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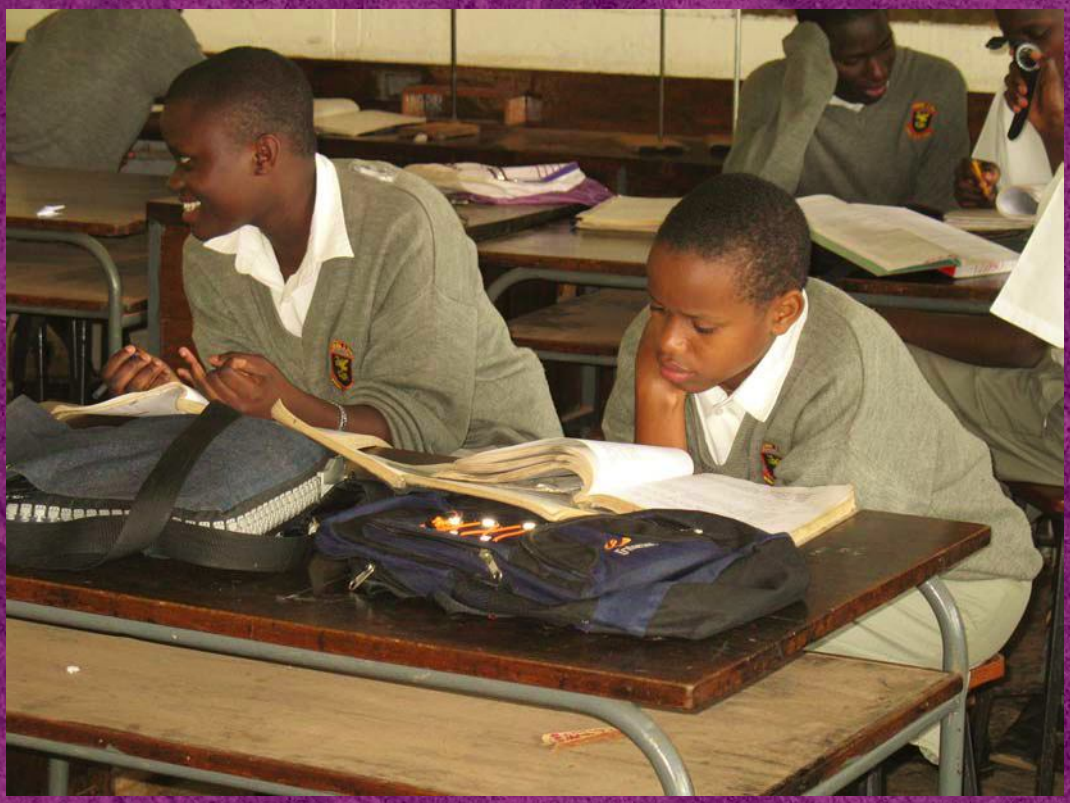
Curricula, Examinations, and Assessment in Secondary Education in Sub-Saharan Africa



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Curricula, Examinations, and Assessment in Secondary Education in Sub-Saharan Africa

Secondary Education in Africa (SEIA)
Africa Region Human Development Department

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Foreword

Many African countries are undertaking important economic reforms, improving macroeconomic management, liberalizing markets and trade, and widening the space for private sector activity. Where such reforms have been sustained they produced economic growth and reduced poverty. However, Africa still faces serious development challenges in human development, notably in post-primary education. The World Bank incorporated this within its Africa Action Plan (AAP) by underscoring the fundamental importance of expanding not only primary but also secondary and higher education, and linking it to employment options for African youth.

The Education for All-Fast Track Initiative (EFA-FTI) involves over 30 bilateral and international agencies and has made important strides. In the coming years, the key challenges are to consolidate progress towards universal primary education and expand secondary school access in response to economic and social demands. Secondary education and training are pre-requisites for increased economic growth and social development. It promotes productive citizenship and healthy living for young adolescents. To be competitive labor markets in Africa need more graduates with "modern knowledge and better skills." Asia and Latin America have shown these trends convincingly. However, expansion of post-primary education services while simultaneously improving its quality will require African countries to deliver these services more efficiently. Adoption of "innovative and best practices" from other Regions can help.

