

Part II:

Operating Small Schools Effectively

Chapter 4:

Creating Viable Teaching Groups

This chapter discusses two ways in which small schools can be organised to create economically viable teaching groups. They are (a) multigrade classes, and (b) biennial and triennial intakes.

(a) Multigrade Classes

In a multigrade class, pupils of two or more grades are grouped together in the same classroom, and are taught by a single teacher. Other names for multigrade classes are multilevel, composite, multiple, or family classes.

Because of the nature of the curriculum, multigrade teaching is less common at the secondary than at the primary level. However, it is possible at the secondary level:

- pupils may easily be grouped for such non-academic subjects as music and physical education, and
- they can also be grouped in academic subjects if there is a system of flexible modules.

The modular system assumes that although some subjects have to be learned in a fixed sequence, other subjects (or topics within

those subjects) can be learned at any time within a two or three year period.

 * ***Multigrade Teaching: An Evil to be Lived with or a Goal to be*** *
 * ***Aimed at?*** *
 * *
 * *Many educators feel that multigrade teaching is difficult, and* *
 * *that it is an evil to be lived with only when there is no alter-* *
 * *native.* *
 * *But other educators are much more positive. They point out* *
 * *that:* *
 * *
 * *i) Pupils are never exactly the same. It is impossible to have* *
 * *complete uniformity, even within one grade. As such,* *
 * *all teaching is multilevel teaching.* *
 * *ii) If two children are in different grades, you cannot* *
 * *assume that one is necessarily more advanced than the* *
 * *other. There is always an overlap between the top of one* *
 * *grade and the bottom of the next.* *
 * *iii) Young children should learn from their elders, and* *
 * *senior children should help their juniors. This happens at* *
 * *home in the family, and it can also happen at school.* *
 * *Family classes can build good attitudes.* *
 * *
 * *If teachers have the necessary personalities, training and* *
 * *materials, multigrade teaching can be very effective. Many* *
 * *educators consider it a goal to be aimed at for all schools.* *
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(i) Different Combinations

When a school has more than one teacher, classes can be combined in different ways. For example, in a two-teacher six-grade primary school, classes could be combined as:

Grades 1,2,3 and Grades 4,5,6; or
 Grades 1,3,5 and Grades 2,4,6; or
 Grades 1,2,4 and Grades 3,5,6; or
 any other combination.

Most staff find it easiest to teach consecutive grades so that the range of ages and abilities is smaller. Sometimes, however, staff choose other combinations, for example because they want:

- * to form classes of roughly equal size, and find that pupils are not distributed equally within the grades,
- * to keep some pupils together for several years even though Grade 6 has graduated (thus removing pupils from the top of the system) and has been replaced by Grade 1, or
- * to place well-behaved pupils together so that another group of badly behaved pupils can be supervised more easily.

(ii) Techniques

a. Primary Schools

At the primary school level, a single teacher is normally responsible for a whole class and teaches all subjects to that class. Experienced teachers recommend several techniques for handling multigrade classes:

Timetabling

- * A timetable is essential to effective multigrade teaching. All timetables should be displayed clearly, and should be familiar to all pupils.
- * When preparing a timetable, the teacher should pay attention to:
 - distribution of attention to pupils at each level,
 - pupils' levels of maturity and attention spans,
 - balancing curriculum areas,
 - sharing of school resources, and
 - flexibility, to allow for changing circumstances.
- * In most systems, the largest blocks of time should be allocated to language, mathematics, social studies, science and cultural topics. Timetables should allow for daily or weekly patterns within these blocks, and have a set order for groups working at different levels.
- * Timetables can be organised on different patterns:
 - Organisation is simplified if all classes work in the same subject area at the same time. An example is given in Timetable 1 on the next page.

