for improving the quality of education. In this new vision, the role of pedagogical leader, to be played by the headteacher, occupies an important place, as does the exchange of experiences among colleagues, that is, the creation of a genuine teaching community" (Carron and Châu, 1996, p. 151). All these experiences are variations on a common theme, i.e., school-based management.

5.3. School-based management and the professional education of school heads

129. Both Brunet and Weva, in their background papers, recommend *School-based management*, or *School-centered administration* (Brown, 1990) as a multi-pronged approach for quality improvement in basic education in Sub-Saharan Africa. Weva describes SBM as a means by which teachers, parents, students, school heads and administrators work together to achieve the goals of the system. It allows school heads to delegate to and share with sub-committees, responsibilities such as selection of resources, preparation of school budgets, and programming of teacher development activities. In such a framework, the role of school heads is "one of orchestrating decision-making through teams of teachers and interacting with a wider range of people including community members" (Wohlstetter et Briggs, 1994). SBM is thus an approach characterized by shared or distributed leadership, with the school head coordinating the accomplishment of responsibilities toward the realization of a shared vision.

130. What is called for on the part of school heads requires a set of knowledge, skills and dispositions that they typically do not possess. As Weva put it,

> *The majority of school heads are selected among teachers with five to ten years of experience, and this remains the typical promotion route in teaching. Switching from teaching to a mixture of teaching and administrative tasks and responsibilities that line managers must accomplish is not an easy process, even with several years of experience. Many European and North American countries have realized this and require prior management experience as deputy school head or appoint school heads on a provisional basis pending confirmation (Iceland, The Netherlands, and the United Kingdom), or else require a university level education. In Canada, several School Councils require a masters degree in administration, management or education to be appointed as school head (pp. 20-21).*

131. In most of Sub-Saharan Africa, school heads are bureaucratically appointed and receive little or no specific preparation for the job. Once on the job, work overload and lack of opportunities stand as formidable obstacles to their engaging in meaningful professional development activities. If the potential of school leadership for quality improvement is to be realized, school head will need to be better selected and receive specific preparation as well as on-the-job training in several areas as it appears in figure 2 (see next page). Weva (p. 20) identified several encouraging initiatives in this respect. They include:

- **Lesotho's on-the-job training program for primary school heads**
- **On-the-job training for school heads and inspectors offered by Nigeria's National Institute of Educational Administration and Planning**
- **Swaziland's national training program for school heads** (a compulsory program for all newly appointed school heads)
- **Kenya's Headteacher Support Groups (HTSG).**

5.4. Bringing the school and the community closer to each other

132. The school effectiveness and school improvement literature is replete with calls for bringing the school closer to the community it is supposed to serve (Anderson, 2002; Carron and Châu, 1996; Heneveld and Craig, 1996; Lockheed and Verspoor, 1991). This is particularly important in contexts, such as Sub-Saharan Africa, where formal school as it currently exists, is a foreign institution; and where most parents cannot take part in helping their children learn school sanctioned knowledge, skills and attitudes, not only because they are illiterate but also because what is valued at school is in general not relevant to their lives.

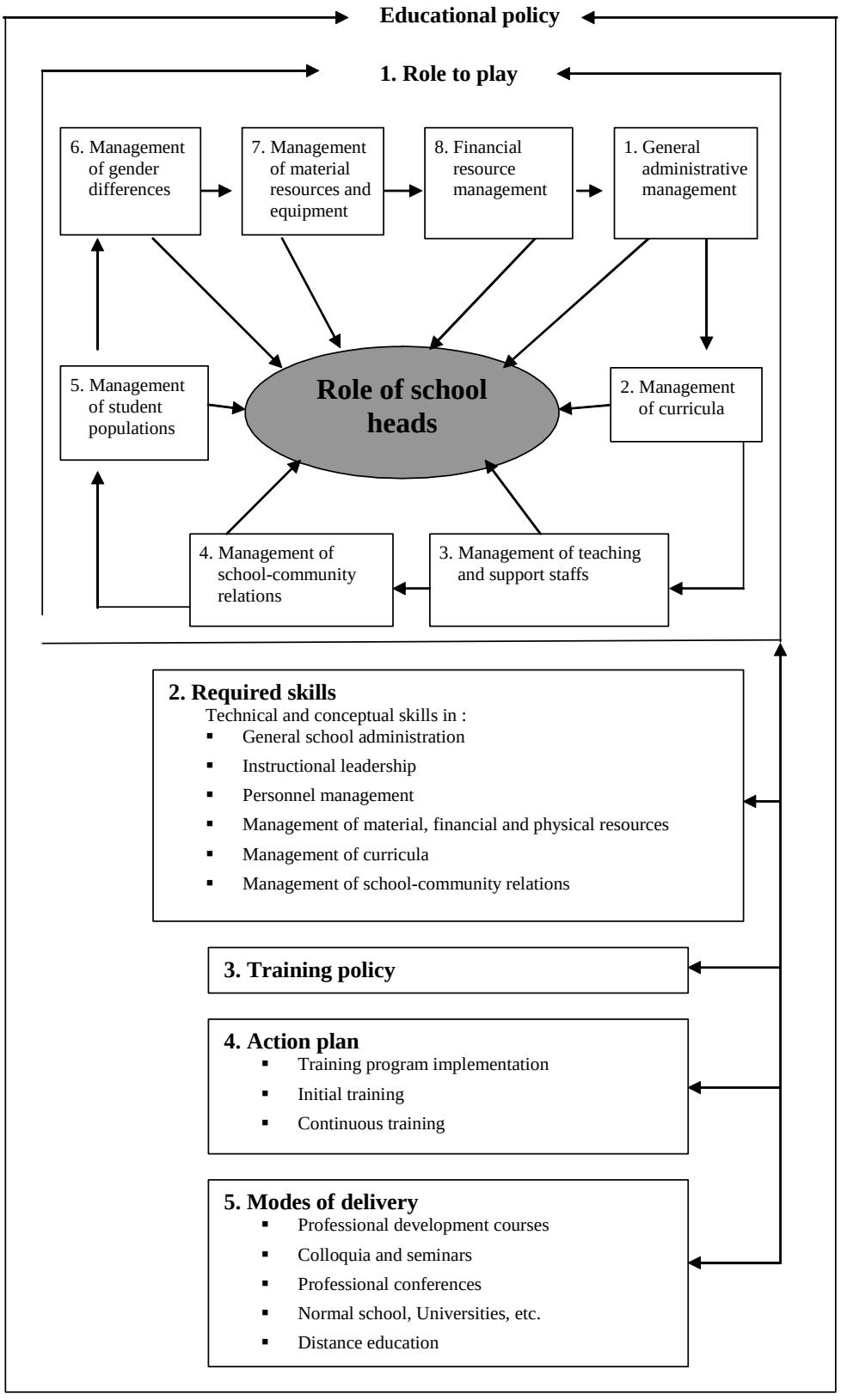
133. Parental and community involvement and participation in school affairs has become another strategic drive of school improvement efforts across Africa. School Management Committees, with membership including parents and community members, are a key feature of most donor-supported programs or projects in the 1990s. The importance of parents and communities, in fact civil society at large, in achieving the Education For All goal was re-affirmed at the World Summit on Education in Dakar in 2000. It is therefore not surprising that parental and community involvement and participation in school affairs is included in many ongoing programs (see case studies conducted under theme 2). Work done in Uganda in the framework of the IEQ project is worth highlighting in this respect.