The "Secondary Education In Africa (SEIA)" study is part of the Africa Human Development Program that supports the Region's Africa Action Plan. Its objective is to assist countries to develop sustainable strategies for expansion and quality improvement in secondary education. The study program produced eight thematic studies, and additional papers, which were discussed at the regional SEIA conferences in which 38 countries and all major development partners participated (Uganda 2003; Senegal 2005; Ghana 2007). The SEIA Synthesis Report (2007) is a summary overview and discussion of all studies. All SEIA studies were produced with the help of national country teams and international institutions for which financial trust fund support is gratefully acknowledged. Study reports are available on the SEIA website: www.worldbank.org/afr/seia.

This thematic study is about curricula and assessment in Sub-Saharan Secondary Education. It is based on case studies in 10 African countries and a review of international literature by the Vrije University of Amsterdam and the University of Twente in the Netherlands. Both have been active in education in Africa for many years. The study confirms that secondary curriculum reforms are long overdue in Africa. The secondary curricula content is in most cases ill-adapted to 21st century challenges, where young people are mobile, have competitive skills, and face health threats such as HIV/AIDS. Secondary curricula and assessment systems in Africa suffer in most cases from "severe overload," and outdated subject organization. Reforms efforts have been undertaken, but mostly led to "cosmetic" changes. This study analyzes that challenge: the quality of curricula and assessment and their development processes in secondary education in

Africa against the background of existing contexts, conditions, and ambitions on the one hand, and current pedagogical thinking on the other. I hope that this report will make a timely and useful contribution.

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The World Bank

Acknowledgments

This thematic study report on Curricula, Examinations, and Assessment in Secondary Education in Sub-Saharan Africa (CASASE) was prepared on a contract-basis by the Vrije University Amsterdam and the University of Twente (Netherlands) for the SEIA program of the Africa Region Human Development Department (AFTHD) in the World Bank. The CASASE study is SEIA Thematic Study #5. This report was prepared with participation by national country teams in Tanzania, South Africa, Botswana, and Ghana, and Senegal. A seminar was organized by the two universities in Windhoek, Namibia in June 2005 with educators from these five African countries (and representatives from Namibia and Nigeria), and Jacob Bregman representing the SEIA team to discuss the structure and pedagogic approach of the report and the presentation of its outcomes.

The CASASE thematic study report was produced by Ramon Leyendecker and Dr. Wout Ottevanger from the Vrije University Amsterdam and Prof. Jan van den Akker from University of Twente in the Netherlands. Preliminary conclusions, methodology for the case studies and the overall objectives of this thematic study were presented at the third SEIA regional conference in Accra, Ghana, in April 2007. Comments from representatives of the country teams attending the conference were incorporated in the final version of this study. Linda Chisholm (South Africa) provided valuable feedback on the interims draft.

Earlier and final drafts of the CASASE study were also reviewed by Jacob Bregman (Task team leader SEIA, Lead Education Specialist, Africa Region, World Bank) and Adriaan Verspoor (Senior Education Consultant, Africa Region, World Bank). Kasha Klosowska (Education Consultant, Africa Region, World Bank) provided technical inputs and prepared the final draft for printing.

To prepare the study an extensive literature review was done and country visits organized to Tanzania, South Africa, Botswana, Ghana, and Senegal, in cooperation with partners in those countries. Interviews were conducted with national educators and curriculum specialists. A variety of country-specific documents were collected (policy papers, evaluation reports, international journal articles). Secondary schools and other educational institutions were visited and relevant staff interviewed. The contributions of all these stakeholders in SE are gratefully acknowledged.

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Executive Summary

Starting Point for Development: Access, Equity, Quality, and Curriculum

Access impacts on curriculum where it impacts on quality, for example, rapid expansion of enrollment resulting in shortage of qualified teachers and lack of adequate physical structures. The employment of unqualified secondary school leavers as so-called "relief teachers" as a result of unplanned increases in access reduce the already low levels of teaching-learning activities in Sub-Saharan African classrooms.

Equity. While gender differences seem to have diminished over the last years, those associated with wealth have not. Children from the richest 20 percent of household have on average more than 11 times the chance to reach Grade 9 than those from the poorest households. Students in rural areas continue to experience disadvantages compared to those in urban areas. As general observations it seems that inequities in schooling represent inequities in society.

Quality. Curriculum reforms first and foremost should focus on improving the current teaching and learning processes. As a systemic challenge, these changes need to include re-orientation from secondary education as pre-academic tertiary education to a wider range of options, including vocational education and the world of work.

There is tension between increased access and quality as indicated by projections for the number of teachers needed to implement the proposed expansion. A more heterogeneous student population currently enters the secondary level in an expanded system. This requires acknowledgement of new demands on the teaching and learning strategies such as mixed ability teaching.

