Chapter 7
Providing Effective and Equitable Opportunities to Learn

Secondary education strategies that do not provide meaningful and equitable opportunities to learn are a waste of public and private resources and a threat to social cohesion. Improving the quality of instruction will depend on the recruitment, training and retention of competent teachers, support for practicing teachers, effective school leadership and the availability of an adequate supply of instructional materials, in particular textbooks. Doing so equitably means providing schooling opportunities of acceptable quality that are accessible to students without incurring the high cost associated with boarding and the obstacles of very long travel distances. This chapter explores what policies countries can be considered to ensure an adequate supply of competent teachers, well prepared school leaders and counselors, regular provision of textbooks and in the resource constrained environment discussed in chapter 5. It also examines how these opportunities for learning can be made available to students outside urban areas.

Competent Teachers: The Backbone of an Effective System

The rapid growth of secondary enrollment in Sub-Saharan Africa has outpaced the growth of the number of teachers (Chapter 1, Table 1.1). Recruiting the number of teachers necessary to meet the demand of rapidly growing secondary systems presents several difficulties. First, the supply of suitable teachers is constrained, both by the output of well educated secondary graduates, particularly in certain subjects such as mathematics and science and by the capacity of the teacher education systems. Second, these shortages are exacerbated by the fact that increasingly many secondary teachers are not career teachers. Lewin and Stuart (2003) estimate that the length of time teachers teach after qualification before moving to another job is often less than 10 years. Third, the finances available to employ teachers are limited, and often insufficient to meet the demand, given current deployment policies and salary structures (Chapter 5).

The teacher supply challenge is not only quantitative, however. Teachers are also expected to engage with an array of new challenges. Current levels of learning achievement are low (Chapter 1) and improvements will require more effective instructional strategies. Increased enrolment and limited public resources will mean larger classes for many teachers, with students with different characteristics, possibly with a more limited grasp of the language of instruction, and lower levels of literacy, numeracy and analytical skills (Lewin, 2002). Managing more diverse classrooms will
require improved classroom management techniques and different teaching methods (Condy, 1998). In addition, teachers may be expected, for example, to avoid physical punishments, create a collaborative classroom climate, promote analytical thinking, encourage good citizenship and gender-fair attitudes, and incorporate ICT into their work (Chapter 6). They are increasingly called upon to engage with parents and the local community, and to build collaborative relationships with them. Taken together, countries face an intimidating challenge: they need to increase the number of teachers, and improve quality of teaching, and equip teachers to deal with a more complex task, while reducing the cost per student.

The starting point must be the recognition that teacher capability is central to education quality. What makes a good teacher is, less clear, however. The level of education and teacher training have been shown to make a difference, but they do explain only part of the variation in teacher quality. There are other factors, less measurable by conventional means, which also play an important role (Box 7.1).

Box 7.1: Quality teaching is vital for improving student learning

Student learning is influenced by many factors, including: students’ skills, expectations, motivation and behavior; family resources, attitudes and support; peer group skills, attitudes and behavior; school organization, resources and climate; curriculum structure and content; and teacher skills, knowledge, attitudes and practices. Schools and classrooms are complex, dynamic environments, and identifying the effects of these varied factors, and how they influence and relate with each other – for different types of students and different types of learning – has been, and continues to be, a major focus of educational research.

Three broad conclusions emerge from research on student learning. The first finding is that the largest source of variation in student learning is attributable to differences in what students bring to school – their abilities and attitudes, and family and community background.

The second is that factors to do with teachers and teaching are the most important school level influences on student learning. In particular, the broad consensus is that “teacher quality” is the single most important school variable influencing student achievement.

The third conclusion from the research, concerns the correlates of teacher quality. Most research has examined the relationship between student performance and teacher characteristics such as qualifications, teaching experience, and indicators of academic ability or subject-matter knowledge. Such research generally finds a positive relationship between these teacher characteristics and student performance, but perhaps to a lesser extent than may have been expected. A point of agreement is that there are many important aspects of teacher quality that are not captured by the commonly used indicators. The teacher characteristics that are harder to measure, but which can be vital to student learning include the ability to convey ideas in clear and convincing ways; to create effective learning environments for different types of students; to foster productive teacher-student relationships; to be enthusiastic and creative; and to work effectively with colleagues and parents.


General education

The effectiveness of secondary teachers is strongly related to their level of mastery of the subject matter they teach. They should not only know the content they have to teach, but have a deep understanding of it. Studies in the US show that teachers’ advanced content course work is especially important at the upper secondary level (Rice, 2003). This may be the principle of diminishing returns: it is important that teachers be educated to a
higher level than the level at which they are teaching, each additional level of education above that also improves quality, but to a smaller extent.

General education requirements for teaching at lower secondary level vary, with some countries allowing teachers with the equivalent of upper secondary level to teach (Table 7.1). In many countries less than half of their teachers meet the required standard including Comoros (45%), Ghana (42%), Benin (33%), and Uganda (32%). Most countries require a graduate degree to teach at upper secondary level. Distinguishing between the requirements upper and lower secondary education allows some countries to have non-graduate teachers at lower secondary level, but a mostly graduate teaching force at upper secondary level. This pattern ensures that most students are taught by a teacher who has been educated to at least one level higher than the level at which they are teaching.

<table>
<thead>
<tr>
<th>Country</th>
<th>Reference year</th>
<th>Lower secondary</th>
<th>Upper secondary</th>
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<tbody>
<tr>
<td></td>
<td>Reference year</td>
<td>Years of schooling required</td>
<td>Proportion meeting the standard</td>
</tr>
<tr>
<td>Burkina Faso</td>
<td>2002</td>
<td>16</td>
<td>100</td>
</tr>
<tr>
<td>Chad</td>
<td>2003</td>
<td>15</td>
<td>35</td>
</tr>
<tr>
<td>Mali</td>
<td>2003</td>
<td>12</td>
<td>x</td>
</tr>
<tr>
<td>Uganda</td>
<td>2004</td>
<td>13</td>
<td>44</td>
</tr>
<tr>
<td>Guinea</td>
<td>2003</td>
<td>16</td>
<td>…</td>
</tr>
<tr>
<td>Kenya</td>
<td>…</td>
<td>14</td>
<td>4</td>
</tr>
<tr>
<td>Lesotho</td>
<td>2003</td>
<td>14</td>
<td>83</td>
</tr>
<tr>
<td>Niger</td>
<td>2003</td>
<td>15</td>
<td>90</td>
</tr>
<tr>
<td>Senegal</td>
<td>2003</td>
<td>15</td>
<td>100</td>
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<tr>
<td>Cuba</td>
<td>2003</td>
<td>17</td>
<td>84</td>
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<tr>
<td>Ecuador</td>
<td>2000</td>
<td>16</td>
<td>65</td>
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<td>South Africa</td>
<td>2003</td>
<td>17</td>
<td>…</td>
</tr>
<tr>
<td>Zimbabwe</td>
<td>2004</td>
<td>16</td>
<td>59</td>
</tr>
</tbody>
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… no data available  x data included in other category or column

Source: UIS, 2006

In summary, the evidence suggests that better educated teachers achieve better results. Ideally, it may be desirable to have an all-graduate secondary teaching force, but in the medium term most African countries will be unable to find and finance sufficient graduate teachers, especially in a context of increasing enrolments. Rapidly growing systems may end up with a few highly qualified, high cost teachers, many untrained teachers and increasing class sizes. The alternative of constrained enrolment growth is rarely feasible. Countries may therefore need to plan for use of teachers with lower formal qualifications, particularly at lower secondary level. Whatever qualifications are required, it is important that they be realistic and affordable. Failure to take into account the quality of teachers actually employed can lead to unrealistic expectations in curriculum, and tends to reduce the perceived need for in-service supports for teachers.
Professional training

Teacher education programs vary in their organisation, duration and scope, but here is a commonality in the content (Coolahan, 2002; Nwaboku, 1996) which typically includes:

a) academic studies, usually in the school subjects to be taught;
b) pedagogic preparation, comprised of
   (i) studies in educational sciences, such as psychology and sociology of education;
   (ii) study of methodologies, and teaching methods,
   (iii) teaching practice.

The major curriculum issues relate to the balance between the academic studies (the content to be taught), and the pedagogic training (Lewin, 2000). Two predominant models of secondary teacher preparation have evolved: the concurrent and the consecutive model. The concurrent model involves a course with academic subject knowledge, being combined with educational and professional studies throughout the course duration. In the consecutive model, students first get qualifications in the subjects they wish to teach, and then have a shorter teacher training course (Coolahan, 2002).

