

Multigrade Teaching in Sub-Saharan Africa

*Lessons from Uganda, Senegal,
and The Gambia*

*Aidan G. Mulkeen
Cathal Higgins*



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Africa Region Human Development Department



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Foreword

Provision of a basic education for the poorest and most marginalized children enhances their economic, health, and social opportunities. It is for this reason that ensuring that children everywhere are able to complete a full course of primary education is one of the Millennium Development Goals, and a key part of the global effort to reduce poverty. In the last decades, great progress has been made toward this goal. Enrollment rates have risen to historic levels, and there are now more children in school than at any other time in history. But there remain an estimated 75 million children out of school, almost half of them in Sub-Saharan Africa. Among these out-of-school children, some of the most difficult to reach are those in rural and remote areas.

Because distance to school is a major barrier to attendance in low-income countries, reaching children in the more remote and less populated areas requires provision of small schools, within reach of small communities. Multigrade teaching, where one teacher teaches two or more classes, is one of the strategies used to provide viable schools for small communities. When implemented well, it is an efficient means of providing schools close to the communities they serve, and produces learning outcomes comparable to and sometimes better than conventional monograde structures. But successful implementation of multigrade teaching requires an appropriate policy environment. Multigrade schooling has implications for teacher deployment, teacher training, and curriculum design. Where multigrade practices are unfamiliar, they need to be explained to education managers and the communities whose children will attend multigrade schools.

This publication is aimed at helping policy makers in Sub-Saharan Africa develop appropriate policies for multigrade teaching. Based on case studies of three African countries with different approaches to multigrade teaching, it offers practical guidance on the promises and pitfalls of the multigrade approach. We hope that the experiences of these countries will provide valuable lessons in overcoming the constraints and tackling the challenges of improving the provision of education for out-of-school children.

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Abbreviations and Acronyms

| | |
|----------|---|
| AIDS | Acquired Immunodeficiency Syndrome |
| APEID | Asia-Pacific Programme of Educational Innovation for Development |
| BESPOR | Basic Education Support for Poverty Reduction |
| DFID | Department for International Development for UK |
| DOSE | Department of State for Education (The Gambia) |
| DOSFEA | Department of State for Finance and Economic Affairs (The Gambia) |
| ECU | Ecole à Classe Unique |
| EFA | Education For All |
| EMIS | Education Management and Information System |
| GER | Gross Enrollment Ratio |
| GIS | Geographic Information System |
| HIV/AIDS | Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome |
| IMF | International Monetary Fund |
| IRI | Interactive Radio Instruction |
| PTR | Pupil Teacher Ratio |
| UNAIDS | Joint United Nations Programme on HIV/AIDS |
| UNESCO | United Nations Educational, Scientific and Cultural Organization |
| UPE | Universal Primary Education |

Executive Summary

Multigrade teaching is an increasingly important policy option for African countries as they seek to provide schooling for out-of-school children in areas of low population density. In multigrade teaching, a teacher works with students from two or more grade levels at the same time, in a single classroom. This arrangement enables the provision of viable schools in communities where there are insufficient children to fill a conventional monograde school. It is an arrangement that is widely used in areas of low population density throughout the world and is successful, not just in achieving similar results to the more conventional monograde teaching, but also in creating greater student independence and encouraging a more child-centered pedagogy.

Multigrade teaching is an arrangement that allows schools to be located closer to the families they serve. This is particularly relevant in low-income countries, where children of poor families mostly travel to school on foot. Having schools close to the communities can also be helpful in reducing late enrollment and targeting marginalized groups that have not traditionally attended schools, which may include linguistic or ethnic minorities, girls, or orphans.

In Africa, with the expansion of coverage of primary education in recent decades, more of the remaining out-of-school children are in hard to reach areas. Despite its relevance in reaching remote communities, multigrade teaching has often been poorly integrated into education policy and planning, and in many African countries, often occurs more by accident than by design.

This study examines the challenges of implementing and supporting multigrade teaching through case studies of multigrade schooling in Uganda, Senegal, and The Gambia. These three countries offered different perspectives. In Uganda the schools observed mainly used one teacher to teach two grades, and had benefitted from a pilot project that had provided specialist training for teachers and additional learning materials. In Senegal, there were different models of multigrade schooling, including some experimental one-teacher schools. In The Gambia, multigrade teaching was being used largely by default, as shortages of teachers left some schools with more classes than teachers. From these three very varied cases, some general patterns emerged.

Multigrade teaching was widely used in all three countries. It was estimated that 20 percent of primary schools in Uganda and 18 percent in Senegal had some multigrade classes. In most cases this use of multigrade teaching was not part of a planned initiative, but a practical response to teacher shortages.

Multigrade teaching is a promising option for provision of education services in small schools. In Uganda the quality of the pilot multigrade schools was perceived to be comparable to monograde schools in the same area, attendance and retention were higher, and examination results were similar.

However, multigrade teaching was not well supported by policy. In Uganda the use of multigrade teaching was undermined by the deployment of additional teachers to multigrade schools. Rigidity in the implementation of the curriculum and lack of

understanding of multigrade education by district officials and inspectors increased the difficulties of implementation. Head teachers who did not have familiarity with multigrade teaching found it difficult to sustain good multigrade practices in their schools.

The attitude of communities was ambivalent. Parents and local communities appreciated the presence of schools near their homes and the improved educational opportunities available to their children. In the Ugandan pilot schools the parents noted that their children were completing primary school and moving to secondary schools, an opportunity that would not have been available without an accessible primary school. However, at the same time, parents tended to perceive multigrade teaching as a second-rate option, and in some cases were actively lobbying for additional teachers.

Teachers also revealed ambivalent attitudes to multigrade teaching. Some of the teachers with multigrade training were proud of their achievements. Nevertheless, most teachers saw multigrade teaching as more work than monograde teaching. In addition, as multigrade teaching was mostly practiced in difficult locations, teachers tended to associate multigrade teaching with a difficult posting.

Inside the classrooms, the teachers observed displayed reasonable skill in dealing with two groups of students at the same time. The teachers in “one-teacher schools” appeared to have more difficulty in managing up to six grades at a time. While some multigrade training had been provided to teachers as part of pilot projects, the skill base had been eroded by teacher turnover, and by the time of the study visits, most of the teachers in multigrade classes had never had any training in multigrade teaching.

In the absence of training (or personal experience of multigrade classes), the most common approach was “quasi monograde” where teachers replicate monograde methods by trying to teach each group in sequence. In this method, the greatest difficulty is in assigning appropriate tasks for one group while the teacher is working with the other. In some of the classes observed, teachers were quite effective at keeping two groups engaged in relevant meaningful tasks. There were some cases where pupils had developed good skills in working independently, working in groups and helping each other to complete tasks. In others classes the students spent long periods sitting idle or engaged in irrelevant work while the teacher was engaged elsewhere. Teacher ability to provide meaningful tasks was constrained by lack of resource materials.

These observations suggest a few important messages for policy makers:

Multigrade teaching is a promising policy option for reaching small communities.

Where it was working well, multigrade schools appeared to achieve results comparable to similar monograde schools. The proximity of the school also appeared to result in closer links with the community, and increased attendance and retention. A system of one teacher for every two grades enables a viable three-teacher school for a community with only 120 children of primary school age.

Effective implementation of multigrade teaching requires a sustained and coherent commitment from policy makers.

There is a need to ensure that the multigrade approach is well understood and accepted within the education system by planners, district officers, inspectors, and particularly school head teachers. In Uganda a

successful pilot of multigrade schooling was gradually undermined and eroded by inconsistent policy of teacher deployment and lack of familiarity of head teachers and district officers. Sustained implementation of multigrade teaching is likely to require consistent policy of teacher deployment to multigrade schools, support of head teachers within the school, and support from inspectors and support personnel who visit the schools.

Teachers need training in multigrade methods. Teachers untrained in multigrade teaching are likely to mainly rely on quasi-monograde approaches, which can be effective, but are stressful for teachers and can result in a good deal of wasted time for pupils. With the appropriate training, teachers can develop a larger repertoire of approaches including greater reliance on self-managed learning, small group learning, and peer support. Policy makers could consider including these skills in all teacher-training courses, as they are valuable even in monograde teaching. Such an approach would also avoid the risk of association of multigrade teaching skills with the prospect of an unappealing posting.

Provision of learning materials underpins effective multigrade teaching. The ability of pupils to work on meaningful tasks while the teacher is engaged with other pupils is central to the implementation of multigrade teaching. This ability to work individually or in small groups is greatly influenced by the availability of learning materials, including textbooks and writing materials.

The multigrade approach needs to be explained to parents and communities. Parents and local communities tend to view multigrade teaching as an inferior arrangement, particularly in countries where there is a limited history of well-implemented multigrade practices. Yet the support of parents and the community is an important factor in enrollment, attendance, and morale. In cases such as the Uganda pilot, where systematic efforts were made to explain the multigrade concept to parents and win their support, there were indications that parents enthusiastically supported the school and its teachers.

Multigrade schools offer a cost-effective solution. By requiring fewer teachers and fewer classrooms, multigrade schools require a far lower expenditure than provision of full-size monograde schools in areas with a small school-age population. However, it should not be assumed that small, remote multigrade schools will operate at the same cost per student as large urban schools. Implementing multigrade schooling well is likely to require some additional inputs, including training and support, and additional resource materials. Further, multigrade schools are likely to have smaller classes than school in areas of high population density.

Introduction

Enrollment in primary schools in Sub-Saharan Africa has grown rapidly, increasing by 40 percent between 1999 and 2005. However, there are still 33 million children out of school in Sub-Saharan Africa (UNESCO 2007). As enrollment expands, more of the out-of-school children are the difficult to reach children in remote rural areas. In the least-populated areas provision of schooling is made more difficult by the low population density, making it difficult to find sufficient pupils to fill a primary school. One of the solutions is to provide very small schools using a multigrade teaching system, where teachers work with more than one grade at the same time (Pridmore 2007; UNESCO 2001a; Birch and Lally 1995).

Multigrade teaching is of particular significance in Sub-Saharan Africa, as many of the out of school children are in areas of low population density. Use of multigrade systems is expected to increase as countries expand their efforts to reach the remaining out-of-school children (UNESCO 2004a). Despite its importance as a policy option, multigrade teaching has not been popular in Sub-Saharan Africa, often perceived by parents, teachers, and policy makers as offering a second-rate education.

This study examines aspects of multigrade teaching in primary schools in Sub-Saharan Africa. It highlights its relevance, reviews the nature and status of multigrade teaching, and raises issues associated with multigrade schools. Based on the real experiences of multigrade teaching in African countries, it derives lessons for policy makers considering multigrade education as an option. This analysis is based on three case studies of multigrade teaching in practice in Sub-Saharan Africa, in Uganda, Senegal, and The Gambia. These three countries offer different experiences in their approaches to multigrade schools and collectively provide a range of possibilities for implementation of multigrade education.

The document is intended as a resource for policy makers and teacher educators interested in improving the quality of basic education through the use of multigrade teaching. It specifically targets policy makers who are interested in the implementation of multigrade teaching and wish to assess the relevance, potential, and likely benefits to be gained from supporting multigrade schools and classes.

Relevance of Multigrade Teaching in Sub-Saharan Africa

Multigrade teaching is widely used in high-income countries in areas where there is a low population density, and in schools working with niche populations. It has particular relevance for low-income countries, for two reasons. First, multigrade teaching provides a viable mechanism for provision of schools near to small communities. In low-income countries the costs of travel are high, relative to the cost of salaries, and for the poorest people there is no viable alternative to finding a school within walking distance. Second, multigrade structures provide a way to address the uneven grade distribution often found in primary schools in low-income countries. In places where there is high attrition, the numbers in the early grades are often much higher, sometimes a multiple of the numbers in the upper grades. Large schools can balance these effects by reducing the number of classes of each grade. But for smaller schools, the end result is often very large classes in the first grade, and very small classes in the upper grades. This is, of course a self-reinforcing problem, as large class sizes in the early grades are likely to reduce quality at this crucial age, and so increase attrition. In these situations, even if there is a full quota of teachers in schools, a multigrade strategy can be used to combine some of the senior classes, releasing teachers to provide smaller classes in the important lower grades where initial literacy and numeracy are emerging.

Education for All

From the early 1990s the international community committed itself to provision of universal primary education. In the years since then, the world has seen unprecedented growth in participation in primary education. By 2006, 688 million children were enrolled in schools throughout the world, more than at any previous time in history. In Sub-Saharan Africa, primary school enrollment grew by 29 million between 1999 and 2006, a growth of 36 percent. Despite this impressive growth there remain large numbers of school-age children out of school. In 2006, sixty percent of the countries in Sub-Saharan Africa had net enrollment rates of 80 percent or less. Throughout the region there were an estimated 33 million children out of school (UNESCO 2007).

With these increases in enrollment, there are growing geographical disparities in enrollment. As countries approach mass education, the hard-to-reach children, often those in remote rural locations, account for an increasing proportion of the out-of-

school children. Children in rural or remote communities are less likely to have access to school, are more likely to drop out of school early, and are less likely to complete primary education. At the same time, with increasing urbanization and industrialization, access to basic education is ever more essential, and for those in the most rural areas, provides an essential prerequisite for a move from a subsistence existence.