Formal Curriculum and Curriculum Structures in Sub-Saharan Africa

Length of secondary education varies across countries in Sub-Saharan Africa (SSA). Most common appears a structure in which secondary education starts in Grade 7 (after six years of primary education) and continues up to Grade 12, with three years of junior secondary followed by three years of senior secondary. There are many variations, including a Grade 13 option in most of the Francophone countries to accommodate the Baccalaureate. These arrangements tend to change from time to time based on new educational insights and political visions. Junior secondary education can be part of Basic Education (such as in South Ghana and Botswana), but is often an entity by itself (Tanzania, Senegal).

Position of TVET. With a limited intake capacity of tertiary education, SSA countries tend to stream their technical and vocational education (TVET), even though these currently exist only in a limited way. Educational reforms in SSA aim for more and better technical and vocational education. Social reputation of and demands for "white collar" TVET differ vastly with those of agriculture and "blue collar" TVET (technical and craftsmen) with business careers and ICT professions highly sought after, at all levels.

Exit skills marking the minimal learning outcomes required to proceed from one educational level to the next. Exit points are usually at the end of Primary, Basic Education

(or Junior Secondary), and Senior Secondary. Table 6 provides an overview of exit skills and exit points in SSA.

Spiral Build-up of Curricula. Shortcomings at one level of education are often extended into the next level, as evidenced by the monitoring of learning in Botswana where achievement in numeracy and second language is low and carried over to the secondary level. It is observed that "spiral buildup of learning matter" in actual fact often means repeating the subject content from lower grades. In this respect it is important that clear exit skills are formulated so that this can be avoided, even though teachers often indicated that subject mastery is often so poor that re-teaching of content is absolutely necessary. A connected issue is that of integration of learning across learning areas. Although this may seem a good idea, the reality is that the same learning matter is taught in different subjects. Creating awareness for HIV and AIDS is one such topic that leads to repetition and duplicate teaching of the same content over and over again.

Language of Instruction. For the majority of students at secondary level language of instruction and the language used in examinations is not the mother tongue, but their second or third language. This is problematic, especially at junior secondary level, as there is strong evidence of a positive correlation of language proficiency and understanding. Formally, most countries use a bilingual language policy, with mother tongue instruction in the early years of primary education, changing to second language instruction (English or French mostly) around Grade 4. However, the classroom reality is that code switching is the norm, using both languages, depending on how well students appear to understand. South Africa (with 11 languages and sign language) has the most progressive and elaborate language policy, but has realized that implementation is a major problem. The bilingual policy has major implications. Language proficiency is an important entry requirement for learning at the secondary level. Students and teachers need to be proficient enough to use the instructional language at the secondary education level.

Subjects and Learning Areas in Junior Secondary. Current educational reforms in SSA organize subject content in core and optional subjects and in learning areas. The trend is to limit the number of possible subject combinations (to reduce curriculum overload, to facilitate active learning approaches, and to deal with limit availability of subject teachers). The trend is also towards a deeper (rather than broader) focus in the way content is dealt with and allow for personal development and maintenance of cultural and social cohesion. The integration of subject follows an international trend, but its implementation is not without problems as an integrated subject is usually taught by a number of individual teachers of subjects of which it is made up. For instance, integrated science is typically made up of biology, chemistry, and physics, and it is taught by the three teachers of those subjects. The lack of materials using an integrated approach is another hindrance to proper implementation.

Subjects and Learning Areas in Senior Secondary. Two basic senior secondary curriculum structures dominate in SSA, each subscribing to a different understanding of exit skills at the end of the secondary level. The first and wider-spread structure prescribes Language (either the local and the instructional language, or the instructional language only) and Mathematics as (part of) compulsory core subjects, with additional elective subjects optional for students to choose. The second structure (for example, in Tanzania) offers specialized and highly selective combinations of core courses of usually three subjects, which schools may define, and which define the school. The Senegalese SSE curriculum can be

located in between the two structures. It offers different streams in the areas of languages, sciences, technical education, or commerce that consists of core subjects, but with different emphasis and time allocations; plus additional compulsory subjects for each stream, for example, philosophy for the languages. Although schools usually offer a large array of subject combinations, in practice some combinations dominate (sciences, business studies) with students streamed into these options based on their JSE examinations results.