In Africa a variety of systems are used (table 7.2), and in many countries both are provided as parallel alternative routes into teaching. Each of the models has important financial implications. The consecutive model may transfer much of the cost of teacher training onto the student, depending on how higher education is financed. The concurrent model is more commonly provided free of charge to students, and may provide access to teaching for students who might otherwise be unable to afford it.

Apart from small-scale projects, the literature provides little evidence of teacher education functioning as an effective agent for educational change in sub-Saharan Africa. For example, Ware (1992) cites researchers in South Africa, Nigeria and Kenya describing the difficulty of changing secondary teacher classroom practices. A number of structural difficulties have been reported with teacher education:

- Overemphasis on education studies. Lewin (2000) has argued that teacher education often concentrates on the history, psychology and sociology of education to the detriment of pedagogy. This leaves students ill prepared for classroom teaching. Student teachers often find it difficult to see the practical implications of the educational sciences.
- Methodology distant from classroom realities. Even the methodological component is often not highly valued. Teachers “often complain about the
discrepancies between what higher education offers them in the teacher training courses, and what is needed in the classroom teaching” (Sun and de Jong, 2001).

- **Weak teaching practice.** Teaching is a practical skill. Teaching practice should be at the centre of the attempt to develop good pedagogical skills. However the value of teaching practice is dependent largely on the quality of supervision and guidance provided during the practice period. Too often, supervision visits are inadequate in number and quality, resulting in little added value.

- **Tendency to teach as they were taught.** The longest and most intensive in-service that all teachers undergo is their own experience learning as students, which often relied heavily on transcription of notes and memorisation of facts for examinations (Ampiah et al, 2000).

In order to be effective, teacher education needs to equip newly trained teachers with practical classroom skills that are so evidently useable that they displace the instinctive replication of the methods experienced personally. Unfortunately, teacher training institutions often have limited capacity to provide such skills. Most teacher trainers no longer practice in classrooms. They may have little recent classroom experience and so risk transmitting theories not personally validated in practice (Paniagua, 2002). Even when they were teaching, they may not have been the best teachers, as promotion is often on the basis of academic credentials or seniority. Appointment of appropriate teaching staff may be even more difficult in universities, where the requirement for academic distinction may outweigh the value of classroom excellence (Coolahan, 2002). University based teacher education may have little accountability to the secondary school system, and may even report to a different Ministry, as in Namibia, Tanzania and Zimbabwe (Gaynor, 1998). In Lesotho, the faculty of education delivers diplomas in sciences of education, in agricultural education and in home economics, and provides a B.Ed. in secondary education and in primary teaching but training programs do not take much into account the subjects taught in the secondary schools (UNESCO, 2003).

**Continuing Professional Development (CPD)**

Teachers cannot be expected to work effectively upon completing pre-service training with no additional support for the remainder of their careers. CPD is necessary not only to help teachers deal with revised curricula and evolving methods, but also to re-energize and motivate them. Studies on the cost and benefits of CPD methods are not readily available, and most tend to rely on anecdotal evidence (Christie et al. 2004).

Three main types of CPD model are popular. The cascade model is the most widely used, typically delivered through short-term workshops (Anderson, 2002). While this model is suitable for some kinds of material, the impact of short cascade courses on teaching practice has often been disappointing. There are a number of practical difficulties with this model: the courses are usually short, teachers often do not see the need or do not have the skills to adopt new practice, the training is divorced from the context of the school, and trainers rarely have practical classroom experience with the new programs or methods (Monk, 1999: Higginson, 1996).
Distance education provides is an option that has attracted a lot of interest on the basis of cost savings (see chapter 5) and the ability to reach geographically separated beneficiaries. Providing further education to teachers who continue to be present in school is more attractive than systems where teachers are required to leave and attend institutions full time, for reasons of both teacher availability and cost (Yates, 2000). In the distance education model student teachers spend more time teaching, and less time studying. As might be expected, this is an effective method for delivering experience of teaching, but less effective for academic training in the content knowledge. In Malawi, where this was used with primary teachers, evaluations identified weak performance in content knowledge as a difficulty.

Increasingly, the trend is the promotion of inter-school networks or clusters, wherein staff from a number of schools work together on new curricula or methodologies (Coolahan, 2002). This approach may be slower, but is more likely to have a long term impact on methodology and practices, for veteran and novice alike. Kenya is testing this approach (Box 7.2)

<table>
<thead>
<tr>
<th>Box 7.2: Continuous Professional Development in Kenya</th>
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<tr>
<td>The SPRED 3 project in Kenya provides one mode of distributed teacher development. In each of 3 districts, each school was invited to select three lead teachers, one each in English, mathematics and science, to participate in the project. Over a 5 month program, these teachers will build subject-teams in their schools and begin to mentor their colleagues. It is expected that within 2 years, 50,000 teachers will have been through the first phase of the program, and there is some consideration of offering accreditation for participants.</td>
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Quality is determined by more than formal qualifications

One of the most interesting findings from the research on teacher effectiveness is that a large part of the variation between teachers cannot be explained by teacher education or qualifications. In short, there are some other factors that contribute to the performance of teachers (VSO 2002):

- **Personal characteristics.** Selecting teachers who have these characteristics could improve the quality of teaching. Unfortunately, too often teachers are selected purely on the basis of their academic performance.

- **Social recognition.** Where teaching is seen as an important social function, and a valuable contribution to society, teachers are more likely to perform well. There is increasing evidence that teachers’ morale and status are falling. Teachers with low morale are less likely to invest energy into developing and improving their work,

- **Contribution to student learning.** Structures that reduce student performance, or leave teachers facing impossible situations, adversely affect motivation.

- **Opportunities for progression.** While pay and conditions are important contributors to motivation, there is evidence that non-remuneration –especially upward career mobility- and administrative issues are almost as important as the actual level of remuneration.

- **Lack of stability of assignments.** Constant moving of teachers and reassigning of classes make it more difficult for teachers to build a relationship with students, or
feel a responsibility for them. In one study (IEQ, 2000), almost 50% of teachers were not teaching the same class at the start and end of the school year.

Rethinking Teacher Training
Teacher training is increasingly conceived in terms of three stages (the three “I’s”) Initial, Induction and In-career. Given the urgent need to produce more teachers, many African countries have emphasized initial teacher education, while the induction and in-career stages are under-developed. At the same time, the initial teacher education often is too theoretical, and too removed from the reality in schools. If these three stages are seen as part of a continuous process of professional development, there are opportunities to move some of the content to the later stages, when it may appear more relevant to teachers and have a greater impact on practice. Initial teacher education could then become shorter, and more concentrated on the practical skills necessary for the reality of the classroom. Improved selection procedures would enhance the effectiveness of these policies.

Box 7.3: Improving Teacher Competence in Burkina Faso
Pre-service teacher training in Burkina Faso has been reduced from three years to a one-year program, totaling 30 weeks, including a one-week guided practice teaching session and four-weeks of unguided classroom teaching. During teaching practice student-teachers will receive support from school directors, and be visited at least once by in-service training centers staff, pedagogic advisers, or school inspectors. Student teachers will also participate in training sessions with experienced teachers who are undergoing in-service training. Moreover all teachers in public and private schools will benefit from continuous pedagogic support and advice following a three-pronged approach. The first level of support will be inside the school. Directors will, as one of their prime areas of responsibility, supervise the teaching methods used by all members of the staff and, from time to time, hold short half-day seminars to improve their quality. They will receive an initial 20 days of training in their pedagogic responsibilities. The second level of support involves deployment in the regions of 26 additional Pedagogic Advisers and Inspectors who would be responsible for visiting each school, and each teacher, at least once a year. On the basis of their reports, the inspectorate would elaborate subject-based in-service training programs The CP and inspectors are responsible for carrying out annual six-day, activity-based training for each of the 4,500 public and private teachers to improve their teaching methods and performance. The third level of support is teachers' study groups in networks of neighboring schools. The in-service training would take advantage of the half-day midweek break to organize activities for teachers each week, alternating among different schools belonging to the local network.

Source: World Bank, 2006

Restructuring teacher education
More effective initial teacher education could be achieved by developing a combination of the pre-service, induction and CPD models. Most often this will mean shifting a significant proportion of the training away from pre-service towards in-service support and training. By blending different types of training, students could be given, for example, short “essential toolkit” training before beginning teaching, and provided with further training through a combination of short courses and self study material as they teach. Box 7.3 illustrates how Burkina Faso is trying to move in this direction. Limiting the initial training time in this way would reduce the cost to the system if teachers leave the profession (Lewin, 2000) and also increase teacher supply by having teachers in the classroom as they learn. It has the advantage of getting teachers into the classroom quickly, and may reduce wastage by selecting more of those who are actually interested.
This is consistent with an international trend towards greater training of teachers in schools, driven by the desire to improve the relationship between the training and classroom practice (Box 7.4).