School Access in Remote Areas

Low population density makes the provision of schools more difficult. A full primary school with six grades and a pupil teacher ratio (PTR) of 45:1 may require a population of 1,500 people within its catchment area (table 1). Where the only viable transport option is walking to school, that catchment area can be geographically quite small.

Table 1: Calculation of Population Required to Support a Full Primary School

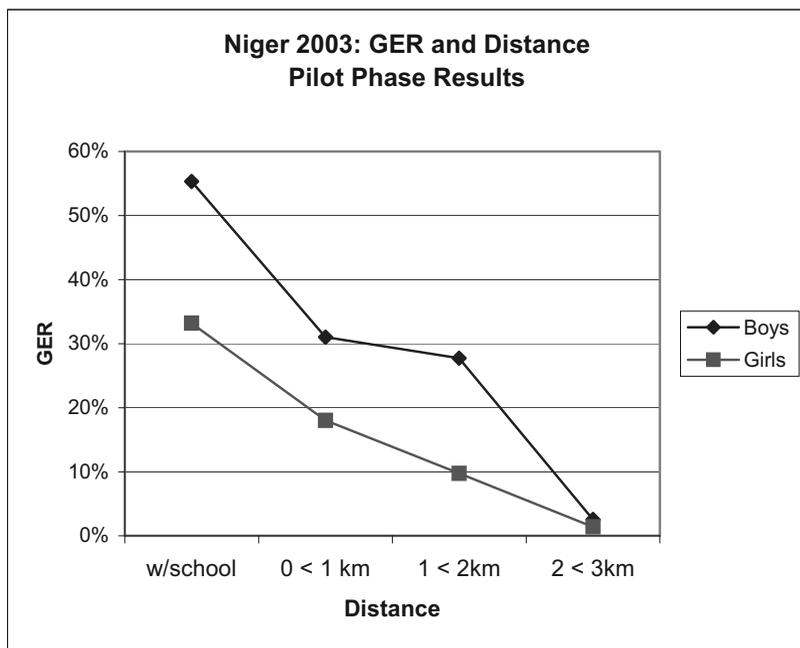
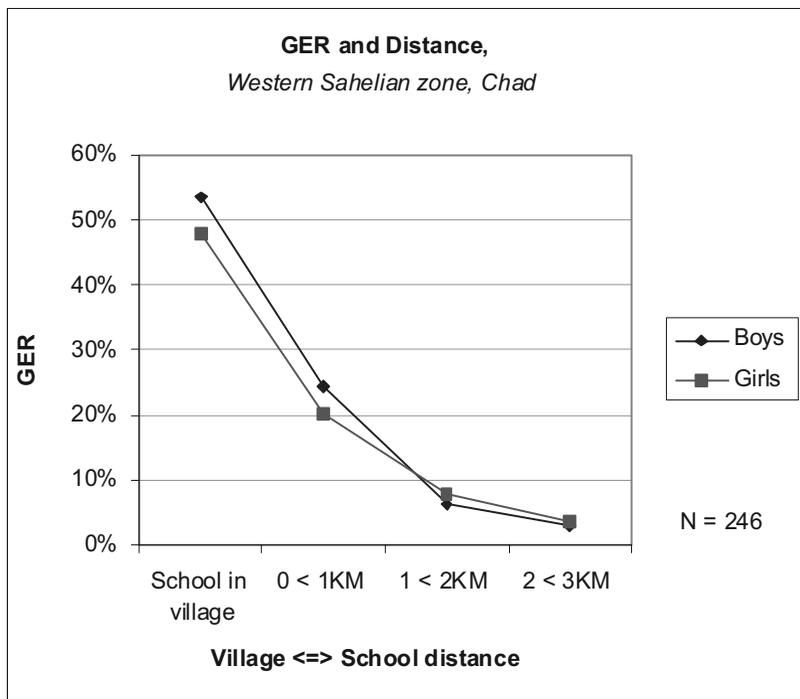
| Class size (or PTR) | 45 |
|---|-----------|
| Number of grades | 6 |
| Total number of pupils required for a full school | 270 |
| % of population in school age | 18 |
| Population required in the catchment area | 1,500 |

Source: Authors' calculations.

Planning for school provision is often based on the assumption of a five-kilometer catchment radius. This equates to a walk of between 45 minutes and an hour to and from school, for those at a five-kilometer distance. Some studies have suggested that even this distance is a significant barrier to school attendance. A World Bank study in Chad (World Bank 2004c) found that in a rural area with a flat landscape, enrollment declined very sharply with distance from the school. For the villages with a school in the village, the gross enrollment rate (GER) was around 50 percent. Where the school was outside the village but within one kilometer distance, the GER was under 25 percent, and where the school was more than one kilometer away, GER fell below 10 percent. Similar patterns of rapid fall off were found in Niger (figure 1).

A number of factors may contribute to the proximity sensitivity of enrollment. Accessibility of school declines not just with distance, but with the physical difficulty of the travel. Physical barriers such as rivers, mountains, and forests may deter attendance (World Bank 2003). In rural communities, young children are often expected to perform some agricultural work, often minding livestock, or to do some domestic work. As distance to school increases, the time spent traveling also rises, thus increasing the opportunity cost in terms of lost work (Lockheed and Verspoor 1991).

Figure 1: GER and Distance to School, Rural Access Initiative



Source: World Bank 2004c.

Perceived safety may also be a factor. Where villages are isolated and relatively self-contained, parents may be reluctant to allow their children to travel to another village for schooling. There is some evidence that where there is a cultural difference between the place of residence and the place of education enrollment drops significantly (World Bank 2003). Distance to school and safety may disproportionately impact enrollment of girls. In several African countries the gender disparity in enrollment is greater in rural areas (Brock and Cammish 1991; Sahn and Stifel 2003). Clearly, provision of schools in or very near to the villages where children live is a key factor in improving enrollment and attendance.

Worldwide Use of Multigrade Teaching

Multigrade teaching is widely used through the world in areas of low population density. Reliable data on the extent of use of multigrade approaches are difficult to obtain (Mulryan-Kyne 2005; Pridmore 2004). However, UNESCO (2004b) estimates that as many as one third of all classes throughout the world are multigrade classes. Multigrade classes are a routine part of education provision in many of the world's high-income countries, being used in 70 percent of schools in Finland, for example (Mulryan-Kyne 2007; Little 2006) (table 2).

Multigrade teaching is also widely used in developing countries (table 3), and plays an important role in providing access for rural communities in many parts of Asia, Latin America, and Africa (Aikman and Pridmore 2001; Hargreaves 2001; Little 2001; Veenman 1995). UNESCO (2002) has suggested that use of multigrade teaching is likely to increase, particularly in Sub-Saharan Africa, as access is expanded.

Table 2: Multigrade Classes/Schools in Developed Countries

| Country | Multigrade classes/ schools (%) |
|-------------|------------------------------------|
| Finland | 70 |
| Netherlands | 53 |
| Ireland | 42 |
| Australia | 40 |
| Sweden | 35 |
| France | 34 |
| New Zealand | 33 |
| England | 25 |
| Scotland | 25 |
| Canada | 20 |

Source: Mulryan-Kyne (2007); Little (2006).

Table 3: Estimates of the Proportion of Multigrade Classes or Schools in Developing Countries

| Country | Multigrade classes/ schools (%) |
|--------------|------------------------------------|
| India | 84 |
| Peru | 78 |
| Lao PDR | 64 |
| Sri Lanka | 63 |
| Pakistan | 58 |
| Burkina Faso | 36 |
| Zambia | 26 |

Source: Pridmore (2004); Little (1994, 2006).

While there is relatively little published evidence of the impact of multigrade teaching in Africa, multiple studies, mostly conducted in high-income countries, have found no consistent difference in learning outcomes between multigrade and monograde schools (Mason and Burns 1996; Veenman 1995; Pratt 1986). Variation in learning outcomes is likely to be attributable to the quality of teaching and the expectations of principals, parents, and pupils as well as the class composition (Hattie 2002).

One study in the Turks and Caicos Islands found that the average reading score on a standard test was higher for pupils attending multigrade schools (Berry 2001). Further, multigrade schools appeared to have particularly positive effects on lower-achieving students, and particularly low-achieving boys. Berry suggests that the nature of the multigrade classroom, with a high level of peer-to-peer work, may have had beneficial effects for the weakest learners.

Associated Benefits of Multigrade Teaching

Use of multigrade strategies to provide schools close to rural communities may provide additional benefits, beyond simply making access easier.

Impact on orphans. Proximity to a school is likely to have particularly beneficial impacts on orphans. In countries afflicted by the HIV/AIDS pandemic, there is an increasing incidence of orphans. Orphans are less likely to participate in schooling, (Evans and Miguel 2007), are often forced to drop out of school, and are more likely to repeat grades (Bennell, Hyde, and Swainson 2002). Orphans run a greater risk of being marginalized when dealing with the education system. With the rising incidence of child-headed households, orphans are required to spend more of their time in income-generating activities. Where parents are ill, children in AIDS affected households are often engaged in provision of care. Distance to school is likely to increase the economic opportunity cost of school attendance, reduce the ability to provide sufficient care for ill relatives, and increase the sense of marginalization from school management.

Reduced late enrollment. Many children in low-income countries start school late. This has a series of detrimental consequences, including missing the optimum age for learning, working with curricula designed for young children, older age at the end of primary school, increasing opportunity cost of schooling, and less likelihood of progression to secondary school. Distance to school is a major factor in late enrollment, as children are perceived to be too young to walk to the school. Rural children are more than twice as likely to start school late as their urban counterparts. Multigrade schools, by providing an opportunity for provision of schools near to rural communities, can help reduce the incidence of late enrollment.

Reduced gender disparity. It has been noted that girls are particularly vulnerable if they are required walk excessive distances to the nearest available school (World Bank 2003). Having a school built closer to students' residences may help overcome some of the conditions that make it more difficult for girls to attend school.

Improved overall educational experience. Multigrade schools have the opportunity to address some of the shortcomings found in Sub-Saharan African schools. Providing an education at minimal distance from home may help increase students' attendance and maximize the time available for other activities (such as domestic duties or income-earning activities) that may otherwise draw the pupil away

from school. The reduction of travel distance and subsequent increase in attendance may improve the pupil's educational progress, thus increasing pass rates and lowering attrition rates. Closer proximity to the community may also allow greater parent involvement in the management and supervision of the school.

Social gains. A number of multigrade studies have focused on nonacademic benefits that might accrue in multigrade classes. Pratt (1986) conducted an analysis of 15 studies that examined the social and personal esteem outcomes associated with multigrade teaching and the subsequent report confirmed that the socioemotional development of pupils in multigrade classes is either accelerated or showed no significant difference, relative to traditional monograde classes. There are also increased opportunities in multigrade classrooms for peer teaching, a practice that appears to assist learning because it allows students to reinforce their prior learning (Berry and Little 2006).

The Escuela Nueva Experience

One of the interesting examples of multigrade implementation is the widely reported experience of *Escuela Nueva* (McEwan 1998; Psacharopoulos, Rojas, and Velez 1993; Schiefelbein 1992). This began in Colombia as a systematic implementation of improved multigrade practices. In the 1970s, prior to the *Escuela Nueva* approach, there was a severe shortage of teachers in rural Colombia. Teachers were often overseeing multiple grades, students regularly spent only 50 to 60 percent of the available instructional time engaged in meaningful schoolwork, teacher morale was low, and the dropout rate was high (Birch and Lally 1995).

In this context *Escuela Nueva* emerged as an education reform aimed at developing multigrade schools with strong links to the community, appropriate pedagogy, and strong reliance on students learning by themselves or in small groups using specially designed learning guides. Key elements of the *Escuela Nueva* approach are as follows (Kline 2000):

- **Teacher training:** Teachers were given three one-week training courses in the first year. The first covered the goals and methodology of *Escuela Nueva*. The second concerned the use of student learning guides and flexible promotion. The third focused on the creation and use of the school library. Training continued in local micro centers, where teachers met once a month to exchange ideas and help each other.
- **Teacher support:** The Ministry of Education trained local supervisors to serve as pedagogical advisors to teachers.
- **Teacher ownership:** Teachers were given significant flexibility in how they implemented multigrade teaching. The micro centers and monthly meetings helped to build teacher ownership of the method.
- **Student and community ownership:** Schools were expected to have a "student government." Students were expected to interact with the community in activities such as drawing maps of their area, drawing on local customs, and inviting community members to the school to share knowledge.
- **Self-instruction guides:** The self-instruction guides were a key component of the program. They were designed to encourage active engagement of students,

and to allow flexible, self-paced learning. The structured guides removed some of the burden of lesson planning from teachers. In addition, each classroom had a small library of additional instructional materials.

These multigrade schools had the active support of the Colombian Ministry of Education, and a number of innovative educationalists helped promote and guide them (Colbert and Chiappe with Arboleda 1993). By the late 1980s, Escuela Nueva was considered a nationwide school access program and was being implemented in almost 20,000 schools throughout Colombia (McEwan 1998), and by 1989 it was selected by the World Bank as one of the most effective education reforms in developing countries.

Multiple evaluations of the impact on learning outcomes have been mainly positive. Rojas and Castillo (1988) for example, found that Escuela Nueva Grade 3 learners performed better in Spanish and mathematics, and Grade 5 learners performed better in Spanish than single-class pupils. They also found that Escuela Nueva had a positive impact on indicators of creativity and self-image.