Timetable 1: Single Teacher (All Classes Working on Same Subject at Same Time)

	<i>BLOCK</i>	<i>PURPOSE</i>	<i>ACTIVITIES</i>
9.00	Introductory activities	Beginning the day together: building up a favourable working tone	Planning the day's work — singing, music, news, health, poetry
9.30	Centre of interest; developmental period	Intellectual and social development; Practice of language skills	Free choice activities — 'centre of interest' in social studies, science or health. Language through discussion and presentation of previous research
10.30	<i>MORNING INTERVAL</i>		
10.45	Language	Formal and informal instruction in language	Instructional reading and reading activities, language activities, (which may develop from the 'centre of interest' block) and language skills — spelling, handwriting, printing
12.00	<i>LUNCH</i>		
1.00	Mathematics	Improvement of mathematical skills	Whole-class, group or independent work
1.40	Physical Education		20 minutes a day
2.00	<i>AFTERNOON INTERVAL</i>		
2.05	Social studies, science, health, art, drama, mime, language, sport, gardening	Enlarging pupils' experiences in social studies, science, health, or the arts	Topics may be integrated (or not), with emphasis on individual research and discussion. (Making notes, records or charts, etc., could be done in 'centre of interest' block)
3.00			

Timetable 2: Single Teacher (Split Timetable)

	GRADES 1 – 3	GRADES 4 – 6
9.00	Oral, social, roll	
9.15	Work suggested by the environment, 'centre of interest', visits, stories, social studies, science, associated oral and written language activities — a free developmental programme	Mathematics
10.00		Spelling
10.15		Writing for those who need it; other individual language work
10.30		
	MORNING	INTERVAL
10.45	Reading and associated activities	
11.30	Monday, Wednesday, Friday: Tuesday, Thursday:	Physical Education Music
12.00	LUNCH	
	INTERVAL	
1.00	Listening	Stories Poems
1.15	Individual enrichment/ extension work in reading	Language
1.30		
2.00	AFTERNOON	
	INTERVAL	
2.05	Art and craft, social studies, science, health and related activities, physical education for the infants (when possible)	
3.00		

- A variation is a 'split' timetable, in which junior and senior sections sometimes work on different subjects and sometimes work on the same subject. Timetable 2 above shows an example of this.
- Split timetables may also be staggered, so that the starting and ending times for particular subjects differ between groups. This overcomes the problem of starting two groups on new work at the same time.

Other Aspects of Organisation

- * The whole class should be together at the beginning and end of each day. This provides a sense of cohesion.
- * During or after group sessions, the teacher should comment on the work of each group.
- * Groups should be flexible enough to allow for different speeds of work. For example, an individual child may be in one group for mathematics and another for English. Groups may combine and reform at different times of the day, week and term.
- * The teacher has to train children to concentrate on their own work and not be distracted by the others. Curiosity is reduced when each group knows what the others are doing.
- * Each grade within the multigrade class can have its own area in which to display work, develop 'nature corners', 'maths corners', etc..

 * *Advice to a Beginning Teacher* *
 * *
 * *Knowing that many staff at first find primary school* *
 * *multigrade teaching a major challenge, one inspector had the* *
 * *following advice:* *
 * *
 * *"Start with the topics which you do well and in which you* *
 * *are confident. If poetry is your strength, then include it. If* *
 * *attribute blocks and set theory are something you love, then* *
 * *teach them. If you have favourite stories, read them.* *
 * *
 * *"Be careful not to be too unbalanced; but starting with your* *
 * *own strengths will help you to develop techniques for handling* *
 * *the wide range of pupils. Once you have made this start, you* *
 * *will be in a better position to teach the rest of the curriculum."* *
 * *

Preparation

- * The teacher must carefully plan the day in advance.
- * A good supply of self-instructional materials allows children to work by themselves or in small groups. The materials must incorporate the answers to questions so that the children do not need to bother the teacher. The materials must be easily accessible, so that pupils can locate them without help.
- * Teachers must constantly prepare new approaches and

materials, so that pupils are not faced by the same routines for several years on end.

Spreading the Load

- * In some communities, parents help supervise children. The teacher must carefully tell the parents what is needed, but must also allow them to use their own initiative.
- * The older or more advanced children can often teach the others. Peer teaching is often particularly effective because children use their own language patterns. It also develops the leaders' self-confidence.

b. Secondary Schools

At the secondary level, multigrade teaching is little different from other teaching. This is partly because subjects are already taught separately by individual teachers: the economics teacher teaches economics, the English teacher teaches English, the biology teacher teaches biology, etc.. Students are already used both to blocking off their time and to independent study.

