MULTIGRADE LESSONS FOR EFA: A SYNTHESIS

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(p 310)……..Previous reviews of research on multigrade teaching highlighted an educational paradox (Little 1995, 2001, Pridmore 2005). If children are to learn effectively in multigrade settings teachers need to be well-trained, well-resourced and hold positive attitudes to multigrade teaching. The realities of the multigrade teacher stand in stark contrast. Many teachers such as Maheswari (Chapter 1) who find themselves in settings that require multigrade teaching are either untrained or are trained in mono-grade pedagogy. Many teachers in multigrade settings have few if any teaching/learning resources. And, as we saw in Chapter 1, many teachers in multigrade settings regard the multi-grade classroom as inferior to the better-resourced mono-grade classroom found in large, urban schools, staffed by trained teachers.

During the nineteenth and twentieth centuries a mono-graded structure of mass schooling emerged as a universal ideal (Chapter 1). This ideal is reflected in the dominant construction of academic and professional knowledge that continues to surround teaching and learning worldwide. National curriculum frameworks are graded for cohorts of learners who entered school within the same calendar year. National Curriculum Authorities generate syllabi and guides for teaching based on single year grades. Teachers……..struggle to meet the expectations of national education authorities using syllabi and teaching guides that have not been designed with their types of school in mind, or, in many settings, with no teaching materials at all. To meet this challenge education officials frequently express the view that multigrade should adapt curriculum materials to suit their circumstances. While this view may be consistent with the rhetoric of the professional autonomy of teacher it belies the fact that mono-grade teachers, working in the same system and in often far more advantaged settings, are not expected to do likewise. It also belies the fact that in order to meet this curriculum challenge in settings where resources are few, life is extremely hard and teachers isolated, effective curriculum adaptation is unlikely to occur and certainly not on a large scale.
Few teacher education systems in developing countries acknowledge the fact that many of
their trainees will find themselves posted to multigrade, rather than mono grade schools, on
initial appointment. Few educational planning and financing systems embrace the fact that
millions of children still live in sparsely populated rural areas requiring multigraded models
of schooling (Chapters 10, 11 and 12) . As we saw in Chapter 1, mono-graded schooling is a
relatively recent historical development and educational form and arose in urbanising areas
with dense populations and large student enrolments. Neither then nor now is it a form of
school organisation that corresponds well with the demography of rural areas. Yet, the
monograded model of schooling continues to dominate the thoughts and actions of national
education policymakers, planners and the majority of local practitioners. Its dominance in the
mind set obscures the fact that millions of children world-wide, both in industrialised and
developing countries, are de facto, if not de jure, learning in multi-grade settings. This poses a
major challenge for the achievement of EFA worldwide.

This final chapter revisits the challenges posed by EFA and the potential of multigrade
schooling to meet them through a synthesis of the research presented in this book. The
synthesis is structured around three dimensions of the most recent EFA policy framework -
the learner, the processes of learning and teaching and the enabling environment. The chapter
concludes with ’40 policy questions for proponents of EFA’.

THE CHALLENGE FOR EFA

The challenges that face multigrade teachers carry added significance in the context of the
worldwide movement for Education for All (EFA), especially in relation to EFA Goals 2 and
6: viz.

*The expansion and completion of Primary Education that is free, compulsory and of
good quality (Goal 2)*

*The improvement of all aspects of the quality of education and ensuring excellence so
that recognised and measurable learning outcomes are achieved by all, especially in
literacy, numeracy and essential life skills (Goal 6) .*

For millions of children worldwide the only type of schooling to which they will gain access,
*if they gain access at all*, will be multigraded. Economically and socially disadvantaged areas
support disproportionate numbers of multigraded schools. Areas experiencing conflict and
civil strife offer limited learning opportunities for children and, where there do, the
arrangements are often multigraded. In many disadvantaged areas the fundamental educational issue is not whether a school is multigraded or monograded. Rather, it is whether there is a school at all. …………………………Improvements in the quality of education can and must be made in these and all schools. But the greater challenge for EFA is posed by those children and communities the system does not reach. These include communities where children are out of school or communities served by multigraded schools and a curriculum structure and teacher training system designed for monograded schooling. In principle, if not always in practice, multigraded schooling can meet the EFA goals of access and quality……………………………………………………………………

THE LEARNER

(p 304) We start here with the learner. We began our book with a teacher, Maheswari, and the challenges she faced. As our exploration of those challenges progressed we began to focus more and more on the learner. In Maheswari’s class we observed, with some concern, the amount of time learners spent awaiting her attention, awaiting instruction, as Maheswari struggled to work across six grades.

………………..In the Turks and Caicos (Chapter 2) we observed learners in monograde and multigraded classes in teacher-dependent, learner-independent and learner-interdependent learning. In monograde classes learners spent their time in teacher-dependent whole class work followed by silent and independent seat work. We also observed this in multigrade classes. But there were two important contrasts. Learners in multigraded classes spent more time than their monograde peers working in pairs or in small groups. And when they undertook work alone learners in multigrade classes were less likely to await direction from the teacher and more likely to take initiative in its organisation. In the monograde classes the learner’s independent work remained strongly directed by the teacher (exercises corrected by the teacher followed by more exercises). A further contrast was that learners in monograde classes were exposed only to work deemed appropriate to their grade. Learners in multigrade classes, by contrast, were exposed to work of two or more grade levels. This exposure provided opportunities to both reinforce and extend learning processes.

In England (Chapter 3) we were informed by teachers that learners in multigrade classes had more opportunities than learners in monograde classes for cognitive and behavioural ‘stretching and modelling’and peer tutoring. Although peer tutoring occurs in monograde

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1 Over the period of our research the name of the research programme changed from Multigrade Teaching to Learning and Teaching in Multigrade Settings.
classes and is thoroughly consistent with a monograde teaching and learning strategy, it seems to be encouraged more as a learning strategy by teachers in multigrade classes. In Nepal (Chapter 5) we observed how some learners were abandoned for part of the school day as their teachers divided the available time by the number of single grade classes they had to teach. In other multigraded classes we observed how learners received instruction for half the timetabled lesson and were then abandoned as the teacher moved to teach the other grade. In still others we saw how learners were provided with self learning materials and sometimes a monitor to supervise their work when the teacher attended to another class.

But it was in the Malawian case (Chapter 6) that the issue of learner diversity – the starting point of the GMR policy framework – was addressed directly. Diversity is a feature of all classes, monograde and multigrade (Little 2001). Learner diversity in Malawian lower primary class manifested itself along many dimensions, including age, regularity of attendance, hunger, warm clothes in winter and possession of pen and paper. Teachers attempted to respond to learner diversity through the informal grouping of children within whole class teaching (through, for example, different questions for different achievement levels and questions directed at specific individuals), through some individual help, and through the adjustment of task levels. Croft’s account illustrates well how diversity is a characteristic of all classes, monograde and multigrade. The challenge of diversity in the multigraded class is compounded because not only are learners diverse but the teacher is expected to ‘deliver’ a diverse curriculum, one suited to one grade and another for another grade.

LEARNING AND TEACHING

(p 306) In this section on the dual and integrated processes of learning and teaching we address several dimensions. These include considerations of time – specifically learning time and the distribution of teaching time; of curriculum – specifically curriculum goals and organisation; the division and control of knowledge and curriculum development at various levels; assessment, repetition and progress; the social organisation of learning and learning outcomes.

Learning Time

One of the most crucial aspects of the teaching and learning process concerns learning time and the ways in which teachers manage time for teaching and student’s time for learning. This is true for learners in multigrade and monograde settings. ‘Learning Time’ features at the heart of
several frameworks for assessing educational quality (UNESCO 2002, UNESCO 2004/5). Most official estimates focus on intended learning time rather than actual learning time spent on learning. In Grade 1 primary the highest income countries allocate, on average 752 hours and the lowest income countries 667 hours of time for learning in school. At Grade 4 primary the averages are 818 and 751 hours respectively (UNESCO 2002). Even in the highest-income countries this means that less than three hours per calendar day is, on average, available for formal learning; and in the lowest-income countries just over two hours per calendar day.