Vocationalized education refers to a curriculum mainly academic in nature, but which includes vocational subjects in the timetable (JSE or SSE level). In contrast to TVET, it is part of general secondary education. SSA countries may wish to discuss continuation of vocationalized education in the light of:

- The current perceptions and practices suggest that vocationalized subjects are for students from poor families.
- Discontinuing vocationalized subjects relieves the pressure of an overloaded curriculum.
- Cost effectiveness: unit cost per students for vocationalized subjects are 2.5 to 4 times as high as compared to other subjects (in Botswana), 5.6 and 14.5 (Kenya) but much less high when compared to science classes (1.4 and 3.8 respectively).
- Complex logistics of offering vocationalized subjects.
- The need for sufficiently trained and competent teachers.

Technical and Vocational Education and Training (TVET). Across SSA, issues in TVET include:

- TVET perceived as inferior to general secondary education.
- Often TVET is separate from general secondary education, although now increasingly seen as part of it.
- Entrepreneurship is seen as an important component of TVET to stimulate self-employment.
- There is a lack of clear standards for training, assessment and qualifications.
- TVET requires flexibility from training for specific job to training for a specific occupational sector.

TVET in SSA is fragmented with many private providers offering training opportunities. The challenge for the sector is to unify it and to establish a system of quality assurance. A number of countries work on the development of a qualifications framework and have established parastatals for its organization and management, adding to already stretched human resources. In additional problem is that TVET is often the responsibility of more than one ministry, notably ministries of education and labor. To indicate the magnitude of the efforts required, Botswana has spent more than six years and extensive external support to establish a quality assurance system that covers part of its TVET program.

Qualification Frameworks. The existing or anticipated qualification frameworks are based on two determining models of differentiation based on two fundamentally different objectives:

- They either attempt to encompass all primary, secondary, vocational, and tertiary education in one unifying framework to allow for mobility across all sectors (the

NQF in South Africa), thereby not differentiating between TVET and academic education (as in Australia, Canada, England, New Zealand, and the United States).
- Or they attempt to differentiate curricula and institutions of TVET and of general education as a dual system (for example, Ghana). This model basically follows the German and Francophone practices, as in Senegal. The distinctions between the first exit point for continuation into TVET mark the differences within the model and the countries named.

All-inclusive qualification frameworks as contemporarily favored in many SSA countries and as part of SADC policies are political initiatives. Because of numerous systemic implications, they significantly complicate efforts to increase the quality of the formal curriculum, and blur the focus on the primary need to increase the quality of the curriculum in the classroom.

Operational Curriculum: Curriculum in the Classroom

Current Trends in Instructional Methodology. Recent curriculum reforms in SSA have focused on modernizing teaching methods in the classroom, away from teacher dominated classrooms to more active forms of learning. However, studies indicate that the implementation of active learning approaches is problematic and far removed from the ideal situation suggested in the curriculum documents. Classroom reality continues to be described in terms of dominant teachers, silent students, and chalk and talk. Reasons forwarded as to why this gap exists include cultural perceptions of what good teaching is, current inadequate levels of teachers' knowledge and practices, a general misunderstanding of the meaning of learner-centered education, and the shifting roles of teachers, resulting in implementation without the intended learning. Teachers, on the other hand, often forward the lack of physical resources, large classes and an overloaded curriculum as reasons for using teacher dominated classroom strategies.

Physical Resources. Facilities in schools in SSA are often sub-standard, especially in rural areas where the barest necessities for adequate teaching are lacking. Some countries, notably Ghana and South Africa, have introduced a system which channels larger portions of the available funding to less well endowed schools. In South Africa, the poorest 20 percent receive 35 percent of the resources. However, adequate physical resources increase the potential of a school, but it is acknowledged that eventually it is the teacher who will make the difference in the quality of instruction.

Time on Task. The limited time on task in SSA has a strong negative influence on learning opportunities. Reasons for a low time on task include a low allocation for teachers, absenteeism, lack of discipline, lack of teaching materials, and a large number of extra-curricular activities. In South Africa teachers spend less on time on teaching (46 percent) than on administrative duties. Similar problems exist in SSA, especial in situations where curriculum reforms were being implemented.

Class Size. While large classes with 100 students or more is common in Junior Secondary classes, classes in Senior Secondary are usually much smaller, and often too small to be efficient. Generally, extreme class sizes point at inefficiencies in the system.

