

## *Chapter 4*

# Educational Factors

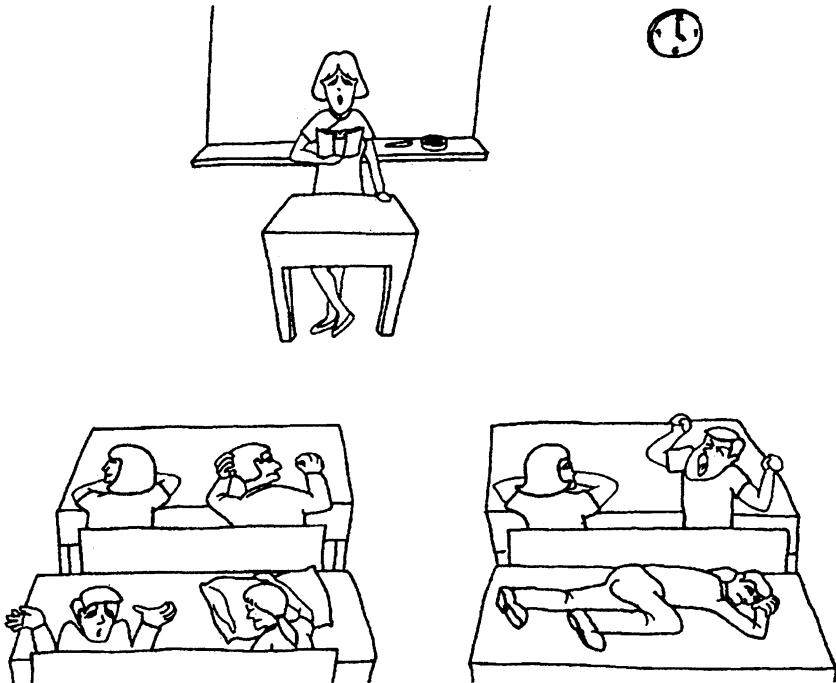
The economic benefits discussed in the previous chapter must be balanced against various educational costs. This chapter has four main parts. It focuses in turn on the general atmosphere of double-shift schools, on cognitive achievement, on curriculum duration and content, and on extra-curricular activities.

### **1. The General Atmosphere of Double-Shift Schools**

Most educators agree that the atmosphere of double-shift schools is inferior to that of single-shift schools. In double-shift systems:

- The school day is more pressurised. Everybody always seems to be in a hurry. Breaks are shortened, and teaching-time is sometimes reduced.
- Pupils and staff of different shifts do not easily identify with each other. In a double-shift system they feel like two schools, not one. This is especially true when each shift has a separate headteacher.
- When morning classes begin very early, children sometimes miss their breakfast. They later become hungry and find it difficult to concentrate on lessons.
- Especially in hot climates, children find it hard to study in the afternoons because they are tired. Teachers are also tired in the afternoons, particularly if they have already taught full morning sessions.
- Teachers who work in more than one session may have less time to prepare classes and to correct assignments.
- The large student population makes it difficult for the staff to know all students personally, and can exacerbate discipline problems. Pupils may stay on the school compound but evade classes, pre-tending that they are members of the out-of-lessons shift.
- If afternoon-shift pupils come to school early, they may be noisy and may disturb the lessons of the morning-shift pupils. Similar problems arise if the morning-shift pupils stay late instead of going home as soon as their classes are finished.

- On the other hand, if afternoon-shift pupils are prohibited from arriving until it is time for their lessons, and if all the morning-shift children leave school as soon as classes are over, then the transition period may be chaotic. The sudden emptying and refilling of the school reduces the children's and teachers' sense of belonging. It makes the school seem like a 'teaching machine' or factory.
- Teachers cannot use classroom wall-space so freely. The morning-shift pupils may tamper with the wall pictures of the afternoon-shift pupils, and vice versa. Likewise, teachers cannot leave work on the blackboard overnight. Pupils and teachers have less sense of ownership of their classrooms.
- The following sections of this chapter show that these problems do not necessarily have a disastrous impact on pupils' learning. However, policy-makers should at least be aware of these reasons why double-shift schooling is so widely disliked.



