

## The Investigative Situation

The problems examined in the present study will be viewed against the background of the school organization of the countries included. The aim of this chapter, therefore, is, firstly, to describe briefly the structure of the educational systems participating in the study, and secondly, to describe in some detail various aspects of the systems relevant to the features of school organization taken up in Chapters 5 to 7.

Before noting the differences between the structures of the systems, it is worth mentioning several features which they obviously have in common. All have universal primary education. All are high income, technologically and industrially developed nations when compared with the world as a whole. All have a tradition of education.

Apart from the differences in the structures, it is necessary to state that the geographical and cultural contexts in which these structures are to be found vary widely. No evidence which is used in this study is concerned with national socio-cultural differences, and measures of such cultural differences, will, therefore, not be dealt with here. What then are the major differences in the school structures? The first difference concerns the age of entry to school. This varies from five years of age in England and Scotland (which differ in their overall structures as can be seen from Figures 4.3 and 4.8), and seven years of age in Finland and Sweden. Since in Chapter 7, the problem is taken up of the association between mandatory age of entry to school and mathematics scores at age 13, it should be pointed out that within limits, whereas children entering school at five in England and Scotland are gradually led towards the formal type of lesson, in other countries there tends to be a formal type of schooling imposed fairly quickly. Furthermore, there is considerable variation between countries in the proportion of an age group which attends nursery school or kindergarten (cf. Chapter 7).

The second major difference is that some systems practise inter-

school grouping, whereas others do not. The former systems select a percentage of an age group (ranging from 15 to 25%) at a certain age out of the main school into a selective-academic school. The age of selection ranges from ten in the Federal Republic of Germany, to twelve in Scotland; the mode of selection also varies from ability and achievement testing plus interviews (for some) in England to teachers' judgements alone in other countries. There is evidence to indicate that these forms of selection are associated with social factors even when "objective" selection instruments are used (Undeutsch, 1960; Halsey, 1961; Douglas, 1964; Husén, 1966). The latter systems have no different types of institutions during compulsory schooling and all children, irrespective of social origin or academic ability, proceed through the school without being separated from their peers. It is only towards the end of the compulsory term of schooling that some degree of differentiation of programme is allowed.