Teacher Support Materials. Curriculum reforms in SSA advocate learner-centered teaching approaches. The changing role of teachers—from source of information to facilitator in the learning process—in such an approach requires support for teachers. Similar support is needed for new content in the curriculum. Studies, both SSA and internationally, have indicated that an effective way to structure this support is by providing exemplary teacher support materials as part of an in-service education scenario. This is in particular so in the initial stages of implementation. To be effective, support materials should:

- Provide theoretical background information on the meaning of the change;
- Demonstrate the practical meaning of the change;
- Provide users with opportunities to experiment with exemplary activities, thereby gaining insight into the consequences of the change; and
- Provide concrete resources that can serve as a frame of reference for the intended educational change.

Where such materials exist, there are persisting problems observed in most of visited SSA countries which illustrate that instructional materials will not necessarily and automatically achieve its potential for change. These include:

- The distribution and availability of the learner support materials to schools;
- The management, organization, and maintenance of the materials at the school level;
- The opportunity for teachers to use the materials at school level; and
- The will and capability of teachers to use the materials for pedagogically purposeful instruction.

Textbooks. In SSA secondary education, textbooks usually determine the depth and breadth of the curriculum. Quality of textbooks is therefore of utmost importance, both in terms of subject content and instructional processes. However, the latter part is often absent in textbooks as they mostly concentrate on content.

Textbooks are supplied free of charge (in Botswana) or are paid by the parents. Cost recovery through rental schemes have failed because of (amongst others) poor management.

Most SSA countries now have a system whereby publishers, both local and international, often working in partnership, produce and supply the textbooks. The issue of textbooks has produced calls for African publishers. In some countries and in some subjects, for example in Nigeria and Ghana, science and math teachers associations have teamed up with a local and international publishers.

Textbook selection is usually carried out by committees set up by the Ministry of Education. Selection processes should be transparent and base the selection process on adequate guidelines, but—because of the high stakes—often this is not the case and limits the productions-distribution process of textbooks. Senegal requires approval by two panels to counter corrupt practices.

Supply is problematic, especially to rural where books often do not reach the schools (especially if supplied by commercial publishers), and if they do, they are damaged, partly lost in transit or diverted to other schools. Once at the schools, books are often kept in its original box because of lack of a proper system to distribute them, or for fear of damage. The number of books available to students seems to have unacceptably declined over the last few years.

Attained Curriculum: Assessment and Assessment Practices

Secondary education in SSA is dominated by examinations. Students write examinations at the end of a topic, end of term, the end of the year, as well as final national examinations at the end of junior secondary and senior secondary education. Educational outcomes in SSA are measured by the results of the examinations. Students, teachers, and schools derive their credit from examination results. "Teachers teach for examination success" is the often-heard phrase in SSA. The result is that teachers train students to reproduce facts and definitions, leading to rote-learning. Analysis of junior secondary examination results in the visited countries show that students generally pass in the lowest categories. Achievement in the higher cognitive domain is considered problematic. The TIMMS 2003 study (measuring mathematics and science abilities in Grade 8, first grade of junior secondary) in which Botswana, South Africa, and Ghana represented SSA positioned the three counties at the bottom of the list, way below the international average and well below the North African countries Morocco, Tunisia, and Egypt.

In examination results at senior secondary education, achievements are mostly in the lower and middle range. However, the value of the examination results must be seen in the light of measures taken by universities in many of the countries to establish entry examinations. This queries both the quality of the examination as well as the trustworthiness of the results of the exams. There are numerous reports of leakages in the examination system and fraudulent practices.

Most SAA countries have localized curricula, and localized examinations, or are in the process of localization. Namibia and Botswana have kept ties with the University of Cambridge Examination board to ensure appropriate standard setting in their SE examinations. Ghana and Nigeria conduct their examinations under the auspices of the West African Examination Council (WAEC). South Africa has re-established a quality assurance board for secondary education (Umalusi), and in 2005 has compared the standard of its examination questions against Scottish standards because the increases in pass rates in South Africa since 1994 have raised concerns.

Current curriculum reform activities in SSA countries are not always matched by reforms in assessment practices. The lack of alignment between curriculum and assessment is seen as a hindrance to efforts to implement modern teaching and learning practices as intended. The lack of alignment can be attributed to the lack of communication and cooperation between agencies at the national level, It also indicates problems with institutional capacities in many SSA countries.

Continuous assessment is more and more executed as a way to test achievement at school level, especially of skills. However, in reality it appears to more of the same written test for knowledge, sometimes understanding. Interestingly, in Nigeria students call CASS "Continuous Harassment."