In any case it will often be desirable to adjust the teacher training curriculum to place more focus on developing practical skills that teachers can use in the classroom, and less of the theoretical core disciplines. A structure where courses are provided on a part time basis outside of school hours could facilitate using practicing secondary teachers to provide teacher training.

Critical to the success of this kind of model is the effectiveness of the induction support. The teacher’s experience during the early years of teaching is critical to developing and applying the knowledge and skills acquired during initial training and to forming positive attitudes to teaching as a career. Yet, the beginning teacher is often “thrown in at the deep end”, with a full-teaching load and associated responsibilities. There is a general acceptance of the value of good induction processes for the beginning teacher, but there is a lack of coherent policy on its implementation, despite

“… the high probability that solid induction programs represent one of the most cost-efficient preventative strategies around” (Fullan, 1993, p 106).

Induction typically involves a structured provision of support for the newly qualified teacher. This support can be provided by a teacher training institution, but more realistically, the school principal, or senior teachers in the school. With continuous support by a skilled mentor new teachers are more likely to get beyond personal and class management concerns quickly and to focus on student learning sooner.

Continuous professional development is the third element of an effective teacher education strategy. As discussed above CPD has often been conceived as a series of short term of events rather than as an ongoing process of professional development. In fact every teacher should have the opportunities for professional development and be expected to participate in them. This imposes on the Ministry of Education in teaching (UNESCO HED, 2002).

Box 7.5: Strengthening Mathematics and Science in Secondary Education

In Kenya a systems of in-service teacher training was developed to improve the quality of mathematics and science education at secondary schools. Selected teachers were trained as lead teachers in nine pilot districts. These teachers were given intensive training, and then given the task of training other teachers, particularly in using student activities, improvisation and experiments. The evaluation found positive effects in the pilot districts, but noted the difficulty of the cascade model, with quality and efficiency varying between districts.

the obligation to provide the training opportunities and on the teacher to take advantage of them. Given the large number of under qualified teachers in secondary education providing them with professional development opportunities to upgrade their skills must be a high priority especially in areas such as math and science (Box 7.5) where the shortages are often particularly severe and teacher subject mastery is often insufficient.

Structuring selection and conditions to attract those who want to teach, as opposed to those who want to use teacher training as a step towards other opportunities, could also help to increase quality and reduce wastage. Selection to teacher education entirely based on academic achievement does not allow for preferential selection of specific people including (i) those with personal characteristics particularly suited to teaching, (ii) those with a strong interest in teaching, and (iii) those from areas or communities where teachers are difficult to attract. As a result, teacher education often takes in significant numbers of people who have no interest in teaching as a career, and simply use teacher education as a form of subsidized higher education, or who would be unwilling to teach in the areas where they are needed. More flexible selection mechanisms allowing for assessment of personal characteristics could reduce wastage and increase the quality and usability of teachers.

**Short term remedial action**
Planning for teacher education needs to be based on forecast needs. Careful modelling of teacher requirements in each subject area can allow for adjustment of teacher training to meet the needs. But even so unexpected developments –budget shortfalls and unexpected enrolment growth will often make it necessary to consider short term actions –crash programs – to deal with teacher shortages that cannot be adequately addressed by regular teacher education programs. Imaginative policies for the recruitment and professional development of teacher educators are critical both to enable expansion, and to improve the quality of classroom teaching. Possible actions to be considered include:

- **Tap outsiders with sufficient education.** There may be a body of people who have an adequate general education, but have not been trained as teachers. Providing them with an accelerated teacher training is one possible solution. A starting point for recruitment may be to consider “one level of education above that to be taught” as a minimum.

- **Provide accelerated pedagogy courses.** If there is a sufficient supply of teacher training candidates with the required mastery of the subject content, they can be trained quickly by eliminating the teaching of subject content and concentrating only on the practical classroom skills, leaving the educational studies and other theoretical material to be delivered in-service. It should be possible to equip such teachers with an emergency course providing the essential skills in as short a period as a month of pre-service training.

- **Provide accelerated content courses.** In many cases there are insufficient teachers with the academic training to be considered as secondary teachers. Shortage of teacher with adequate content knowledge presents a serious difficulty, because the training content can often not be compressed into a short period, particularly for crucial subjects such as mathematics, science and international languages. The best candidates for such programs may be teachers...
teaching at the next lower level who have the desire for additional certification, possibly through a combination of distance education and additional vacation courses. The training would focus heavily on the content mastery.

<table>
<thead>
<tr>
<th>Table 7.3: Summary options for teacher development</th>
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<tbody>
<tr>
<td><strong>Possible action</strong></td>
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<tr>
<td>Restructure teacher education.</td>
</tr>
<tr>
<td>Restructure selection to teacher education to enroll the students with the required profile (target specific groups and subjects).</td>
</tr>
<tr>
<td>Increase the number of places in teacher education to match needs.</td>
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<tr>
<td>Drawing well-educated people into teaching in with short pre-service training courses.</td>
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<tr>
<td>Provide accelerated pedagogy courses for candidates with sufficient subject matter knowledge</td>
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<tr>
<td>Provide accelerated courses in subject content</td>
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<tr>
<td>Restructure the teaching career</td>
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<tr>
<td>Emergency measures; allowing retired teachers, or other civil servants, to teach.</td>
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<tr>
<td>Incentive for quality teaching by increasing local autonomy and rewards for performance measures controlled by teachers</td>
</tr>
<tr>
<td>Help teachers succeed</td>
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</tbody>
</table>

- **Restructure the teaching career.** Like other professionals, teachers are motivated by career progression, which often means moving out of the classroom or teaching at the next higher level of the system. Senior teachers can be motivated by career structures that give them additional responsibility. Ideal opportunities for this occur where new teachers are provided with some of their training in
schools. Experienced teachers could be engaged to provide support and training for new colleagues, thus providing an on-site source of support, ad a source of rejuvenation and enhanced status for experienced teachers.

- **Arrange for Emergency recruitment.** In the short term, it may be necessary to take short-term emergency measures to increase the supply of teachers. These could include encouraging teachers who have passed retirement age to remain in service, allowing public servants with sufficient education to work as teachers for a limited period (a year or two) and then return to their jobs, asking existing teachers to teach larger classes or more hours.

**An effective working environment**

The classroom performance of teachers will also be affected by issues that cannot be addressed by professional development policies including:

- **Teacher incentives as a quality measure.** There has been much discussion of the possibility of using incentive schemes to improve teacher performance. Schemes which reward teachers who attend regularly and teach their classes effectively, are likely to have an impact on student performance by increasing time on task. Schemes that are linked to administrator assessment student performance on exams and test have been more problematic. Management reforms that increase local autonomy often provide incentives for better teacher performance (Chapter 8).

- **Helping teachers succeed.** A curriculum structure that helps teachers organize their teaching in a systematic and progressive manner presents content and terminology in a simple and straightforward manner and is accompanied by good quality teaching materials which help to explain the material and structure appropriate learning activities can increase motivation and the opportunity to succeed.

Building a competent teaching force in a rapidly growing system always is a complex task especially in a resource constrained environment. No single strategy will work. In practice there will have to be a package of measures that will need to be adopted and implemented simultaneously. Table 7.3 summarizes the options that may be considered.

**School Leadership and Support**

The impact of teachers on student learning is greatly enhanced in schools with effective leadership buttressed by a well function of school supervision and support (see also Chapter 8). The role of school leaders is particularly important where inspection and support mechanisms are weak, as in many African countries. In many countries schools function in isolation, with only limited contact with other schools or with district and central level authorities. Moving to a system wide “culture of quality” (Verspoor, 2006) means moving away from a system of largely unconnected schools, to a system where all –teachers and administrators at all levels – take a joint responsibility for student learning.

**School leaders**

School leaders are central to the quality of schooling. Sadly, many school leaders see their role primarily as administrators. They may operate in relative isolation, and eschew
perhaps the most important role, that of educational leader in the school. The need to improve school leadership has been widely acknowledged. Yet few head teachers have adequate preparation for their job. A 1990 study of 31 African countries concluded that only three had comprehensive training programs in educational planning, administration and management. Moreover, the frequent use of seniority and ideology as the basis for promotion, often results in principals being a rather conservative group with little motivation to innovate or support new school or classroom practices (Carron and de Grauwe, 1997).