If we were to examine actual time spent learning we would probably find that discrepancies between intended and actual time were large and larger in poorer than in richer countries. The following two examples illustrate the discrepancy between intended and actual time. Ames (2003) examined the number of official or intended school days available in the months of June and July 2001 in one of her case study schools in the Peruvian Amazon.

…. There were 20 official school days in June, but the school remained closed for 12 of these days for various reasons. On only three days were all three teachers in their classrooms, and during five days one or two of the teachers were absent. The situation improved in July, when all teachers were at school at least three days each week (Ames 2003:213).

The Ministry of Education in Peru prescribes a school year of around 1000 hours. It has estimated that children in urban schools spend approximately 500-600 hours in school each year compared with just 250 in rural schools (MED 2002: 11, quoted in Ames 2003).

In our research we have not examined differences in learning time between rich and poor communities, rich and poor households. However we do know that many households in many countries invest in private tuition of various kinds for their children, shadow systems of teaching and learning that run in parallel with the formal institution of the school. Richer families buy into this non formal system of schooling more than poorer. Hence any differences between actual learning time in the formal school between learners from rich and poor households are likely to be magnified when all opportunities for learning and teaching are taken into account.

*Distribution of teacher time and methods in multigrade classes*
In both estimates of learning time (above) we assumed that if the teacher was in the class then children were presented with opportunities to learn. But this assumption may be invalid. In multigrade classes how teachers distribute their time between learners is also critical in assessing real opportunities to learn. Some have argued that if a teacher divides her time between two grades equally the time available for learning is halved (Hargreaves, Montero, Chau, Sibli and Thanh, 2001). This will be true only in classes where learning opportunities for some are abandoned when the teacher attends to another group. As we shall see below this condition obtains in some multigrade classes, but not all. In many, learners engage in independent or interdependent learning and are guided minimally by the teacher and more intensively by structured learning materials, tasks, activities and by each other. Notwithstanding the beliefs of many teachers learners are not always completely dependent on them for direct input.

Earlier reviews identified the main approaches to curriculum organisation and timetabling (Little 1995, 2001)………

These various teacher approaches were tentatively re-organised into four categories (Little 2004).

- **Multi-year curriculum spans.** Units of curriculum content are spread across 2-3 grades rather than one. All learners work through common topics and activities

- **Differentiated curricula.** The same general topic/theme in the same subject is covered with all learners. Learners in each grade group engage in learning tasks appropriate to his/her level of learning

- **Quasi monograde.** The teacher teaches grade groups, in turn, as if they were monograded. Learners follow the same or a different subject at the same time. Teachers may divide their time equally between grade groups. Or they may deliberately divide their time unequally, choosing subjects or tasks within subjects that require different levels of teacher contact.

- **Learner and materials-centred.** This strategy depends more on the learner and learning materials than on teacher input. The curriculum is translated into self-study graded learning guides. Learners work through these at their own speed with support from the
teacher and structured assessment tasks. Learning is constructed as involving a relationship between learner, learning materials and teacher.

The research reported in this book confirms all of these patterns of organisation of time and curriculum but also extends them in important ways.

In Chapter 2 Chris Berry reports that teachers in the Turks and Caicos Islands used a ‘grade by grade’ approach, especially in mathematics and language arts and a whole class approach to social studies and science. In the grade by grade approach teachers would look at the same curriculum subject for, say, Grades 1, 2 and 3 and plan two or three different lessons at different levels on the same subject. Their strategies were consistent with what we have termed above as differentiated curricula and multi-year curriculum spans respectively. But Berry’s account is also consistent with what (iv) above, the learner and materials – centred strategy. In the multigrade classes students spent substantial amounts of time spent in independent and interdependent learning and were supported in this by learning materials. Significantly, Berry reports that these strategies were created by the teachers. They had not received specific training in the organisation of time.

In Chapter 4 we identified three main approaches to organising the curriculum for a single subject adopted by London teachers. The first, ‘integrating frameworks’ involved teachers reconstructing the national curriculum framework for each of two or more years (grades) into one by identifying learning objectives and/or topics in common. The teacher focused her attention on the common elements and taught the whole group as one, with some differentiated tasks and activities. In the second, teachers developed a ‘two year span’ for a curriculum subject. This was commonly found in science, history, geography, art, information and communications technology, design and technology, music and physical education. In the third – common curriculum and differentiation - teachers worked to the curriculum framework for one year in terms of its learning objectives but adapted the related specific learning tasks to the ability/achievement levels of the pupils. The second is an example of a ‘multi-year span’ approach; the first and third differentiated curricula. The difference between the first and third is the way in which the learning objectives for different grades are handled. In the first the teacher tries to combine objectives from the curriculum frameworks for two or more grades with some differentiation in the tasks and activities for learners at different levels. In the third the teachers focus on objectives/topics from one grade only and differentiate tasks and activities in relation to them. In all cases teachers were actively involved in the reconstruction of the curriculum and exerted some control over its re-organisation.
The observations of approaches to multigrade teaching practices in Peru (Chapter 3) suggest an additional way of thinking about curriculum differentiation. In the teaching of literacy (same subject) in the Peruvian Amazon teachers adopted three patterns of organisation. In Pattern 1 the grade groups were taught the same subject (literacy) but separately with different teacher inputs, different activities and different expected outcomes for the different grade groups. In Pattern 2 teachers did not differentiate the students and taught them as one. Pattern 3 integrated Patterns 1 and 2 over time. Students were grouped and taught as one from the start of the lesson and differentiated subsequently. These observations help us to distinguish two subapproaches within the differentiated curriculum. In the first (Ames’ Pattern 1) the timetabled subject (literacy) was common but the grade groups were clearly differentiated in terms of teacher input, task and expected outcomes. In the second (Ames’ Pattern 3) the timetabled subject was common and the initial teacher inputs were common but the subsequent tasks and expected learning outcomes were differentiated. Like Berry’s teachers in the Turks and Caicos Islands the Peruvian teachers had received no training in the organization of their time.

Suzuki’s observations of teachers in Nepal advances our thinking even further, though not necessarily in a positive direction. The reader will recall the five patterns of teacher distribution of time (Chapter 5). In Pattern 1 teachers divided the time available for a school day by the number of grades they were timetabled to cover. This generated the time the teachers allocated to each graded class. These classes were then taught as a monograde class. The implication was that some students were ignored for some part of each day. They were not guided towards self study because no teacher felt responsible for them. Although this may seem an extreme way of organising the distribution of teacher time it needs to be acknowledged as a coping strategy adopted by teachers in some schools. It might be described as a strategy of avoidance. We may not be impressed by it nor would we wish to recommend it as an effective strategy. But it happens, it is a reality and should not be ignored either by those who are interested in EFA or by those interested in supporting teachers in their work. A basic consideration in the discussion of the learning and teaching process is whether at any given time a teacher perceives him/herself to be responsible for organising the learning time of a class of children.

Patterns 2, 3 and 4 are variants on the quasi-monograde strategy (above). In Pattern 2, the teacher divide his/her time during a single period into two equal time sections and teaches each grade separately, as if they were two monograde classes. When attending to the second grade group the teacher ignored the initial group and did not guide them to self-study activities. In Pattern 3 the teacher distributed her time differentially between the two groups,
treat one grade as the ‘main’ group and the other as the ‘additional’ group. Students in the additional group worked on self-learning activities. Included in this strategy were settings where a pupil ‘monitor’ was sometimes appointed to supervise a group; and some where no monitor had been appointed. In Pattern 4 the teacher divided his/her time more equally between the groups. Not only did he/she ensure that students were engaged in self-learning activity when he/she attended to the other group but he/she also monitored the work undertaken on the self-learning activities. Finally, in Pattern 5 the teacher merged the separate grades and treated the class as one large group, with similar inputs, similar processes followed and similar learning outcomes expected. This approach was most often observed in sports, music and arts and conforms to the ‘subject grouping’ approach. Suzuki’s categories (Chapter 5) underline the point, made earlier in relation of noting how both teachers and students are spending their time. The teacher may be very active throughout a lesson period. But are all students similarly active? Her list also draws attention to the role of pre-prepared self-learning activities in the guiding of student’s learning time (though it is not clear whether the teacher prepared these activities or whether they were prepared for her by educationalists working beyond the classroom).