In 1989, the Escuela Nueva model was introduced in Guatemala, where New One-Teacher Schools (*Nueva Escuela Unitaria*, NEU) were modelled on the Escuela Nueva system. A subsequent evaluation found improved completion rates in the NEU schools. In NEU 18 percent of boys and 25 percent of girls completed the six-year cycle, compared with 10 percent of girls and 11 percent of boys in the old system (Kline, 2000).

The Nature of Multigrade Teaching

Multigrade teaching typically involves a variety of different strategies. First the teacher can divide the class into groups corresponding to grades, and then teach each group one at a time, set them some work, and move to the next group. This kind of rotational approach is termed quasi-monograde teaching (Little 2006), as the teacher is in effect breaking the class into a series of monograde classes, taught in parallel. A second approach is to find curricular topics that are common to two or more grades, and teach these together as one group. This requires some flexibility in adjusting the sequence of topics. A third approach relies on teaching materials to allow children to learn in a semi-autonomous manner. In the case the teacher may introduce the task, set work for each group, and then move to individuals or small groups, providing assistance where required. Finally, some multigrade teachers are able to take advantage of the mix of levels in the classroom to use peer teaching, where the older pupils spend some time teaching and supervising the younger ones. In reality, skilled multigrade teachers tend to use a mix of these methods, and blend them even within individual lessons.

Alternatives to Multigrade Strategies

Multigrade teaching is not the only possible response to low population density. Some countries have used a variety of alternative approaches, including multiage teaching, distance learning, mobile schools, satellite schools, school hostels, and school transport.

Multiage schools. In multiage schools, children of different ages are grouped together in a single classroom with a single teacher. However they differ from multigrade schools in that they are all taught at the same grade level. The curriculum offered is uniform to all students, regardless of age or ability. A wide range of terms have been used in the literature to discuss multiage education, such as “mixed-age grouping,” “multigrade classes,” “family grouping,” “nongraded” or “ungraded education,” or “continuous progress” model (Stipek, Feiler, and Milburn 1995). Such arrangements may work well in cases where there has been little prior access to education, such as an extremely remote location, or an immediate post-conflict situation. In the longer term, the differences between ages and abilities is likely to make multiage teaching difficult.

A form of multiage teaching could be provided by having intake to a school at two-year intervals. In this arrangement, grades 1–6 of primary education could be

delivered by three teachers, and the school would offer grades 1, 3, and 5 in some years, and grades 2, 4, and 6 in alternate years. For parents this would involve delaying the start of schooling of some children by one full year, to allow them to start in grade 1.

Distance education. Some systems have tried to use distance education methods to improve the quality of education for remote communities. Distance education commonly takes the form of printed material being distributed to the pupils who then undertake self-directed learning (Leary and Berge 2007). Pupils either complete assignments or congregate at a given time and location to sit for an exam in order to be evaluated on their learning. Radio has been utilized in Sub-Saharan Africa to strengthen primary school learning or as a form of distance education, servicing many rural areas. While distance learning and technology have much to offer, systems involving autonomous learning by students are much more viable for students who are already literate and numerate and thus are used for secondary and post-secondary education (Leary and Berge 2007; Murphy et al. 2002). Radio has also been used for interactive radio instruction (IRI), in which structured lessons are delivered via radio with significant breaks in the program for dialogue between the teacher and pupils. This provides some attractive potential to support poorly trained teachers, but does not displace the need for provision of teachers close to the location of the pupils (World Bank 2007c).

Satellite schools. In some contexts, the barrier of distance is greater for the youngest children, and there has been some use of satellite schools. In these arrangements, small schools teaching only the early grades are spread into very small settlements, and the older grades are taught in a full-cycle primary school at a greater distance (Thomas and Shaw 1992).

School hostels. In theory boarding schools offer a solution by allowing a school to serve a larger catchment area. However, boarding facilities usually involve significantly increased costs and are not normally used for primary school-age children.

School transportation. In high-income countries, the problem of reaching dispersed populations is often addressed by provision of school transport. However, in low-income countries the cost of transport is much higher relative to the cost of teacher salaries, making this a less viable option. Further, the most remote students are also typically in places where roads are poor and transport options are limited.

These are a variety of options that can be used to address the problem of insufficient population in a community to support a full-size primary school. The options of school hostels and transport solve the problem by moving the children to a school further from their community. Both are expensive options in the context of low-income countries, and living away from home is likely to be undesirable for very young children. Distance education and IRI provide technologies that can support teachers in isolated locations, but are not intended to replace the teacher, and so do not resolve the problem of low student numbers.

Only three of these options provide a school close to the community; multi-grade, multi-age, and satellite schools. Satellite schools may work well where there is a sufficient population within the walking range of the older children, but may suffer from high dropout at the point where students are expected to move to the central school. The option of multi-age schooling asks children to delay starting school until sufficient numbers have accumulated to make a viable class. This is normally undesirable both educationally, as early access to education is beneficial, and for

practical reasons, as older children may become more useful in fulfilling agricultural and domestic tasks and so not be released for schooling. Multigrade teaching, if it can be implemented effectively, offers the possibility to provide a full-cycle school located close to the community, where each child can begin at the optimum age.

Organization of Multigrade Teaching

Multigrade schools may be organized in various ways to meet the needs of the school, teachers, and students. The more common grade combinations are two consecutive grades (for example: grade 1 and 2; grade 3 and 4) but many systems feature four, three, or two-teacher schools and, occasionally, the one-teacher model is provided (Little 2001). A number of countries combine nonconsecutive grades (for example: grade 1 with grade 3, grade 2 with grade 4) and while this arrangement is more challenging for the individual multigrade teachers, it facilitates more equitable PTRs in contexts where high dropout leads to uneven class sizes (Little 2001).

Multigrade teaching was organized in different ways in the three case study countries. In Uganda, multigrade teaching was planned as part of a pilot scheme in 1998, and introduced in two districts, Kalangala and Ssembabule. By 2004, 38 percent of the primary schools in Kalangala, a group of islands in Lake Victoria, and 7 percent of the schools in Ssembabule used multigrade arrangements (World Bank 2004b). Multigrade teaching in Uganda was typically organized with one teacher teaching two consecutive grades.



*Students working together on a task, Busanga school, Uganda.
Multigrade settings often require greater use of group work.
Photograph: Aidan Mulkeen.*

In Senegal, multigrade teaching was planned as part of a 10-year educational sector development policy committed to expanding access to education, rationalizing budgetary resources, and increasing academic performance. The number of multigrade classes has increased steadily and by 2006 multigrade classes were used in 18 percent of all primary schools (World Bank 2007b). Two varieties of multigrade schools and classes were common in Senegal. In the standard multigrade format, teachers assumed responsibility for a class formed from two or more grades (usually two) and they taught these grades in the one room and at the same time. Generally two consecutive grades were combined but when class size warranted it, nonconsecutive grades were grouped, for example grades one and four, or grades two and five (World Bank 2007b).

Single-teacher schools (*Ecole à Classe Unique*, or ECU) were established in the areas with lowest population density. Using a geographic information system (GIS), the education planners realized that without smaller schools the gap between urban and rural enrollments would persist. In 2001, the Rural Access Initiative proposed establishing a series of experimental one-teacher schools. The initial program comprised four experimental one-teacher schools and these catered for all six primary grades in one school room (World Bank 2004c).

In The Gambia, the use of multigrade teaching was much more varied, and driven by individual school principals, rather than policy. Multigrade schools visited in the study found a number of variations on the multigrade system. The most common form of multigrade teaching occurred with one teacher teaching two grades at the same time, in the same classroom (World Bank 2007a). In one school there were two teachers: one taught grades 1 and 2 and the other grades 3 through 6 (World Bank 2007a). Another school found mostly monograde classrooms except for a combined grade 4 and 5 class (World Bank 2007a).

Multigrade Schooling in Practice

In the three countries examined, multigrade had a different history, structure, and implementation. This chapter examines the three cases, considering each in terms of the context, the history of implementation, the preparation of teachers, and the classroom experience.

Uganda

In Uganda in 2005, 22 percent of the primary schools (over 3,000 schools) had less than 300 pupils and 20 percent of primary schools had less than seven teachers (table 4). Schools with fewer teachers than classes sometimes use informal multigrade systems, and sometimes leave entire classes unattended. In 2004, there were more than 30 multigrade schools in the pilot program, enrolling 5,600 pupils (0.08 percent) of the 7.2 million enrolled for primary education nationwide.

Interest in providing support for multigrade schools within the Ministry of Education and Sports was reinvigorated in the late 1990s following a visit to Colombia by senior officials to observe the Escuela Nueva schools (Harris 2004). A pilot project was established in Kalangala and Ssembabule districts. In preparation, teachers from the pilot schools were provided with short training workshops. These workshops concentrated on the writing of materials for self-instruction, with the expectation that teachers would produce their own multigrade learning resources similar to those used in the Colombian Escuela Nueva schools (Harris 2004).

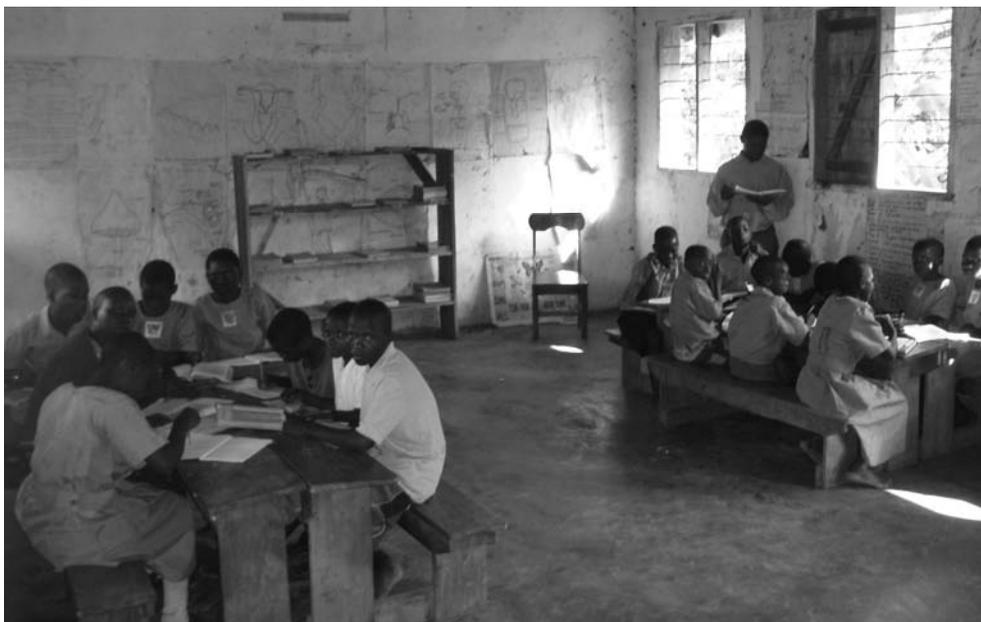
Table 4: Primary Schools in Uganda with Less than Seven Teachers

| Number of teachers | Number of schools | Percent of schools | Cumulative number of schools | Cumulative percentage of schools | Average pupil numbers |
|--------------------|-------------------|--------------------|------------------------------|----------------------------------|-----------------------|
| 1 | 113 | 0.8 | 113 | 0.8 | 278 |
| 2 | 235 | 2 | 348 | 3 | 263 |
| 3 | 398 | 3 | 746 | 5 | 275 |
| 4 | 506 | 4 | 1,252 | 9 | 302 |
| 5 | 678 | 5 | 1,930 | 14 | 311 |
| 6 | 812 | 6 | 2,742 | 20 | 333 |

Source: Uganda EMIS database, 2005 data.

To launch the pilot program, information meetings were held to sensitize the local communities and to clarify the nature and purpose of multigrade. For many of the parents, the arrival of a multigrade school meant the provision of a complete school (from grades 1–7) for the first time. There was a fairly high level of parent satisfaction with the system, as parents could see their children progressing further in school than before. Parents were reported to be supportive of both the school and the teachers, sometimes providing food to the teachers to supplement their incomes.

Multigrade schools typically had four teachers, teaching a maximum of two grades at a time. Pupil numbers were relatively small, with class sizes typically between 20 and 30. Normally consecutive grades were combined. The class pairings were complicated by the change of language of instruction after primary 4. Pupils in primary 1–4 were taught in their mother tongue, and pupils in the older classes were taught through English. The pairing of primary 1 and 2 meant that this became the largest group, which was unfortunate as this group was also usually the least able to learn autonomously.



Multigrade teaching with P5 and P6 in Buswa school, Uganda. The dominant method was quasi-monograde, where the teacher taught each group separately, setting tasks for one while working with the other.
Photograph: Aidan Mulkeen.

Multigrade teaching almost always meant a quasi-monograde approach, with the teacher teaching both groups independently. Teachers demonstrated the ability to manage two groups at the same time, and were mostly able to keep both groups working on meaningful tasks for most of the class time. The main difficulty was in starting the day, when teachers frequently left one group with nothing to do while starting with the other group. Once both groups were started, teachers seemed to be able to move fluidly between the two. Pupils were also seen to have developed skills of

working independently, helping each other, and working in small groups. The practice of assigning tasks to the class left teachers with time to address individual difficulties, and pupils were observed calling the teacher to ask for help with tasks. There was little indication of teachers producing significant amounts of learning materials, but textbooks were used extensively. Learning outcomes were similar to, or higher than, the levels of achievement in neighboring monograde schools.