School heads generally have responsibility in four key areas:

- **School management**: The routine duties of assigning teachers to classes, dealing with disciplinary issues, managing the school finances and supplies. As more public and private resources are managed at the school level managing the cost effective application is becoming a key management responsibility.

- **School - Ministry liaison**: Typically a combination of reporting to ministry, and petitioning ministry or local officials for staff and resources. Much of this work involves leaving the school premises.

- **School - community relations**: Working with the community is increasingly seen as part of the role of a school and usually involves encouraging support for the school (e.g., teacher subsidies, facilities construction, and maintenance) or of the schooling process (encouraging parents to make sure their children do their homework, and send their daughters to school).

- **Instructional leadership**: Including monitoring the work of teachers, providing guidance, and arranging mentoring of new teachers.

Secondary school leaders, faced with continuous financial and managerial problems, typically focus on resource management issues. In a study in Kenya, school principals ranked school fees and money matters as their principal concerns (Kitavi & Westhuizen, 1997). Developing good community relations is an additional burden on school leaders, and one for which their training has not prepared them. Research in Uganda, Malawi, Botswana and South Africa found that, at school level, head teachers tend to lack the leadership training needed to operate as efficient managers (Gottelmann-Duret et al, 1998). Most school principals tend to see their role as managerial and undervalue their role as educational leaders. This tendency to focus on managerial issues has been increased by decentralization, which has enlarged the responsibilities of the school principal (Riley, 1999). A survey of 200 school leaders in Togo found that most preferred to see themselves as just administrators, while the teachers in the same schools looked to them to provide educational guidance (Kogoé, 1986).

The problems of school leadership are made more difficult by poor selection practices, and by the lack of specific training and support. It is not clear that the best people are selected as head teachers, as criteria for promotion are not always clearly articulated, and seniority often plays a major part in selection. New head teachers rarely have specific training for the new responsibilities they face, especially before taking up a post (Gottelmann-Duret et al, 1998). Once appointed, principals often receive little supervision or support from ministry officials such as inspectors and supervisors and
school visits by ministry representatives are infrequent (Carron and de Grauwe, 1997). Among the consequences were uncertain standards of performance and little accountability.

**Training for secondary school leadership**

Increasingly, training is being provided for school leaders in Africa. However it is often unsystematic, providing incomplete coverage, and lacking the necessary follow-up. The duration and level of the courses varies widely, with some head teachers receiving 2 years training (Zanzibar), while others receive only a few days. Moreover, some of the training has been too theoretical, failing to develop the required skills, while training has been too operational, focused on details of administration and reporting rather than addressing the real needs of supervision (De Grauwe, 1997; Dadey and Harber, 1991) or the emerging financial management responsibilities. It is clear that courses aimed at school leaders need to be carefully targeted both in terms of the content and the level, to equip school leaders with appropriate practical skills that are relevant to their context.

There is a clear need to train and develop school leaders who are ready to adopt an educational leadership role. Many of the day-to-day teacher issues are very practical, such as monitoring teacher attendance to reduce absenteeism (Halliday, 1993; Gaynor, 1994; Condy, 1998). But head teachers should also be in a position to observe teaching, and make supportive interventions to guide weak teachers. Where training exists it is often brief and focused on the administrative tasks. Changing the behavior of school leaders will require richer and more extensive training. School principals will also need support in this role, both from senior teachers and from inspectors and district officials.

There are some promising examples of good practice. In West Africa, a number of countries have collaborated with RESAFAD (the African Network for Education at a Distance) to develop a multi-national program for francophone countries aimed at increasing the management capacity of head teachers. The program utilizes new information and communication technologies to help the process of course development but used print, coupled with meetings of head teachers, to reach its scattered audience. Reports from school inspectors indicate increased efficiency of school management as a result of the program (Perraton et al, 2002).

Transparent and competency based selection processes are an important part of developing quality school leadership. Once appointed school leaders also need to be supervised, because of their relative isolation and relative power, and hence the opportunity for malpractice (absenteeism, corruption). In addition, school leaders need support systems, including opportunities for contact with other school leaders. In South Africa, transparency of the promotion system has been enhanced through the participation of the school board and teachers’ union representatives in the process (Gottelmann-Duret et al, 1998).

**Support and inspection**

No profession can maintain high standards without some mechanisms for quality assurance. In the teaching profession, the need for supervision and support structures are
enhanced by the unequal power relations, where students – or even many parents – are in a poor position to question professional practice. In response, most countries have inspection services which are intended to play this role. Where supervision occurs it can have positive impact on student learning: reducing teacher absences increases in student attendance, improvements in teaching and better flow of information to central authorities (Warwick et al, 1992; Verspoor 1989). But on the whole the evidence on its contribution to increased learning achievement is disappointing.

Most secondary school inspectors are subject matter specialists, who visit schools infrequently; check standards and procedures but rarely are involved in follow-up action. In many African countries, the inspection system lacks the capacity to provide effective quality assurance. Frequency of inspection is often low. One study in Tanzania reported that only 12% of schools were visited in a year. The inspectors are frequently drawn into other functions within the ministry. De Grauwe (2001) found that school visits sometimes occupied as little as 20% of inspectors’ time, with the rest dominated by office work, meetings and report writing. The number of visits expected to be carried out by each inspector are rarely clearly or realistically defined. Finally, one of the most serious constraints on inspection frequency is transport. Inspectors may have limited access to transport, constrained by budget or by a need to share vehicles with other functions (De Grauwe, 2001).

When schools are visited, the inspection is often heavily focused on administrative, rather than pedagogical issues. In Botswana and Namibia, inspectors reported that only 38% of inspection time was devoted to pedagogical issues (de Grauwe, 2001). Even if the focus of inspection could be switched to pedagogical issues, it is not always clear that the inspectors are well equipped to provide the required support. In Tanzania, de Grauwe (2001) reported that the lack of clear criteria for selection of inspectors, could lead to appointment of less competent and less motivated candidates (De Grauwe, 2001). Inspectors may be chosen on the basis of seniority, or on examination results, neither of which guarantee the kind of teaching skill and insights into teacher that would be required to guide teachers in their work.

The ability of inspectors to support teachers can be further undermined by the relationship between the inspector and the head teacher.

“Several countries do not expect an applicant for a post as inspector to have experience as a head teacher ….. The result seems that, once SEOs are recruited from amongst senior teachers, they are often disrespected by school heads, who consider them their juniors. The fact that some supervisors are occupying a post with a lower grade than secondary principals aggravates the issue.” (De Grauwe, 2001, p.70).

These problems are further aggravated by the fact in many countries the inspectorate is a separate service in the Ministry of Education; this often results in coordination problems with other services of the Ministry such secondary school, teacher training and curriculum development units. Inspectors typically lack the authority to take action on the recommendations in their own reports. Inspection reports are written sent up the hierarchy but are rarely followed up with action by the supervising officers.
**Strengthening supervision and support**

School inspection systems could be strengthened by ensuring that inspectors have the required skills, that their work is focused on the core task of supervising schools, and that they have the transport and time to visit these schools in a planned manner. However, provision of school inspection systems of sufficient capacity to supervise all schools regularly will often be prohibitively expensive in personnel and transport. It is therefore not surprising that in many countries are moving to reform the traditional system of school supervision in more profound ways. These reforms are typically designed to strengthen the pedagogical support role of the inspectorate and changing their relation with the schools. This often begins with a change in the name from “inspectorate” into something that emphasizes the pedagogical counseling and support functions, is accompanied by a redefinition of roles and responsibilities which emphasizes working together with school principals and teachers as well as retraining of the inspectorate staff. (Yeklef and Tazi, 2005). Box 7.6 summarizes the way a project in South Africa was designed to strengthen support to schools for quality improvement.

**Box 7.6: South Africa’s District Development Support Program (DDSP) 1998-2003**

DDSP was designed to improve the quality of educational delivery in targeted school districts in four provinces aiming at: (1) improved quality of curriculum practices; (2) better quality of district and school management; (3) enhanced school governance; and (4) development of theory and best practices for “whole school” and “whole district” development.

Finding that some schools were performing better than others, the DDSP sought out and scaled up practices that achieved sound results, as well as creating new ones. The fieldwork was performed by South African organizations through grants and subcontracts, thus reinforcing local “ownership” of results -- a crucial ingredient for genuine education reform. One common factor in high-performing schools was the strong classroom and school support they received from their local district offices. To replicate this in its targeted districts, DDSP appointed School Support Officers to help district officials raise the level of support they were providing to their schools, including the mentoring of teachers and school managers to improve their skills and performance.