At a technical level, SSA countries face practical problems that often stand in the way of implementing more adequate assessment strategies. In addition to questions of logistics, alignment, professionalism and accountability, other assessment and examination challenges include:

- The definition of standards and accepted levels of performance;
- Differentiation between standard (core) and higher grade;
- New forms of assessment of skills, particularly as part of continuous assessment (CASS);

- Improvements in the quality of examinations, especially in the area of assessment items, and training for those setting these items;
- Improvements in moderating and monitoring, professional development and building capacity in the examination system;
- Sensitivity to language problems of students; and
- Statistical analysis of the examination results to provide feedback on progress and effectiveness of the implementation of the curriculum.

The introduction of new and reliable assessment instruments need to be supported by professional development programs (both in in-service scenarios and in pre-service teacher education programs) in support of teachers introducing them. The suggestion in SSA for portfolio assessment in secondary education needs to be viewed with the necessary care, as the implementation of this will be a daunting task.

Curriculum Development Processes

In spite of the intentions expressed in past and current curricula, the outcomes have so far been well below expectations. This is in line with general observations of curriculum reform, both in SSA and internationally, that is described as the gap between ideals and outcomes, between rhetoric and reality.

Important conditions for a successful implementation of curriculum reforms include:

- Acknowledgement of the complexity of curriculum development processes involving many stakeholders and different system levels;
- Political will and social consent and widespread agreement from all stakeholders, over prolonged periods of time;
- Realistic level of ambition and formulation of achievable objectives; and
- Emphasis of curriculum development process to include analysis, design as well as implementation. Past orientations have mostly been on developing policies and plans, but have focused little on implementation.

Addressing the Gap Between Plan and Achievement

Realistic Timelines. Political pressures often dictate short timelines, leading to limited design possibilities and often little attention for implementation, professional development and capacity building. The C2005 curriculum in South Africa is a case in point. However, some countries have learned from the past and have set much more adequate timelines (for example, Botswana and Senegal).

Systemic Alignment. Curriculum development units (either parastatal, or ministerial departments) have the responsibility for curriculum development. Their roles is often restricted to syllabus writing, although sometimes in-service education activities are part of the mandate, but these are not always carried out due to lack of capacity, accountability or professional culture. Work is often carried out in isolation. Better communication structures with relevant institutions (examinations, teacher education, inspectorate), combined with clear formulation and distribution of responsibilities, will contribute to systemic alignment. Observations in this study suggest that adequate ICT structures can help in this process and more generally can address the complexities of curriculum development.

Curriculum Implementation

Fidelity of Implementation. Internationally, more and more attention is given to curriculum adaptation and school-based curriculum development, within the confines of a national curriculum. Such a system of decentralized curriculum development seems currently outside the possibilities of SSA countries due to the absence of enough well qualified and experienced capacity for curriculum development, inspectorate and teaching.

Formative Evaluation. A shift in emphasis to a more implementation orientation in curriculum development should include formative evaluation as part of the analysis, design and implementation process. The focus of formative evaluation is on the quality criteria of relevance, curriculum consistencies, practicality in implementation, and effectiveness of the prototype curriculum.

Development research has been successfully employed as part of curriculum development, both internationally and in SSA. It serves the following purposes in the curriculum development processes:

- Optimization of the development of prototypical products including provision of empirical evidence for their effectiveness;
- Generation of methodological directions for the design and evaluation of such products; and
- Contributing to the body of knowledge, and thereby increasing systemic capacity.

Upscaling

In recent years, a number of efforts for large-scale curriculum changes have been attempted in Africa (Namibia, South Africa), or are about to be attempted (Ghana, Senegal, Tanzania, Uganda). Evaluations of attempts to introduce large-scale curriculum reforms in SSA indicate a number of common findings. While the aims of the intended curriculum changes were and still are noble and valid in themselves, the changes have hardly made it into the classroom. The following list indicates the main factors for the shortcomings, many of them known by now:

- The intended change was too far-reaching to be bridged in one step, beyond the capacity of the system, and too ambitious.
- Not enough time was provided and not enough technical expertise was used in the initial analysis and design of the curriculum.
- Lack of clarity of the meaning of the curriculum reform, a rushed implementation and lack of instructional materials.
- Inadequate professional development infrastructure.

Conclusions and Recommendations

Reform Potential and Focal Points

Against the background of the goals of Equity, Access and Quality in education, two major ambitions drive contemporary curriculum reform attempts in SSA:

- Better and more appropriate, relevant student' learning; and
- Expanding and restructuring of secondary education, also to include TVET as part of educational opportunities.