Figs. 4.7-4.10. National Systems of Education

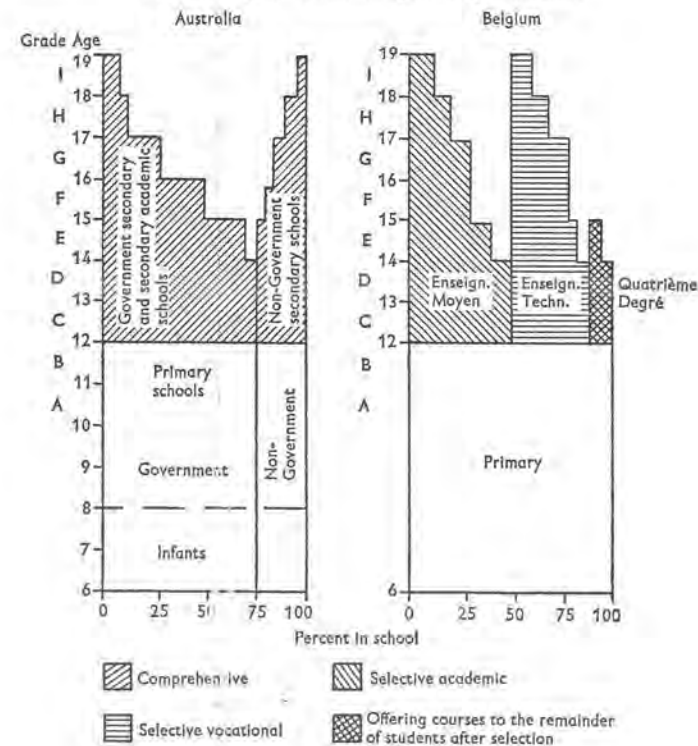


Fig. 4.1

Fig. 4.2

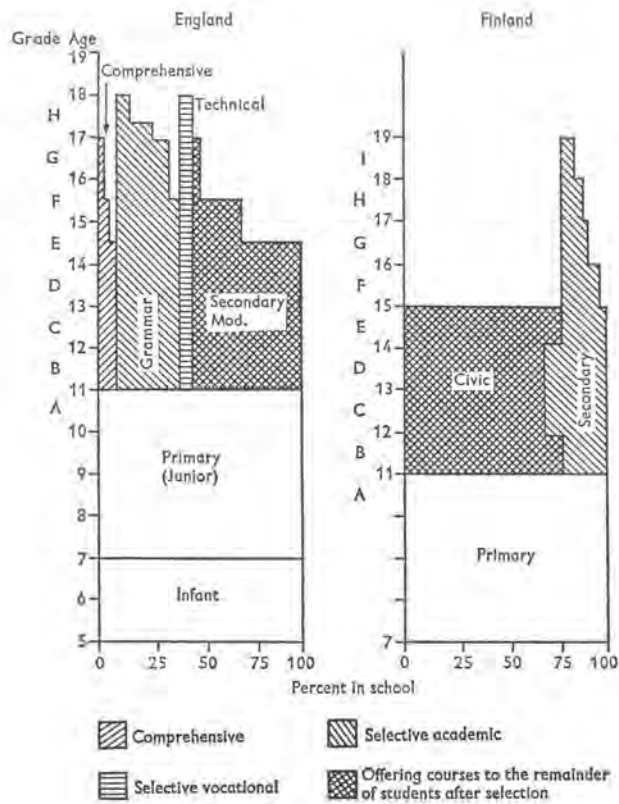


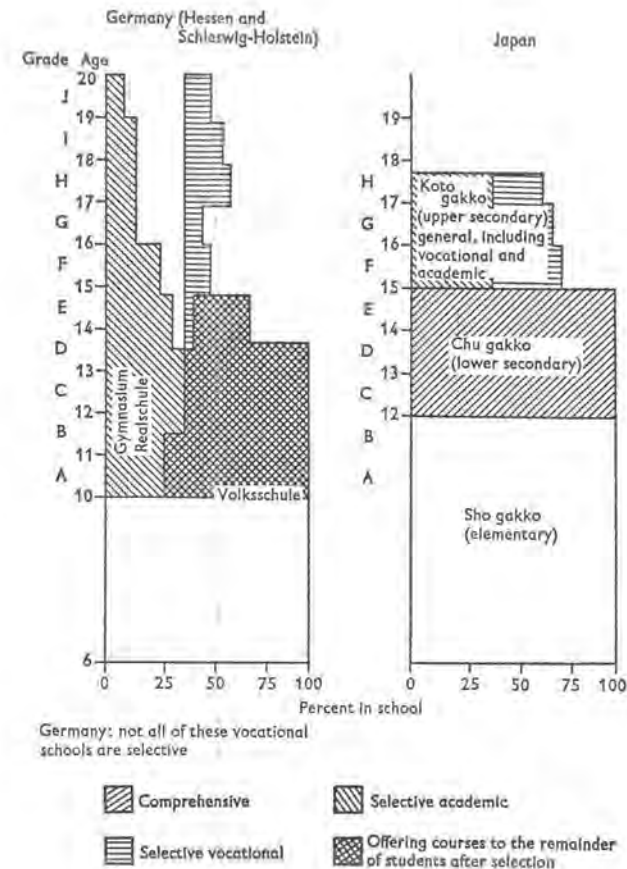
Fig. 4.3

Fig. 4.4

### Structures

Before proceeding to comment in more detail on some of the differences, a set of figures is presented indicating the proportions of children in full-time education and how these are distributed among major school types within countries.<sup>1</sup> The figures are based on data collected in the National Case Study Questionnaire as well as from the Unesco World Survey (1961), where this was relevant. Although the names of the types of school have been given, the school types are also designated as belonging to one of four categories: comprehensive, selective-academic, selective-vocational or remainder. The

<sup>1</sup> Similar discussions on this point are to be found in Postlethwaite, 1965 and Husén *et al.*, 1967.



Germany: not all of these vocational schools are selective

Fig. 4.5

Fig. 4.6

first three categories are self-explanatory; by remainder is meant the type of school which those students attend who are not selected out in a selective system (e.g. *Secondary Modern School* in England, *Volksschule* in the Federal Republic of Germany, etc.) The proportions still in school are proportions of an age group. The grades in which most of an age group are to be found are given by the side of the age group. Grade D is Population 1b in each country (see Table 4.1).