*Afternoons may be particularly problematic in double-shift schools. Both teachers and pupils are tired.*

**Box 9: Contrasting Double-Session and Single-Session Schools –  
Observations from Singapore**

An official report by the Singapore Ministry of Education compared learning conditions in double-session and single-session schools. It noted two major problems in double-session schools:

- It was difficult to arrange either remedial or enrichment classes, because classrooms were often not available outside the hours for each session.
- Most double-session schools operated as two separate institutions in the same compound. Rarely did all staff and pupils come together at the same time, and it was difficult to build cohesive and distinctive school communities.

Single-session schools, in contrast, were planned and co-ordinated more effectively. Relationships between teachers and pupils were also better because people stayed back more often for formal and informal activities. A greater sense of belonging made school life more enriching and enjoyable.

These observations match the experience of educators in other countries. By themselves they do not necessarily imply that double-session schools should be abolished, for the educational costs might be outweighed by the economic and other benefits. However, they do highlight some important contrasts between double-session and single-session schooling.

## **2. Double-Shift Schooling and Cognitive Achievement**

The observations about the general atmosphere of double-shift schools would at first sight seem very serious. However, in practice this is not always so.

Reliable research evidence which compares cognitive achievement in different types of system is difficult to find. One reason is that individual schools cannot easily be compared. In countries with more than one type of system, single-session schools are commonly:

- remote schools with populations too low to justify more than one shift,
- unpopular schools which would have double sessions if there was enough demand but do not actually have enough pupils, or
- elite schools which have lots of money so are not anxious to minimise unit costs.

In contrast, double-session schools are usually urban, are reasonably popular, and serve poor or middle-income families. When academic achieve-

ment between schools varies, it is often because of these other factors rather than because of the number of shifts.

Nevertheless, some research findings are worth summarising.

1. *Brazil*: Fuller et al. (1999) studied determinants of literacy in urban and rural primary schools in Northeast Brazil. They tested Grade 1 and 2 children in 140 schools in two provinces. Most of the urban schools operated either two or three shifts. The researchers found “no evidence that multiple shifts in schools are negatively associated with early literacy levels”. They noted that if multiple shifts lead to serious denigration of facilities, then parental support for schools may decline; but, they added, “if schools are reasonably maintained, it does not appear that multiple shifts yield negative achievement effects”.
2. *Chile*: Many schools have operated with double sessions, and some have had triple sessions. Farrell & Schiefelbein (1974) surveyed 353 Grade 8 classes, collecting data from 10 students in each class and from all teachers and school directors. They concluded that “there is almost no association between level of academic performance and the number of shifts in which a school is utilized daily”.
3. *India*: Batra (1998) compared scores of Class IV students in 23 schools in Assam and Madhya Pradesh. In Assam, double-shift students scored marginally better than single-shift students in mathematics, but not so well in other subjects. In Madhya Pradesh, double-shift students scored marginally higher in science and social science, but not so well in language or mathematics. Overall, Batra concluded, “it appears that the double-shift schools are not necessarily achieving any better educational results or performing any worse than the students of single-shift schools”.
4. *Malaysia*: Beebout (1972) examined the academic achievement of 7,674 senior secondary students in 89 West Malaysian schools. Some of the schools were Malay-medium, while others were English-medium. Among the Malay-medium schools the researcher found that academic scores were higher in single-session institutions. Among the English-medium schools, however, the performance of double-session pupils was as good as the single-session pupils.

Beebout further noted that schools which were purpose-built for double sessions had classrooms which were specially designed

to cope with the afternoon heat, and had extra rooms for use by afternoon students who arrived early (or by morning students who stayed late). He observed that where negative achievement had occurred, it was:

thought to be partly due to the fact that present double-session schools were originally designed as single-session schools. Problems of student congestion and afternoon heat are more severe than if facilities were designed for double sessions.