Over time, however, the multigrade practices in the pilot schools were eroded. After the initial period, there was less direct involvement of the senior ministry officials, and the drive behind the pilot weakened. Understanding of the purposes of the project was weakened by turnover of district officers. District officials unfamiliar with the purpose of the pilot began to transfer additional teachers to the multigrade schools, with the assumption that multigrade teaching was an emergency measure. As a result, the PTR in some of the multigrade schools fell to as low as 14:1. Once this reposting of teachers began, parent perceptions began to change, and the communities began to request additional teachers for the schools, to bring the numbers up to one per class.

At school level there was a similar erosion of the multigrade practices. There was a relatively high teacher turnover, and by the time of the case study most of the teachers in the multigrade schools had not been in place when the training was provided. As additional teachers began to be posted to the schools some stopped using multigrade teaching and became conventional schools. In other schools, the multigrade structures continued, but each teacher taught reduced hours, taking turns to teach the combined classes. Also at school level, teachers had frequently begun to specialize in teaching specific subjects. This subject specialization was perceived by teachers to reduce their workload, and justified by teachers on the basis that they did not feel competent to teach all subjects. In practice, this was usually associated with reduced teacher contact hours, and some periods when classes were left unsupervised.

Many of the teachers were positive about multigrade teaching and were able to point out some of its advantages as a teaching arrangement. Most frequently they valued the opportunity to work with small groups and to provide individual students with the help they required to learn more effectively. Despite these advantages, many of the teachers indicated that multigrade teaching was "more work," "more demanding," and "more tiring" than monograde teaching. They were also adamant that they had not been provided with sufficient teaching and learning resource materials and indicated that they were "poorly trained" to fully implement multigrade practices.

It seemed that the one-off training provided to multigrade teachers had been effective, and these teachers felt more confident in their multigrade practices. However, most of the teachers in Kalangala were not themselves from Kalangala district, and they were constantly seeking opportunities to transfer to other districts. This created a high turnover of teachers and a loss of expertise. Multigrade methods were not taught in the teacher training colleges, although there were plans to have a module on multigrade teaching introduced in all primary teacher training and to have one-teacher colleges specialize in training multigrade teachers.

It was also clear that teachers in the pilot schools had not feel they had adequate teaching and learning resources. As part of the pilot project, specific materials designed to support autonomous learning had been developed, but these had not reached the schools by the time of the case study.

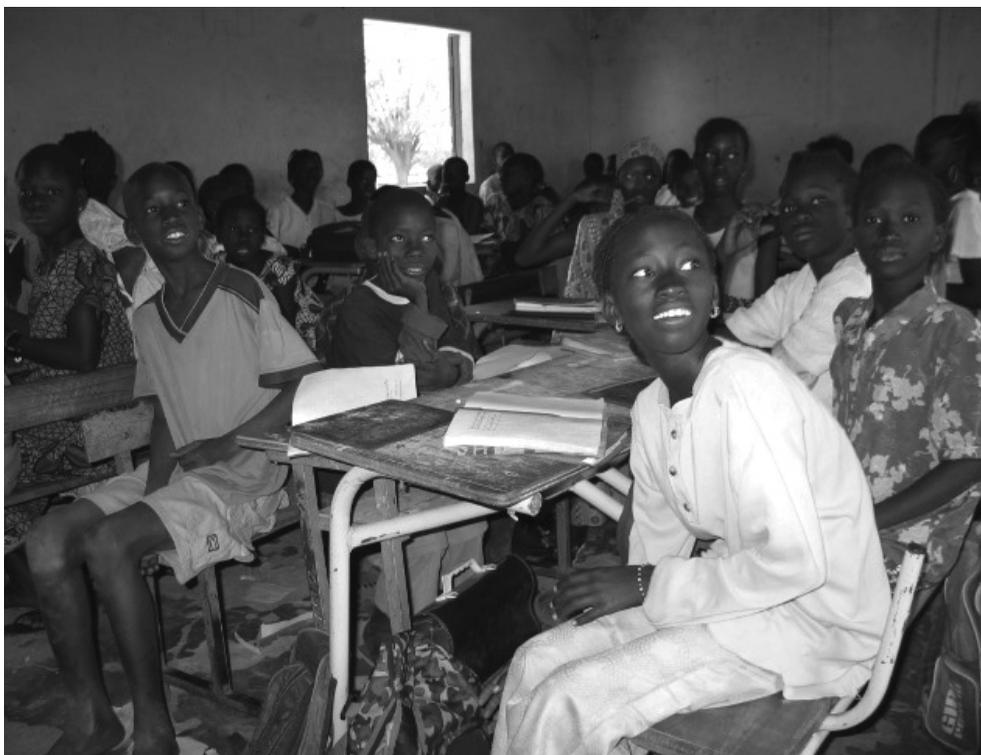
School principals also played a crucial role in sustaining multigrade practices. In one school the principal provided a brief introduction to multigrade teaching for all new teachers arriving at the school. In other schools, the drift away from the original multigrade plan could be attributed partly to a lack of clarity and direction on the part of the principal.

Senegal

In Senegal multigrade schooling is an integral part of the education sector strategy. It is estimated that approximately 18 percent of schools nationwide has multigrade classes and 10 percent of the total primary school-going population is in multigrade classes. The number of multigrade schools has been increasing, in line with the strategic plan.

Two separate models of multigrade school have been developed. In the more common model, a teacher teaches two, normally consecutive, grades at a time. From 2001 a second type of multigrade arrangement was piloted in a small number (25) of schools. Known as the *Ecole à Classe Unique* (ECU), this model had one teacher working with up to six grades simultaneously.

There was little systematic sensitization for either community leaders or teachers, and both communities and teachers tended to regard both forms of multigrade school as an inferior form of education. Teachers appointed to the multigrade schools were not provided with any routine or systematic in-service multigrade training, although



*Ecole à Classe Unique, Senegal.
Photograph: Cathal Higgins.*

individual inspectors in the various departments arranged a number of support workshops to improve multigrade pedagogy. The availability and quality of workshops varied greatly from one department to the next. In one department the multigrade teachers had received no multigrade training and said they had acquired their multigrade teaching skills “just by doing it.” Some were not even trained teachers. In another department, a number of inspectors had produced a local multigrade training booklet that outlined a range of appropriate strategies for improving multigrade teaching.

Multigrade teaching was not included in pre-service teacher education courses. Teaching materials were in short supply and no additional teaching and learning resource materials were provided for the multigrade teachers. Many of the multigrade lessons observed were of a reasonably high standard, particularly when the two grades were consecutive (for example, grades 1 and 2, grades 3 and 4). When grades were not consecutive, teachers often had difficulties meeting the diverse needs of their pupils. Work assigned to the group that the teacher was not working with was often inadequate or irrelevant, leaving this second group with either nothing to do, or with unproductive tasks. The more successful multigrade teachers had received some in-service multigrade training but because of the high turnover, many of the teachers had never had multigrade training at all.

The quality of instruction provided in the ECU was generally less satisfactory. These teachers were often untrained teachers, and most had received no multigrade-specific training. In addition, they worked in isolated conditions with no peer support, and no additional teaching and learning materials. The pupils observed in these classrooms had generally not developed skills to work independently in small groups. Teachers did not have the skills or materials to assign tasks to some groups while working with others, and pupils spent much of their time idle. In general, district officials felt that the quality of the one-teacher ECU schools was poor, and while acknowledging that they may be needed to reach some areas, they were generally seen as a poor-quality emergency solution.

As in Uganda, the teacher turnover had eroded the skill base available in multigrade schools. In addition, in a few cases new monograde schools were constructed near to the multigrade schools, undermining their *raison d'être*.

The quality of multigrade schools was acknowledged to be poor. In interviews with inspectors and teachers, it was recognized that (i) the pedagogy needed to be improved, (ii) extra resource materials were required, and (iii) consecutive grade groupings were more practical than nonconsecutive. The inspectors active in ECU schools believed that the learning outcomes in many of these schools were unsatisfactory, a problem they attributed to (i) the lack of trained teachers, (ii) the lack of specific multigrade training, (iii) the lack of sufficient learning resources, and (iv) the isolation and low morale of the ECU teachers. ECUs were also unpopular with teachers, many of whom were frustrated with their role and unwilling to continue.

Table 5: Pass Rate in the CFEE (Certificate of Elementary Completion), 2005–06

| Department | Pass rate for the department | Pass rate for multigrade school |
|------------|------------------------------|---------------------------------|
| Kaolack | 62% | 44% |
| Mbour | 64% | 34% |
| Mbacke | 54% | 46% |

Source: Authors compilations from official statistics.

Box 1: Reflections of a Teacher in a One-Teacher School (ECU)

"I was one of the first teachers to teach in a one-teacher school in Senegal. Mr. Bassirou Mar came to my school and told me he was setting up a new school with only one teacher and he asked me to be the teacher. I just did it. We picked out some children from all the 6 classes in the school—I think we took about 34—and I started teaching them. I was excited to try new things and after some time I got good at teaching the classes together. Nobody showed me how to do the teaching and I didn't have enough books. But I did it for 6 years and everyone says I'm a better teacher now. But it was hard work and I was happy to let my friend do it now. But I go in and help him sometimes."

Source: Teacher comments in interview with authors.

The poor quality in the multigrade schools was reflected in poor performance in the examination at the end of elementary school, the CFEE (table 5). In each of the multigrade schools visited, the pass rate was significantly lower than the average for the department as a whole. However, this may result from factors other than multigrade teaching, as these schools were among the most isolated, with fewer qualified teachers and fewer resources than average, and serving some of the more marginalized communities.

The Gambia

The Gambia has embedded multigrade schooling in its strategy for basic education. Commitment to multigrade schools is included in the education sector plan, a multigrade component has been included in initial teacher education. Ten new multigrade schools are being constructed, six two-room multigrade schools and four one-teacher schools, modeled on the Senegalese ECUs. Previously, multigrade teaching had grown on an ad hoc basis, as schools had insufficient teachers. In general multigrade teaching was perceived by parents and school management as unsatisfactory, and school head teachers often sought to have additional teachers assigned to their school.

Some training was provided for multigrade teachers. In 2000, the Curriculum Directorate produced a *Multigrade Teachers' Handbook* and for the next two years it was used to support in-service training in multigrade pedagogy. More recently, a module on multigrade teaching has been included in the pre-service training at The Gambia College, and in the Basic Education Support for Poverty Reduction (BESPOR) distance teacher training program. This module is based on the Commonwealth of Learning *Multigrade Modules* resource pack (ADEA 2006; Quist 2005; Commonwealth Secretariat

2004). In delivering this module the course lecturers are expected to model multigrade teaching strategies by ensuring participants work in groups, discuss topical questions (about multigrade teaching), and report their findings back to their peers.



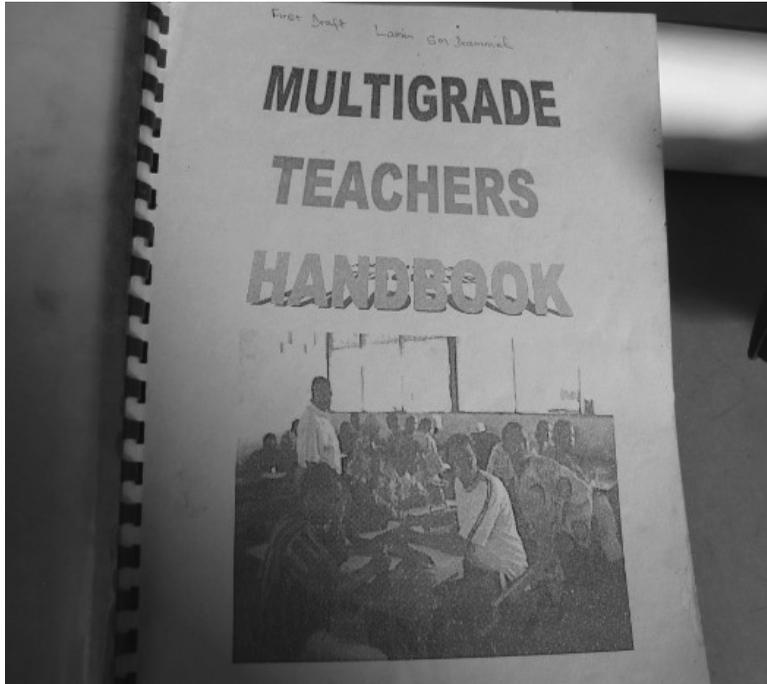
*Multigrade teacher assigns an activity to a small grade 1 class,
Kerr Ardo Girls Friendly Lower Basic School, The Gambia.
Photograph Cathal Higgins.*

A recently introduced financial incentive, which provided teachers in the most remote schools with a bonus of up to 40 percent of salary, had resulted in some movement of experienced teachers to small schools. This was reported to improve both the status and quality of multigrade teaching, especially when the experienced teacher had some multigrade training. However, no additional resource materials were made available for pupils. Policy makers, teachers, and communities were generally reported to view multigrade teaching as an inferior arrangement and doubt its effectiveness.

In The Gambia, the most common form of multigrade arrangement was where one teacher taught two grades at the same time in the same classroom. In many of the observed lessons, teachers demonstrated the requisite skills to simultaneously manage two grades but often they had difficulty in finding appropriate tasks to keep one group meaningfully engaged while they worked with the other group. Work assigned was often not relevant to the lesson. In the more effective multigrade classrooms, pupils had developed a range of appropriate skills such as working independently, participating in small groups, and completing specific projects.