The underlying principle uniting almost all the patterns of class organisation above is curriculum differentiation. Differentiation is the corollary of learner diversity. It refers variously to teacher decisions and actions in differentiating the subject taught, the content introduced, the activities undertaken by learners and/or the outcomes expected of learners. It is the teacher’s way of responding to the principle of learner diversity.

Curriculum goals and organisation in the multigrade classes

What teachers and learners talk about in class and what they write and otherwise do is determined to a very large extent by curriculum decisions taken far beyond the classroom walls. Teaching and learning tasks and teaching and learning materials are but one link in a chain of curriculum decisions and manifestations. Warwick (1975) refers to the ‘geology’ of the formal curriculum comprised of interdependent layers. At the school level these include, inter alia, (i) teaching and learning activities observable in classrooms, supported by teaching and learning materials (ii) the lesson of which these activities are a part (iii) the theme of which the lesson is a part (iv) the syllabus of which the theme is a part (v) the subject to which this syllabus pertains and (vi) the timetable in which the subject will appear for one or more periods on one or more days.
The number and descriptions of these interdependent layers will vary from education system to education system. In Vietnam, the subject of health has a syllabus constructed by theme, topic, learning objective and content – and grade (Chapter 9). In Sri Lanka, the subject of mathematics is organised by theme and by topic in the syllabus and by grade, theme and topic in the teachers’ guides (Chapter 7). In the national curriculum for literacy in England (Chapter 4) the layers are severally described as subject (literacy), framework, range, strand (word, sentence, text), year group, learning objective (e.g. phonological awareness) and task (organised by whole class, guided group, independent group and plenary) (www.standards.dfes.gov.uk).

Each of these layers in turn is linked in turn to philosophical notions of curriculum and knowledge. Inter alia these concern the direction, purpose, divisions, balance and sequence of curriculum on the one hand and to philosophical and psychological theories of how learning occurs in education on the other.

While the shape and content of many of these curriculum layers will be determined by teachers (e.g. visual charts on the wall, lesson plans) many fall beyond his or her control. For example National Education Commissions potentially exert a strong influence on the purpose and direction of curriculum. Curriculum developers in curriculum development centres exert a strong influence on curriculum divisions, syllabi, themes and even lesson plans; teacher trainers potentially exert a strong influence on teaching methods; and public examinations certainly exert a strong influence on both teaching method and content and learners’ motivations and orientations to learning……………………………

(p 316) We saw earlier how the material curriculum might be thought of as consisting of interdependent layers. These include teaching and learning activities observable in classrooms, the lesson of which these activities are a part, the theme of which the lesson is a part, the syllabus of which the theme is a part, the subject to which this syllabus pertains and the timetable in which the subject will appear for one or more periods on one or more days. Each of these curricular layers relates to that immediately below it and the strata are interdependent. How much control can and does the teacher exert over each?

Curricula can also be described in terms of their orientation and focus. Most recently Ross (2000) distinguishes content-driven curricula from objectives-driven and process-driven curricula. One might then ask how much control teachers have over determining the content within an objectives based curriculum; or the process within a content based curriculum; or the process within an objectives based curriculum.
Changing National Curricula

Our research has demonstrated how actors operating at different locations in the education system can exert power over the material curriculum. The developmental work on curriculum re-organisation undertaken by Pat Pridmore and Son Vu (Chapter 9) in Vietnam engaged national level curriculum developers in active support for teachers. The curriculum content of the subject of ‘health’ was re-organised to enable teachers to address the same subject, same theme and same topic across grades, using some whole class teaching followed by differentiated tasks and differentiated expected learning outcomes for each grade. This was done identifying the themes and topics related to health from within the subjects of Natural and Social Sciences (grades 1-3) and Science (grades 4-5) that were repeated across two or more grades and re-sequencing the order of themes and topics within grades. The pedagogy adopted for each theme was also changed towards a stepped enquiry and activity based approach. The national-level curriculum developers provided detailed step by step advice to teachers in multigrade schools (Son, Pridmore, Nga, My and Kick (2002). The potential advantages of this approach for the multigrade teacher are several. First, children from different grades can be grouped together and taught the same curriculum subject at the same time. Second, children of all ages, abilities and grades learn together. By structuring the stages of the lesson through a mix of whole class teaching, same and mixed grade discussion groups, individual enquiry and activity the teacher can appreciate the unity of the lesson planning task - one topic across several lessons, albeit with differentiation within. Most importantly she has been supported in the planning task by professional support from a national authority. She has not expected been expected to carry the burden of planning for two or more grades alone.

Multi-grade teachers should not be expected by external authorities to adapt curriculum to their multigrade circumstance, alone. In most monograde systems teachers are not expected to exercise such levels of adaptive professional autonomy (and indeed are often discouraged from so doing). Why should so much more be expected from the multigrade teacher? The involvement of national level curriculum developers in the adapatation, re-organisation, re-alignment or reform of the curriculum framework legitimises the work of multigrade teacher. It dispels the message that she is a second class teacher trying her best to teach in the monograde style. It indicates that there is another way which meets with the approval of higher authorities.
During our research a number of similar, independently conducted, curriculum reorganisation or re-alignment exercises. In Bhutan the primary curriculum is currently being ‘realigned’ to meet the needs of the multigrade classroom and similar work in underway in several countries in Africa (Chapter 9). In Sri Lanka and Nepal developmental work is being undertaken by small groups of curriculum development and university staff on the national primary education curriculum to meet the needs of multigrade teachers. In Nepal the subjects of Environmental Education, Health Science and Mathematics are being reviewed; and in Sri Lanka, Mathematics, Sinhala and Tamil (LATIMS, 2003, 2004). These current examples are demonstrating how national curriculum developers can re-sequence the content of curricula so that themes and topics that are repeated across grades are brought together for teaching at the same time with space for individual learners to approach learning tasks at different levels.

In England the Government’s Department for Education and Skills has issued ‘additional guidance’ for small schools and schools with mixed year classes on the implementation of the National Literacy Strategy which counsels teachers to reorganise the graded curriculum framework as a two year rolling programme ([www.standards.dfes.gov.uk/literacy](http://www.standards.dfes.gov.uk/literacy)). Advice to teachers to reorganise curricula from the national level is supplemented by curriculum schemes hosted by county councils (e.g. [www.norfolkesinet.org.uk](http://www.norfolkesinet.org.uk)) and by private trusts (e.g. [www.hamilton-trust.org.uk](http://www.hamilton-trust.org.uk)).

*Changing learning materials and the relative power of the learner*

A different approach to curriculum change starts with materials for the learner rather than the teacher, category (iv) above. Here the curriculum does not necessarily need to be re-sequenced. Rather learning materials designed to help the learner progress through the curriculum sequence need to be available in plentiful supply. We note that learning materials are located within the GMR framework as part of ‘the enabling environment’ rather than being central to teaching and learning. We locate them more centrally as we believe that deliberate change at this level alters the two-way dynamic between teacher and learner, creating instead a three way dynamic between learner, teacher and materials. Moreover, in this approach the sequence of the curriculum overall need not change in order to align topics and themes to assist the teacher teach across grades. With the focus on the learner the materials can follow the sequence of the current curriculum. But the materials need to engage the learner and be usable by him or her without too much intervention by the teacher.