In connection with the figures on pages 53-57 and also with Table 4.3, it should be mentioned that a) in Australia at the age of eighteen there is a large decline in the proportion of an age group in

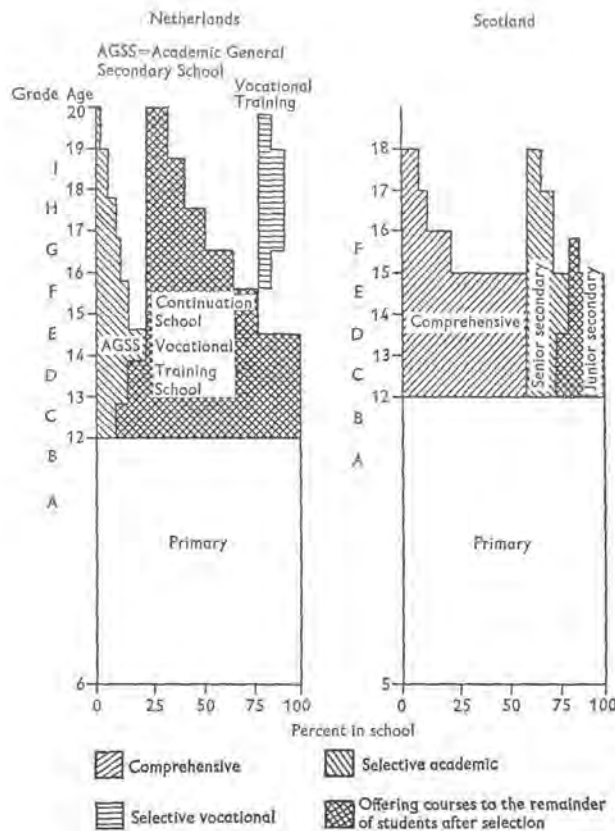


Fig. 4.7

Fig. 4.8

schools and that this is partly attributable to the low age of entry to institutions of higher education; b) in Germany not all of the vocational schools are selective and c) by 1970 in Sweden, all children up to the age of 16 will be in comprehensive schools.

From the figures it is possible to see the different ages of starting school, the point at which selection takes place (if it does at all) and the approximate percentage of an age group remaining in school through the various grades and in various school types to the end of secondary schooling. Although more detailed comment is made in Chapter 7 on the mandatory age of starting school, it would be useful to provide a separate table indicating the median age of entry to school, the mandatory age at which compulsory schooling ends and the average age of students three months before the end of the pre-

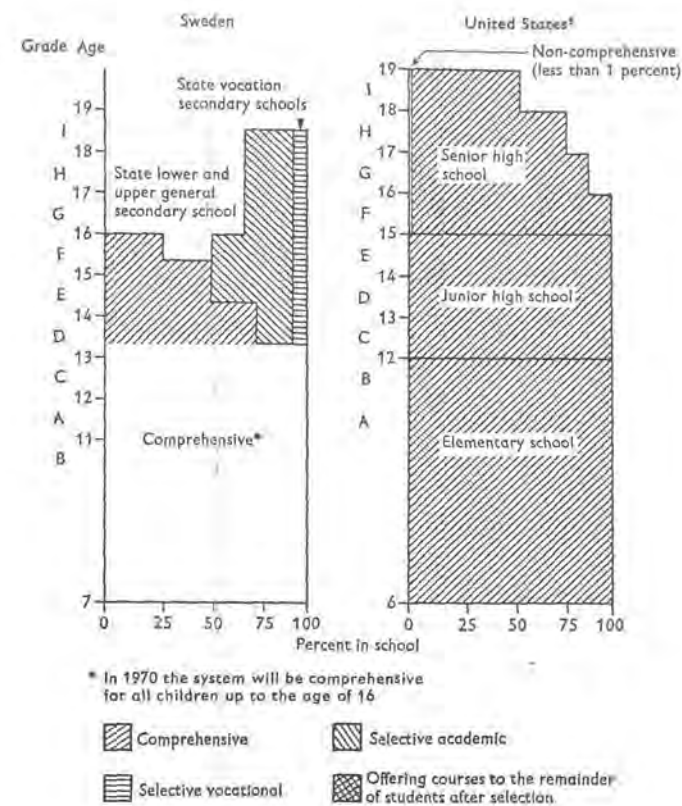


Fig. 4.9

Fig. 4.10

university year. The source of the first two pieces of information is the National Case Study Questionnaire, whereas the last piece of information comes from the Student Questionnaire. The data are presented in Table 4.2.