Community support in Uganda

In 1995, IEQ/Uganda began with a National Forum to discuss the information needs of the education system. [...] The meeting resulted in a research agenda: Two large-scale baseline studies were commissioned and completed by IEQ research teams between 1995-97. Both employed quantitative and qualitative methods to understand the overall conditions and climate of primary schools. These studies revealed, among other things, significant shortcomings in all components of school effectiveness [...] These baseline studies proved to be invaluable to the information demands of the education reform. Meanwhile, primary school enrollment increased through the implementation of Universal Primary Education (UPE), which made it essential to sustain community participation in school activities. [...] With the stress of UPE on local schools, a research methodology was sought that could not only inform policymakers about the complexities and possibilities of community participation, but improve quality learning at the selected schools participating in the study. [...] In January 1998, IEQII was launched with a national meeting to discuss findings from IEQI research, revisit Ugandan education reform, introduce Participatory Action Research (PAR) as a possible research methodology, and build the IEQII research agenda. [...] IEQ researchers selected three rural schools in Kazo county, Mbarara District in southwest Uganda, approximately 240 kilometers from Kampala, to begin the PAR activities, using school-based selection criteria that included teacher stability, hospitality for participation, functioning school management committee (SMC) and parent-associations (PTA), and accessibility. In collaboration with IEQ core research team members, three target groups in each school – community members, teachers and pupils – began PAR. [...] As trust and relationships developed, IEQ researchers began guiding teachers, community and pupil groups through an iterative process of assessment, analysis, and action – back to assessment – leading to improved education quality. A variety of Participatory Learning and Action (PLA) tools such as community map making, Venn diagrams, problem trees and pair-wise ranking were used to guide the groups in problem identification, data collection and analysis, and action. [...] Much of the initial discussions with community members were related to quality education but were somewhat removed from school life. Community members began getting a bit closer to schools when they decided to visit some classrooms. [...] They noticed that the classrooms had no desks, benches or lockable doors and window shutters. They were concerned with these conditions. This may have been the catalyst for the community to contribute money and labor to upgrade the classroom conditions. During the new few months, they made desks and benches for P 1, 2, and 3 classrooms. [...] After a year of engaging in PAR activities community members have taken further concrete action to improve education quality. They have collaborated with the nation's TDMS to construct classroom blocks and have begun construction of additional teacher housing. Community members at one school have gone beyond school infrastructure and have begun to seek the assistance of various state and voluntary agencies, e.g., to get a dependable source of sufficient clean water and medical services for the schools. [...] Community members have also become more involved in academic activities. In two schools, they have started monitoring the time that school open and the time that classes begin. A few of them have observed classes and are beginning to discuss their findings with teachers. These are promising developments as one of the goals of the IEQ-initiated PAR is to eventually bring the community, teachers, and pupils together so that they can begin to exchange ideas and take suitable action to improve education quality.

Source: IEQ, 2002, pp. 118-126 (slightly modified)

Figure 2 **Model for the development of school heads' administrative potential** (Weva, 2003, p. 27)



134. This is obviously a time-consuming and labor-intensive enterprise; but the results are worth the effort. In many instance, parental and community involvement and participation in school affairs, has been framed as a problem structures; hence the creation of parents' associations, school management committees and the like. As Carron and Châu (1996) argued, "such organizations usually exist on paper but function poorly or not at all. In and of themselves, they do not guarantee a more positive attitude of teachers to parents, nor a sense of ownership on the part of parents vis-à-vis the school" (p. 278) . They go on to argue that, in order to break out of the vicious circle whereby parental discouragement is met with teacher defeatism, "the most urgent task is probably simply to make the school more welcoming for its users" (p. 278). In the Ugandan case summarized above, this task has been accomplished, and parents have entered the classroom in the both proper and figurative sense. As most Sub-Saharan African countries strive to achieve UPE, this case gives food for thought, precisely because the achievement of UPE will depend on increasing enrolments in low enrolment areas; and such areas tend to be areas where resistance to formal schooling is strongest. From a strategic point of view, this makes bringing the community closer to school and vice versa a must.

135. In addition to making school more welcoming for its users, adult non formal education stands as another effective way for bringing the community closer to school. When parents can read and write, they find themselves in a better position to help their children, for instance with homework, and they can also see some utility in sending them to school. Parents will thus be able to participate in the education of their children beyond providing financial and material resources, and labor force.

6. STRATEGIC DIRECTIONS, POLICY OPTIONS, PRIORITIES FOR ACTION AND ISSUES FOR DISCUSSION AND REFLECTION

6.1. Strategic directions, policy options and priorities for action

6.1.1. Considering the school as the most critical intervention level for educational quality improvement and acting accordingly

136. This seems like an obvious or simple thing to do, but it is not, for it has far reaching implications for how an educational system is run. Indeed, taking this seriously entails **pushing decision-making power and authority to lower levels in the system**, i.e., schools (including their proximate stakeholders) and the closest educational administration unit (typically the school district or inspection office). For schools to assume more responsibility in their own functioning, **the leadership (pedagogical and administrative) of school heads will need to be strengthened. School-based management appears as a promising approach for optimizing the potential of such leadership. Furthermore, the nature of educational leadership at each level above will need to change significantly, from excessive bureaucratic control to support for achieving student learning objectives**. What is called for is a paradigmatic change whereby upper levels mobilize to support lower levels instead of the latter continuing to mobilize to respond to mandates from above. Control needs to be maintained, but oriented toward making sure that resources made available by upper levels actually reach destination and are properly managed, as well as participating in agreed upon school evaluation processes aimed at ascertaining progress or lack thereof and proposing actions that will consolidate accomplishments or ensure progress.