(In) the Escuela Nueva programme ……the development of the curriculum focussed on the learning needs of students. Self-learning guides were developed
for each of the subjects of the national curriculum reflecting its objectives. Regional and local adaptations were made to the content where appropriate. Self-learning guides were developed in natural science, mathematics, social studies and language, with regional and local adaptations. These were organised by sequences of learning tasks and presumed levels of difficulty. Series of sequences equate broadly with ‘grades’ but because learners work through the material at their own pace children, who in a monograded system would be working on the same material at the same time, may in the Escuela Nueva system be working at different levels within the same or even different ‘grade’. Learning activity centres and libraries complement the study guides which guide learners to activities in the centres and libraries. Assessment of learner achievement is built into the study guides and flexible promotion systems allow students to progress at their own pace. Learners working at several curriculum ‘grades’ are grouped together in the same classroom.

Significantly, learners, teachers and learning materials form a three way relationship, in which the learner, as well as the teacher, takes active decisions about learning tasks on a day to day basis. Curriculum embodies the social and moral as well cognitive and is promoted via a structure of school governance that encourages students to participate in democratic decision-making processes. Teacher training is conducted through in-service workshops and involves demonstration schools and centres of best practice. The pedagogy employed in the teachers’ training reflects that intended to be used in the classroom. Teachers new to the programme are trained via three workshops in the first year and follow-up workshops thereafter. The school-community component brings families in to school activities and schools into communities. And local management systems are designed to encourage municipality and community ownership of the schools and the programme.

The second example is from the Rishi Valley in the state Andhra Pradesh, India (Rishi Valley 2000, Menon and Rao, 2004). The Rishi Valley elementary school programme has developed over the past fifteen years and is premised on both multigraded and multi-levelled learning, both of which are consistent with the idea of differentiated learning implicit in the GMR framework.

The programme scales down the learning outputs of each class into a meaningful sequence of concrete and manageable units. Each unit is taught through a sequence of five types of activities: introductory, reinforcement, evaluation, remedial and enrichment. Work cards supported by learning aids are designed to require the child’s serious involvement. Every child has to participate in each of the five types of activities. These multiple activities are gathered into units called ‘milestones’.
Milestones are organised into an ascending order, beginning with the first rung of the learning ladder and ending with the topmost rung, which denotes the end of a class. This whole learning continuum – an ascending series of milestones, with activities leading up to each milestone – is visually represented in a ‘Ladder of Learning’ a classroom tool used by teachers and children to track their progress on the learning continuum. Four such ladders cover the entire curriculum from Class 1 to Class 4 in the areas on language, mathematics and environmental studies…examples for curriculum activities are drawn from the local environment and children’s daily-life experiences (Menon and Rao: 43 2004)

The Rishi Valley programme is a good example of an outcomes, outputs or competencies-driven curriculum (Ross 2000). The learning outputs are derived from the nationally-mandated minimum levels of learning, followed by all states. The Rishi Valley curriculum designers divided each of the competencies into smaller units and used these as the basis for the five types of activity detailed above - instruction, practice, review, remediation and enrichment (Menon, personal communication, 2004).

With their emphasis on supporting the learner as much as (if not more than) the teacher, neither the Escuela Nueva nor the Rishi Valley programmes have need to realign the curriculum in the way described above in the experimental work in Bhutan, Nepal, Vietnam and Sri Lanka. Themes and topics are repeated but the repetition is embedded in the work cards through which pupils progress. In principle pupils could be working on the same theme at the same or at different times. Because they focus on a progression through activities the materials can be used flexibly – in whole class, group as well as for individual level learning. Children who miss school for a few days need not miss out on lessons. He/she picks up their learning activities where they left off. In principle, children work through the ladders at their own pace. Both programmes are comprehensive examples of what is termed above learner and materials centred (iv).

Most researchers and practitioners agree that successful strategies for multigrade teaching depend on adequate supplies of learning materials, including the ubiquitous textbook, designed for use in individual and group-based learning. This enables teachers to spend time with some groups of learners while other learners work alone, in pairs or in small groups. But the mere existence of materials does not guarantee quality of learning. Self-study materials must be of the highest quality and relevance, and must be used by teachers as part of an integrated teaching strategy, in which teachers continue to play a vital part. The availability of self-study materials must not be viewed by the teacher as a substitute for his/her teaching. Our research suggests that successful
strategies for multigrade teaching also depend on teacher beliefs about how learning occurs. The three-way nature of the relationship between learner, teacher (whether adult or peer) and materials needs to be at the forefront of teachers’ minds as well as curriculum developers’.

_Curriculum redevelopment by teachers_

Some might argue that the amount of curriculum realignment and materials development undertaken by curriculum developers in the above programmes emasculates the teacher and limits their opportunities for professional development. But this critique has to be seen in the context of those education systems in which curriculum design traditions are highly centralised, in which teachers enjoy limited professional autonomy and in which teachers, especially multigrade teachers, are often working alone in difficult circumstances. As we saw in Chapter 4, even in the more decentralised systems of curriculum control in England inexperienced teachers of multigrade classes are crying out for some level of support in the planning and reorganisation of curricula.

Chapters 7 and 8 demonstrated how teachers in Vietnam and Sri Lanka, working within an action-research framework, improved not only the organisation of their teaching time but also the cognitive achievement levels of their students. The curriculum redevelopment undertaken by these teachers was supervised and sanctioned by researchers working at the national level. The curriculum work was neither wholly nationally nor locally determined. A professional bridge was built from the national to the local. These chapters will be reviewed in more detail under a subsequent section on teacher development.

_Assessment of Learning_

The regular assessment of learning is key to quality learning and teaching. Assessment is used for many purposes, ranging from selection of individuals for further education and jobs, the monitoring of performance of teachers, schools and systems usually for ‘accountability’ to the promotion of learning (Little and Wolf 1996). From the perspective of EFA (in particular Goals 2 and 6) this third purpose of assessment, assessment _for_ learning, is the most important. Assessment _for_ learning is ‘formative’ and distinguishable from assessment _of_ learning which is ‘summative’. The purpose of formative assessment is to diagnose how a learner is learning and is intended to improve teaching and learning. It is usually criterion-referenced and/or pupil-referenced and is undertaken in a variety of ways including a review of assessment tasks at the end of short learning sequences, observation of learning activities, learner self-assessment and peer assessment. The purpose of summative assessment is to
evaluate and record learning achievement. It may be either criterion or norm-referenced and
the assessment tasks and tools used are often externally devised tasks (UNESCO 2004, Black
and Wiliam, 2002). Formative assessment fits the purpose of promoting learning in the
classroom. Summative assessment fits the purpose of system monitoring and accountability. It
also fits the all-important purpose of selection. In the context of EFA in many developing
country education systems with still limited access to secondary education rationed by
selection hurdles, the importance of assessment for selection and its backwash on classroom
practices should never be under-estimated (Dore, 1997).

Hargreaves (2001) has suggested that multigraded learning settings lend themselves to
formative assessment designed to promote learning because they encourage teachers to
recognise individual differences in learning. Even if there is considerable learning diversity in
monograded classes teachers often treat learners as if they were the same and move learners
through the curriculum at the same pace, irrespective of whether some learners have not been
participating in school through absence of lack of previous mastery.