In the classes observed, the most proficient teachers had received some multigrade training. Those that had received training generally expressed positive views of multigrade teaching. By contrast, teachers who had not received training tended to express negative views of multigrade teaching, and sometimes kept their multigrade pupils in separate classrooms. In general, teachers believed that multigrade teaching was more demanding than monograde, in both preparation and delivery.

In some schools, the practice of multigrade teaching had been eroded because of the high turn over of multigrade trained teachers, particularly when replacement teachers had no multigrade teaching experience. The high attrition of principals also tended to undermine multigrade practices where newly appointed principals were not familiar with multigrade teaching.



*A Multigrade Teacher Handbook, The Gambia.
Photograph: Cathal Higgins.*

Policy Issues for Multigrade Education

As these cases illustrate, the success of implementation of multigrade teaching can be influenced by a variety of factors that are amenable to policy influence. This section considers five key considerations in planning for multigrade teaching:

- the provision of local flexibility in curriculum to facilitate multigrade teaching
- an appropriate class size
- the importance of school leadership
- the provision of appropriate teaching and learning resources
- the involvement and support of parents and the community
- The cost of multigrade schooling relative to monograde schools.

Curriculum Flexibility

The organization of the curriculum has implications for the use of multigrade teaching. Curricula are normally organized with the assumption of monograde teaching, with topics arranged in a hierarchical progression, with increasingly advanced material taught to older grades. Little (2004) has identified two strategies by which multigrade teaching can be facilitated through adjustment to the curriculum.

First, there is the use of **differentiated curricula**. In this model the same topics are taught to all of the pupils at the same time, but the conceptual level of activities are differentiated to make them appropriate to the respective achievement levels of pupils. In practice, it is often that the teacher begins and ends the class with the same instruction for the students, while in the middle students break off into grade-groups to work on level appropriate tasks. This is a technique often used by skilled teachers in monograde classes, who may seek to address the spectrum of levels in the class through provision of differentiated activities, designed to provide an appropriate challenge for each child.

The second approach is the use of **multiyear curriculum spans**. In this arrangement, curriculum units are arranged across two or more grades rather than being constrained within one grade and pupils cover the common topics and activities during that period. This approach is often easiest in subjects like social sciences and literature-based courses, where the sequence in which the content is studied is not critical. In these subjects, teachers can adjust the sequence of topics such that each

student studies all of the required material over a two-year period, but much of the material is delivered to two grades at the same time (Vu and Pridmore 2006).

Both of these strategies are expected to be more viable in some subjects and topics than with others, and are easier to implement in contexts where the teacher is teaching a small number of grades at a time, and teaching consecutive grades. These are not expected to be the sole strategy for multigrade teaching in any case, but to form part of a repertoire of techniques and strategies that a multigrade teacher can blend together as required. Both strategies are dependent on the availability of multigrade teachers with the necessary skills to identify appropriate subjects and topics and to plan the necessary adjustments and activities. Developing appropriate curricular strategies and differentiated tasks can greatly increase the workload in class preparation (Birch and Lally 1995). Use of strategies involving adaptation or resequencing of curricular topics is only viable in the context of national systems that allow this flexibility in curriculum implementation.

Despite the potential benefits of flexible curricular strategies in implementing multigrade teaching, there was very little evidence of these strategies in use in the case studies. In Uganda, Senegal, and The Gambia, almost all of the observed multigrade lessons were variations on “quasi-monograde,” that is, the teacher taught each grade separately in sequence.

In Senegal and The Gambia curriculum flexibility was limited by the presence of a strong national curriculum, with prescribed sequencing of topics. Teachers were not expected to make adjustments in response to local circumstances, and such modifications could be prevented by inspectors or head teachers.

In Uganda too, there was a defined curriculum, and little expectation of teacher autonomy in the level or sequencing of topics. Curriculum flexibility was constrained by the compulsory end-of-year examinations. However, plans were underway to develop a thematic curriculum. In this curriculum teaching content will be organized around a number of different themes, selected as central to the life of the child. Strong emphasis will be placed on the development of literacy, numeracy, and life skills for primary classes and grades 1 through 3, and it is expected that these will be delivered through a series of cross-curricular themes. Implementation of this thematic curriculum will provide opportunities for flexibility in sequencing of topics and greater use of a variety of cross-curricular activities with different cognitive levels appropriate to learners of different grades.

These multigrade strategies have three implications for policy makers. First, multigrade strategies involving some curricular flexibility in either sequencing or cognitive level can be constrained by rigid curricular and examination systems. Allowing greater flexibility in implementation in multigrade schools could enable a wider range of approaches to multigrade teaching. Second, strategies that require adaptation of the curriculum require both awareness and skills in teachers, and impose an additional workload on teachers. Successful use of these strategies is more likely where teachers are specifically trained to identify appropriate opportunities for whole-class work. Third, these strategies can be facilitated by the development of more flexible curricular structures, in particular thematic curricula and competency-based curricula.

Class Size

Use of multigrade systems has implications for class size. In monograde systems teaching can often rely on direct teaching methods, with teacher presentation of material and student repetition. Such methods are relatively size-independent. Multigrade teaching, on the other hand, normally requires the use of different groups within the classroom, with greater reliance on students working on tasks designed for them by the teacher. As this method requires teacher oversight of individual student work, this method is more sensitive to class size, and the teacher workload is a function of both the number of separate groups in the class and the number of students in each.

Smaller class sizes in a multigrade setting give an opportunity for each individual pupil to receive more teacher attention (Blatchford 2003). Fewer students per teacher will aid in reducing the demands on teachers, will impact teacher perception, and lessen the need for classroom management. Teachers working with fewer pupils are able to correct tasks and provide feedback more frequently and are able to cover the curriculum more in depth than in larger classes (Blatchford 2003; Good and Brophy 2003; Hattie 2002). And, students tend to be more engaged and eager to initiate contact with the teacher in smaller classes (Hattie 2002). Large classes have been shown to experience more off-task behavior amongst pupils (Blatchford 2003; Hattie 2002). Multigrade teachers have a greater reliance on differentiated pedagogical methods that are more likely to be viable with fewer students (Blatchford 2003; Hattie 2002). In the absence of differentiated pedagogical methods, the pace of instruction in multigrade classes will be reduced (Good and Brophy 2003).

While class sizes of between 40 and 45 are generally considered to be reasonable targets in resource-constrained contexts, many countries have considerably larger classes. In The Gambia, some schools had PTRs over 60:1. Within a school, high repetition and dropout often result in extremely large classes in the early grades. In some cases, the multigrade schools had smaller class sizes, as a consequence of their location in the areas of low population density. In Uganda, for example, the multigrade teachers were typically teaching classes no larger than 30 pupils and in some cases as few as 15. As policy makers develop criteria for teacher allocation, it will be necessary to have different teacher allocation criteria for multigrade schools, and it seems likely that an overall class size smaller than that in monograde schools will be required. In The Gambia, for example the Department of State for Education (DOSE) had decided that the maximum class size for multigrade schools would be 40, even in regions where the average class size was over 60.

Even when there are sufficient teachers in a multigrade school to provide a reasonable PTR, the class sizes are often uneven, with larger classes in the early grades. The normal grouping of classes, where consecutive grades were combined, often increased the unevenness of class size. As the younger pupils are also the least capable of engaging in meaningful independent learning activities, this pattern of class pairing may pose the greatest quality challenges in the early grades.

School Management

Internationally, there is increasing recognition of the importance of school management in effective schools (Good and Brophy 2003; Heneveld and Craig 1995).

School management influences the disciplinary practices in the school, the relationships with teachers and parents, the educational standards and expectations, and management of teaching and learning resources (Heneveld and Craig 1995; Thomas and Shaw 1992). Strong school leadership is likely to be even more important in multigrade schools because their remote locations result in less frequent external supervision. Further, where multigrade schools are in locations previously underserved by school provision, they are often in communities where parents have a relatively low level of education and are in a poor position to monitor or assist the school.

Multigrade teaching imposes additional and unfamiliar challenges for school management. Where multigrade teaching is a relatively unfamiliar system, strong local leadership is important in explaining the expectations and rationale to teachers and the community. Multigrade teaching involves careful planning of teacher utilization and the organization of classes, often decisions made by school management. The additional teaching and learning resources on which multigrade teaching is often reliant also require management. Further, the expectation that learners in multigrade settings will often work in groups may require a high level of discipline throughout the school.

In Uganda, Senegal, and The Gambia, it was consistently noted that multigrade approaches enjoyed the most success when supported by the school management. The support came in many forms. When school head teachers were committed to multigrade teaching they (i) were familiar with the associated pedagogy and regularly provided newly deployed multigrade teachers with a brief orientation on the theory and practice of the approach; (ii) actively monitored the teachers' attendance; (iii) made decisions about appropriate class grouping arrangements; and (iv) were instrumental in blocking any school changes that might undermine the practice of multigrade teaching. This quality support was particularly evident in the more effective multigrade classes in The Gambia. The commitment of principals was also apparent in Senegal; frequently the head teacher taught the only multigrade class in an otherwise monograde school.

Conversely, where school management lacked commitment to multigrade teaching, the use of the multigrade approach was sometimes seen to decline. In Uganda, some of the multigrade schools had seen a disintegration of multigrade practices, despite their apparent success, because of lack of commitment and understanding by district management. District education officers had initially been well briefed about the aims of the multigrade pilot, but staff turnover had resulted in management unfamiliar with the multigrade approach, and as a result additional teachers were assigned to multigrade schools.

The importance of consistent school leadership in the effective implementation of multigrade systems suggests that specific training from school head teachers, and the inspectors and district managers who supervise them, is an important step in the introduction of multigrade schooling (Good and Brophy 2003).

Teaching and Learning Resources

The availability of appropriate teaching and learning materials is important in all kinds of education structures. But in multigrade contexts, the importance of teaching and learning materials is greater, as learners spend more of their time working without

direct teacher-led instruction. When a multigrade teacher is engaged with a specific grade group, the remaining pupils need resources to facilitate independent and productive work (Good and Brophy 2003). The quality of activities that can be set for students is partly determined by the supply of appropriate teaching and learning materials.

Ideally, there should be sufficient resources for each individual student (Pridmore 2004; Little 2004). But it is not sufficient just to have additional materials. The available materials need to be different in kind. For example, they should be less teacher-centered, more interactive and should facilitate independent pupil study practices that maximize instructional time. Resources produced should be specific to the multigrade context. This may include workbooks with available answer keys, guided lessons, or a system of resources (perhaps a small classroom library) that the students can access themselves (Little 2004; Pridmore 2004; Berry 2000; Thomas and Shaw 1992). Student-focused materials do not replace the essential nature of the teacher and their role in delivering lessons. Rather, they would help facilitate multigrade pedagogy in the classroom and allow students to undertake work while the teacher focuses on the alternate grade group (box 2).

Box 2: Resource Materials—Escuela Nueva

The Escuela Nueva Learning Guides of Colombia are an exceptional prototype for interactive learning because they are designed to maximize instructional time by requiring pupils to work independently when absorbing new content, be tested on this new learning, and then apply the new knowledge in different contexts. The guides also (i) rely more on previous knowledge, (ii) require daily writing about what has been observed, (iii) employ more systematic group review of past work, (iv) incorporate assessments of learning by applying new learning in daily life activities, and (v) envisage a monitoring rather than a traditional didactic role for teachers

Source: Schiefelbein 2007; Little 2004.

In the three case study countries, the teaching materials available were insufficient. The pupil-textbook ratio ranged from 1:2 to 1:4, and many of the remote schools had even fewer books. In Uganda some specific learning guides intended for multigrade pupils were being prepared, but at the time of the case studies, these had not arrived in the schools. With the necessary materials in short supply, teachers had to spend an excessive amount of valuable teaching time writing instructions for classes on the board; and providing oral explanations of tasks.

Teacher-produced resources can be used in addition to professionally produced ones. In some classrooms in Uganda, Senegal, and The Gambia, both the abacus and bundles of sticks were used to teach counting. Posters in the local language and English/French were present and teacher-produced work cards were in use.

The Involvement and Support of Parents and the Community

In rural areas, schools are highly dependent on community support. The greater opportunities presented by agricultural work and the relatively more distant possibilities of modern-sector employment make the intrinsic motivation to attend school weaker. In addition, remote rural schools tend to be more dependent on their communities for practical support, including the provision of food for teachers,

support for maintenance of infrastructure, and protection of facilities from theft or vandalism. By the nature of their location and size, multigrade schools tend to have greater opportunities for close relationships with communities.

The success of multigrade schools depends to some extent on their acceptance by the community. If parents and the community perceive the school as an inferior form of provision of education, they are less likely to encourage attendance, or to support the school. Conversely, where parents see multigrade schools as an opportunity for greater education for their children, the small size of multigrade school may facilitate closer community relationship than in larger monograde schools.

In Uganda some of the parents saw the school as providing a complete cycle of primary education in their village, which had not been provided before (box 3). In the context of their location the presence of the school in the village had increased participation in education, and resulted in village children progressing to secondary school for the first time. Parents appreciated the presence of the school, and provided some support for the teachers through donations of food and other supplies.