It may be hard to combine grades in the early stages of a subject. For example, suppose that students begin economics in Form 3. For the first few weeks, they must concentrate on elementary concepts. They cannot easily be taught simultaneously with Form 4 students, who may be assumed already to have learned the basic principles and who would be bored at the repetition.

Before long, however, it should be possible to move to modules that can be studied together. Separate modules could cover international trade, banking, and public finance, for example. The only complication is that the Form 4 students would have more background knowledge. The teacher must be aware of this fact, on the one hand explaining concepts to the newcomers and on the other hand recognising the existing knowledge of the more senior students. But if the module is being tackled by both sets of students for the first time, there is unlikely to be much more conceptual and knowledge range than in a normal class where some students work harder or grasp ideas more readily than others.

At the end of the course, combined teaching again becomes difficult. At this point the senior students are taking exami-

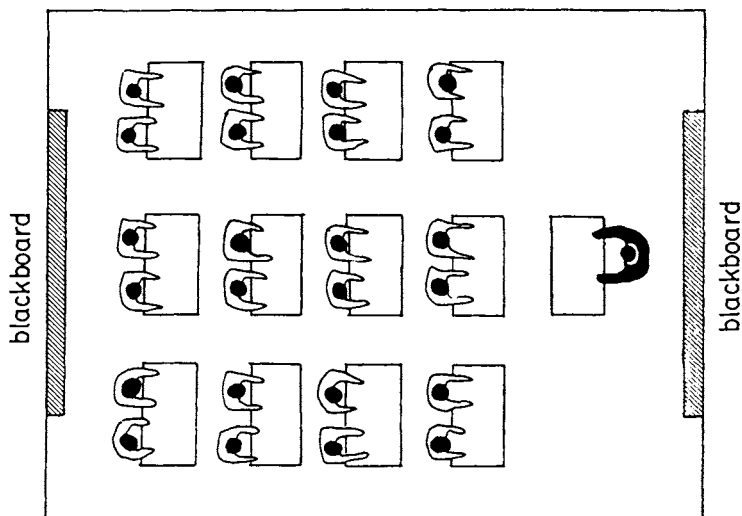
nations, and they have special needs for revision of the whole course, for general discussion of examination techniques, and for 'question-spotting', etc..

Even at this point, however, the different grades do not need to be taught entirely separately. Sometimes the teacher has to set work to the junior students in order to release time for the senior ones; but even the junior students can benefit from revision of the topics that they have studied, and from discussion of examination techniques.

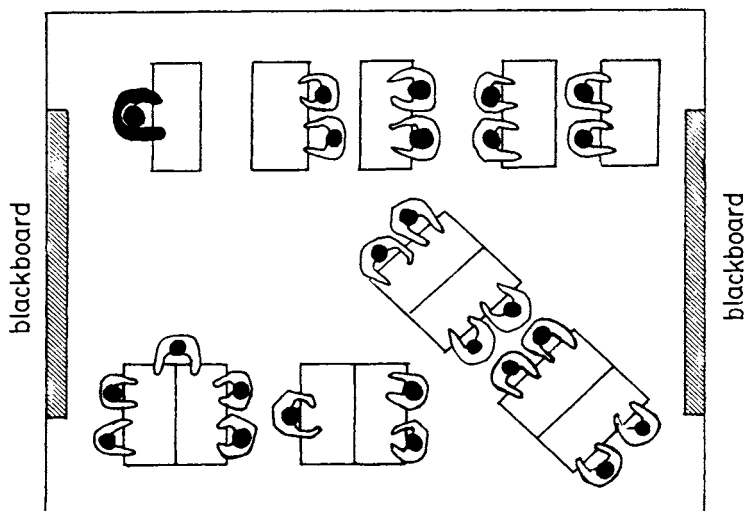
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* An Indonesian Project to Help Multigrade Teachers *
* Of the 1,300 primary schools in Central Kalimantan, 460 have *
* only one to three teachers. To assist them with multigrade *
* teaching, the Indonesian government developed materials with *
* which pupils could teach themselves and each other. *
* The materials are available in five subjects: maths, social *
* science, Pancasila (Indonesia's national ideology), natural *
* science, and the Indonesian language. The project leaders *
* assumed that religion, sports and music could be taught to *
* combined classes, and therefore that self-instructional *
* materials were less necessary in these subjects. *
* The materials are only available for Grades 4 to 6 because *
* children in lower grades are not considered sufficiently mature *
* to work by themselves. However, other programmed materials *
* have been developed for the lower grades. They enable adult *
* volunteers to work with children, so still allow teachers to *
* concentrate on children with particular difficulties. *
* Detailed evaluation in 1984 showed (a) that the project *
* pupils performed better in most subjects than did other pupils, *
* and (b) that the project children were more self-reliant. *
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(iii) Staffing