6.1.2. Investing more in people

137. This is another seemingly obvious thing to do, but it cannot be overstated. Without competent and motivated teachers and school heads, the above recommendation is meaningless. And the paradigmatic change called for will not take place if the concerned actors do not develop new skills, knowledge, dispositions and commitments. Investment must therefore be made in their professional development. It is important to signal here that people include also the adults whose children attend school. Investing in people therefore means also investing in adult education

6.1.3. Improving reading instruction and learning

138. The robustness of evidence on the critical importance of reading ability in learning other subject matters and for long term educational achievement provides a solid ground for making reading instruction and learning a high priority area. Various special policy measures should be considered to this end, including support for the emergence of a literate environment in schools. In addition, more context-sensitive research will help improve instructional practices in this area. Teachers should be involved, as initiators of or collaborators in such research to the extent possible, considering other demands on

their time. Finally, as indicated above, bilingual education stands as a promising path for improving reading instruction and learning.

6.2. Making a special case for research

139. The reviews of the African and international literature shed light on two spring-boards leading to the deep and vast area of the quality of education in Sub-Saharan Africa. These are educational research and teacher effectiveness. They are closely interrelated and constitute two critical conditions for improving the quality of education. In other words, one cannot improve the quality of education without raising the quality of teachers and the level of research. The interventions in the two areas suppose a political will and a scientific capacity, the two at the highest level possible. Indeed a great number of past failures of the African countries to reach their educational and economic goals were due to a low political aspiration as well as to an insufficient scientific and technical capacity.

140. Why is political will an important condition to improve the quality of education in the region? First, the education of the youth is a political project by essence because it results from a collective decision of the members of a society to educate the young generation. The latter represents the future. Political will is also required because doing research to help improve the quality of education supposes a lot of resources, human, material and financial. Only political forces could use their power to negotiate more funds for education, and particularly for quality improvement.

141. Improving the quality of education requires funds to train teachers, to pay teacher salaries, teaching materials including books, to build classrooms and equip them; but it also needs a good research program to indicate what is wrong and how to redress or to improve the situation. Past failures were due to the facts that the African governments did not plan and prepare their decisions for long term education projects or programs. Policy makers tend to have a "crisis approach", calling on researchers only when "things go wrong". Research is vital for any person, institution or a society because it creates the relevant information and knowledge for good decision-making. Research also helps to minimize wrong and hasty decisions and their high costs. In bringing together relevant information and knowledge, research guides to right actions that can make things get better. In the present case, only a good research program tuned to the education quality improvement goal will help to assess the education system and to indicate what is impeding progress toward quality education for all.

142. These issues were debated at length at the 10th World Congress of Comparative Education in Cape Town, South Africa, in July 1998. As pointed out by the Congress, "Interfacing Education Research with Policy" is not working for the following reasons:

143. While the importance of research to inform education policy was acknowledged by both researchers and policy makers, many problems were identified, including the following:

- Policy formulation remains a top-down rather than a bottom-up process, which does not allow for the involvement of researchers and other stakeholders;
- Policy research remains scant and policy research capacities weak;
- Inhibiting factors – such as researchers' career concerns – may lead to "perverted" research which may fail to thoroughly interrogate the policy environment;
- In many countries, there is a history of conflicts between universities and government which affects the free flow of policy ideas;

- Undemocratic societies and poor organizational structures can frustrate researchers and corrupt their relationship with policy authorities, thereby preventing effective dissemination of research results to policy makers.

144. In order to create confidence and mutual trust between researchers and top policy-makers, the suggestions below were made:

- Making the language of research accessible to policy makers;
- Holding constructive high-level seminars to promote dialogue and greater understanding between researchers and policy makers;
- Participatory research and team-work comprising all stakeholders should be promoted.

145. If suggestions are made to facilitate the dialogue between researchers and policy makers, it is urgent to improve the quality of research in the Sub-Saharan Africa Region. The reviews of the studies in the Central and Western African countries showed that a great number of research designs are fraught with methodological weaknesses, which makes the comparison of findings difficult. There are not always clear descriptions of hypotheses, sampling and data collection procedures, research instruments, and analyses, and finally no thorough discussions about the validity of findings.

146. Doing good research implies strengthening the research units in the higher institutions and also in the ministries of education, and establishing a cooperation mechanism between them. In the present case, the departments in charge of planning and statistics within the ministries of education, after being strengthened, should interface with various directorates and agencies concerned with the issue of quality. In fact, **it is recommended that a High Commission to supervise the process of education quality improvement in each country be established.** This commission would be chaired by a respected political figure, and a balanced number of representatives from different political forces should sit on it. The commission would oversee the whole process of educational quality improvement: preparation of 15-year plan for improving the quality of education including progress indicators, investment and recurrent budgets, etc.; yearly assessment and publication of the progress report in the media; meeting with members of parliaments/national assemblies and the president each year to review the shortfalls towards the short and long-term objectives and their major causes; suggestions for overcoming the shortfalls.

6.3. Selected issues for discussion and reflection

147. There is a strong base for decision and action in a number of areas in the foregoing, including reading instruction, bilingual education, reform of pre- and in-service teacher education, paying more attention to process factors, considering the school as the most critical intervention level for quality improvement, and related to that, the critical importance of the school head and the promise of school-based management. But there remains a number of issues, some of them related to the above areas, that deserve further discussion and reflection. They include:

- How to act upon the evidence supporting the advantages of using African languages as media of instruction and learning in the early grades, towards a strategic bilingualism.
- What to make of the fact that child-centered, activity-oriented instructional practices are reported to be more effective in developing countries (though results are mixed) than in developed countries, but are proving quite difficult for teachers to embrace, and a formidable challenge when it comes to large scale implementation in both contexts.

- What to make of Gauthier et al's recommendation to opt for more structured instructional practices, i.e., direct instruction/explicit teaching.
- How to deal with the re-composition of the teaching force in several countries, given the hiring of contract teachers, with school personnel instability as one of the potential consequences.
- How to reconcile strengthening school leadership with maintaining supervision by mid-level educational leaders (inspectors and pedagogical advisors).
- The enabling conditions for school-based management to yield expected benefits.
- Terms of reference of the proposed national High Commission on the quality of education, of course if such a commission is deemed necessary.

7. ANNEX

List of teacher variables and relationships to student performance

(source: World Bank Staff Working Paper No. 310 – December 1978)

Prepared by Torsten Husén, Lawrence J. Saha, and Richard Noonan

Teacher Sex shows mixed results, but generally male teachers seem to be more successful with science achievement, while females appear more successful with subjects like English and French as foreign languages. Furthermore, males seem to be more successful in early grades, at least in some countries.

Age of teacher is equally mixed in results, but there is some evidence that for the later secondary grades, older teachers are more successful than younger ones.

Teacher SES effects are contingent on the social structure, though in general teachers from higher status backgrounds are more successful than teachers from lower status backgrounds.

Frequency of English in Childhood home is variable which has relevance in countries where English is a medium of instruction rather than the native tongue . In one case where this variable was measured, it was unrelated to student achievement.