A number of techniques were used throughout the provincial projects to improve the quality of learning, teaching, and management. For instance, in Limpopo, District Development Officers were employed and trained to co-facilitate training workshops, support educators in classrooms, and help School Management Teams (composed of principals, deputy principals, and heads of department) to implement what the project had taught them.

A strong indicator of the success of the DDSP is the results of a series of literacy and numeracy tests administered to grade 3 learners in 449 DDSP schools between 2000 and 2002. The results of these yearly tests show that, in 2002, the numeracy score increased by 12 percent and the literacy score by 5 percent, indicating an improved level of math and language understanding. In addition, 90 percent of the DDSP schools have systematic record keeping in place as a result of the development of an Education and Management Information System (EMIS) linked to the national EMIS.

Source: RTI website (undated):
http://www.rti.org/page.cfm?objectid=5DC160AD-F5BE-44DD-A98F0EFF2BAB6361

Key elements of these emerging reform strategies are;

- Strengthening the level of school level pedagogical monitoring and support by the principal and where feasible department heads;
- Developing the capacity at the district level to provide pedagogical support
Decentralizing the responsibility for supervision and support and clustering schools to allow the development a long term relationship between counselors and schools

Establishing an array of support mechanisms including school level support and supervision, facilitation of cluster meetings as well as opportunities for continuous professional development

Targeting poorly performing schools for supervision and support

Progress towards improved school performance will require recognizing the school as the place where change is to happen and making sure that schools have the resources and the skills necessary to tackle the challenges of change and improvement.

Textbooks: Essential Resources for Learning

International research has consistently demonstrated the positive impact of textbooks on student learning (see Verspoor, 2006 for a summary of findings from SSA). While much of this research has focused on primary education, it is likely that the conclusions apply also and perhaps even more forcefully to secondary education. Without an adequate supply of textbooks students are unlikely to achieve the expected levels of learning achievement. Similarly there is a body of research –mainly from developed countries–that highlights the importance of school libraries for increased student learning achievement at the primary but also at the secondary level. School libraries are particularly important in the SSA context where they not only play the traditional role of providing access to supplementary reading material but can also organize collections of multiple copies of textbooks for loan, when purchase is not possible.

The importance of textbooks and school libraries for effective secondary education is widely recognized, but unrealistic requirements and high unit cost often result in extremely low availability in the classroom. Some schools have found creative solutions; many others have not (Box 7.7). There are wide variations between countries and even between schools within countries in the number of officially prescribed textbooks and in the cost per book. Considerable progress has been made in recent years in improving the availability of textbooks in primary schools through more efficient publishing, procurement and distribution arrangements. At the secondary level a similar effort of analysis, experimentation and reform is urgently required.

Most importantly there is a strong case for rethinking the appropriateness of the traditional high cost textbook provision strategy modeled on practices in industrialized countries. SSA countries may wish to consider turning textbooks into books of core

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2 The key outputs that can be expected are from effective school libraries are (a) the development of improved reading and comprehension skills, which also underpin performance in all other curriculum subjects; and (b) the ability to access required information and to research and read around curriculum subjects. The website of the International Association of School Librarians http://www.iasl-slo.org/make-a-difference.html provides ample references. See also Dorothy Williams, Caroline Wavell and Louisa Coles “Impact of School Library services on achievement and learning” (2001) available at http://www.rgu.ac.uk/files/Impact%20of%20School%20Library%20Services1.pdf
Box 7.7 Book availability in Uganda – Three schools

A large (1100 students), long-established, prestigious, grant-aided religious foundation secondary school in Kampala with a good and rapidly increasing reputation for sound management and good exam results. Fees are USh300,000 (US$170) + per term for boarders and around USh130,000 (US$75) per term for day students. Approximately 3.0% of the annual school budget (USh3,000,000 – US$1,700) is spent on textbooks and library stock every year. The school maintains 1:1 textbook sets in Maths and English Language for S1 to S6 but this needs some qualification. For example, there are 200 students in S1 but the school only has 60 English and Maths textbooks for S1. However, the working day is carefully timetabled so that the 4 different streams of S1 students never have Maths and English at the same time. The textbooks are issued at the beginning of each class and collected at the end and then passed on to the next class for re-use. In this way an effective 1:1 book:pupil ratio can be maintained during class time even though the actual ratio is really closer to 1:3.5. Approximately five copies of each textbook are maintained in the school library for homework use and homework is set at least one week in advance to give every student some chance to use the textbooks for reference. The current English and Maths textbooks are 6 years old. Some of the textbooks have been rebound twice and are still in poor condition but all the pages are present (although the edges of many pages are sellotaped to prevent damage). Loss and write-off rates are about 1-2% per year and the school purchases just a few replacement copies or top-up copies each year as books come to the end of their life or are lost or terminally damaged. In almost all other subjects book:pupil ratios are between 1:10 and 1:20 for S1 to S4 and around 1:20 for S5 and S6. The Chemistry textbook set has original books that are over 20 years old, once again rebound many times and in pretty bad condition, but with most pages present and correct. Single copies or small multiple sets are purchased for the school library so that students can take turns to use them. Because of the need for fast turnover, all library book loans are overnight only.

A small privately owned (entrepreneurial) day secondary school in Masindi District with an enrolment of 200. Annual fees of Ush150,000 (US$85.00). There is no library and there are no textbook sets. The school has bought one copy of each basic textbook for the use of teachers. There are no other books in the school at all. The school issues a book list but students never buy. Many students cannot even afford the fees and a number of students perform labouring work in lieu of fees. There is no local bookshop, which stocks the textbooks on the list and nowhere for parents to go, except Kampala, if they wanted to buy. The books on the school book list are largely those used by the teachers when they were at school.

A rural, government-aided (religious foundation) girls boarding, school operating up to S4 with an enrolment of 200. Fees are USh90,000 (US$50.00) per term. The school has sets of Maths books for S1 to S4 at a ratio of 1:2. For English Language there is 1 teachers’ copy per class. There are 1 or 2 science textbooks per class. There are no textbooks, even for teachers, in any other subject and teachers have to rely on their own school notes.

Source: Read et al. 2006

Cost-effective textbook specifications

Cost considerations should be an important element in curriculum design through the number of subjects that require separate textbooks, choices on instructional methods that...
call for more or less content coverage in the textbook and physical production specifications. A realistic curriculum and syllabus design is the first step towards improvements in textbook availability. This means costing the learning and teaching materials needed to deliver the curriculum so that annual funding implications are clearly understood and accepted and are within the affordability parameters. A second element is stability of curricula syllabi so that books and learning materials can be used for several years. Thirdly, curriculum design and instructional methods should recognize that few students –or government budgets- will be able to afford the individual purchase of reference and reading materials. Instead arrangements should be made to ensure that these are available for consultation by students in school libraries.

In many countries physical production specifications, -text paper and cover card/board, cover finish, binding style and sometimes book format - and presentational specifications - type font and size, number of colors, number and type of illustrations- reflect the requirements of the industrialized country markets. Small student numbers in particularly at senior secondary level, combined with widespread low parental purchasing power and a lack of sustainable government/donor funding for secondary textbooks most often doesn’t add up to a market, which is likely to attract investment in new title development. Because there is a scarcity of local titles, particularly at senior secondary, which have been conceived and originated in the context of local conditions and local purchasing power, there is little alternative except to recommend imported textbooks. In some cases, where there are particularly popular imported textbooks the overseas publisher may create a special “tropical” edition, which is made available at lower, but still good production specifications, and at significantly lower prices.

Approved book lists.

Approved textbook lists are typical of countries where there is school-based choice of the textbook to be used. Of the 19 countries reviewed by Read et al. (2006) 12 have national approved secondary textbook lists (Botswana, Cameroon, Cote d’Ivoire, Ghana, Kenya, Lesotho, Malawi, Nigeria, Tanzania, Togo and Zambia). Of these only three (Kenya, Malawi and Tanzania have price as a significant factor in the evaluation and award of approved status. Of these three, only Malawi has price monitoring to ensure that supply is at agreed prices, although the approved textbook list and prices are circulated so widely in Kenya that most schools know the approved prices and are in a position to insist. Price mark-ups over and above list price are reported to be common in Tanzania. Cameroon, Cote d’Ivoire, and Togo have national recommended book lists, but the scope is usually so wide that they do not help schools choose a relevant title, or to help the secondary system as a whole lower its purchasing costs for secondary textbooks. Where there are no approved books lists and schools set textbook requirements these are often unrealistic as regards price and local availability. Very often teachers do not expect students to have the books and resort to instructional methods based on copying from the blackboard and pamphlets prepared by the teacher.