Because multigrade teaching presents major challenges, ideally it should be done by the best teachers. But in many countries it is left to the worst and the least supported staff:



In multigrade classes, the pupils need sometimes to work together and sometimes to work in groups



Three aspects of classroom design greatly assist multigrade teaching: (1) desks that can be moved easily, (2) long blackboards at each end of the classroom, and (3) plenty of space.

- the greatest need for multigrade teaching is in small, remote schools, but the good teachers manage to get transfers out of remote areas; and
- simply because the schools are remote, the central authorities cannot easily send equipment or advisers.

In addition, few governments provide adequate training in multigrade teaching. Teachers' colleges often assume that trainees will be faced by single grade work.

(iv) Resource Needs

Multigrade teaching is much easier when teachers have certain resources:

- * desks that can be moved easily for group work,
- * spacious classrooms so that the children can work in groups without disturbing each other,
- * blackboards at each end of the classroom, so that groups can face different directions,
- * textbooks which have not been written on the assumption that all children are at the same academic level and are under the constant guidance of a teacher,
- * library books and other self-instructional materials,
- * radios, tape-recorders and, in countries that can afford them, video recorders.

(b) Biennial and Triennial Intakes

Most schools have annual intakes to Grade 1, i.e. receive new groups of children every year. However, in areas of sparse population or low enrolment it is often impossible to find enough children each year to form a whole class. One way to solve this problem, as has just been pointed out, is to introduce multigrade teaching. An alternative strategy is:

- * a *biennial intake*, in which children are admitted only every second year, or
- * a *triennial intake*, in which children are admitted only every third year.

(i) Biennial Intakes

The system may be explained by an example. Table 1 shows a biennial, six grade primary school. In this school:

1. Each tick (✓) indicates that the school has a class. Each dash (—) indicates that the school has no class.
2. In 1988, it has a Grade 1, a Grade 3 and a Grade 5, giving three classes altogether.
3. In 1989, the previous year's Grade 1 becomes Grade 2, the previous year's Grade 3 becomes Grade 4, and the previous year's Grade 5 becomes Grade 6. Because it is a biennial school, receiving an intake only in each *second* year, the school does not receive a new Grade 1 in 1989. The school still has three classes altogether.
4. In 1990, the previous year's Grade 2 becomes Grade 3, the previous year's Grade 4 becomes Grade 5, and the previous year's Grade 6 graduates. This time the school *does* receive a new Grade 1, to replace the Grade 6 that has graduated. It still has three classes altogether.
5. This cycle then continues as before (steps 3 and 4). The school only takes Grade 1 classes in alternate years, and always has three classes in total.

Table 1: Intake Patterns in a Biennial School

Year	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Total
1988	✓	—	✓	—	✓	—	3
1989	—	✓	—	✓	—	✓	3
1990	✓	—	✓	—	✓	—	3
1991	—	✓	—	✓	—	✓	3
1992	✓	—	✓	—	✓	—	3
1993	—	✓	—	✓	—	✓	3

✓ = group of students enrolled

(ii) Triennial Intakes

The triennial intake system works similarly, but the schools are smaller. Table 2 shows an example in which:

1. Again each tick (✓) indicates that the school has a class, and each dash (—) indicates that the school has no class.

2. In 1988 it has a Grade 1 and a Grade 4, giving two classes altogether.
3. In 1989, the previous year's Grade 1 becomes Grade 2, and the previous year's Grade 4 becomes Grade 5. Because it is a triennial school, receiving an intake only in each third year, the school does not receive a new Grade 1. The school still has two classes altogether.
4. In 1990, the previous year's Grade 2 becomes Grade 3, and the previous year's Grade 5 becomes Grade 6. Because it is a triennial intake school, it still does not receive a new Grade 1. It still has two classes altogether.
5. In 1991, the previous year's Grade 3 becomes Grade 4, and the previous year's Grade 6 graduates. Only now does the school take a new Grade 1, to replace the graduated Grade 6. Once again it has two classes altogether.