Teacher Educational Attainment also produced mixed results, however teacher schooling did emerge as more important for primary and early secondary grades, and for those subject areas requiring special skills, such as science, mathematics and literature.

Teacher credentials and certification are clearly important for successful teaching. Although the overall evidence is somewhat less than unanimous, the more complex and thorough studies provide strong evidence for the positive effects of teacher training on student outcomes.

Teacher ability and achievement are important qualities for student achievement, specifically for the more disadvantaged students. The most thorough studies of this variable indicate that intelligent and knowledgeable teachers produce high student performance.

Teacher Experience is important for student performance in primary and early secondary grades, but less for upper secondary grades. This finding is consistent with those of earlier literature surveys.

Teacher Salary does not emerge as consistently important variable in maximizing student achievement. The ambiguous results are probably due to the inter-correlation between teacher salary and other variables.

Teacher upgrading programs have receive little attention in the research literature, but the two variables reviewed in this report suggest that such programs are effective.

Teacher expectation of students are among the most consistently important variables in the achievement literature. Positive teacher expectations of students produce positive results.

Teaching methods such as instructional television and programmed instruction have been found to correlate positively with student achievement. However the research so far has been seriously questioned and the findings would be regarded with caution.

Teacher absenteeism and punctuality, although only little researched, do not seem to be important teacher characteristic in relation to student performance.

Teacher attitude toward job and career did not clearly emerge as an important variable, in spite of sound theoretical reason why it should be so. Until further evidence is forthcoming, the relationship between positive job attitudes and student performance must be regarded as mixed and ambiguous.

Teacher behavior, operationalized as the assignment of homework and time spent preparing lessons, did not clearly emerge as an important variable and thus of dubious value in teacher training programs, at least in isolation from other important "trainable" teacher characteristics.

School teacher block variables (IEA studies) provides overwhelming evidence that at in LDCs, the conditions surrounding the school and teachers are important in accounting for variations in student achievement. The evidence was strong and atypical in comparison with the results for the developed countries in the IEA samples.

8. REFERENCES

Abdulla, A. M., Mohammed, S. S. et al (2003). Study on quality of education in Africa: The case of Zanzibar Teacher Centre. Case study commissioned by ADEA in the framework of the *Challenge of Learning Study*. Paris: ADEA.

Ackers, J., Migoli, J., & Nzomo, J. (2001). Identifying and addressing the causes of declining participation rates in Kenyan primary schools. *International Journal of Educational Development*, 21, 361-374.

ADEA (1999).

Agbovor, A.K. (,1985). *Views of elementary school teachers about teaching as a career at Afloa education circuit*. B.Ed. thesis, University of Cape Coast, Ghana.

Anderson, S. (Ed.) (2002). *School improvement through teacher development: Case studies of the Aga Khan Foundation projects in East Africa*. Lisse, The Netherlands: Swets & Zetlinger Publishers.

ANON, (1989, october). The status of the primary teacher training colleges in Botswana. A study report based upon the self-studies conducted by the staff of the four colleges and the review team visits to the colleges in 1988-1989.

Ansell, N. (2002). Secondary Education Reform in Lesotho and Zimbabwe and the Needs of Rural Girls: Pronouncements, Policy and Practice. Comparative Education, 38 (1), 91-112

Aronson, J.B. (1996). *Technical assessment of classroom Impact of the Continuous Assessment Program*. Educational Policy, Management and Technology Project. Arlington, Virginia: Institute for International Research.

Arthur J. (2002). Perspectives on educational language policy and its implementation in African classrooms: a comparative study of Botswana and Tanzania. Compare, 31(3), 347-362.

Arthur, J (1996). Language Pedagogy in Botswana: Paradigms and Ideologies Mosenodi, 4(1).

Assogba, Y. (1980). *Pédagogie Nouvelle et Société en Afrique. Étude de quelques contradictions. Le cas du Togo.* Une publication du Projet Ouest-Africain de Formation à la recherche évaluative en éducation. Faculté des Sciences de l'Éducation, Université Laval, Québec. Thèse de Maîtrise. 234 pages.

Avalos, B. and Haddad, W. (1979). *A Review of Teacher Effectiveness Research in Africa, India, Latin America, Middle East, Malaysia, Philippines and Thailand: Synthesis of Results*. A Project of the International Development Research Center (IDRC), Ottawa.

Avalos, Béatrice (1980). Teacher Effectiveness : research in the Third World – Highlights of a review. *Comparative Education*, 16(1).

Ayuknso Nkongho Ashu, E. (1997). *The Effects of Pedagogic Factors on the Development of Reading readiness Skills of Class One Pupils*. End of Course Dissertation (DIPEN II). Yaoundé – Cameroun: Ecole Normale Supérieure.

Ball, D. L. and McDiarmid, G. W. (1990). The subject matter preparation of teachers. In W. R. Houston (Ed.), *Handbook of research on teacher education* (pp. 437-449). New York: Macmillan.

Ball, D. L. (1988). Unlearning to teach mathematics. (Issue Paper 88-1). East Lansing, Michigan: National Center for Research on Teacher Learning, Michigan State University.

Ball, D. L. and Chazan, D. (1995). Beyond exhortations not to tell: Teacher's role in discussion-intensive mathematics classes. (Craft Paper 95-2). East Lansing, Michigan: National Center for Research on Teacher Learning, Michigan State University.

Boyer, C. (2001). *Présentation des programmes de formation*. Montréal.

Boyer, C. (1993). L'enseignement explicite de la compréhension en lecture. Boucherville, Québec : Graficor.

Britton, E., Paine, L., Pimm, D., & Raizen, S. (2003). *Comprehensive teacher induction: Systems for early career learning*. Dordrecht, Netherlands: Kluwer.

Brophy, J. (1999). *Teaching*. Educational Practices Series-1. UNESCO: International Academy of Education.

Brown, S. and McIntyre, D. (1992). *Making Sense of Teaching*. Buckingham, UK: Open University Press.

Brown, D. (1990). What is the structure of school-based management ? *Education Canada*, 30, 4-9.

Brunet, J. P. (2003). Pour un encadrement pédagogique et administratif de qualité dans les écoles primaires africaines. Background paper commissioned by ADEA in the framework of *The Challenge of Learning Study*. Paris : ADEA.

Calderhead, J. and Robson, M. (1991). Images of teaching: Student teachers' early conceptions of classroom practice. *Teaching and Teacher Education*, 7(1), 1-8.

Carnine, D. (1998, June). The Metamorphosis of Education into a Mature Profession. Sixth Annual Meeting, Park City, June, Utah. http://www.edexcellence.net/library/carnine.html.

Carron, G. & Châu, T. N. (1996). *The quality of primary schools in different development contexts*. Paris: UNESCO Publishing.