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3 Nigeria has a mixed system with some states having state approved textbook lists. There is no federal approved secondary textbook list
Experience in Kenya, with approved book lists suggests that low textbook prices are linked to the fact that price was marked as a key factor in a competitive evaluation. Where there is no price factor there is no incentive for publishers to consider offering their keenest prices. Where there is an open-ended list with no limit on the number of approved titles there is no competition to achieve approved status. In addition, limited lists of approved titles lead to bigger sales for approved titles and thus longer print runs and lower prices. Approved textbook lists that are price sensitive and limited can be used to encourage good textbook quality and lower prices if the evaluation criteria are carefully developed and if publishers are provided with good lead times to develop their submissions.

Public Private Partnerships
State publishing and distribution has not been able to ensure a reliable supply of textbooks at the school level most often because of a combination of underfunding of budgets for purchase and distribution, unreliable data on school level needs, poor management of facilities, staff and inventories and inequitable service delivery (Read et al, 2001). Unsurprisingly, it has declined rapidly in the past decade. In 2006 18 out of 19 countries surveyed by Read et al. (2006) secondary textbooks were published by private sector publishers and junior secondary textbooks are increasingly published for specific markets. In only four countries the government negotiates with publishers for a single title that is to be provided to schools. In 13 out of the 19 countries secondary textbook supply is fully served by the private sector book trade and in 14 policies have been adopted that allow schools to take the selection decisions on the textbooks that they wish to use, often from a pre-selected approved or recommended.

A vibrant local publishing industry and booksellers network are key elements of effective textbook supply strategies. Anglophone countries in general have stronger local publishing industries than Francophone countries: their markets are larger, governments have provided some support for textbook purchases, subsidiaries of UK publishers provided training opportunities for local staff until the end of the 1960s and the market liberalization got underway more than a decade ago. On the other hand regional cooperation has been much stronger in Francophone countries where smaller markets, more uniformly organized systems and curricula provided incentives and opportunities to realize economies of scale of in joint ventures with French and Belgian publishers. Regional textbook publishing has significant cost benefits in terms of longer print runs and lower unit costs. Specific national publishing takes place largely for the social science subjects; local adaptations of regional texts by local authors can help overcome the problems of local relevance.

Progress towards strong local publishing will require stable and predictable funding, open competition across borders and regional cooperation on curriculum and textbook design and content coverage. It can be supported by the exemption of the import of paper and other printing supplies of import duties and taxes. Tapping the experience and backlists of international publishers through joint ventures and “tropical” editions of textbooks can hold considerable promise, especially for upper secondary education. Where is a market that is perceived to be big and reliable enough to justify the initial investment approved
textbook lists can be used to stimulate the local publication of secondary school textbooks

**Efficient distribution**

Since much of the purchase of secondary textbooks is done by parents an efficient local distribution network is essential. There has been a significant shift back to secondary textbook supply via private sector booksellers in the past ten years. There have been a number of determined efforts in Uganda, Kenya, Malawi, Zambia and Tanzania to re-develop primary and secondary textbook distribution strategies that consciously seek to support private sector educational bookselling on a national basis. In most countries this process is still only partial and most countries suffer from geographic gaps in private sector textbook distribution. Only South Africa, Botswana, Lesotho, Kenya, Cote d’Ivoire and perhaps Nigeria among the countries studied by Read et al (2006) have bookselling capacity capable of providing genuinely national coverage. The re-development of national bookselling networks is hindered by continued state intervention in some countries and by under-financing with associated credit and stockholding problems in others.

In several countries markets in used books are an important element in the secondary textbook supply. Sometimes these are organized at the school level but in many other instances this market is dominated by “pavement” book sellers. While they may slow down the development of a national network of book sellers they play an important role where book sellers are not present. Outside urban areas schools may have to play a key role in organizing used book sales and processing parental purchase orders.

**Supportive school library policies**

Textbook policies which aim to reduce the financial burden on parents will need to include libraries as an integral part of the package. The overwhelming characteristic of most secondary school library provision throughout Africa is under-funding, which in most countries amounts to little or no funding at all. Government funding for secondary school libraries has all but disappeared on the continent. Donor funding tends focus on a limited number of schools and short term. When improvements occur they are often temporary (Box 7.8). Collections are old and comprised to a large extent of donated books unrelated to the curriculum. Many libraries have been converted into class rooms.

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**Box 7.8 Support for school libraries in Malawi**

In Malawi, most secondary school libraries are reported to be in bad shape, despite the work of the Danida supported textbook project, which included the rapid development of secondary school libraries. Before the project provided schools with matching funds for textbooks and school library purchases schools had to be able to demonstrate that they had an operational school library with sufficient shelving, basic student study spaces and adequate security to keep books safe, accessible and well-used. Schools were provided with basic specifications and standards for school libraries and were provided with grants to construct or improve a room into a basic school library. A teacher had to operate as a school librarian and was provided with basic training and a school library management handbook, which provided guidance in the operation of simple library management systems. Unfortunately, with the withdrawal of donor and GoM financial support in 2002 there is now insufficient funding even for textbooks so that reading books and curriculum support materials are no longer ordered, existing stocks are not being replenished and the library rooms are not being maintained.

Source: Read et al. 2006
As a result libraries are of limited value and interest to both students and teachers and under-used. Students read very little and do not acquire basic library skills. When they progress to higher education they have no skills or previous background in research or information access.

Effective school libraries play a key role in textbook provision systems that aim to limit individual purchase and encourage sharing of expensive reference materials and infrequently used textbooks. At the same time they can provide additional reading opportunities for students, which improve reading skills, comprehension, writing and clarity of expression, which in turn supports performance in all other curriculum subjects. Effective school libraries should also provide training and experience in research and information access skills, which are both essential skills for quality performance in higher education and lifelong learning.

Unlike most other countries in SSA Botswana has an effective secondary school library system. All Government secondary schools in Botswana have libraries as part of the school infrastructure. Every secondary school has a designated librarian who is either a trained teacher or a full-time trained librarian. Botswana also provides a dedicated school library budget of about $5 per student per year. The library stock in most schools is primarily made up of fiction (about 70%); the rest are reference and supplementary books to support the curriculum. Few countries are likely to be able to allocate this level of resources to school libraries. But almost all secondary schools in SSA will be able to establish functioning libraries with well targeted smaller amounts and careful library management of sticks. A careful analysis of the trade-offs between policies that rely on individual book purchases and systems that allocate part of the book resources to the strengthening of school libraries may help build support for sustainable library funding. Box 7.9 summarizes the different policy options that government may wish to consider as they aim to ensure that all students have access to textbooks.

Box 7.9: Reducing the cost of textbook supply

- Curricula with fewer subjects and thus fewer textbooks.
- Textbooks that focus on core content and reduce coverage of enrichment detail that is not essential
- Shifting material into teachers’ guides (supplied at 1 book per class rather than 1 book per 1/2/3 students) or into library books (supplied in small multiples to school libraries).
- Book sharing and thus reduced book:pupil ratios through careful timetabling
- Effective school libraries where students can consult reference materials, borrow textbooks
- School managed second hand markets and possibly loan/rental schemes.
- Short term rather than long term loans of books to students in order to reduce loss and damage
- Approved limited list of titles based on evaluations that include price as a factor in the evaluation.
- Physical production and presentation specifications that are designed to extend book life but avoid unnecessary cost such as the use of 4 colour printing
- Reduce wastage in manufacturing, warehousing, distribution, school storage and school usage
- Reduce page formats that use more paper and are frequently less durable
- Greater control over input costs from publishers and printers through review evaluation and approval mechanisms and conditions to ensure that price is a factor in evaluation and approval and that pricing is monitored in parent purchase situations
- Tax exemptions for book manufacturing raw materials
Quality and Equity
Expanding opportunities to enter and complete secondary education equitably must be priority for secondary education policy for economic and social reasons (chapter 4). This implies that policies are in place to ensure that no qualified student will be unable to attend secondary school because of inability to pay and that steps are taken to ensure that socio-cultural obstacle are adequately addressed. The supply and demand constraints faced by girls as they aspire to enter secondary school have been discussed in chapter 2 (box 5). The importance contribution of targeted financial support to poor students has been discussed in chapter 5. The most direct and fast-acting way for governments to boost school enrolment for the poor is to reduce the direct, indirect, and opportunity costs to parents of education (Herz and Sperling, 2005) is by cutting school fees, providing incentives and bursaries or stipends to help cover direct, indirect and opportunity costs. Chapter 9 (box 9.2) provides an example of the way conditional cash transfers have been used to encourage poor students and especially girls to continue their education at the secondary level.