Table 2: Intake Patterns in a Triennial School

Year	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Total
1988	√	—	—	√	—	—	2
1989	—	√	—	—	√	—	2
1990	—	—	√	—	—	√	2
1991	√	—	—	√	—	—	2
1992	—	√	—	—	√	—	2
1993	—	—	√	—	—	√	2

√ = group of students enrolled

(iii) Advantages and Problems with these Systems

The chief *advantage* of biennial or triennial intake systems is that they enable communities to have their own small schools, and avoid multigrade classes. The alternative might be either to send the children away to school, or to have no school at all.

The main *problems* are:

- * The system requires the government to be flexible on ages of entry. It cannot be used if the education authorities insist that all children must attend school when they are aged six (for example) — not before and not after. In biennial and triennial systems, some children are allowed to attend school early, and others have to wait one or two years.

Biennial and Triennial Intake Policies Must be Consistent

If authorities decide to have a biennial or triennial system, it is important to stick to it. The table below shows that when a school receives intakes in the 'wrong' years it can be seriously upset.

In this example:

- 1. The school started out in 1988 on the same pattern as the example in Table 1.*
- 2. Under normal circumstances, the school should not receive a Grade 1 intake in 1989. But, perhaps because of political pressure or because the authorities have an extra teacher, the school does receive an extra class. It then has four classes altogether, and an extra house has to be built or rented for the teacher.*
- 3. The fact that children were admitted to Grade 1 in 1989 means that there are too few children to form a Grade 1 in 1990. The authorities want to revert to the biennial intake pattern. But because Grade 6 has graduated, there are only three classes altogether. One teacher has to be transferred, and the extra teacher's house is vacated.*
- 4. By 1990 it is again time for a Grade 1 intake. But this means that again the school has four classes. A new teacher must be recruited, and housing must again be found for him.*
- 5. In 1991 there is no Grade 1 intake. But the graduation of Grade 6 again reduces the total number of classes to three. One teacher has to be transferred, and again his house falls empty.*
- 6. In 1992 the Grade 1 intake again pushes the total number of classes back to four. A teacher has to be recruited, and again has to be housed.*

Similar problems arise if triennial intake systems are not followed consistently. Teachers are constantly being transferred, and houses are either empty or in short supply.

<i>Year</i>	<i>Grade 1</i>	<i>Grade 2</i>	<i>Grade 3</i>	<i>Grade 4</i>	<i>Grade 5</i>	<i>Grade 6</i>	<i>Total</i>
1988	✓	—	✓	—	✓	—	3
1989	✓	✓	—	✓	—	✓	4
1990	—	✓	✓	—	✓	—	3
1991	✓	—	✓	✓	—	✓	4
1992	—	✓	—	✓	✓	—	3
1993	✓	—	✓	—	✓	✓	4

- * A child who was *just* too young to enter a triennial-intake school in 1988 would have to wait till 1991. This is rather a long time.
- * Biennial and triennial intakes create a range of ages within classes. The range may require the same kind of independent work in groups as in multigrade classes.
- * The system can only be used where the educational stage has a certain length:
 - biennial intakes can only operate if the school system lasts for two, four, six or eight years, and
 - triennial intakes can only operate if the school system lasts for three, six or nine years.

In other cases, biennial or triennial intakes would cause fluctuations in the total number of classes in each school. Thus in the example shown in Table 1, the new Grade 1 intake is received just as the Grade 6 graduates. This maintains three classes in the school. But if the length of primary schooling was only five years, the total number of classes in the school would fluctuate between two and three.