Carron, G.et De Grauwe, A. (1997). *Current issues in supervision: A literature review*. Trends in school supervision series. Paris: IIEP - UNESCO.

Carron, G., De Grauwe, A et Govinda, R. (1998). *Supervision and support services in Asia. Volume I. A comparative analysis*. Paris: IIEP - UNESCO.

Clark, C. M. and Peterson, P. (1986). Teachers thought processes. In M. C. Wittrock (Ed.) *Handbook of Research on Teaching* (3rd ed.). New York: Macmillan.

Clark, L.E. & Pearson, R. P. (1996). *Swaziland education policy, management and technology project*. Final Evaluation. Creative Associates International.

Clift, R. T., Houston, W. R. & Pugah, M. C. (Eds.), (1990). *Encouraging Reflective Practice in Education : An Analysis of Issues and Programs*. New York : Teachers College Press.

Cohen, D. K. (1988). *Teaching Practice: Plus ça Change*. (Issue Paper 88-3). East Lansing, MI: National Center for Research on Teacher Education, Michigan State University.

Cohen, D. K., McLaughlin, M. W. & Talbert, J. E. (eds.), (1993). *Teaching for Understanding : Challenges for Policy and Practice*. San Francisco : Jossey Bass.

Coleman, J. S. Campbell, E. Q., Hobson, C. J., Mcpartland, J., Mood, A. M., Weinfield, F. D., & York, R. L, (1966). *Equality of Educational Opportunity*. Washington, D.C.: US Department of Health, Education, and Welfare, Office of Education.

Colleta, N.J. & Perkins, G. (1995, February). Participation in Education. The World Bank: Washington, D.C.

Connelly, F. M. and Clandinin, D. J. (1988). *Teachers as curriculum planners: Narratives of experience*. New York: Teacher College Press.

Craig, H. J., Kraft, R. J., & du Plessis, J. (1998). *Teacher development: Making an impact*. Washington, DC: World Bank.

Darling-Hammond, L. and Sykes, G. (Eds.) (1999). *Teaching as the learning profession: Handbook of policy and practice*. San Francisco: Jossey-Bass.

Day, C. (1999). *Developing Teachers : The challenges of lifelong learning*. London: Falmer Press.

Dembélé, M. (2003). Teacher education in Sub-Saharan Africa: Learning from within and from without to improve policy and practice. Background paper commissioned by ADEA in the framework of the *Challenge of Learning Study.* Paris: ADEA.

Dewey, J. (1902/1964). The child and the curriculum. In R. D. Archambault (Ed.). *John Dewey on education: Selected writings* (pp. 337-358). Chicago: University of Chicago Press.

Diallo, A.M., Camara, K., Schwille, J., Dembélé, M. et Bah, T. H. (2001, octobre). *La mobilisation des éducateurs guinéens en faveur de la généralisation d'un programme focalisé sur la qualité de l'enseignement élémentaire*. Document prepared for the 2001 biennial meeting of ADEA ; and Schwille, J., Dembélé, M. and Diallo, A. M. (2001).

Diané, B. al, (2003). La réforme de la formation initiale des maîtres en Guinée (FIMG) : Étude-bilan de la mise en œuvre. Case study commissioned by ADEA in the framework of the *Challenge of Learning Study*. Paris: ADEA.

Dlamini, B., Lubben, F. and Campbell, B. (1996). Liked and disliked learning activities : responses of Swazi students to science materials with a technological approach. *Research in science and technological education*, 14(2), 221-235.

Dlamine, B., Lubben, F., and Campbell, B. (1999, January). Teacher growth through curriculum innovation : an African experience. In Proceedings of the second annual meeting of the Southern African Association for Research in Mathematics and Science Education held at the University of Durban – Westville.

Dlamini, S. M. (1999). A collaborative action research approach to teacher development : a case study of interactive English composition lesson development in two primary schools in Swaziland. Unpublished M.Ed. Thesis. University of Exeter, Faculty of Education.

Eilor, J. et al (2003). Impact of Primary Education Reform Programme (PERP) on the Quality of Basic Education in Uganda. Case study commissioned by ADEA in the framework of the *Challenge of Learning Study*. Paris: ADEA.

Elbaz, F. (1983). *Teacher Thinking: A Study of Practical Knowledge*. London: Croom Helm.

Elmore, F. R. (1996). Getting to scale with good educational practice. *Harvard Educational Review*, 66(1).

Eraut (1999). Preface. In C. Day, *Developing Teachers : The Challenges of Lifelong Learning*. London: Falmer Press.

ERNESA (2003). Quality of Education in Sub-Saharan Africa: A Literature Review (1991-2001). Review commissioned by ADEA in the framework of the *Challenge of Learning Study*. Paris: ADEA.

ERNESA (2003). Quality of Education in Sub-Saharan Africa: An annotated bibliography (1991-2001). Commissioned by ADEA in the framework of the *Challenge of Learning Study*. Paris: ADEA.

ERNWACA (2003). Qualité de l'éducation de base: Une bibliographie annotée de 1992-2002. Commissioned by ADEA in the framework of the *Challenge of Learning Study*. Paris: ADEA.

Erny, P. (1972). *L'enfant et son milieu en Afrique noire. Essai sur l'éducation traditionnelle*. Paris : Payot.

Evans, H. (1999). Learning to teach; learning from teaching, In M. Brown (Ed.), *Dimensions of teaching and learning*. Kingston, Jamaica: Institute of Education, University of the West Indies.

Farrell, J. P. (2002). The Aga Khan Foundation experience compared with emerging alternatives to schooling. In S. E. Anderson, S. (Ed.) (2002). *School improvement through teacher development: Case studies of the Aga Khan Foundation projects in East Africa* (pp. 247-70) Lisse, The Netherlands: Swets & Zetlinger Publishers.

Feiman-Nemser, S. (2001). From Preparation to Practice: Designing a Continuum to Strengthen and Sustain Teaching. *Teachers College Record*, 103, 1013-1055.

Fomba, C. O. et al, (2003). La pédagogie convergente (PC) comme facteur d'amélioration de la qualité de l'éducation de base au Mali : Analyse du développement de l'innovation et perspectives. Case study commissioned by ADEA in the framework of the *Challenge of Learning Study*. Paris: ADEA.

Fullan, M. (1991). *The New Meaning of Educational Change*. New York: Teachers College Press.

Fullan, M. (1982). *The Meaning of Educational Change*. New York: Teachers College Press.

Gauthier, C., Bissonnette, S., Richard, M. and Djibo, F. (2003). Pédagogies et écoles efficaces dans les pays développés et en développement. Une revue de littérature. Background paper commissioned by ADEA in the framework of *The Challenge of Learning Study*. Paris: ADEA.

Gaynor, Cathy (1998). *Decentralization of Education. Teacher Management*. Directions in Development. Washington: The World Bank.