5. *Nigeria*: Emeka Anyanwu studied First School Leaving Certificate examination scores in Imo State, and found lower pass rates among double-shift schools. His finding partly reflected the low socio-economic status of many double-shift pupils, for the afternoon sessions chiefly enrol domestic servants and similar low-status people. Anyanwu also noted that double-shift schools still had much larger classes than most single-shift schools. Yet even after allowance for these facts it appeared that performance in double-shift schools might still be inferior. Anyanwu observed that "teachers and pupils are always tense because of the nature of the timetable and the reduced recreation period".
6. *Senegal*: In 1982 the Ministry of Education launched a pilot double-session system at the primary level. Seven years later, evaluators of the project reported that:

the results of student performance in the classrooms experimenting with the double-shift system, compared to the results of regular classrooms, was positive; student scores in tested areas (reading, writing, math) were generally higher. Hence, it was concluded that reduction of the teaching time did not have adverse consequences on student learning levels, perhaps due in part to the lower student/teacher ratio.

Following this evaluation, the programme was considerably expanded.

Although these findings are not entirely consistent, their overall tone is positive. The studies suggest that the academic achievement of children in double-shift systems is often just as high as that of children in single-shift systems. Two points in favour of double shifts are worth particular stress:

- introduction of double shifts may permit reduction in class size and therefore a more personalised teaching approach, and

- double-shift schools are generally larger, and therefore find it easier to justify expenditure on libraries, laboratories, etc..

Indeed if these two factors weigh heavily enough, introduction of double shifts can actually *improve* quality.

### 3. Curriculum Duration and Content

The duration of teaching-time in double-shift systems has already been mentioned, but deserves further attention. The content of curricula also requires discussion.

Table 3 shows official data on primary school teaching-time in 13 countries. In seven countries, teaching-time has been shortened to accommodate extra shifts. However, in six countries no reduction has been made.

Similar analysis of the secondary level would probably reveal a larger proportion of systems which have fewer hours in double-shift compared with single-shift systems. Most secondary school systems require six to seven hours of teaching per day, and it is much more difficult to operate double shifts without cutting this length of time. Nevertheless, the fact that a significant number of systems have not reduced the hours at the primary level is important.

Another feature reflected in the table, applicable to both primary and secondary levels, concerns the duration of official classroom teaching-time, of which the table shows wide variation. For example, according to the table, Ghanaian single-session primary classes all have 22 hours and 55 minutes of classroom instruction per week. This contrasts with Burkina Faso where single-session schools have 30 hours. Information on the number of weeks of term-time each year might show that the variations are smaller than the table implies, but it is unlikely that differences would be cancelled altogether.

A further point emerging from the table is that even the shortened double-shift allocation is longer in some countries than the full single-shift allocation of other countries. For instance, the 24 hours 10 minutes of the Philippines' double-shift senior primary schools is longer than the full single shifts of Ghana, Hong Kong, Laos and Nigeria. This implies that when classroom time is reduced because of the introduction of a shift system, the impact may not be disastrous. Much depends on the length of curriculum time before the change.

*Table 3: Official Weekly Classroom-Instruction Time (Primary Schools)*

	Single Session	Double Session	Triple Session
Burkina Faso	30h 00m	21h 00m	—
The Gambia	26h 00m	23h 45m	—
Ghana	22h 55m	19h 35m	—
Hong Kong	23h 20m	22h 10m	—
Jamaica	25h 00m	22h 30m	—
Laos (junior)	19h 00m	19h 00m	—
(senior)	22h 00m	22h 00m	—
Malaysia (junior)	22h 30m	22h 30m	—
(senior)	24h 00m	24h 00m	—
Myanmar	25h 00m	25h 00m	—
Nigeria, Imo State	22h 05m	22h 05m	—
Philippines (junior)	25h 00m	23h 20m	—
(senior)	30h 00m	24h 10m	—
Senegal	28h 00m	20h 00m*	—
Singapore (junior)	22h 30m	22h 30m	—
(senior)	24h 30m	24h 30m	—
Zambia (junior)	20h 25m	20h 25m	17h 30m
(senior)	26h 40m	26h 40m	—

\*But with a school year extended by 10 days.