Curriculum reform has the potential to fully respond to the aim for better learning, and to partly respond to the restructuring of SE. Reform can increase curriculum quality mainly in the following areas:

- The formal curriculum: the design of the form and content of the written curriculum frameworks and materials.
- The implemented curriculum: the curriculum development and implementation processes, and the curriculum enacted in the classroom. The implemented curriculum, particularly the improvement of the quality of the instructional process ("teaching"), is the most important factor for achieving better learning.

The restructuring of secondary education to change its traditional routing—from entry to academic tertiary education to more technical and vocational education—demands the extension, unification, and integration of TVET. The task for more and better TVET involves in many countries the establishment or re-establishment of the complete sector. To limit an already enormous task, it is recommended to base the change on existing TVET contexts. The selection of the model for differentiation and integration of TVET should be based on realistic and practical considerations. The theoretical appeal of highly integrative integration frameworks, for example, the NQF in South Africa and other countries, is not matched by realistic outcomes, and the numerous practical problems originating from it.

To realize its reform potential, changes need to extend into the context and framework in which the curriculum operates. The focal points for curriculum reform for most countries in SSA are:

- The complexity of curriculum reform, and the uniqueness of each reform attempt;
- Curriculum reform as the central part of educational reform, including the need to gain consent and agreement from society and the educational field for and on the reform;
- The importance of the implementation process, and the technical process of curriculum design and development;
- The need for capacity building and professional development at all levels, but especially in support of teachers implementing the reforms in their classrooms; and
- The need to further develop organization and management of institutions in education, alongside and in interaction with curriculum reform.

Complexity of Curriculum Reform

Curriculum reforms in SSA require comprehensive approaches directed at the complexity of the educational system at large. It requires the acknowledgement of past obstacles and current challenges to reform, as well as the challenges additionally created by the reforms.

Human and physical resources, perceptions, experiences with past reforms and current school and classroom practices determine the limits of what educational systems can absorb in terms of development. Many high political ambitions have implications that are beyond current context and conditions. It therefore makes sense to have realistic ambitions and scope of curriculum reform, because these may increase the potential for successful implementation. Sometimes, *less* could actually be *more*. It is recommended that curriculum reform and strategies be based on the realities on the ground and much less on political ambitions.

The resources (structures, instructional materials, textbooks, but also number of staff and their qualifications) available at schools to a large extent determine the learning conditions, and therefore the learning potential. Disadvantaged schools carry higher burdens. However, it is the active or passive quality of school cultures that are equally determining for learning. Many schools inside and outside of SSA show that:

- Actively managed schools can alleviate disadvantages and make a difference (although a minimum level of resources is an elementary prerequisite);
- Advantaged schools gain little with passive school cultures; and
- Advantaged schools with active school cultures have the greatest benefit by far for students' learning.

It is recommended that physical resources be provided on a poorest-schools-first basis, to equalize conditions and to enable quality learning, while focusing on development of teacher capacity and school cultures.

Curriculum Reform and Wider Educational Reform

Coordination of Efforts. Implementation of curricula depends on improved coordination of development efforts with a focus on curriculum. The strong hierarchical structures in education in some SSA countries limit the communication between organizations so needed to tackle the complex tasks of curriculum development. It is recommended to increase the efficiency, clearly define institutional responsibilities, and provide for more and better cooperation and communication with and across existing institutions and departments. Site observations in SSA have shown that those organizations with well-working ICT facilities are better prepared to respond to the management requirements of complex reforms.

Curriculum Consistency. Curriculum consistencies increase the scope of learning and learning potential. Three areas are of particular interest for contemporary curriculum reform in SSA:

- Learning achievements at the primary level provide a strong base for learning at the secondary level; or in reverse, failures will extend into the secondary level and accumulate. Ensuring exit skills at the end of an educational cycle is vital for continuation in education (either academic or vocational), and suggests to design down the curriculum from higher levels to lower ones.
- The issue of proficiency in the instructional language at the secondary education is a major obstacle to learning for most students in SSA. It deserves high attention and remedial interventions that need to include, mainly for Anglophone countries, the instructional language proficiency of teachers. Present approaches to instructional languages and bi-lingualism suggest the use of mother tongue instruction during the first years of primary education to provide for basic literacy skills, after which there is a transition to learning and using the second language as a medium of instruction.
- Building learning potential on prior learning and across educational levels requires the spiral and age-relevant build-up of related subject matter across syllabi. It is

recommended that curriculum designers communicate and cooperate across educational levels.