Giroux, N., Forget, J. et al. (2000). *Pour un nouveau départ assuré en lecture, écriture et mathématique, et autres apprentissages personnels et sociaux : Guide pédagogique destiné aux enseignants en difficulté*. Montréal: Auteurs.

Good, L. T. and Grouws, A. D. (1977). Teaching Effectiveness in Fourth-Grade Mathematics Classrooms. In Borich et al (eds), *The Appraisal of Teaching:Concepts and Process*, pp 121-129.

Government of Indonesia, UNESCO and UNICEF (2000). Creating Learning Communities for Children (CLCC): Improving Primary Schools through School Based Management and Community Participation.

Gule, E. D. (1999). Problems experienced by classroom primary teachers, head teachers and pupils in implementing the national continuous assessment programme in schools in the Manzini Region, Swaziland. M.Ed. Thesis. University of the Witwatersrand.

Gumbi, C. S. (1997). Head teachers' perceptions regarding Swaziland schools supervision programme. In BOLESWA Educational Research Journal, 14.

Hanson, R. A. and Farrell, D. (1995). The Long-term Effects on High School Seniors of Learning to Read in Kindergarten. *Reading Research Quarterly*, 30(4), pp. 908-933.

Hargreaves, A. & Fullan, M. (Eds.) (1992). *Understanding teacher development*. New York, NY: Teachers College Press.

Heneveld, W and Craig, H. (1996). *Schools count: World Bank project designs and the quality of primary education in Sub-Saharan Africa*. World Bank Technical Paper 303, Africa Technical Department Series. Washington, D.C.: World Bank.

Hirsch (1996) *The Schools We Need, And Why We Don 't Have Them*. Doubleday: Anchor Books.

Hopkin, A. G. (1997). Staff Perspectives on Teaching and Learning Styles in Teacher Education in Botswana. *Journal of International Society for Teacher Education*, 1(1), 1-11.

Hopkins, D. (2002). The Aga Khan Foundation school improvement initiative: An international change perspective. In S. E. Anderson, S. (Ed.) (2002). *School improvement through teacher development: Case studies of the Aga Khan Foundation projects in East Africa* (pp. 271-96) Lisse, The Netherlands: Swets & Zetlinger Publishers.

Husén, Torsten. *Teacher Education in Developing Countries: Patterns and Structures.* Pedagogikkens Sokelys Festskrift PA 70-ARSDAGEN 1 November 1979 pp.131-143.

Hussén, Torsten,, Saha, J. Lawrence, & Noonan Richard. *Teacher Training and Student Achievement in Less Developed countries*. World Bank Staff Working Paper No. 310, December 1978.

IEQ (1999). *Participation as a Method to Improve Education Quality: The Principles*. Washington, D.C.: IEQ/AIR/USAID.

IEQ (2002). *Pathways to Quality: The Improving Educational Quality Project.* Washington, D.C.: IEQ/AIR/USAID.

Ilboudo, P. T. (2003). L'éducation bilingue au Burkina Faso. Case study commissioned by ADEA in the framework of the *Challenge of Learning Study*. Paris: ADEA.

Ishumi, A. G. M. (1998). *A Study of Factors Influencing Quality of Secondary Education in Tanzania.* A report prepared for the Education Sector Development Management Team, United Republic of Tanzania. July.

J. Tsonope (1994). Prospects for indigenous languages of Botswana: Implications of the Government White Pape. MOSENODI: *Journal of the Botswana Education Research Association*, 3 (2).

Jackson, P. W. (1986). *The practice of teaching*.

Jackson, P. W. (1968). *Life in classrooms*. New York: Holt, Rinehart & Winston.

Juel, C. (1991). Beginning reading. In *Handbook of Reading Research*, vol. 2, chapter 27. Longman.

Khiba, Rene (1997). The school-based model of staff development. Unpublished paper. NTTC: Maseru

Kimane, S., Matsoso, L., Lefoka, J. (2000). Lesotho country study on basic education: OSISA Initiatives Final Report. Maseru.

Kinshaga, D. Y. (1989). In-service teacher education and training: Prerequisite for curriculum implementation in a Tanzanian context. *Papers in Education and Development*, No. 13, pp. 16-25.

Kiwia, S. F. N. (1999). Development and sustenance of the Teacher Resource Centre strategy in Tanzania. *Papers in Education and Development*, No. 17, pp. 90-113.

Kotta, M.N. (1986). Tutors' and student - teachers' reactions to discovery methods in diploma colleges of education: a case study of Morogoro and Dar es Salaam Colleges. (MA). Dept of Education, University of Dar es Salaam.

Ky, A. *La décision de quitter l'enseignement chez les maîtres du premier cycle du secteur public en République du Mali*. Thèse PhD. IPN. Université Laval 1986.

Lampert, M. (1985). How teachers manage to teach. *Harvard Educational Review*.

Lave, J. (19xx). Learning in Communities of Practice.

Leinhardt, G. and Greeno, J. G. (1986). The Cognitive Skill of Teaching. In *Journal of Educational Psychology*, 78(2), 75-95.

Le Roux, W. (1999). Torn apart : San children as change agents in the process of acculturation. A report on the educational situation of San children in Southern Africa. Kuru Development Trust & W.I.M.S.A.

Legwaila, M. I. (1993). Education and culture. Paper presented at the Ministry of Local Government, Lands and Housing Regional Conference on Development Programme for Africa's San Populations: Common access to development. Gaborone.

Lieberman, A. and Miller, L. (2001). *Teachers Caught in the Action: Professional Development That Matters*. New York: Teachers College Press.

Lieberman, A. and Miller, L. (1992). *Staff Development for Education in the Nineties: New Demands, New Realities, New Perspectives*. New York: Teachers College Press.

Lieberman, A. and Miller, L. (1979). *Staff Development: New Demands, New Realities, New Perspectives*. New York: Teachers College Press.

Lockheed, M., and Verspoor, A. (1991). *Improving the Quality of Primary Education in Developing Countries*. Washington, D.C.: The World Bank.

Lortie, D. (1975). *Schoolteacher: A sociological study*. Chicago: University of Chicago Press.

Loughran, J. (1996). *Developing Reflective Practice : Learning about Teaching and Learning through Modeling.* London : Falmer Press.

Maclure, Richard. *Négligée et sous-estimée : La recherche en éducation en Afrique centrale et Afrique occidentale. Une synthèse d'études nationales du ROCARE.* avec le soutien de SARA, HHRAN, USAID/AFR/SD. Janvier 1997.

Magagula, C. M. et al, (1995). Formative evaluation of the continuous assessment programme in Swaziland. Mbabane : UNICEF

Magagula, C. M. (1991). Training needs of high school headmasters of Swaziland / by Cisco Meshack Magagula. D.Ed. Thesis. Toronto: University of Toronto.