It must be remembered that the degree of pre-schooling (nursery school, kindergarten, etc.) varies from country to country—see Chapter 7. Furthermore, whereas in most European systems there is only one entry point to school each year, in England and Scotland there are two or three. There is evidence from England (Douglas, 1964; Pidgeon, 1965) that the multiple points of entry, together with other factors of school organization, affect the size of the standard

<sup>1</sup> It should be noted that although the most frequent form of school organization has been shown here, namely the 6-3-3, other forms do exist: 6-2-4, 8-4, 5-3-4 and 5-4-3.

Table 4.1. *1b populations—designation of grades.*

Australia	1st Form—in New South Wales, Queensland, South and Western Australia
	2nd Form—in Victoria and Tasmania
Belgium	5e (2e A3 in <i>Enseignement Technique</i> )
England	3rd Form
Fed. Rep. of Germany	7. Klasse ( <i>Schulleistungsjahr</i> )
Finland	7 in primary school
	1 in civic school
	3 in secondary academic school
France	5e (C.S.E. in <i>école primaire</i> )
Israel	<i>Khet</i> (8th Grade of elementary school)
Japan	<i>Ni-nen</i> 2nd Grade
Netherlands	6e in primary schools
	1e in other schools
Scotland	2nd year of secondary course (S2)
Sweden	<i>Årskurs</i> 7
U.S.A.	8th Grade

deviation of an age group on scores obtained on achievement and ability tests administered at, for example, the age of 8 or 11.

Similarly, although all countries stipulate a minimum age which students must attain before leaving school, there is only one point of exit per year in some countries and two or three in others. It should be noted that there is a general movement in most countries to increase the statutory leaving age and that by 1970 few of the countries which have participated in this present study will have a statutory leaving age below 16. The differences between the average ages in Populations 3a and 3b are of interest, but an explanation other than that of sampling fluctuation is difficult to find.

The amount of inter-school differentiation being practised in the various systems can be seen from the Figures 4.1 to 4.10. It should be strongly emphasised that those schools termed comprehensive include a variety of schools, ranging from those where all children from an area attend, but are strictly divided into ability groups within the school (e.g. some Comprehensive Schools in Scotland), to those where all children are in heterogeneous groups at least to the age of 13 (e.g. Swedish Comprehensive Schools). The average amount of ability grouping practised within schools in each of the participating countries is given in Chapter 6.

Table 4.2. *School: Median age of entry, mandatory minimum age of leaving and average age of completing pre-university year.*

	Median age of entry	Mandatory minimum age of leaving	Average age of completing pre-university year	
			3a	3b
Australia	5 yrs 7 mo.	14–16 years	17 yrs 2 mo.	—
Belgium	6 yrs 2 mo.	14 years	18 yrs 1 mo.	18 yrs 0 mo.
England	5 yrs 2 mo.	15 years	17 yrs 11 mo.	17 yrs 11 mo.
Fed. Rep. of Germany	6 yrs 9 mo.	15 years full time 18 years part time	19 yrs 10 mo.	19 yrs 9 mo.
Finland	6 yrs 8 mo.	15 years	19 yrs 1 mo.	19 yrs 2 mo.
France	6 yrs 3 mo.	16 years	18 yrs 7 mo.	18 yrs 9 mo.
Israel	6 yrs 3 mo.	14 years	18 yrs 2 mo.	—
Japan	6 yrs 6 mo.	14 years	17 yrs 8 mo.	17 yrs 8 mo.
Netherlands	6 yrs 5 mo.	14 years	18 yrs 2 mo.	18 yrs 7 mo.
Scotland	5 yrs 2 mo.	15 years	17 yrs 6 mo.	17 yrs 1 mo.
Sweden	7 yrs 1 mo.	16 years*	19 yrs 7 mo.	19 yrs 7 mo.
U.S.A.	5 yrs 8 mo.	16 years (Some states approximately 18 yrs)	17 yrs 9 mo.	17 yrs 10 mo.

\* According to 1962 Education Act.