Box 3: Parents' Comments about Multigrade Schooling in Uganda

- We know what a “multigrade” school is and we are very happy with the school, the progress of the children, and the attendance of the teachers.
- It is difficult to keep pupils in school because they can earn money fishing in the lake.
- If we didn't have a multigrade school the children would not have a complete school and the nearest school is not within walking distance.
- We are confident the children are learning and we are happy with the reports we get on their progress.

Source: Parents views, in interview with authors.

In other schools, however, parents were less supportive. Some saw multigrade teaching as a lower quality provision, and campaigned for additional teachers. One of the factors that seemed to be associated with the greater acceptance by parents was the manner in which the multigrade teaching had been introduced. In the most successful cases, the multigrade school had replaced either absence of a school, or a less satisfactory form of school such as an incomplete school. The multigrade approach had been explained to parents, and they were familiar with how it was expected to work.

In some cases, including some of the schools in Senegal, multigrade schools had replaced a form of schooling perceived as more desirable, such as a full-size monograde school, and the multigrade approach had not been explained well to parents. In these cases, the community was often hostile to the multigrade approach, and tended to see the school and its teaching as “not proper teaching.”

Financial Implications

One of the key concerns for policy makers is the cost of multigrade schooling as an approach. As in all education systems, teacher remuneration is the major cost driver, and multigrade systems, by allowing a full-cycle school with fewer teachers, is more efficient than provision of a monograde school with small pupil numbers.

Table 6: Comparison of Teacher Costs in Multigrade and Monograde Schools (based on seven grades in primary education)

| Number of pupils | Monograde option | | | Multigrade option | | |
|------------------|------------------|-----|---|-------------------|-----|---|
| | No of Teachers | PTR | Teacher cost per pupil as % of teacher salary | No of Teachers | PTR | Teacher cost per pupil as % of teacher salary |
| 350 | 7 | 50 | 2.0 | | | |
| 200 | 7 | 29 | 3.5 | 5 | 40 | 2.5 |
| 150 | 7 | 21 | 4.7 | 5 | 30 | 3.3 |
| 120 | 7 | 17 | 5.8 | 4 | 30 | 3.3 |
| 90 | 7 | 13 | 7.8 | 3 | 30 | 3.3 |

Source: Authors' calculations.

The relative costs are illustrated in the examples in table 6, based on the Uganda model of 7 grades of primary education, and multigrade schools with at least three teachers per school. For a school size of 350 students, a monograde school is viable with 7 teachers and an average PTR of 50:1. For schools with fewer than 350 pupils the multigrade option offers more efficient teacher utilization and lower teacher costs.

The relative costs of multigrade and monograde schools will vary by country and region depending on the policies for teachers, infrastructure, and teaching materials. In considering **teacher cost**, it is likely that multigrade schools will function with more favorable PTRs, both because they are likely to be located in areas of low population density, and because managing multiple grades is facilitated by smaller overall numbers, and hence multigrade schools may be slightly more expensive on a per pupil basis than large full-cycle schools. It is difficult to draw general conclusions about the **infrastructure cost** of multigrade schools. Building of small schools using the same standards as for larger schools is likely to result in increased cost per classroom, because of the normal diseconomies of small-scale projects. However in reality many small multigrade schools are established in existing buildings, or in buildings constructed by the communities. As multigrade teaching benefits enormously from availability of an adequate supply of teaching and learning materials, it should be expected that the **cost of teaching materials** will be higher than in large schools.

Overall, multigrade schools are likely to be much more efficient than provision of a full-size school where there is an insufficient population, but slightly less efficient than a full-size school operating with a large student population. In Escuela Nueva schools, for example, it was estimated that the cost per student was 5–10 percent higher than in conventional schools, mainly because of the increased costs of textbooks and teacher training (Schiefelbein, 1991).

Of course the really important calculation is the cost effectiveness of an approach. If effective multigrade teaching is associated with no cognitive disadvantage and contributes to increased social and personal advantages for learners, then the higher unit costs per learner may be balanced by improved completion, thus potentially resulting in lower cost per completer (Little 2004; Lewin 2006; Thomas and Shaw 1992).

Recommendations

Teacher Perception of Multigrade Teaching

Teacher perceptions of multigrade teaching tend to be negative, and it is often associated with more work and greater stress (box 4). In part, this perception is justified. Teaching in a multigrade classroom is demanding, and requires greater effort in planning, adapting instruction and in managing the classes (Berry 2000; Mason and Burns 1997; Veenman 1997). But the perceived difficulty is greater when teachers have limited personal experience of multigrade classrooms, as is normally the case in countries introducing multigrade schooling.

Box 4: Senegalese Teachers' Comments about Multigrade Teaching

- I don't have time to prepare my lessons when I have to teach two classes.
- Multigrade is hard work, but sometimes I enjoy it.
- If we don't use multigrade we will have no school.
- I had to create my own methods.
- Multigrade is far more challenging.

Source: Teacher comments in interview with authors.

Further, teachers in multigrade schools, quite reasonably, associate multigrade teaching with teaching in remote places, with the associated risks of social and professional isolation, and poor working conditions (Berry 2000).

While the perception of multigrade teaching may be negative amongst some teachers, there are various ways of affecting an attitudinal change. For one, allowing teachers a sense of ownership over the system (for example, by way of helping design resources, assisting in curriculum adaptations, and providing advice on grade groupings) will allow teachers to develop a sense of commitment to the program (Benveniste and McEwan 2000). Teacher training, pre-service and in-service, incentives to increase teacher retention, and professional support are all efforts that can be made to change the perception of multigrade teaching amongst educators.

Teacher Training

Teaching is generally an isolated profession, where practitioners operate mainly alone with a very limited professional community. Multigrade teaching, by virtue of its location in remote schools, is often even more isolated, leaving teachers reliant on their

own experience and skills to deliver their classes. Multigrade teaching is not an intuitive structure, and it involves different skills and practices from those normally seen in monograde classes. In cases where multigrade teaching is being introduced, it can be expected that most teachers have not experienced multigrade teaching as learners, and so are dependent on their teacher training to assist them in developing the required skills.

The three case study countries have taken different approaches to provision of training. In The Gambia, a module on multigrade teaching was included in the initial teacher-training course for all students. In Uganda, one teacher training college was designated to prepare multigrade teachers. In Senegal where multigrade teaching skills had yet to be integrated into the teacher-training curriculum, inspectors provided some informal training.

Provision of multigrade training for all teachers offers some advantages over provision of specialist courses. First, it ensures that the teachers who find themselves in multigrade schools have some training, which, given the high mobility of teachers in some countries, may not be assured by training only multigrade specialists. Second, it avoids the risk of stigmatization of multigrade teachers or restricting them to work only in rural areas. Third, it provides all teachers with skills in dealing with multiple abilities and levels within the same classroom, skills that are of value even in monograde classes.

Teacher training for multigrade should include different components. First, multigrade teachers need to be aware of the rationale for multigrade teaching, the extent of its use internationally, and the evidence that it can be as effective as monograde teaching. Second, they need to be aware of the range of options that can be used to deal with more than one grade within the classroom, including the options for teaching some topics to both groups at the same time. Third, they need to have the skills to manage a class where different groups are working on separate tasks. Fourth, where learning materials are to be used to support multigrade teaching, the teachers need to skills to evaluate and use learning materials, and in some cases to develop and produce their own materials (Mulryan-Kyne 2007; Birch and Lally 1995).

Developing these skills is difficult in existing teacher colleges, where it is likely that most of the teacher-trainers have little personal experience of multigrade classrooms either as learners or teachers. Typical structures in teacher training colleges, including large class sizes and content-heavy curricula, make it difficult to model the multitask and multilevel teaching that would be expected in a multigrade environment. Ideally, teachers should have an opportunity to experience a multigrade classroom in their practicum (Pridmore 2004). However, this may present logistical difficulties, as the multigrade schools are likely to be small and distant from teacher colleges, thus making the deployment and supervision of student-teachers more difficult.

Professional Support

Once trained, multigrade teachers are, in-effect, managing a learning environment of which they have little personal experience (box 5). They are likely to require further support and professional guidance during the early part of their careers than teachers in more conventional classes.

Box 5: A Multigrade Teacher's View

Betty, the multigrade teacher, never trained in multigrade, but the principal gave her some advice when she started at the school. She usually teaches the two classes separately, giving one class some work to do while teaching the other. She occasionally brings the two classes together, for topics like debating. As the school uses subject specialization, her teaching day is divided into 40-minute periods. She usually teaches four to six periods in the day (out of a total of ten), using the remaining time for preparation and marking. She thinks multigrade is "hard work" but feels it has some advantages, particularly that "you can help each student." Betty would also like to have additional teaching and learning resources in her classroom and she would like to learn a lot more about multigrade, particularly on how to assess pupils' progress.

Source: Teacher in Uganda, in interview with the authors.

Professional support may take on many forms, including in-service courses, peer support, support from head teachers, or visiting support workers. In-service training, conducted by regional professionals and experts, can be offered periodically through the school year or at longer periods during the holidays, and can help multigrade teachers develop their pedagogical methods and resources (Thomas and Shaw 1992). Training may be even more effective where it draws on the experience of other teachers in similar contexts. Development of school clusters may provide helpful opportunities for teachers to meet, and share best-practice ideas (Berry 2000; Birch and Lally 1995). Utilizing school clusters for support and training is especially significant in isolated areas where the distance to regional centers makes attendance difficult for teachers.

Teachers, especially in their early years in the profession, benefit from constructive feedback by experts (Sigsworth and Solstad 2001). Existing inspection and support systems are unlikely to provide sufficient support, both because of the limited frequency of visits, particularly in remote schools, and the inspectors' limited practical experience of multigrade teaching. Methods that allow some teachers who have developed personal expertise in multigrade teaching to provide support are likely to be beneficial.

Teacher Retention

Throughout Sub-Saharan Africa, teacher morale is often low, with relatively poor remuneration and working conditions. Teachers in rural multigrade schools may see their position as particularly undesirable, both because of the location of the school, and the requirements of multigrade teaching. Remote schools often have more difficult working conditions with inferior buildings, less access to clean water, limited access to other facilities including shops, fewer medical services, and fewer good-quality secondary schools. The disadvantages of remote locations are compounded by their remoteness from education administration, often resulting in delays in delivery of pay, less frequent supervision, and even difficulties in distribution of books and supplies. At the same time, teachers required to teach multigrade classes are expected to prepare for multiple grade levels and manage multiple grades while teaching, while they themselves are unfamiliar with this approach.

Where multigrade teaching in remote schools is seen as an unattractive option, teachers are likely to seek opportunities to move to more urban locations and monograde schools. In Uganda, the pilot of multigrade schools had been weakened by teacher turnover, as the teachers who were provided with some training, and had developed some multigrade skills, gradually moved to other schools. In Senegal, the effect of teacher movement was even more significant in the single-teacher schools, where newly arrived teachers with no multigrade training found themselves with no colleagues to turn to for support. The detrimental effect of teacher movement was also felt when the replacement teachers did not perceive themselves part of the original pilot program and lacked some of the pioneer zeal of their predecessors (box 6).

Box 6: Multigrade Teaching—An Experience in Lesotho

In Lesotho multigrade teaching is commonly utilized, with over 60 percent of the schools practicing some form of multigrade teaching. Multigrade classes are especially prevalent in the rural highlands, where some schools can only be reached on foot, others are a full days' walk to the nearest bus station, and basic utilities are scarce. There are an insufficient number of qualified teachers in the country; to cope, the government has hired unqualified teachers and is preparing them through in-service training. Most of these unqualified teachers end up in the rural, multigrade schools as opposed to the qualified teachers who largely end up in urban centers. A study indicates that the multigrade teachers in Lesotho hold, in general, a negative attitude towards multigrade teaching—finding the system too demanding and perceiving it to be inferior to monograde. The government offers its teachers a “mountain allowance.” However, it was found that while this additional pay helped teachers cover costs accrued due to location, it was not sufficient to attract qualified teachers to these rural, multigrade schools.

Source: World Bank 2004a; Urwick, Mapuru, and Nkhoboti 2005.

Given that multigrade teaching is likely to be in the most difficult and remote locations, and that multigrade teaching is in itself seen as more difficult, it is likely that multigrade posts will be considered undesirable and it may be difficult to find sufficient teachers. While incentives such as salary increases, housing, and accelerated promotion may be considered, in the long term increasing local recruitment may offer advantages (Chapman, Snyder and Burchfield 1993; Thomas and Shaw 1992).

Conclusion

The three case studies described here offer different views of multigrade teaching in practice in Sub-Saharan Africa. In all three countries, multigrade teaching was very widely used in primary schools in rural areas, either because of small school sizes or because of inadequate provision of teachers. All three countries had tried to support multigrade teaching. In Uganda, a multigrade pilot was established, and teachers were provided with special training and support and additional teaching materials. In The Gambia, multigrade schooling was included in the national education strategy, and a multigrade teacher's handbook was produced. In Senegal, most multigrade schools had two grades per teacher, but a few pilot one-teacher schools were established to examine the viability of this concept. A few general conclusions can be drawn from these diverse cases.