Magagula, C. M. (1997). Research report on the heads of high schools in Swaziland. Kwaluseni : University of Swaziland, Institute of Distance Education.

Mantab, Nso Sophie, *The Use of Mime Techniques to Improve Pupils' Performance in the Vocabulary of Class Two Pupils of Central Government English Primary School*, Group III, in Yaoundé, End of course dissertation (DIPEN II), Ecole normale supérieure (Yaoundé, Cameroun) 1999.

Matlanyane, M. (1993). A critical Investigation of the Quality of Sesotho Reading in Some Selected Lesotho High Schools. Unpublished M.Ed Dissertation. Roma: National University of Lesotho

Matshameko, L, R. (n.d.) An investigation of the capabilities of primary school headteachers in assuming the role of in-service training: a case study of Molepolole primary schools.

Mazibuko, E. Z. (1998, November). The practices of beginning teachers : Are we preparing teachers equipped to face the challenges of the millennium? In, KEA/SASE, *Conference Proceedings: Facing the Millennium education at/on the Edge* (pp. 96-105). Kei Mouth Hotel, Eastern Cape.

Mbaakanyi, M. (1991). Colleges of Education: Preparing teachers for the junior high secondary schools. In M. W. Evans, H. S. Mogami and J. A. Reed (eds), *The education of educators: Proceedings of the First National Teacher Education Conference.* Gaborone, Botswana: Ministry of Education.

McLaughlin, M. W. (1991). Enabling professional development: What have we learned? In A. Lieberman & L. Miller (Eds.), *Staff development for education in the '90s: New demands, new realities, new perspectives* (chapter 4). New York, NY: Teachers College Press.

Moorosi, M. (1996). Effects of the Four-Month Teaching Practice on Clinical Supervision at the National University of Lesotho. Unpublished MEd Dissertation, Roma: National University of Lesotho

Mosisili, M. (1999). Report on "Policy Seminar on Improving Teacher Supervision and Support Services for Basic Education", 22-24 June, 1999. Gaborone

Muze, M. S. (1987). *Shortage and job satisfaction among teachers in public secondary schools in Tanzania Mainland*. Unpublished Ph.D. Thesis. Dar es Salaam: University of Dar es Salaam.

National Reading Panel (2000). *National Reading Panel Report*. http://www.nationalreadingpanel.org .

Ndoye, M. (2002, July-Setpember). Reaching Schools: Where Quality Starts. ADEA Newsletter, 14(3), 1-2.

Nemser, S. (1983). Learning to Teach. In L. Shulman and G. Sykes (Eds.), *Handbook of Teaching and Policy,* pp. 150-170. White Plains, NY: Longman.

Nyathi-Ramahobo, L. (1996). *Language planning and education policy in Botswana*. Unpublished Pd.D. thesis. Ann Arbor, Michigan: Microfilm International

OECD. (2002). The teaching workforce: Concerns and policy challenges. In Education Policy Analysis (pp. 65-87). Paris: Organization for Economic Cooperation and Development.

OECD. (2003). *Attracting, Developing and Retaining Effective Teachers* [project in progress]. Retrieved Feb 7, 2003 from http://www.oecd.org/EN/links_abstract/0,,EN-links_abstract-609-5-no-no-1370-0,00.html

Ofusu, R. M. (1996, September). Metamorphoses of the curriculum of primary teacher training colleges in Swaziland. In *Proceedings of the Southern African Association for Research in Mathematics and Science Education* (SAARMSE) [held at] Mountain Inn, Mbabane.

O-saki, K.M., & Agu, A.O. (2002). A study of classroom interaction in primary schools in the United Republic of Tanzania. Prospects, 32, 103-116.

Polonyana, M.A. (2000). An Evaluation of the Effectiveness of the In-Service Teacher Training Programme at the National Teacher Training College (NTTC), Lesotho. Unpublished M.Ed Dissertation, Roma: National University of Lesotho.

Prophet, R.B. Rowel,P.M. *Coping And Control: Science Teaching Strategies In Botswana*. Qualitative studies in education, Vol.6, No. 3, 1993.p 198-209. Refs.

Prouty-Harris, D. (2003). The Case for Classrooms: A Collaborator's Perspective on Lessons Learned from the Improving Educational Quality (IEQ) Project. Background paper commissioned by ADEA in the framework of *The Challenge of Learning Study*.

Qorro, M.A.S. 2001. "The Language Medium of Instruction in Secondary Schools". In A.F. Lwaitama, E.G. Mtalo & L. Mboma, eds, *The Multi-dimensional Crisis of Education in Tanzania: Debate and Action*. Dar es salaam: University of Dar es Salaam Convocation, pp. 105-117.

Qorro, Martha (1997). "The Role and Place of Language in Education and Society: The Case of Kiswahili and English in Tanzania". In *Papers in Education and Development*, Volume No. 18, pp. 129-144.

Rajabu, A. R. (2000). Teachers' education in Tanzania. In J. C. J. Galabawa et al (eds.), *The quality of education in Tanzania: Issues and experience*. Dar es Salaam: Faculty of Education.

Rathedi, M. (1991, June). Improving the supply and quality of teachers for basic education. Paper presented at the National Conference on Education for All. Gaborone, Botswana.

Ridell, A. R. (1997). Assessing designs for school Effectiveness research and school improving in developing countries. *Comparative Education Review,* 41 (2).

Ridell, A. R. (1989). Focus on challenges to Prevailing Theories. An Alternative Approach to the Study of School Effectiveness in Third World Countries. *Comparative Educational Review*, 33 (4).

Rollnick, M., Manyatsi, S., Lubben, F., & Bradley, J. (1998). A model for studying gaps in education: A Swaziland case study in the learning of science. *International Journal of Educational Development*, 18, 453-465.

Rosenshine, B.V. & al. (1986). Teaching Functions In M.C. Wittrock (Ed.). *Handbook of Research on Teaching* (3rd edition, pp. 376-391). New York : Macmillan.

Rosenshine, b.v. (1986a). Vers un enseignement efficace des matières structurées In M. Crahay, D. Lafontaine (Eds*). L'art et la science de l'enseignement*. (pp. 304-305). Bruxelles : Labor.

Rosenshine, B.V. (1986b), Synthesis of Research on Explicit Teaching. *Educational Leadership,* 43(7), pp. 60-69.

Rosenshine, B.V. (1997a). Advances in Research on Instruction in J.W. Lloyd, E.J. Kameanui, and D. Chard (Eds.) *Issues in educating students with disabilities* Chapter 10) Mahwah, N.J.: Lawrence Erlbaum: Pp. 197-221. http://epaa.asu. edu/barak.html .