But to be successful financial support needs to be complemented with policies that address the difficulties associated with poverty; girls especially are often disadvantaged by policies that sometimes discriminate –as in the case of expulsion and prohibited re-entry of pregnant girls- or otherwise do not recognize the importance of instructional strategies and instructional materials that are not avoid gender stereotyping but that also recognize girl’s learning needs and positively encourage girls’ participation in classroom and school activities.

Such a policy framework is of particular importance to ensure that poor girls have equal opportunities to learn; it will need to ensure the creation of a supportive institutional and pedagogical environment; it will also need to ensure that schools are accessible and safe – in many settings this will mean the creation of small locally managed schools.

Helping girls succeed
Girls often face formidable obstacles to enter and succeed in secondary school. Some of the challenges have their roots at the primary level; others are related to their educational experiences in secondary school. Girls pass through puberty and become adolescents most often during their years in junior secondary school. Lloyd et al (1998) points out that they may become particularly vulnerable at that point within the school system because of widely held negative attitudes about adolescent girls. At this age, a supportive learning environment for girls could make a critical difference in school retention. Many girl will experience the same school environment will differently than boys because of differences in curricular opportunities within the school; differences in treatment by individual teachers; and differences in rules, regulations, and administrative practice.

Improving girls’ education experiences in secondary school will require first and foremost policies that support improvement in education quality and student learning achievement; make education opportunities available close to the parental home; and do so with a special emphasis on the needs of poor students, especially girls. Girls will often disproportionately benefit from such interventions. But they will rarely be enough to
improve access, reduce drop-out, and improve girls learning achievement especially in math and science. This will often require in addition interventions that address cross-sectoral issues most importantly HIV/AIDS; institutional policies such as ECD programs, policies on pregnancy, female teachers who can provide role models, single sex schools; instructional strategies that encourage girls participation and use instructional material free of gender bias. Interventions that combine several reinforcing actions with strong community support are likely to be the most effective (Sutherland-Addy, 2006; Kane, 2004). Table 7.4 summarizes possible strategies for action.

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<tr>
<th>Issues</th>
<th>Intervention Objective</th>
<th>Action</th>
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<tr>
<td>Gender gap at entry</td>
<td>Ensure equity in access and opportunity to learn in primary education</td>
<td>Working with communities to address social demand constraints</td>
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<td>Target resources at the poorest girls</td>
<td>Reduce distance to school by establishing day schools</td>
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<td></td>
<td></td>
<td>Bursaries and financial support to poor girls</td>
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<td></td>
<td></td>
<td>Equitable allocation of teaching and learning resources</td>
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<tr>
<td>Disproportionally high drop out in secondary education</td>
<td>Eliminate financial obstacles for poor girls</td>
<td>Financial support to the poor</td>
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<td></td>
<td>Ensure a girl friendly instructional environment in secondary schools</td>
<td>Academic and peer support</td>
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<td>Gender neutral textbooks</td>
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<td>Training teachers in gender responsiveness</td>
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<td></td>
<td>Re-entry policies for pregnant girls</td>
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<td></td>
<td></td>
<td>Appropriate sanitary facilities</td>
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<tr>
<td>Low girls’ participation and performance in math, science and TVE</td>
<td>Increase number of girls that are successful in non traditional fields, in particular math and science.</td>
<td>Provide role models</td>
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<tr>
<td></td>
<td></td>
<td>Improve gender sensitive instructional strategies</td>
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<td></td>
<td></td>
<td>Provide extra curricular support</td>
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</tbody>
</table>

Source: culled from Sutherland-Addy (2006)

**Small Schools**
Expanding access to secondary education to students in rural areas is a particular challenge. Populations usually are dispersed, the number of primary school completers is most often low and their preparation for further education poor. Unsurprisingly rural secondary schools are often small. In Zambia upper basic schools (grade 8 and 9) in rural areas enrolled on average only a 100 pupils in rural areas and 200 in urban areas. Day high schools (grade 10-12) in rural areas enrolled on average 371 students compared with 617 in urban areas (Bennell et al, 2006). In Ghana 16% of the senior secondary schools (grade 10-12) enroll less than 100 pupils (Akyeampong, 2006). In Mali about 20% of the lower secondary schools (grade 7-9) representing at that level 5.5% of total enrollments, enroll less than 150 students. In Madagascar a third of the junior secondary schools have less than 100 students, although only half of these offer all four grades. In Mauritania two thirds of the junior secondary schools (grade 7-10) have less than 250 students (CSR, 2006). Evidence from Madagascar suggests a similar minimum size (225 students) for senior secondary education.

Large schools are often thought to be more efficient (Box 7.10). This led in the USA to what became known as the high school consolidation movement leading an increase in
Box 7.10: The return of the Small High School in the US

In second half of the 20th century numerous small schools were shut down and new large “comprehensive” high schools were built to take their place. In 1920, there were 271,000 public schools in the United States; by the late 1980s, there were only 83,000. In his 1959 book “The American High School Today”, James Conant, singled out “the elimination of the small high school” as a “top priority.” Today about 60 percent of American high school students attend schools with enrollments of over 1,000.

But the justification for large schools is being questioned. A robust body of research has established the positive effects of small schools on student learning. Students in small schools perform better academically, graduate at higher levels, are more likely to attend college, and earn higher salaries later on in life. They participate more in extracurricular activities, have better rates of attendance, report greater positive attitudes towards learning, and are less likely to face school-related crime and violence. Teachers report greater job satisfaction, and are more likely to feel as if they are succeeding in their work. Administrators and teachers are often more able to identify problems, respond innovatively and effectively, and adapt to change. Parents and relatives are more likely to become involved in the school. Small schools are often characterized by personalized attention, curriculum integration and specialization, relational trust and respect, a student sense of belonging, a strong positive ethos, greater accountability, and a sense of communal mission. The towns and neighborhoods in which small schools are found also benefit, by providing a central meeting place and source of activity, building community ties and relationships, enhancing the democratic process through mutual goal-setting and decision-making, providing added economic activity, and acting as a source for community pride and identity.

These findings have drawn the attention and support of influential educators and foundations, most notably the Bill and Melinda Gates Foundation, which in 2000 committed $350 million towards the transformation of large, comprehensive high schools into smaller, more effective learning communities. Small size of course is not a panacea for improving school quality. But it does provide an optimal setting for high-quality schooling by facilitating organizational arrangements and instructional methods that lead to a more positive school climate and higher student learning.

Source: Hylden, 2004

Evidence on economies of scale related to school size in SSA suggest that beyond a size of 150 students for a three year course or 200 for a four year course the economies of scale are limited and would almost certainly be outweighed by some of the benefits of smallness that have been found in the US. In many countries even smaller sizes may be economical if measures were implanted to eliminate inefficiencies in resource utilization. In Madagascar for example about half of JSE schools have small size of the average high school. However the promises of efficiency and effectiveness of education reformers are now being questioned and a small school movement has become a prominent feature of the education landscape.

Figure 7.11: Salary Cost per Student and enrollment

![Salary Cost per Student and enrollment](image)

Source: CSR Mali
classes (less than 30 students). Twenty percent of JSE classes and 15 percent of SSE classes of have fewer than 20 students per class, while 50 percent of JSE schools and 70 percent of SSE schools have fewer than 20 students per teacher. Furthermore, the number of teachers and administrative staff are almost equal at many secondary schools with little relation to enrollment, leading to very high unit costs (almost triple the primary school unit cost in JSE and six times in SSE).

Multi-grade instruction – where one teacher teaches students of two or more grades levels in one class- has been found to be a cost-effective solution for providing primary education in areas that are sparsely populated. It provides access at reasonable cost to children who otherwise would no be able to enroll; students develop self study skills and learn to cooperate with each other; positive effects on learning achievement, student self esteem and civic behavior have been found in most studies of multi-grade instruction. Most of multi-grade instruction occurs in primary schools. There however examples of multi-grade instruction at the secondary level in Colombia, Sri Lanka (Little, 2004) and Finland (Box 7.11). With more mature students who should increasingly be able of self directed learning and analysis, there are no reasons why multi-grade should not be applied more widely.

### Box 7.11 Multi-grade in Finnish Secondary Schools

For demographic reasons, combined-grade secondary schools were common in Finland. Common practice was for combined grades to be taught as a single class, which often resulted in a reversal of the intended order of exposure to the curriculum for some of the students in the class. A "year course" project experimented a spiral curriculum approach that allows the same general topic to be covered at the same time in up to four combined year groups, with each group studying the topic at its own appropriate level. The production of suitable instructional materials is seen as the key to success in this project. In Finland combined-grade schools are not only seen as a fundamental part of the system rather than as an anomaly, they are also accepted as a fertile ground for the development of new ideas for use in other schools, rather than merely as the recipients of modified practices devised elsewhere.