Although multigraded settings lend themselves to, or are consistent with, regular and frequent
formative assessment designed to improve differentiated paces of learning they do not
guarantee that formative assessment will be undertaken. From its inception the curriculum
designers of the Escuela Nueva programme worked hard to build assessment tasks into
learning guides and to design levels of mastery required before the learner can move on.
Learners are guided by their learning texts, not by their teacher, towards assessment tasks.
Learners take the initiative in approaching the teacher to mark the assessment tasks, to record
achievements and determine progression to the next learning unit. Should the learner not
achieve mastery the teacher decides on the remedial work to be undertaken In the Rishi
Valley programme the programme designers built evaluation and remedial activities very
deliberately into the range of learning activities at each and every milestone of learning
achievement. And in the adaptation of the curriculum for teaching health in Vietnam
………..curriculum developers built frequent and regular formative assessment tasks into the
series of steps that underpinned the enquiry-based pedagogy. In none of these cases was the
decision to use formative assessment task left to the discretion of the multigrade teacher.
Assessment activity is built into the design of the learning materials. And in none of these
programmes was the teacher the sole arbiter of formative assessment. Self-assessment and
peer assessment could be observed, alongside assessment by the teacher.

Formative assessment is most valuable when it assists the teacher and the learner in the
diagnosis of learning difficulties. Where the organisation of learning is focussed on the
individual (as in Escuela Nueva and Rishi Valley) the likelihood that a teacher will guide a learner to remedial work may increase. Where learners remain dependent on the teacher in the definition of the pace of learning within whole classes and groups (as in the Vietnam case) then the likelihood of individual learners being guided to remedial learning activity may be less. Neither proposition has been explored in our research and both remain hypothetical.

Formative assessment also has the potential to alter the way in which learners repeat lessons and grades. In Chapter 12 Lewin presented an hypothetical model of how both summative and formative assessment could be used to shorten the period learners spend repeating a grade. Typically, in monograded systems, learners who fail a summative promotion test are required to repeat all subjects for a complete year. In multigrade settings that adopt a learner-centred approach to curriculum progression, learners who ‘fail’ a promotion or progression test might repeat some subjects and not all and some parts of the curriculum material and not all.

The social organisation of learning

Classrooms are social spaces in which particular forms of social organisation emerge. These are determined in part by the ways in which learners are grouped for teaching and learning. There are many ways of describing how learners are grouped for teaching. We have already used the terms teacher-dependent, learner dependent and learner-interdependent (above).

Alexander (2000) uses three basic ‘organisational frames’ to describe how learners are organised for teaching and learning in primary schools – whole class, groups and individual. Groups are subdivided further into three – learners work as individual within a group setting, learners work together collaboratively as a team, and groups attended to by the teacher. These five frames – whole class, teacher-led group, individuals within groups, collaborative groups and individual - allow for several modes of social interaction. These include interactions between the teacher and whole class, the teacher and individual, the individual and class, the teacher and group, the individual and group, and the individual and individual. This last is sometimes termed ‘peer learning’. As we saw above in the section on use of time and the curriculum each of these organisational frames could be observed in the multigrade classes in our research. The dominant frames were individuals working alone within ‘graded’ groups or teacher-led ‘graded’ groups were the dominant forms of organisation.

Groups may be differentiated in several ways – by grade, age, gender, ability, learner interests, friendship etc. When asked about how they group students for teaching and learning activity in multigrade classes, the majority of the London teachers reported using ability, just
as they would in a single grade class (Chapter 3). High ability students from a lower grade would often work alongside similar ability students from a higher grade. Lower ability students from a higher grade would often work alongside similar ability students from a lower grade. In Vietnam (Chapter 8), by contrast, teachers are trained to work with two or more grades simultaneously in the same classroom space. Within that space, groups remained sharply differentiated by grade. Each grade group had its own space in the classroom, its own furniture and own blackboard. In Nepal (Chapter 5), students in different grades are sometimes seated in separated classrooms, with the single teacher moving between the two spaces, even when they are some distance apart. There is little mixing of students by criteria that cut across grade boundaries. In Sri Lanka grade groups are taught separately by a teacher moving between the groups, or by ignoring one group altogether (Vithanapathirana, 2005). In Peru, grade is also the main criterion for grouping. Teachers either teach each grade separately or they mix two grades and teach the same lesson with or without some differentiation (Chapter *). In the Turks and Caicos Islands, teachers tend to deliver separate material to each grade level in the maths and science and to teach the class as a group for other subjects with limited differentiation. Even within so-called multigraded classrooms, graded-ness remains deeply embedded within the social organization of the class.

The Rishi valley multigrade programme adopts a rather different way of describing the social organization of learning, based on the learner rather than the teacher (Menon and Rao 2004). While there are interactions between teacher and whole classes of learners, there is a greater focus on learners in groups. Groups are differentiated by the level of learner autonomy and the role of the teacher and the peer in relation to the learner. Classes usually comprise five types of group:

- **Partially teacher-supported.** The teacher initiates activity followed by learner activity (e.g. making pictures, sorting letters, words, sentences etc)

- **Completely teacher supported.** The teacher introduces new concepts, evaluates work or when the learner needs special attention

- **Partially peer-supported.** Learners work largely alone but support each other.

- **Completely peer supported.** Learners teach and learn from each other

- **Self-learning.** Learners read and write and test their own abilities using evaluation cards
The composition of groups is reported to be dynamic and activity-dependent and 

Based on the strong belief that real and meaningful learning takes places through the 
dynamic interaction between teacher and children and among children themselves 
(Menon and Rao 2004: 44) 

We will return to questions of social organization and its impact on social skills in the next 
section.

Learning Outcomes

Learning outcomes lie at the heart of EFA Goal 6 and the teaching and learning process. The 
GMR (UNESCO 2004) distinguishes outcomes in terms of (i) literacy, numeracy and life 
skills, (ii) creative and emotional skills, (iii) values and (iv) social benefits.

Many of those interested in our work on multigrade schooling want to know how learning 
outcomes compared with those in monograded schooling. This is a natural concern and the 
research synthesised below will explore those comparisons. But a much more fundamental 
point about multigrade schooling is that in many settings the key learning achievement 
comparison is not between learners in multigrade and monograde schools but between 
learners in multigrade schools and potential learners who attend no school (Little 1995).

Cognitive achievement outcomes

A number of meta-analyses have been conducted of the effects of multi-grade and mono-
grade organisation on cognitive achievement. Pratt (1986) reviewed 30 studies undertaken in 
the USA and Canada between 1948 and 1983. The multigrade classes studied spanned 2-3 
years. There was no general pattern in the achievement results (usually, but not always, 
achievement in maths and reading). Learners in multigrade classes showed higher 
achievement in maths and reading in ten studies, worse in five and no difference in thirteen. 
Miller’s (1991) review of 21 studies in the USA confirmed that learners in multigrade classes 
performed no better and no worse than students in monograde classes. Veenman’s (1995) 
review of studies, mainly from OECD countries, distinguished (i) multigrade classes, formed 
of necessity, from imbalanced or inadequate enrolments; (ii) single-grade classes and (iii) 
multi-age, non graded classes, formed for pedagogical or philosophical reasons. Learning in 
multigrade or multi-age classes was neither inferior nor superior to that in monograde classes.
Mason and Burns (1997) confirmed the general picture of no consistent cognitive achievement differences. Most recently, Hattie (2002) has suggested that there is no consistent evidence to argue that multigrade or single-grade teaching is more effective than the other. Relatedly, Ireson and Hallam (2001) report no consistent effects of ability-grouped single-grade classes on achievement compared with heterogeneous (mixed ability) groups within single grade classes. Classroom effects are much more likely to be attributable to the quality of teaching and the expectations of principals, parents and pupils rather than to the composition of classes.

Studies of cognitive achievement in multigrade and monograde classes in developing countries are few in number. In Burkina Faso and Togo, Jarousse and Mingat (1991) found that learners in multigrade classes performed better than those in mono-grade classes. In Colombia, within the Escuela Nueva programme, grade 3 learners in the multigrade schools performed better in Spanish and Maths and grade 5 learners better in Spanish (Rojas and Castillo, 1988; Psacharopoulos, Rojas and Velez 1993, McEwan 1998). In Pakistan, Rowley (1992) showed cognitive differences in favour of monograde schools. In the Turks and Caicos Islands, Miller, Forde and Smith (1994, cited in Berry, 2001) found that learners in multigrade schools consistently outperformed those in monograde schools in the terminal grade of primary school. Berry (2001) found that learners in multigrade schools performed better on a test of reading than those in monograde schools but that the advantage was greatest for the lowest achieving learners.