#### Attrition Rate

Although it is possible to gain an approximate idea of the attrition rate from Figures 4.1–4.10, it would be useful to examine the various attrition rates in more detail. In Chapter 5, the mathematical “yields” (or “outputs”) of several systems are examined, but these refer only to those still in school. Thus, for example, although it is interesting to compare the “yields” of those in school, this approach has limitations, since it would obviously be of interest to know the “yield” of those who have “dropped out” of school. This was not done in this study, but it is important to be aware of the varying proportions of students “dropping out” in the participating countries. In systems where students progress through the school more or less in age groups (e.g. England, Japan and Scotland), it is easy to see how many have participated both how long and how far in the systems. Unfortunately, in systems where grade repetition is frequent, or where advanced placement is common, or again where students may have begun school earlier than the mandatory age of entry to school, it is difficult, after looking at either the age or grade drop-



Table 4.3. Proportion of boys and girls of the total age group in school and by grade.

Country	Sex	Age						Grade							
		13	14	15	16	17	18	19	20	D	E	F	G	H	I
Australia	B	100	92.1	69.9	40.1	19.5	7.2	—	—	51.4	51.9	52.4	56.1	59.3	
	G	100	90.0	61.6	31.4	11.8	2.5	—	—	48.6	48.1	47.6	44.9	40.2	
Belgium	B	94.4	84.7	67.5	67.4	44.3	27.1	15.1	9.8	49.7	51.8	54.5	56.5	59.5	
	G	97.1	80.7	63.1	56.0	33.3	17.5	7.4	5.0	50.3	48.2	45.5	43.5	40.5	
England	B	100	100	43.4	23.7	13.5	5.4	0.6		51.1	54.1	52.5	53.8	57.3	
	G	100	100	41.0	21.1	10.5	2.8	0.2		48.9	48.9	47.5	46.2	42.7	
Federal Rep. of Germany	B	100	83.5	56.2	31.1	14.9*	15.7*	14.2*	7.0*	51.6	51.1	52.1	49.2	57.5	61.8
						18.6**	27.0**	24.5**	17.0**						
	G	100	83.5	55.1	29.6	11.0*	9.1*	7.1*	2.3*	48.4	48.9	47.9	50.8	42.5	38.2
						14.6**	14.0**	11.4**	5.8**						
Finland	B	99.6	98.0	40.2	27.0	20.0	14.2	9.3	3.8	48.8	49.0	43.8	43.8	43.8	43.8
	G	99.8	98.8	45.9	35.0	27.1	19.4	10.3	3.9	51.2	51.0	56.2	56.2	56.2	56.2
France	B	Not available								50.2	45.3	45.1	47.4	52.9	
	G	Not available								49.8	54.7	54.9	52.6	47.1	
Israel	B	Not available								50.8	50.1	50.9	50.9	50.5	
	G	Not available								49.2	49.9	49.1	49.1	49.5	
Japan	B	99.8	99.8	64.9	60.1	56.3				51.0	51.0	51.7	51.2	50.8	
	G	99.9	99.9	63.2	60.7	56.8				49.0	49.0	48.3	48.8	49.2	
Netherlands	B	100	86.8	72.6	60.4	47.0	32.7	21.1	13.9	Not available					
	G	99.1	78.9	50.4	30.4	19.6	11.8	8.0	4.9	Not available					
Scotland	B	Not available								Not available					
	G	Not available								Not available					
Sweden	B	95.6	79.7	55.9	45.1	34.6	28.3	16.2	11.0	51.5	49.5	47.1	49.3	51.8	59.2
	G	96.1	83.7	59.9	46.3	34.4	28.0	17.8	11.2	48.5	50.5	52.9	50.7	48.2	40.8
U.S.A.	B	96.9	95.4	93.0	86.5	74.8				50.8	51.0	50.8	50.2	50.7	
	G	97.0	95.3	92.6	86.0	74.3				49.2	49.0	49.2	49.8	49.3	

\* Academic      \*\* Vocational

out figures, to have more than a general picture of how many students participate how far. For example, in Germany, students begin leaving school after the age of 13, but Grade E (the post 13-year-old grade) has an estimated hundred percent of an age group still in school. This is due to early starting school and to advanced placement.