*Note:* These are officially recommended periods of teaching. Many governments permit institutions to make some variation. Also, periodic reforms may change the official numbers of hours.

Turning to the actual content of the curriculum, it should first be noted that the research studies cited above tend to be biased. When teaching time is shortened, the first casualties are usually such subjects as music, handicraft, moral guidance, and religion. The bulk of research work uses narrow criteria for academic achievement, often focusing only on language, mathematics, science and a few other academic subjects. When the curriculum is shortened following the introduction of a shift system, these may be the subjects that are retained, and so one should expect achievement in them to remain high. The real curriculum losses of double-shift systems may be in the other areas.

Secondly, it is obvious that good teachers who are well supported with curriculum resources and materials can achieve a great deal more in a short time than bad teachers with few materials can achieve in twice the time. This point stresses the need for authorities to note ways to maintain or improve quality, highlighted in Chapter 8 of this book.

#### **4. Double-Shift Schooling and Extra-Curricular Activities**

Achievement in classroom subjects is of course not the only goal of school life. Education systems also aim to promote healthy attitudes and physical development. Extra-curricular activities provide one of the main ways to achieve these goals. Through sporting activities, children learn about cooperation and competition as well as how to grow physically strong and healthy. They develop other talents in music, drama, debating, chess, scouting, and so on.

It is generally said that shift schooling forces authorities to cut back on extra-curricular activities. The school day becomes too tight, and compounds may be too congested to allow simultaneous activity by children of all sessions. Schools with large compounds may find that they can allow afternoon-session pupils to come early to practise gymnastics, to play basketball, to join a school choir, or to rehearse the school play; but schools with small compounds find first that there is simply not enough space, and second that the noise from the ball games and music groups disturbs the children who are studying.

Further difficulties arise in the organisation of inter-school sports competitions. When most schools have only single shifts, competitions are commonly held on weekday afternoons. Schools with double shifts then find that:

- all the sports players have to be enrolled in the morning session (thereby creating an imbalance), or
- sports players in afternoon sessions have to miss classes from time to time, or
- sports players in afternoon sessions have to be excluded from inter-school competitions.

However, there may be ways to get round problems of this type. One solution is to hold inter-school competitions on Saturday mornings. An alternative solution is to hold two types of competition: one for single-shift schools, and one for double-shift schools. Chapter 8 of this book highlights similar ways through which other problems may at least be reduced.

Finally, one point raised in connection with academic achievement also applies to extra-curricular activities. Schools with large populations find it easier to justify investment in swimming pools, gymnasia, sports fields, etc.. In this respect, double-shift schools may actually have an advantage over single-shift schools.

**Box 10: Double Shifts and Extra-Curricular Activities**

Elsa Leo-Rhynie and colleagues have evaluated Jamaica's system of double-session schooling. One of their questions was whether schools had had to stop extra-curricular activities in order to accommodate the extra shift. The researchers' findings were:

	No. of Schools Investigated	No. of Schools which had to Stop:		
		Clubs & Societies	Minor Games	Major Games
Primary	11	0	0	0
All Age	32	9	2	4
Grammar & Technical	8	0	0	0

Just over a quarter of the all-age schools reported that they had had to stop clubs and societies, and a few all-age schools reported that they had had to stop games. However no primary, grammar or technical schools had had the same experience.

The research suggests that while double-shift schooling may have severe implications for extra-curricular activities, it does not necessarily do so. Most Jamaican schools had found ways round the constraints imposed by double sessions.

## 5. Summary

Double-shift schools certainly may suffer educational disadvantages compared with single-shift schools. Teaching time for each shift may be reduced, and the need to compress a lot of activity into a short time may make the school day rather tense. Both children and teachers may be tired, particularly during afternoon shifts in hot countries. This may affect not only academic aspects of school life but also social and extra-curricular activities.

However, these educational costs are not always serious. Some research has indicated that academic achievement in double-shift schools may be just as high as in single-shift schools, and administrators with imagination may find ways to get round the problems both of shorter school days and of congested school compounds.