Cognitive achievement gains in multigrade classes were also demonstrated in the action research work undertaken by our researchers-with teachers in Sri Lanka and Vietnam. These two pieces of action research demonstrated how changes in lesson plans and small adaptations to the sequence of curriculum material changed the way that teachers used their time in class and raised the level of cognitive achievement of learners in multigrade classes in comparison with learners in monograde classes (Chapters * and *).

**Social and personal esteem outcomes**

Pratt (1986) identified 15 studies that addressed, variously, children’s friendships, self concepts, altruism and attitude to school. Overall, he claimed that the socio-emotional development of learners in multigrade groups is either accelerated or showed no difference, when compared with learners in monograde groups. This conclusion was confirmed in Miller’s (1991) review of 21 studies. And in her review of studies from the US and UK, Ford (1977) reports both positive and negative findings on the reduction of anxiety levels, the
maturity of friendship patterns and on personal and social adjustment and positive findings on
self concept, self esteem, and attitudes to school.

Studies of the social effects of learning in multigrade settings in developing countries are very
few indeed. In the Escuela Nueva programme in Colombia an early evaluation credited the
programme with positive effects on self esteem and civic behaviour (Colbert, Chiappe and
Arboleda, 1993). A subsequent study confirmed the positive effect for civic behaviour but not
for self-esteem (Psacharopoulos, Rojas and Velez, 1993)

The two chapters in this book that explore further the cognitive and social effects of
multigrade teaching are therefore most welcome. Chapter 2 extends earlier work (Berry 2001)
on achievement effects in monograde and multigrade classes in the Turks and Caicos Islands
by exploring the practices inside the classroom that might explain why low achieving students
in multigrade classes performed better than low achieving students in monograde classes. He
suggests a range of possible reasons. Low achievers have opportunities to revisit material.
When teachers interact with pupils it tends to be in the context of a small rather than large
group. Learners engaged in more independent work in the multigrade class and as a result
they learned how to learn. There seemed to be more opportunities for peer instruction.

Chapter 13 explores the social effects of participation in a multigrade teaching programme –
the Escuela Nueva programme in Colombia - through the concept of peaceful social
interaction and in some detail. Peaceful social interaction is operationalised through questions
designed to measure its four dimensions – active respect, universal solidarity, fair play and
equity. Children in Escuela Nueva schools demonstrated higher levels of peaceful social
interaction than children in conventional schools. And comparisons between alumni of
Escuela Nueva and conventional schools demonstrated differences in their attitudes to
democracy. Escuela Nueva alumni were more inclined to be members of voluntary
organisations and more inclined towards participatory democracy. Alumni from Conventional
schools were more inclined towards representative democracy. These findings are of
considerable interest and are most likely to be attributable to the active promotion of
democratic behaviour in Escuela Nueva classes rather than the multigraded composition of
classes.

Teachers’ perceptions of learning outcomes

Several studies focus on teachers’ perceptions of the benefits for students of learning in
multigrade settings. A UNESCO/APEID study (1989:5) collated perceptions about the
benefits of multigrade teaching from educators in twelve countries in the Asia and Pacific Region. These included: Learners develop self study skills; Learners learn cooperate across age groups, resulting in collective ethics, concern and responsibility; Learners learn to help each other.

Our study of 47 multigrade teachers and headteachers in an inner city area of London, England (Chapter 4) reported a number of positive learning opportunities presented by the multigrade classroom. The most commonly mentioned (24/47) was the opportunity for ‘cognitive stretching’ of the younger, less able and lower achieving learners. This was expressed variously by teachers as ‘stretching’, ‘modelling’, ‘moving on and developing’, ‘extending’, ‘looking up and emulating’. The second most commonly mentioned (13/47) was the opportunity for the use of peer tutoring learning strategies. While such strategies are not unique to multigrade classes, the strategy appears to work particularly well in the multigrade class. Unlike cognitive stretching, which was considered a benefit mainly for the less able, the lower achieving and the younger learner, peer tutoring was perceived to benefit all pupils, cognitively, socially and personally. More able, higher achieving and older learners ‘cement’ their learning through teaching and helping others. The less able, lower achieving and younger learners look up to and learn from others. A third commonly mentioned opportunity (12/47) was ‘behaviour stretching’, or the opportunity for younger learners to learn appropriate social behaviours from the role models offered by older learners. In short, teachers perceived that the multigraded class presented learning benefits for both older and younger and higher achieving and lower achieving learners. Whether these perceptions are all borne out in practice is a matter for future research.

ENABLING CONDITIONS FOR TEACHING AND LEARNING

Teacher Development …. Conditions of Teacher’s work…. physical spaces for learning

( p 334) Finance

Financial inputs are necessary enabling conditions for learning in all types of school. Multigraded schools pose particular issues, not generally addressed by education planners (Chapters 11 and 12)
Very little research has been undertaken on cost efficiency and effectiveness connected with multigrade schools. Hence, much of Chapter 12 is based on theoretical principles and models. At a policy-level the perceived and actual high costs of small (de facto multigrade) schools in rural areas in developed countries has, periodically, been the main rationale used by policymakers for their closure and consolidation. In part these have arisen because of the fixed costs that deployment norms of ancillary staff for schools (e.g. caretakers and cooks) imply and the high costs per student attributed to maintenance of land and buildings. Communities have argued that to close the village school is to close down the community. Such externalities are rarely valued in cost analyses. Savings through the amalgamation and closure of small schools maybe offset by the added costs of transportation of learners and, in some, cases, the costs of boarding facilities. Communities and teachers have also argued that there are learning gains associated with smallness and localness, especially for young learners.

The policy and costs issues in many developing countries are often very different from those faced in developed countries. In many settings, as noted above, the options of transport amalgamation do not exist. If the cost of maintaining small monograde schools is too high, the next policy choice is between a multigrade school or no school at all, a point that is reinforced in Chapter 11.

The main cost element in all primary schools is teacher salary or salaries plus supervisory support (Chapters 11 and 12). In some systems (e.g. Bangladesh) there are few multigrade schools. Instead many schools operate a double shift with teachers teaching one grade in the first shift, another in the second. While this obviates the need for multigrade teaching, a key question for EFA is the amount of effective instructional time such systems deliver, at what cost and what benefit. In many schools that operate a double shift system, learners attend schools for as little as 2 hours per official school day. Combine this with teacher absenteeism and inefficient use of the timetabled school day and opportunities for learning diminishes further. Teachers may teach more, but learners may experience less. Costs per learner may appear acceptable but learning costs per hour may look different.

Cost-effectiveness is the ratio of learning gains to the costs of inputs. Some costs are borne by the system as a whole; some at school level. While the main school-level cost is the teacher salary, system costs include the development and delivery costs of reorganised curricula, assessment systems, learning and teaching materials and teacher training. The opportunity costs of learners depend on the time they spend in school (as distinct from time spent learning in school). The costs of learners ‘teaching’ others while teachers work intensively with other
groups of learners are low and may in fact be negative as learners learn themselves by teaching. The comparative costs of multi and monograde classes depend partly on whether national policymakers view multigrade teaching as a separate subsystem of education or as a strategy that needs to be understood and practiced by teachers throughout the system.

If the latter approach were adopted and if all teachers were exposed to multigrade teaching as part of mainstream teacher preparation, if curricula were revised to meet the needs of the multigrade class, if assessment formats and instructional materials were geared towards the learner these costs would be similar to those in monograde classes, especially where overall pupil teacher ratios and student learning hours were the same.