Table 4.3 gives both the age group "drop out" by sex, and at the same time the proportion of boys and girls in each grade for each of the countries in the study, except for Israel; there are no figures made publicly available for Israel. The figures were those which were the most recently available in 1964 and in all cases are post 1960. Grade D is the grade in which most 13-year-olds were to be

found when the testing took place (i.e. Population 1b). For Germany, the figures for the last year in school for both the secondary academic schools and the vocational schools are given, although it is only the secondary academic schools which are considered in this study.

Many more details are given on the age and grade drop-outs in each of the participating countries in Postlethwaite (1965), but Table 4.3 gives sufficient information for it to be seen that in the United States and Japan (where large numbers continue through to the end of the pre-university year) approximately equal proportions of boys and girls drop out, whereas in all other countries (with the exception of Finland) proportionally more girls than boys drop out. It is also interesting to note that some countries have succeeded in persuading fairly high proportions of an age group to elect to continue in school past the statutory age of leaving; of particular note is the regularity of the drop-out in Belgium and Sweden.

### Specialization

The average number of subjects studied in each grade in secondary schooling varies from country to country. In England, for example, it is the custom for students to study up to nine or ten subjects (or sometimes more) until the age of 15 or 16, when they either leave school or take the first major national examination, the G.C.E. "O" level examination; thereafter, they tend to study only three or four subjects. In other countries, such as Belgium, Germany and Finland, as many as nine or ten subjects are studied right through to the pre-university year.

In Chapter 7, an analysis is carried out in which one classificatory variable is the average number of subjects studied by pre-university students in each of the participating countries. However, it is also of interest to note the average number of subjects studied in the grades preceding the pre-university year.

Table 4.4 sets out the average number of subjects studied in the pre-university year and the four preceding years in the secondary academic schools or programmes. The countries are ordered according to the average number of subjects studied in the pre-university year.

The figures for the United States may appear surprising, but it must be remembered that because of the system of credit points,

Table 4.4. Average number of subjects studied in last five grades of secondary academic schooling\*.

	X-4	X-3	X-2	X-1	Pre-university grade (X)
Belgium	9+	9+	9+	9+	9+
France	9+	9+	9+	9+	9+
Netherlands	9+	9+	9+	9+	9+
Japan	9+	9+	9+	9+	9+
Finland	9	9	9	9	9
Fed. Rep. of Germany	9	9	9	9	9
Sweden	9	9	9	9	9
Israel	—	9+	9+	8	8
Australia	8	8	8	7	6
Scotland	8	7	6	5	4
U.S.A.	5	4	4	4	4
England	9+	8	8	3	3

\* Source for these data was question 14 on the National Case Study Questionnaire.

compulsives and electives in the Senior High School, it is unlikely that the subjects noted here ("solids") will be the same from year to year. In general, the figures in Table 4.4 indicate that, from the countries participating in this study, England and Scotland have adopted specialisation, whereas the other countries have continued general education, with the exception of Australia and the United States, which are half-way between.

### Summary

The results of the present study must be viewed against the background of the school organisation of the participating countries. Of particular interest for the problems investigated here are the ways in which the students progress through the system, the points at which selection takes place, and the percentages of students in the different forms of schools, in particular, comprehensive, selective academic, selective vocational and other school types. (Figures and tables indicate these features for each of the systems.) In general, both the United States and Japan can be said to be retentive in that they have

well over half of a year group continuing through to the pre-university year. Sweden, however, has recently changed from the traditional European dualistic pattern of education to the comprehensive, but in Scotland, although it has a high proportion of so-called comprehensive schools, the system of education is still basically dualistic, since the dualistic pattern is preserved within the comprehensive school through the practice of educational differentiation. Similarly, it must be remembered that in England many of the "comprehensive" schools do not contain students from the full distribution of ability within the areas, as often the top ten to twenty percent in terms of ability are attending a local *grammar school*. Although in Germany there are some students who attend *Fachschulen*, *Berufsschulen* or *Ingenieurschulen* full time in the last year of secondary education, these have not been considered in this study.

The attrition (drop-out) rate after compulsory schooling tends to be very high in selective countries, but it is interesting to note how regular the drop-out is in both Belgium and Sweden. The age composition of the pre-university year also varies greatly from system to system. In the United States, Scotland and Japan it is low, and in Sweden, Germany and Finland it is high.

A further important factor to be taken into account when comparing systems is the amount of specialisation in the last year of secondary education. England and Scotland are highly specialised (three or four subjects), whereas in other countries students study at least six subjects and usually nine or more.