Socio-Political Influences. The more technical component of implementation cannot function without acknowledgement of its socio-political influence. Many factors determining curriculum reform are fluid variables depending on the societal context, influencing the societal context, and being influenced by the societal context. Not all of these variables can be completely influenced by curriculum designers.

Accountability. Ultimately, better learning and teaching depends on increased accountability at all levels of the educational and the political system. At the classroom level, a distinction needs to be made between the job side of teaching, and the professional side of it. Increasing accountability in classrooms cannot be achieved through pressure only, teachers also need to be supported and acknowledged.

The Importance of the Implementation Process, and the Technicalities of Curriculum Design

Implementation Perspective. Current curriculum reforms and larger educational reforms, of which they are part of, focus to a large extent on ambitions and on the "intended" part of the curriculum. "What" shall be achieved, and "what" must be done is clearly spelled out in policies and documents. Often even the specifications ("how") are detailed and backed up by literature and worldwide experiences. Yet, the actual and resulting accomplishments made in reality differ widely from initial intentions. This is largely because of the lack of a focus on implementation of the reforms. It is recommended that curriculum is developed using an implementation perspective. The adage should be "think big, start small."

Development Research in Support of Curriculum Development. There are good experiences with curriculum development exercises that have embraced research as part of the development process. Development research typically consists of: (1) an analysis of state-of-the-art knowledge from the literature and of examples from similar contexts; (2) development of prototypes of the curriculum; (3) iterative process of design and formative evaluation; and (4) a summative evaluation to gauge effectiveness of the curriculum in terms of achieving learning objectives. During development, research typically moves its focus from validity and relevance of the intended curriculum (how relevant are the changes for the student and for subject learning) to issues of practicality (how feasible is it for teachers to implement the new curriculum in the classroom without changing their usual teaching practice too much) to measuring effectiveness (how well do students achieve the learning objectives of the new curriculum).

Exemplary Teacher Support Materials. Quality teacher (and student) support materials have a strong potential for implementation. It is suggested that professional developers together with experienced teachers produce such support materials for teachers to facilitate the complex forms of modern pedagogy. In several countries in SSA, exemplary materials have been developed as part of research guiding the development of the new curriculum. SSA regional cooperation may successfully share developed materials, or share the efforts for their development.

The Need for Capacity Development at All Levels

Teacher knowledge and practices are the primary factors affecting the improved students' learning outcomes. The change in instructional processes depends on teachers' professional development, which is has a direct positive effect on teachers' knowledge and practices. Technical sound curriculum design (curriculum consistency), implementation-oriented curriculum development, alignment of curricula with assessment and examinations, and the interaction between all factors further influence instructional practices. The quality of co-operation between educational functions (curriculum development, assessment, in-service, evaluation) affects the feasibility and quality of educational reform. Professional developments in all sections of the educational system support the technical and managerial capacity of the educational system at large, and will increase the potential of curriculum reform.

Teacher Professional Development. Changing teachers' classroom practices does not work by replacement, but by incremental change over sustained periods of time supported by coaching activities of peers, heads of department and external agencies. Teachers' current beliefs and practices cannot simply be substituted but they can be build-upon towards better instructional quality and better fitting methodologies. Teacher professional development is key to more successful curriculum implementation and better student learning.

Job and Professional Standards. Professionalization cannot be mandated, but requires organizational learning and incremental change. Modeling the change is of high value for learning. Adherence to, first, job standards, and secondly professional standards, strongly contribute to professionalization. It is recommended to promote and model high levels of accountability for job standards. It is further recommended to facilitate the definition of professional standards by teachers or teacher organizations.

Capacity Building for Staff of Curriculum Development Units and Examination Agencies. Besides professional development programs for teachers, similar programs for other relevant staff in the education system would be hugely beneficial to efforts of curriculum reform. Such development programs are often attached to national curriculum development activities on an *ad hoc* basis. There are also examples in SSA where this happens in a structured way. For instance, at the University of Dar es Salaam there is a two year professional MEd program to train staff of ministries, curriculum development units and examination agencies.

External Support to Implementation. Many Western countries have decades of experience with active learning approaches. Over the years, and across SSA, small to medium-scale professional development activities tapping these experiences have shown to make a positive difference for classroom instruction in SSA. Provided that appropriate requirements are met, external experience can contribute to capacity building and professional development in SSA.