Because of the association with school size multigrade teaching strategies may, on average, yield higher costs than monograde schools. But the issue here is size, not multigrade per se. Every system has small schools located in low density populated areas and unpopular schools in areas of high population density. And every system that has achieved EFA maintains schools in these areas, albeit, sometimes, at higher unit cost per learner. While this does not mean that all small schools have to be kept open at all costs it does mean that the location and characteristics of learners are paramount. It also means that where multigrade does result in cost savings and learning gains it is very attractive.

The potential learning gains within multigrade settings have been alluded to earlier in this chapter. There is some evidence that learners in multigrade settings may be at an advantage, in terms of social and personal learning, over those in monograde settings; and at no disadvantage cognitively. Precisely why this should be so is unclear but it would appear to a function, variously, of self-study, of learning and teaching to learn, of collaborative learning with peers, of mastery oriented assessment formats and of contact with teachers in small, rather than large, group settings. Since, with a few exceptions, several of these elements are almost cost-free once established, then if the multigrade pedagogy is effective, the overall impact on cost effectiveness is likely to be great.

CULTURES OF LEARNING

Finally, a note on cultures of learning and teaching that cross-cuts each of the previous sections on the learner, processes of learning and teaching and the enabling environment. The notions of diversity and differentiation referred to in much of the above discussion challenge some deep-seated cultures of teaching and learning in which the teacher is the main arbiter of knowledge, most classroom activity is teacher-directed, whole class teaching is dominant and
in which all students are expected to progress through the curriculum at the same pace (notwithstanding high levels of students absenteeism in many countries). More broadly, ideas about human nature, about the purpose of education, about the role of the teacher, about how learning occurs, about what constitutes quality in education and about the nature of knowledge (epistemology) also lie at the heart of cultures of teaching and learning. The GMR (2005) for example refers to four broad contemporary approaches to primary education – humanist, behaviourist, critical and indigenous. These approaches are embedded more or less consciously, more or less systematically, and more or less exclusively in curriculum design and teaching methods – both in principle and in practice. Simultaneously the EFA GMR asserted that educational methods should be responsive to the diversity of learners in terms of needs, circumstances, prior abilities, skills and knowledge. *Inter alia* this implies an approach to teaching focused on the learner. But how does this universal advocacy square with pedagogic cultures focused on the transmission of knowledge by the teacher? And how does it square with the swing away from ‘child-centred’ education and individualized methods and the return to whole class teaching apparent in some countries in the West over the past two decades?

In short do deep-seated cultures of teaching and learning pose a major obstacle to enduring reforms designed to meet the needs of learners and teachers in multigrade classes? Do they pose a major obstacle to the realization of all the goals of EFA more generally?

Fifteen years ago, in the run up to the First World Conference on EFA held in Jomtien, Thailand in 1990, I argued for an approach to EFA that implied a *reversal* of the dominant flow of educational ideas and practices. I suggested that if effective learning by all is to occur

The imperative for the educator is one of learning from the learner, an imperative which must ripple through the education system from its base to its apex …. A reversal of the conventional education and learning relation – teachers educate while students learn – is called for… Teachers need to learn to apprehend the learning needs of their students, teacher educators the learning needs of their trainee teachers, the university lecturers the needs of their teacher educators, the international theorists, policymakers and gurus the needs of all (Little 1990: 65-66).

This call for ‘reversals of thinking’ is consistent with the recent GMR call for the recognition of learner diversity and locating the learner at the heart of EFA policy. It is also evident in the conclusion of a recent review of teacher education curricula in five developing countries that
called for a transformation of teacher education, a redrawing of the map of learning and knowledge.

Many of the (teacher) education curricula we analysed seemed premised on the idea that if (teacher trainees) are given enough knowledge and skills at college these can be applied unproblematically, like ‘recipes, to any classroom, A more useful model is one that sees teaching as interactive problem-solving , requiring a thoughtful and reflective approach to one’s own practice. Thus learning to teach means acquiring not only knowledge and skills, but also a situated understanding of pupils and how they learn, along with repertoires of skills and strategies for dealing with unique and ever-changing circumstances. The aim of the training should be the development of professional reasoning ability, rather than the acquisition of pre-defined behaviours (Akyeampong 2001). Such a model requires an epistemological shift towards a view of knowledge that recognises the value of teachers’ personal, experiential and craft knowledge as well as the public propositional knowledge offered in college (Lewin and Stuart 2003: 203).

The call for transformation, reversals of thinking and recognising and value the view of the learner (whether the learner is the pupil in school or the trainee in a teacher education college) does not imply that the learner’s view and the learner’s construction of knowledge are or should be the only determinants of learning or teaching. Such a position is tantamount to solipsism – the universe and knowledge is nothing but myself, my mind and its ideas, however random or organised. Adherents might wish to reflect on its implausibility when flying through the air at 500 mph at 39,000 feet. The knowledge of aero-dynamic principles, mathematics and engineering necessary for effective aircraft design is not generated simply from the meaning-making of an individual learner!

Rather the call is for a shift of thinking about how teaching influences learning from one that is premised mainly on what the teacher does or says - to one in which the teacher looks and listens to what the learner does and says and modifies subsequent action. Elsewhere I have spoken of learning arenas in which the process of learning is akin to the bridging of cultural gaps between teachers and learners. Learners bring to a learning arena customary ways of learning, values of learning, and customary cognitions. Teachers or educators also bring customary fare to the arena; customary knowledge and customary pedagogy. Within the arena there is a gap between the customs of the learner and teacher. The educator offers what may appear to him or her customary, well-established and familiar fare. To the learner the fare appears new and unfamiliar - new content, or a new motivator, a new teacher behaviour, a
new type of assessment task. There is a gap between what the learner brings to the arena and what the educator offers. Learning is achieved when the teacher apprehends the learner’s starting point, learns from that understanding and modifies what he/she does and says; and when the learner strives to make the unfamiliar familiar. Learning is achieved when this gap has been bridged. Both learner and teacher need to work hard to build that bridge and meet at some point on it. Equilibrium is achieved, is temporary and contains its own dynamic for change. The meeting is temporary and the educator and learner are motivated to learn and teach more. The gap widens and the search for a meeting of minds – of achieving another temporary equilibrium – begins again (Little 1990).

That is a personal view informed partly by experiential and private knowledge of learning and teaching and partly by a reading of a range of propositional and professional knowledge. Alexander (2000) offers a more considered view of learning and teaching through reflection on Bruner’s (1996) dominant models of childrens’ minds. Bruner’s first model – children as imitative learners – is consistent with apprenticeship and the process of leading novices towards the skills of the expert. The second – children learn from didactic exposure – is consistent with the transmission model of teaching geared to the acquisition of facts, principles and rules. The third - learners as thinkers – is premised on the idea that children think for themselves. ‘that it is the task of the teacher to uncover and understand that thinking and through discussion and a ‘pedagogy of mutuality’ to help the child move from a private to a shared frames of reference…. (through) dialogic discourse (Alexander, 2000: 557). The fourth – children as knowledgeable – recognises that ‘in any culture there is a ‘given’ of knowledge, that knowledge is not exclusively personal or intersubjective or relative, and that it is the teacher’s task to ‘help children grasp the distinction between personal knowledge…and “what is taken to be known” by the culture’ (Alexander, 2000: 557)

Notwithstanding the research on apprenticeship that suggest that experts actively scaffold the learning of novices through graded language and tasks (Childs and Greenfield, 1980 and Laserna, 1989 quoted in Little 1990) these four models of learning and teaching are powerful reminders of the variety of ways in which learners and their teachers, individually and severally, glide or stumble towards the EFA learning targets.

Perhaps the most important message that emerges from this consideration of cultures of learning is that there is, currently, no single, universal and effective pedagogy that embraces all types of learning and knowledge in all types of setting. We have seen for example how teachers schooled and trained in monograde practice experience difficulties in applying this practice to a multigrade setting. We have also seen a wide range of approaches to the
multigrade setting that have embraced the notions of diversity and differentiation, of
grouping, of curriculum reorganisation and of designing materials for independent and
interdependent learning. Just as there is no single, universal and effective pedagogy for all
types of learning, so too there is no single best pedagogy for either mono or multigrade
teaching. But there is a range of approaches and strategies.