Another way to deal with the diseconomies of scale of smallness is broadening the grade span of school. Instead of aiming to establish junior secondary schools with several parallel streams to attain an economically feasible size, junior secondary classes or all secondary classes are integrated with the primary school offering grade 1-8 or grade 1-12. In several countries kindergarten classes are also integrated in these schools (K-8 or K12 in the US). Recent research suggest that models that there are good reasons to reconsider the dominant view that a narrower grade span better responds to the developmental needs of students. Schools with broader grade span reduce transitions between schools and can take advantage of the positive effects of the smaller schools (Howley, n.d.) In SSA Kenya and Zambia are moving in this direction.

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4 Grade span configuration refers to the range of grade levels in a school (ERIC Thesaurus)
Box 7.12: Senegal: Equitable Access to Junior Secondary Education

Only one in five children of lower secondary school age in Senegal is enrolled in junior secondary school (“collège”). Most are located in urban areas effectively excluding many rural children. Demand is accelerating rapidly and it is important to provide access to secondary education to children outside the urban areas. With the support of the World Bank and USAID local schools “collège de proximité” are being established. These have four characteristics:

- Located in a rural area at a reasonable distance from children’s home (between 4 et 5 kilometers at most)
- Child-friendly: trees, playing grounds, colored environment. The school is not only a learning space but also a living space
- Community-friendly. Community members participate from the planning to the management phase. The process of community ownership is to be strengthened through capacity building and awareness campaigns all along the project.
- Affordable: operating costs are low compared to traditional schools.

Only core courses are given in this school: Language, Math, Science, History, Geography, English and Physical training. Teachers are teaching at least two subjects and it takes at most 4 teachers to cover the whole curriculum.

*Source*: Pape Sow USAID Senegal, personal communication

Policy options

Several countries in Sub Saharan Africa have recognized the importance of providing local opportunities for secondary schooling to students outside the urban areas. Reducing the distance to school is particularly important encourage the attendance of girls by addressing parental concerns about the safety of girls that may need to travel long distances or attend boarding schools far away from home. Senegal and Guinea are implementing a model of “écoles de proximité” for junior secondary schooling (Box 7.12). A recent report (CIDT, 2005) in Zambia recommends establishing small local high schools to avoid the cost and social problems of large boarding schools. A key policy challenge is that these schools –mostly located in rural areas and attended by disadvantaged groups - have at least access to financial and human resources that are equivalent to those in the larger school in urban areas. In fact there usually is a strong case on equity grounds for targeting public expenditures disproportionately on these schools (see chapters 5 and 9). Available evidence suggests that there are no reasons why small rural schools can deliver good quality education provided they are adequately resourced and that these resources are efficiently and creatively utilized (Box 7.13).

Given a flexible policy environment, many of the current inefficiencies in the utilization of resources can be addressed with some careful planning. Possible options include:

-Employing polyvalent teachers, i.e. teachers who can teach several subjects; this has been and still is common practice in many secondary schools in industrialized countries, especially at the junior level. In US high schools early in the 20th century two or three teachers taught all subjects. In Germany the “Staatsexamen” for Gymnasium teachers is equivalent to two MAs.
- Employing part time teachers: schools should not be obliged to employ full time teachers if there are only a limited number of classes to be taught; they should be allowed to recruit local people with an appropriate background even if they do not
Box 7.13: Beating the Odds

A research project of the Rural School and Community Trust in the US studied five small high schools in rural areas and small towns. They were smaller than median size; have higher than average poverty and scored above the state mean on all mandatory state tests. Researchers found that these schools:

- Focused on a mission and goals that have been explicitly identified in a cohesive plan produced collaboratively by leaders, teachers, and parents or community members.
- Adopted diverse practices widely recognized as effective pedagogy, blended together to suit local needs; team teaching is common, interdisciplinary courses are not exceptional, and the use of technology is embraced; the small size of these schools makes this easier—they are able to be flexible in scheduling and sharing resources.
- Demonstrated leadership that is positive, flexible, creative, and collegial; the sense of shared responsibility for the success or the failure of the school is very apparent; teachers are empowered to make important decisions and work together; they are given planning time that reflects those values.
- Connected closely to the communities they serve.
- Expected staff to play multiple roles; teachers also serve as mentors to less experienced teachers, as well as tutors, advisors, and counselors of students.

The report concludes that the schools are “structurally simple but organically complex.” Throughout the schools, there is a sense of mutual respect and shared expectations. Doing well is less about pedagogy, programs, and professionalism and more about how people treat each other—the human relationships are what make them successful.

Source: Rural School and Community Trust, 2004

- Adapting curriculum to fit local conditions and resources; this may mean reordering sequences, limiting choice and options and not offering classes with very few students.
- Adopting innovative pedagogical practices such as multigrade classes, team teaching and multiple shift classes that may help intensify the use of available resources.
- Sharing resources with the local primary school by increasing the “grade span” to 8 or even 10 or 12 years of schooling.
- Sharing administrative and pedagogical services between two or more neighboring schools.
- Using ICT and distance education can help overcome the disadvantages of smallness.

Conclusion

Few countries in SSA have established policies that accompany the expansion of access to secondary education in such a way that opportunities for effective learning are established and accessible to all students. Recruiting and retaining an adequate number of teachers is a top priority in this regard. But doing this in a context of rapidly increasing enrollments and in a resource constrained environment will make it inevitable to consider a range of medium term options to expand the supply of trained teachers and enhance instructional effectiveness, including

- Expanding the supply of qualified teachers
  - Shortening the length of traditional pre-service training programs, expanding pre service output, provide intensive induction support to new
teachers and continuous professional development opportunities for all teachers.
- Exploring options for non-traditional recruitment including people with academic qualifications and retired teachers
- Creating opportunities for professional advancement through increased responsibility in the current position or through opportunities to advance to teaching at the next higher level

- **Helping teachers improve their instructional effectiveness** by
  - Ensure teachers have adequate subject matter knowledge in more than one subject
  - Emphasizing pedagogical practice in pre-service and in-service training
  - Provide a working environment that enables and supports good teaching
  - Enhance teacher motivation with incentives for good performance

But teachers do not work in a vacuum. There is strong evidence that strong school leadership is a key determinant of school performance. Yet many head teachers are ill prepared for their jobs which have become increasingly complex and include responsibilities for traditional school administration but also for pedagogical leadership, financial management and community outreach. Available evidence suggests action that includes:

- **Transparent and competency based selection processes** instead of seniority based promotion
- **Pre appointment and in-service training** reinforced by regular opportunities to exchange experience with other head teachers

Schools are part of a larger system that are expected to support and supervise the schools efforts to improve instructional effectiveness. This involves:

- **Developing the capacity at the district level** to provide pedagogical support
- **Decentralizing the responsibility** for supervision and support
- **Targeting poorly performing schools** for support and supervision

The second element of the strategy must be to ensure that all students have access to an adequate supply of instructional materials especially textbooks. This calls for:

- **Limiting the number and the content coverage** of required textbooks
- **Reducing the cost of textbooks** through more efficient institutional arrangements for publishing and distribution
- **Strengthening school libraries** to ensure access to reference and supplementary reading materials and opportunities for accessing information.

Effectiveness in secondary education development implies providing equitable opportunities to learn. This means targeting the disadvantaged students –i.e. those that are poor and live in rural areas and especially the girls- for special attention and targeted interventions. Helping girls succeed must be a key element of such strategies. In addition to providing schooling close to home to address family concerns about safety and cost countries may wish to consider:
• Providing **targeted financial support** through bursaries of conditional cash transfers
• **Mobilizing communities** to support girls’ schooling
• Ensuring a **girl friendly school environment**
• Interventions to address areas of special concern such as successful **participation in math and science** courses

Finally, countries will need to develop a set of policies that allow students in rural areas access to local secondary schools. This will require the development of a strategy for small schools that can provide quality instruction. Options to be considered may include:

• Progressively **extending the primary cycle** to eight or nine years
• Introducing **multi-grade instruction** in lower secondary education
• **Adapting the curriculum** to take account of the constraints and opportunities of smallness, including the use of ICT and distance education
• Training **polyvalent teachers** who are qualify for teaching several subjects.
• **Flexibility in the deployment of resources** to take account of local conditions that may require the use of part time teachers and the sharing of administrative resources with other schools