Multigrade teaching is a promising policy option for reaching small communities. Multigrade classes with one teacher for every two grades seemed to produce results comparable to similar monograde schools. Quality comparisons are difficult in the absence of thorough comparative studies of learning achievement, particularly as multigrade schools are usually serving the most disadvantaged rural communities. Nevertheless there were some encouraging results. In Uganda the inspectors believed that the pupils in the multigrade pilot schools were doing as well as those in other schools serving similar populations. In the multigrade schools, 40 percent of the pupils who sat the primary leaving examination (PLE) in 2005 passed with division 3 or better, sufficient to allow progression to secondary school (table 7). This pass rate was lower than the district average but comparable to the results in other schools serving the most remote students. This is consistent with findings internationally, which suggest that multigrade teaching can produce learning results comparable with monograde schools (Mason and Burns 1996; Veenman 1995; Pratt 1986; Berry 2001).

Table 7: Uganda: Results for the 2005 Primary Leaving Examination (PLE)

| | Percent of pupils who sat the PLE who achieved division 3 or better |
|---|--|
| Multigrade schools in Kalangala district | 40 |
| Former multigrade school that reverted to monograde | 29 |
| Kalangala district overall average | 54 |
| Uganda national average | 65 |

Source: Authors compilations from official data.

In addition, multigrade schools offered advantages of proximity to the communities they served, with consequent improvements in enrollment and retention. Proximity to school may also improve enrollment and attendance of those groups with lower enrollment, including girls, orphans, and those expected to engage in economic activities. In the Uganda pilot situated on the islands in Lake Victoria, the proximity of the school to the village allowed the children to continue to engage in some fishing activities, thus reducing the opportunity cost of attending school. Attendance during a one-month sample period in July 2006 averaged 93 percent in the multigrade schools. The multigrade schools also showed better retention through the primary cycle. In the Uganda schools, cohort survival to grade 7 was 45 percent, compared with 31 percent for the district as a whole.

Perhaps the key benefit of multigrade teaching was that it allowed viable provision of full-cycle schooling in small communities. In The Gambia and Senegal, shortages of teachers in rural schools meant that multigrade classes were the only possible means of providing full primary schools. With one teacher for every two grades, multigrade teaching allows a viable three-teacher school for a community with only 120 children of primary school age. Provision of full-cycle schools close to the communities was seen to have an impact. In the Uganda pilot, some of the villages with multigrade schools had children progressing to secondary school for the first time ever.

Senegal had experimented with one-teacher schools, where one teacher was expected to teach six grades at the same time, but the effectiveness of this approach was difficult to determine. The pilot had been hampered by limited teacher training, and had not been going for long enough for pupils to complete the primary cycle. It appeared that teachers found teaching all grades very challenging, resulting in a great deal of unproductive use of class time. Whether this approach can be developed into a viable model remains to be seen.

Effective implementation of multigrade schooling requires a sustained and coherent commitment from policy makers. Implementing multigrade teaching is a challenging task, particularly in countries where there is no tradition of good quality multigrade teaching. Multigrade approaches are most likely to take root in a supportive policy environment, where decision makers at all levels of the education system understand both the rationale and the requirements for multigrade teaching. At central level, education planners must include multigrade systems into projected teacher requirements, planning for school buildings, teacher allocation, and the provision of teaching materials. Curriculum planners can assist by designing curricula that are sufficiently flexible to allow local adaptation. At the local level district officers must understand the requirements as they plan for teacher deployment and resource allocations. School inspectors need to understand how multigrade schools can work in terms of organization of classes, teacher utilization, and teaching methods, in order to monitor its implementation. At school level, head teachers need to make appropriate teacher allocations and support appropriate methods.

The Uganda case underlines the importance of this system-wide adoption of a multigrade strategy. An initial coherent pilot project was successful in a series of schools, but management understanding of the concept was gradually eroded by staff turnover. District officers transferred additional staff, badly needed elsewhere, to

multigrade schools where they were not required. Inspectors unfamiliar with multigrade methods discouraged any curricular flexibility, effectively restricting teachers to quasi-monograde teaching. Head teachers with no experience of multigrade teaching were poorly equipped to support their teachers. As a result the dominant teaching method was quasi monograde, and the arrival of additional staff was in some cases used to reduce the teaching hours for each teacher.

Teachers need training in multigrade methods. In the three African examples, the dominant pedagogical approach was quasi-monograde teaching, where each grade group is taught separately, while tasks are assigned to the other groups. In the Escuela Nueva model, and in multigrade schools in high-income countries, a much broader range of methods is typically used, including (i) teaching the same topic to both grades at the same time, (ii) arranging small group activities, and (iii) arranging supported self-learning activities.

The restricted repertoire of approaches observed in the African cases is partly attributable to the lack of training in multigrade methods. In most of the class observed, the teacher had not had significant multigrade training. Teachers without personal experience of multigrade teaching, and without specific training, seem likely to rely on quasi monograde as the main approach. Ensuring that teachers are adequately equipped to deal with multigrade teaching with a full repertoire of skills is likely to require both multigrade training during initial teacher training, and some in-service support in the early period of their careers. This is particularly true when multigrade teaching is an unfamiliar practice, and most teachers have little personal experience of learning in multigrade classrooms.

If multigrade training is provided only for some teachers, it may quickly be associated with probability of a posting to a difficult location, and become stigmatized. Policy makers could consider training all teachers with the skills to teach classes with varied abilities, as these skills are relevant to both monograde and multigrade contexts. This strategy was being adopted in The Gambia, where a multigrade teaching module was being prepared for use with all student-teachers in The Gambia College. Inclusion of these skills in the pre-service teacher-training curriculum will ensure that all teachers have some basic multigrade teaching skills, allowing flexibility in teacher deployment, and should also increase the use of differentiated teaching in monograde classrooms.

Provision of learning materials underpins effective multigrade teaching. The ability of pupils to work on meaningful tasks while the teacher is engaged with other pupils is central to the implementation of multigrade teaching. This ability to work individually or in small groups is greatly influenced by the availability of learning materials, including textbooks and writing materials. At least, multigrade pupils should have access to sufficient textbooks and stationery. Ideally, they should also have access to teaching resources specifically designed with self-directed learning in mind. Uganda had begun to provide student-learning resources specifically designed for self-study in a multigrade context. These guides were designed to cover the primary school curriculum, with activities and questions to guide self-managed learning. Multigrade teachers may also be able to produce some teaching materials themselves, as in the case of Escuela Nueva. However overreliance on teacher-

produced materials is likely to impose additional work on teachers, and to prove particularly difficult for poorly trained teachers.

Multigrade approaches need to be explained to parents and communities. Multigrade schools have many benefits for the community, including access to full-cycle primary schools and increased potential for oversight of the school. Supportive communities can assist the school by reinforcing disciplinary and attendance systems, and providing practical support for the school and its teachers. Yet, parents and local communities tend to view multigrade classes as an inferior arrangement, particularly in countries where there is a limited history of well-implemented multigrade schools. In Uganda, as part of the preparation for the pilot schools, district officers held meetings with parents and community groups, explaining the use of multigrade methods. Following this explanation, there was significant community support for the multigrade schools and their teachers.

Multigrade schools offer a cost-effective solution. When dealing with small populations, multigrade schools offer obvious efficiency gains, requiring fewer teachers and classrooms than provision of a full-cycle school. As a result, for many small communities, multigrade approaches will provide the only viable provision of a local full-cycle school.

However multigrade schools are unlikely to be as efficient as fully utilized large schools. By virtue of the locations, they are likely to have small class sizes and may have lower PTRs than larger schools. Multigrade schools are likely to require more teaching materials than monograde schools, to enable students to work productively while the teacher is engaged with other work. Multigrade teachers may also, at least initially, require additional supervision and external support, and are likely to be difficult to reach than in the larger monograde schools.

References

- ADEA (Association for the Development of Education for Africa). 2006. *Report on the Biennale on Education in Africa*. Libreville, Gabon: Working Group on the Teaching Profession.
- Aikman, S., and H. El Haj. 2006. "EFA for Pastoralists in North Sudan." In *Education for All and Multigrade Teaching: Challenges and Opportunities*, ed. A. W. Little, 193–214. Amsterdam: Springer.
- Aikman, S., and P. Pridmore. 2001. "Multigrade Schooling in 'Remote' Areas of Vietnam." *International Journal of Education Development* 21 (6): 521–536.
- Akyeampong, A.K. 2006. "Extending Basic Education in Northern Ghana." In *Education for All and Multigrade Teaching: Challenges and Opportunities*, ed. A. W. Little, 215–238. Amsterdam: Springer.
- Benveniste, L., and P. McEwan. 2000. "Constraints to Implementing Educational Innovations: The Case of Multigrade Schools." *International Review of Education* 46 (1/2): 31–48.
- Berry, C. 2000. "Multigrade Teaching: A Discussion Document." Paper Presented at a Workshop held by the Commonwealth Secretariat, Botswana, July.
- . 2001. "Achievement Effects of Multigrade and Monograde Primary Schools in the Turks and Caicos Islands." *International Journal of Educational Development* 21 (6): 537–552.
- Berry, C., and A. Little. 2006. "Multigrade Teaching in London, England." In *Education for All and Multigrade Teaching: Challenges and Opportunities*, ed. A. W. Little, 67–86. Amsterdam: Springer.
- Bennell, P., K. Hyde, and N. Swainson. 2002. *The Impact of the HIV/AIDS Epidemic on the Education Sector in Sub-Saharan Africa. A Synthesis of the Findings and Recommendations of Three Country Studies*. Brighton, England: University of Sussex, Centre for International Education.
- Birch, I., and M. Lally. 1995. *Multigrade Teaching in Primary Schools*. Asia-Pacific Centre of Educational Innovation for Development, UNDESCO Principal Regional Office for Asia and the Pacific: Bangkok.
- Blatchford, P. 2003. *The Class Size Debate Is Small Better?* Milton Keynes: Open University Press.
- Boubacar, N., and R. François. 2007. *Senegal Country Case Study*. Prepared for the Education for All Global Monitoring Report 2007 Strong Foundations: Early Childhood Care and Education. Paris: UNESCO.

- Bray, M. 2000. *Double Shift Schooling Design and Operation for Cost Effectiveness*. Paris: Commonwealth Secretariat, International Institute for Educational Planning/UNESCO. 2nd edition.
- Brock, C., and N.K. Cammish. 1991. *Factors Affecting Female Participation in Education in Six Participating Countries*. London: DFID.
- Brunswic, É., and J. Valérien. 2004. *Multigrade Schools: Improving Access in Rural Africa?* Paris: UNESCO.
- Chapman, D., C. Snyder, and S. Burchfield. 1993. "Teacher Incentives in the Third World." *Teaching and Teacher Education* 9 (3): 301–16.
- Colclough, C., with K. Lewin. 1993. *Educating all the Children: Strategies for Primary Schooling in The South*. Oxford: Clarendon Press.
- Colbert, V., C. Chiappe, and J. Arboleda. 1993. "The New School Programme: More and Better Primary Education for Children in Rural Areas in Colombia." In *Effective Schools in Developing Countries*, ed. H. M. Levin and M. I. Lockheed, 52–67. Washington, DC: The Falmer Press.
- Commonwealth Secretariat. 2004. *Resource Materials for Multigrade Teaching*. London: Commonwealth Secretariat.
- Croft, A. 2006. "Prepared for Diversity?" In *Education for All and Multigrade Teaching: Challenges and Opportunities*, ed. A. W. Little, 103–126. Amsterdam: Springer.
- DOSE (Department of State for Education). 2002. *National Education Policy 2004–2015*. The Gambia: Government of The Gambia.
- . 2006a. *English. Pupil's Book 4*. Macmillan: The Gambia.
- . 2006b. *English. Teacher's Guide 4*. Macmillan: The Gambia.
- DOSFEA (Department of State for Finance and Economic Affairs). 2006. *The Gambia: Poverty Reduction Strategy Paper—Second Annual Progress Report*. Washington, DC: IMF.
- Epeju, W. 2006. "The Case of Multigrade Teaching in Ugandan Primary Schools." World Bank Background Paper. Washington, DC: World Bank.
- Evans, D.K., and E. Miguel. 2007. "Orphans and Schooling in Africa: A Longitudinal Analysis." *Demography* 44 (1): 35–57.
- Gayfer, M. 1991. *The Multigrade Classroom. Myth and Reality*. Toronto: Canadian Education Association.
- Good, T., and J. Brophy. 2003. *Looking in Classrooms*. (9th edition). New York: Macmillan
- Harbison, R., and E. Hanushek. 1992. *Educational Performance of the Poor: Lessons From Rural Northeast Brazil*. New York: Oxford University Press.
- Hargreaves, E. 2001. "Assessment for Learning in the Multigrade Classroom." *International Journal of Educational Development* 21 (6): 553–560.
- Hargreaves, Eric, C. Montero, N. Chau, M. Sibli, and T. Thanh. 2001. "Multigrade Teaching in Peru, Sri Lanka and Vietnam: an overview." *International Journal of Education and Development*, 21, 499–520.
- Harris, R. 2004. "Multigrade Education in Uganda, Kampala." Uganda: Ministry of Education and Sports.
- Hattie, J. 2002. "Classroom Composition and Peer Effects." *International Journal of Educational Research* 37 (5): 449–481.