These different approaches allow for differences between cultures in the relative values
attached to the whole class, subgroups and individuals as social contexts for learning and for
change over time within the same culture. While Alexander (2000:546) has questioned the
compatibility of individualistic orientations to learning with the collective orientation of
Indian primary teaching we see in Rishi Valley in India a pedagogy the employs and
reinforces both. And while Croft reminds us (Chapter 7) that the collective orientation of
Malawian society, together with large class sizes and lack of material resources, reinforce a
teacher-intensive pedagogy we see attempts made by some teachers to cater to individual
needs. And while current multigrade teacher training models in Vietnam encourage quasi-
monograde teaching of graded groups, developmental work on the realignment of the
curriculum shows how teachers might move to a differentiated curriculum approach.

One does not need to buy into a wholly individualistic learner-centred approach in order to
meet learner diversity just as one cannot assume that whole class teaching implies a
standardised approach to all learners. But teachers do need to develop the ability to reverse
their thinking about pedagogy – and to be able to view curriculum and pedagogy from the
perspective of the learner and to build bridges to that view in order to meet half way.
Teachers also need to be supported in their quest to develop a repertoire of teaching
approaches and increase their capacity for choice and flexibility. In a similar vein teacher
educators need to reverse their thinking about curriculum and pedagogy, to apprehend the
learning needs of teacher trainees and to understand that many will be teaching in classrooms
that differ from the mono-graded norm. Common curricula will meet the general principles of
effective teaching that all teachers need to know; differentiated curricula will meet more
specific teacher needs. As the reversals ripple through the system university staff will listen
more to the teacher educators and their students, the curriculum developers to the teachers and
the policymakers and planners to local communities. One size does not fit all even, as Aikman
and el’Haj have shown, for mobile multigrade schools in Darfur. Support systems (whether
for teacher education, curriculum, assessment, evaluation and materials supply) need to be
flexible and differentiated as well as rigid and common.
LESSONS FOR EDUCATION POLICY

The policy lessons of multigrade schooling for EFA should be becoming clear by now.

The most basic lesson concerns *invisibility* and *awareness*. In none of the countries included in our research was it easy to find information about the numbers of multigrade schools, or classes, or teachers or learners. The evidence presented in Chapter 1 was difficult to locate and took time to assemble. International databases do not exist and the UNESCO Institute of Statistics does not, currently, invite National Ministries of Education to collect or submit such data. This absence of information reinforces the general invisibility of multigrade schools and the challenges posed for teaching and learning. Many educational policymakers, planners, professional support staff and the public at large, are unaware of the extent and the nature of the needs of multigrade classes. Since curriculum, educational materials, teacher preparation and assessment systems are predicated on monograded schools and classes, it is hardly surprising that many teachers hold negative attitudes towards their role in the multigrade class.

It should also be clear from our research that curriculum, learning materials, teacher education and assessment are necessary components of an integrated strategy to support learning and teaching in multigrade settings. The implementation of a single strategy component is unlikely to lead to significant improvements in the effectiveness of teaching in multigrade settings.

……………………………………………………………………………………………………
…………………………

But whatever labels one wishes to attach the fact remains that many learners find themselves *de facto* in settings that call for multigraded pedagogies that work.

And so to conclude: In the spirit of a process of continuous learning based on enquiry our ‘policy lessons’ are summarised and posed as policy questions. They derive from the synthesis of research presented above and from previous chapters in this book. They are
presented as a check-list of questions for all those with a responsibility for Education for All – teachers, communities, policymakers, planners, financiers, curriculum developers, teacher educators, teacher unions, assessment professionals, government organisations and non-government organisations.

**FORTY QUESTIONS FOR PROONENTS OF EFA**

**Awareness**

1. How many learners are learning in multigraded classes?
2. How many teachers are teaching in multigraded classes?
3. How many support staff are supporting learning and teaching in multigraded classes?
4. How many learners in monograded schools who, because of teacher absenteeism, find themselves in settings which de facto call for multigrade teaching strategies?

**Learning Time**

5. How much time in a school year do learners in a multigrade class have for learning?
6. How much time do learners spend waiting in a multigrade class for teacher input?
7. How much time do learners spend learning alone?
8. How much time do learners spend learning in groups?

**Teacher Time and Method**

9. Does the teacher employ the concept of differentiation in the multigaded class? If so does she/he differentiate by grade, by subject, by content within subject, by level of teaching input, by learning tasks, by learning outcomes?
10. How does the teacher manage the curriculum in a multigraded class? Does he/she merge two or more curriculum frameworks and teach them as one i.e. the multi-year curriculum spans? Does he/she teach common topics/ theme and differentiate individual or group tasks? Does he/she treat the class as if they were two or more single (mono) grades? Does he/she focus on the learner and the provision of graded learning materials?
11. Does the teacher use a repertoire of organisational methods in his/her class, or is he/she dependent on one or two only?
Curriculum

12. How many layers/elements does the curriculum have? (goals, aims, frameworks, syllabi, teacher guides, texts for teachers, texts for learners, lesson plans, tasks etc)
13. How ‘graded’ are each of these layers/elements?
14. Are curricula content-, process- or outcomes based?
15. Who is responsible for designing which layers/elements of curriculum? Over which layers does the teacher exert some control? Over which layers does the expert curriculum developer exert control?
16. To what extent can curricula be re-sequenced or otherwise re-organised in order to support the teacher of multiple grades?

Learning Materials

17. With what types of curriculum material do learners work?
18. In what quantities are they available in the classroom?
19. Do teachers encourage the use of materials by learners?
20. What is the quality of the material (e.g. is the material attractive? Is it easy to use? Is the use of the material dependent on language? If so, is it of a level that learners can understand?)
21. Are materials available for learning remediation and extension?

Assessment

22. What types of assessment tasks does the teacher use to assess learning?
23. Does the teacher use assessment information to adjust her method with individual children and/or groups?
24. Are assessment tasks built into sequences of learning materials?
25. Is assessment always directed by the teacher? Do learners self and peer assess?

Social organisation

26. Are learners completely dependent on the teacher for all learning activity?
27. Do learners support each other in their learning?
28. Do learners take responsibilities for the general organisation of school and its activities?
29. Is the teacher able to attract volunteers and community members to support him/her in the classroom?

Teacher Training

30. Are teachers trained in the principles and practice of multigrade teaching?
31. Do teachers demonstrate their understanding of principles in the classroom?
32. Are teachers trained in the concepts of diversity and differentiation and in their application?
33. Are teachers exposed to a range of teaching methods and understand their respective purposes?
34. Are teacher educators able to demonstrate to teacher trainees good practices in multigrade teaching?

Teacher Conditions of Service

35. What incentives could be put in place to support the deployment of teachers to work in disadvantaged areas in general and in disadvantaged areas with multigrade schools in particular?
36. What incentives could be put in place for teachers and schools to reach out to and enrol out of school learners?
37. What is the number of small schools (< 50 enrolled) which could benefit from multigrade teaching strategies that generate more learning time for learners?
38. How can repetition be reduced through managed progression that does not involve the repetition of complete years in all subjects?
39. Are affordable strategies available to support multigrade learning and teaching that do not involve system level reforms of all learning materials?
40. Can resource allocation practices (teacher deployment, learning materials supply) and professional support systems be hanged to promote a multigraded pedagogy rather than hinder its use?

The full text of this chapter and list of references is available in Little, A.W.(ed) Education for All and Multigrade Teaching: challenges and opportunities, Springer 2006. Also see www.ioe.ac.uk/multigrade for extensive free resources on multigrade teaching