Rosenshine, B.V. (1997b). The Case for Explicit, Teacher-led, Cognitive Strategy Instruction. Paper presented at the annual meeting of the American Educational Research Association, Chicago, IL. March 24-28 <http://epaa.asu.edu /barak/barak1.html>

Ross, W. E., Cornett, J. W. and McCutcheon, G. (Eds.) (1992). *Teacher Personal Theorizing: Connecting Curriculum Practice, Theory, and Research*. New York: State University of New York Press.

Roy-Campbell, Z. and M. A.S. Qorro (1997). Language crisis in Tanzania: The myth of English versus Education. Dar-Es-Salaam: Mkuki na Nyota Publishers.

Rubagumya, C. M (1999). "Choosing the Language of Instruction in Post-Colonial Africa: Lessons from Tanzania". In *Papers in Education and Development*, Volume 20, pp. 125-142.

Rubagumya, C.M (1997). "Disconnecting Education: Language as a Determinant of Quality in Education in Tanzania'. In *Journal of Linguistics and Language in Education* (New Series), pp. 81-93.

Russell, T. and Munby, M. (Eds.) (1992), *Teachers and Teaching: From classroom to reflection*. New York: Falmer Press.

Samoff, J. Sebatane, E. M., and Dembélé, M. (2001). Scaling Up by Focusing Down: Creating Space to Expand Education Reform. Background paper commissioned by ADEA. Paris: ADEA.

Sampa, F. (2003). The Zambian Primary Reading Programme (PRP) 'Improving Access and Quality Education in Basic Schools'. Case study commissioned by ADEA in the framework of the *Challenge of Learning Study*. Paris: ADEA.

Scheerens, J. (1999). School effectiveness in developed and developing countries: A review of the literature. Washington, D. C.: The World Bank.

Scheerens, J. (2000). *Improving School Effectiveness*. Paris: UNESCO, International Institute for Educational Planning.

Schön, D. A. (1983). *The reflective practitioner: How professionals think in action*. New York: Basic Books, Inc. Publishers.

Schubert, J. G. (2003). The Multi-Faceted Reality of Quality Improvement: Moving Toward Clarity. In A. Verspoor (Ed.). *The challenge of learning: Improving the quality of basic education in Sub-Saharan Africa*. Discussion Paper commissioned by ADEA. Paris: ADEA.

Schwille, J., Dembélé, M. and Diallo, A. M. (2001). Teacher Improvement Projects in Guinea: Lessons Learned From Taking a Program to National Scale. *Peabody Journal of Education, Global Issues in Education,* Stephen P. Heyneman (Ed.), Vol. 76, numbers 3 & 4, 102-121.

Sebatane, E. M. (1993). *The role of the school committee in the educational management of post-primary schools in Lesotho*. Unpublished MEd Dissertation. Roma: National University of Lesotho.

Shongwe, A. B. (1996). Teacher education towards 2000 : Improving the college programmes in Swaziland. In *Proceedings of the Southern Africa Society for Education Conference*, Royal Swazi Sun Convention Centre, 30 August – 1 September, 1996.

Shulman, L. S. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review*, 57(1), 1-22.

Shulman, L. S. (1986). Those who understand: Knowledge growth in teaching. *Educational Researcher*, 15(2), 4-14.

Sow, P. M. (2001). Les cahiers de charges au Sénégal. Case study commissioned by ADEA. Paris: ADEA.

Sprey, M. and Dlamini, B. (1994). An Observation study of teaching at pre schools. Kwaluseni : University of Swaziland.

Storeng, M. (2001). Giving learners a chance: Learner-centredness in the reform of Namibian teaching. Unpublished Ph.D. thesis. Stockholm: Institute of International Education.

Tabulawa, 1998 . Pedagogical Styles as Paradigms: Towards an Analytical Framework for Understanding Classroom Practice in Botswana.

Tabulawa, R. Teachers perspective on classroom practice in Botswana: Implications for pedagogical change. 3rd Biennial National Conference Of Teacher Education Gaborone 25-29 August 1997

Tafa, E. (2001). Teacher socialisation in Botswana junior secondary schools: A critical qualitative analysis of the teaching methods of seven new teachers. Unpublished Ph.D. thesis. University of Birmingham.

Tharp, and Gallimore, (19xx).

Thompson, C. L. and Zeuli, J. S. (1999). The Frame and the Tapestry: Standards-Based Reform and Professional Development. In L. Darling-Hammond and G. Sykes (Eds.). *Teaching as the Learning Profession: Handbook of Policy and Practice* (pp. 341-375). San Francisco: Jossey-Bass.

Thwala, E. et. al. (1996). *Formative evaluation of remediation and enrichment of the Continuous Assessment Programme in Swaziland*. National Curriculum Centre.

Thwala, K. D. (1999). An investigation of the problems of continuous assessment (CA) as perceived by teachers in Swaziland . B.Ed. Thesis. University of Swaziland.

Tsonope, J. (1994). Prospects For Indeginous Languages Of Botswana: Implicationsof The Government White Paper. MOSENODI: *Journal of the Botswana Education Research Association,* 3(2).

Tungesvik, R. (1999). *To make every child a successful learner : Continuous assessment as a contribution to quality improvement in primary education in Swaziland.* University of Oslo, Institute for Educational Research.

UNESCO (1968, July). Conference on Education and Scientific and Technical Training in relation to Development in Africa, Nairobi.

van Graan, M. et al. Practising critical reflection in teacher education: Case study of three Namibian teacher development programmes. Commissioned by ADEA in the framework of *The Challenge of Learning Study*. Paris: ADEA

Van Wing, J. (1959). *Etudes Bacongo, Sociologie, religion et magie*. Paris : Desclée de Brouwer.

Walberg J. Herbert and Paik, J. Susan (2000). *Effective Educational Practices*. Educational Practices Series-3. International Academy of Education UNESCO.

Weva, K. (2003). Le rôle et la formation des directeurs d'écoles en Afrique. Background paper commissioned by ADEA in the framework of *The Challenge of Learning Study.* Paris: ADEA

Wilson, S. M., Shulman, L. S. and Richert, A. E. (1987). 150 Ways of knowing: Representations of Knowledge in Teaching. In J. Calderhead (ed.), *Exploring Teachers' Thinking*. London: Cassel.

Wohlstetter, P. et Briggs, K. (1994). The principal's role in school-based management. *Principal*. 14-17.

World Congress of Comparative Education (July, 1998). Interfacing Education Research with Policy. Cape Town: 10th WCCE.

Yakouba, Y. et al (2003). L'implantation de la Nouvelle Approche Pédagogique (NAP) dans l'enseignement primaire au Cameroun. Case study commissioned by ADEA in the framework of *The Challenge of Learning Study*. Paris: ADEA.