- Heneveld, W., and H. Craig, H. 1995. "Schools Count: World Bank Project Designs and the Quality of Primary Education in Sub-Saharan Africa." World Bank Technical Paper No. 303. Washington, DC: World Bank.
- Higgins, C. 2007. "Multigrade Teaching: A Viable Option for Sub-Saharan Africa?" Paper presented at Development's Futures Conference, 2007, NUI, Galway, November 24–25.
- Katz, L. 1992. *Non-Graded and Mixed-Age Grouping in Early Childhood Programmes*. Urbana, IL: Eric Clearinghouse in Early Childhood Education.
- Kline, R. 2000. "A Model for Improving Rural Schools: Escuela Nueva in Colombia and Guatemala." *Current Issues in Comparative Education* 2 (2): 170–182.
- Leary, J., and Z. Berge. 2007. "Successful Distance Education Programs in Sub-Saharan Africa." *Turkish Online Journal of Distance Education* 8 (2): 136–145.
- Lewin, K. 2006. "Costs and Finance of Multigrade Strategies for Learning." In *Education for All and Multigrade Teaching: Challenges and Opportunities*, ed. A. W. Little, 239–264. Amsterdam: Springer.
- Little, A. 1994. *Multigrade Teaching: A Review of Research and Practice*. Serial No. 12, London: Overseas Development Administration.
- . 2001. "Multigrade Teaching: Towards an International Research and Policy Agenda." *International Journal of Educational Development* 21 (6): 481–497a.
- Little, A., ed. 2006. *Education for All and Multigrade Teaching: Challenges and Opportunities*. Dordrecht: Springer.
- Little, A. W., P. Pridmore, H. Bajracharya, and M. Vithanpathirana. 2007. "Learning and Teaching in Multigrade Settings: a Final Report to DFID." UK Department for International Development, London. <http://www.ioe.ac.uk/multigrade/fulltext/fulltextLATIMSFfinalreport.pdf>.
- Lloyd, B.L., and P.C. Hewett. 2003. "Primary Schooling in Sub-Saharan Africa: Recent Trends and Current Challenges." Policy Research Division Working Papers 176, Population Council, Washington, DC.
- Lockheed, M., and A. Verspoor. 1991. *Improving Primary Education in Developing Countries*. Oxford: Oxford University Press.
- London, N. 1993. "Planning and Implementing Education Policy in a Developing Country: A Study of the Shift System in Trinidad and Tobago." *Journal of Education Policy* 8 (4): 353–364.
- Lungwangwa, G. 1989. "Multigrade Schools in Zambian Primary Education." SIDA Education Division Documents no. 47. Stockholm: Swedish International Development Authority.
- Mason, D., and R. Burns. 1996. "Simply no Worse and Simply no Better May be Simply Wrong: A Critique of Veenmans' School Consultation about Multigrade Classes." *Review of Educational Research* 66 (3): 307–332.
- . 1997. "Towards a Theory of Combination Classes." *Educational Research and Evaluation* 3 (4): 281–304.
- Mason, D., and S. Doepner. 1998. "Principals' Views of Combination Classes." *The Journal of Educational Research* 91 (3): 160–172.
- McEwan, P. 1998. "The Effectiveness of Multigrade Schools in Colombia." *International Journal of Educational Development* 18 (6): 435–452.

- Miller, B. 1995. *Children at the Center: Implementing the Multiage Classroom*. Eugene, OR: ERIC Clearinghouse on Educational Management.
- Ministere de l'Education. 2003. *Programme de Developpement de l'Education et de la Formation* République du Sénégal: Ministère de l'Education.
- Ministry of Education and Sports: The Republic of Uganda. 1999a. "Multigrade Teaching Status Paper." Kampala, Uganda: ESIP.
- . 1999b. "The Uganda Experience of Universal Primary Education (UPE)." Draft, Kampala, Uganda.
- . 2004. "A Brief on the Workshop on the Support for Effective Implementation of Multigrade." Kampala, Uganda, November 29–December 3.
- Mulkeen, A., and D. Chen, eds. 2008. *Teachers for Rural Schools Experiences in Lesotho, Malawi, Mozambique, Tanzania, and Uganda*. African Human Development Series. Washington, DC: World Bank.
- Mulryan-Kyne, C. 2004. "The Multigrade Classroom as a Context for Effective Teaching and Learning: Insights from Research on Teaching and the Irish Context." Paper Presented at the World Bank Colloquium on Multigrade Teaching and Learning. Dakar, May 24–28.
- . 2005. "Teaching and Learning in Multigrade Classrooms: More Questions than Answers." *Oideas* 51: 85–95.
- . 2007. "The Preparation of Teachers for Multigrade Teaching." *Teaching and Teacher Education* 23 (4): 501–514.
- Murphy P., S. Anzalone, A. Bosch, and J. Moulton. 2002. *Enhancing Learning Opportunities in Africa: Distance Education and Information and Communication Technologies for Learning*. African Human Development Series. Washington, DC: World Bank.
- Nhundu, T. 2000. "Headteacher and Teacher Perspectives of Multiple-Shift Schooling Practices: a Zimbabwean Experience." *International Studies in Educational Administration* 28 (1): 42–56.
- Obwoya-Kinyera, S., W. Epeju, F. Nakiwala, and P. Okello-Ginyakol. 2004. "Report of Evaluation of Multigrade School Education in Uganda." Kyambogo University: World Bank Program.
- Ocen, M. 1998a. "A Proposal for Marketing Multigrade Teaching." Kampala, Uganda: Ministry of Education and Sports.
- . 1998b. "Approaching Primary Education from the Multigrade Perspective." A Working Document, Kampala, Uganda: Ministry of Education and Sports.
- Pratt, D. 1986. "On the Merits of Multiage Classrooms." *Research in Rural Education* 3 (3): 111–116.
- Pridmore, P. 2004. "Education for All: the Paradox of Multigrade Teaching." Paper delivered at Second International Multigrade Teaching Conference: Turning Biases into Benefits. Armidale: Centre for Research on Education in Context, University of New England.
- . 2007. "Adapting the Primary-School Curriculum for Multigrade Classes in Developing Countries: a Five-Step Plan and an Agenda for Change." *Journal of Curriculum Studies* 39 (5): 559–576.

- Psacharopoulos, G., C. Rojas, and E. Velez. 1993. "Achievement Evaluation of Colombia's Escuela Nueva: Is Multigrade the Answer?" *Comparative Education Review* 37 (3): 263–276.
- Quist, D., ed. 2005. *A Multigrade Teaching Program Module 1 (Resource Materials for Multigrade Teaching)*. London, UK: Commonwealth Secretariat and Association for the Development of Education.
- Rojas, C., and Z. Castillo. 1988. *Evaluacion del Programa Escuela Nueva en Colombia*. Instituto SER de Investigacion: Bogota.
- Sahn, D.E., and D.C. Stifel. 2003. "Urban-Rural Inequality in Living Standards in Africa." *Journal of African Economies* 14 (4): 564–597.
- Schiefelbein, E. 1992. *Redefining Basic Education for Latin America. Lessons to be Learned from the Colombian Escuela Nueva*. Paris: UNESCO.
- . 1991. *In Search of the School of the XXI Century. Is the Colombian Escuela Nueva the Right Pathfinder?* Santiago Chile: UNESCO Regional Office for Education in Latin America and the Caribbean and UNICEF Regional Office for Education in Latin America and the Caribbean.
- Schultz, P. 1999. "Health and Schooling Investments in Africa." *The Journal of Economic Perspectives* 13 (3): 67–88.
- Sigsworth, A., and K.J. Solstad. 2001. *Making Small Schools Work: A Handbook for Teachers in Small Rural Schools*. Addis Ababa, Ethiopia: UNESCO International Institute for Capacity Building in Africa.
- Snow, C., S. Burns, and P. Griffin. 1998. *Preventing Reading Difficulties in Young Children*. Washington, DC: Committee on the Prevention of Reading Difficulties in Young Children, National Research Council.
- Stipek, D., R. Feiler, D. Daniels, and S. Milburn. 1995. "Effects of Different Instructional Approaches on Young Children's Achievement and Motivation." *Child Development* 66 (1): 209–223.
- Taylor, P., and A. Mulhall. 1997. "Contextualising Teaching and Learning in Rural Primary Schools: Using Agricultural Experience." DFID Education Research, Paper No. 20. Vol.1. London: DFID.
- Thomas, C., and C. Shaw. 1992. *Issues in the Development of Multigrade Schools*. World Bank Technical Paper Number 172. Washington, DC: World Bank.
- UNAIDS (Joint United Nations Programme on HIV/AIDS). 2007. *Sub-Saharan Africa AIDS Epidemic Regional Summary*. Geneva: UNAIDS.
- UNESCO (United Nations Educational, Scientific and Cultural Organisation). 1990. *World Declaration on Education for All and Framework for Action to Meet Basic Learning Needs*. Paris: UNESCO.
- . 2001a. *A Handbook for Teachers of Multigrade Classes, Volume One: Improving Performance at the Primary Level*. Paris, France: Ag 2i Communication.
- . 2001b. *A Handbook for Teachers of Multigrade Classes, Volume Two: Improving Performance at the Primary Level*. Paris, France: Ag 2i Communication.
- . 2003. *Education for All Global Monitoring Report 2003/04: The Leap to Equality*. Paris: UNESCO.
- . 2004a. *Education for All Global Monitoring Report 2005: The Quality Imperative*. Paris: UNESCO.

- . 2004b. "Educating Rural People: A Low Priority." In *Education Today*, the Newsletter of UNESCO Education Sector, No. 9. Paris: UNESCO.
- . 2005. *Education for All Global Monitoring Report 2006: Literacy for Life*. Paris: UNESCO.
- . 2007. *Education for All Global Monitoring Report 2008: Will We Make It?* Paris: UNESCO.
- UNESCO/APEID (United Nations Educational, Scientific and Cultural Organization/Asia-Pacific Programme of Educational Innovation for Development). 1989. *Multigrade Teaching in Single Teacher Primary Schools*. Bangkok: UNESCO Principal Regional Office for Asia and the Pacific.
- Urwick J., P. Mapuru, and M. Nkhoboti. 2005. *Teacher Motivation and Incentives in Lesotho*. Maseru, Lesotho: Lesotho College of Education.
- Veenman, S. 1995. "Cognitive and Non-Cognitive Effects of Multigrade and Multi-Age Classes: A Best Evidence Synthesis." *Review of Educational Research* 65 (4): 319–381.
- . 1997. "Combination Classrooms Revisited." *Educational Research and Evaluation* 3 (3): 262–276.
- Veenman, S., and J. Raemaekers. 1995. "Long-Term Effects of a Staff Development Programme of Effective Instruction and Classroom Management for Teachers in Multigrade Classes." *Educational Studies* 21 (2): 167–185.
- Vincent, S., and J. Ley., eds. 1999. *The Multigrade Classroom: A Resource Handbook for Small Rural Schools. Book 1, Review of the Research on Multigrade Instruction*. Oregon Northwest Regional Educational Laboratory.
- Vu, T., and P. Pridmore. 2006. "Improving the Quality of Health Education in Multigrade Classes in Vietnam." In *Education for All and Multigrade Teaching: Challenges and Opportunities*, ed. A. W. Little, 155–168. Amsterdam: Springer.
- World Bank. 2003. "Bringing the School to the Children: Shortening the Path to EFA." *Education Notes*. Washington, DC: World Bank.
- . 2004a. *Multigrade Teaching in Lesotho*, by C. Moshapane. Consultant Report. Washington, DC.
- . 2004b. *Report of Evaluation on Multigrade School Education in Uganda*. Draft. Washington, DC: World Bank.
- . 2004c. *Rural Access Initiative*. Washington, DC: World Bank.
- . 2005. *Project Information Document: Third Education Project—Phase II*. Washington, DC: World Bank.
- . 2006a. *Multigrade Teaching in Uganda: A Case Study of the Kalangala Multigrade Pilot*, by C. Higgins, W. Epeju, R. Dolan, and A. Mulkeen. Consultant Report. Washington, DC.
- . 2006b. *Project Appraisal Document to The Republic of The Gambia for Third Education Sector Project*. Washington, DC: World Bank.
- . 2006c. *Project Appraisal Document to the Republic of Senegal for a Quality Education for all Project*. Washington, DC: World Bank.
- . 2007a. *Multigrade Teaching in The Gambia: A Case Study*, by C. Higgins and E. Schiefelbein. Consultant Report. Washington, DC.
- . 2007b. *Multigrade Teaching in Senegal: A Case Study*, by C. Higgins and E. Schiefelbein. Consultant Report. Washington, DC.

- . 2007c. *Improving Educational Quality through Interactive Radio Instruction*. Africa Region Human Development Working Papers Series. Washington DC.
- Yates, C., and J. Bradley. Eds. 2000. *Basic Education at a Distance*. London: Routledge Falmer and Commonwealth of Learning.

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In Africa, even with the expansion of primary education in recent decades, many out-of-school children live in hard-to-reach areas, with low population density and poor transportation infrastructure. Providing access to education is challenging in such contexts, because the population of many villages is too small to support a conventional primary school. One of the solutions is the use of multigrade teaching, where one teacher works with students of two or more grades.

This Working Paper examines the practice of multigrade teaching in three African countries: Uganda, Senegal, and The Gambia. Although these three cases had very different approaches, their experiences suggest that multigrade teaching is a promising and cost-effective option for reaching remote rural communities, but that successful implementation requires sustained support from policy makers, adequate training of teachers, and careful explanation of the approach to parents and communities. The lessons within this Working Paper will help policy makers make appropriate use of multigrade teaching strategies and support these strategies with the necessary policies in teacher training, curriculum, and school management.

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