

A Curriculum for All?

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The curriculum in Scottish secondary schools is structured by a Curriculum Framework which allows choice of subjects within eight modes of study or areas of knowledge. The aim of the Curriculum Framework is to ensure that all pupils in comprehensive schools study a common-core curriculum. This Briefing describes research about differences in participation in the formal curriculum in the first seven years after the Curriculum Framework was introduced.

- The effect of the introduction of the Curriculum Framework has varied for different modes of study. The proportions of pupils studying mathematical studies, scientific studies, and technological activities have increased. Participation in other modes has not increased and in physical education has declined.
- All pupils now study scientific and mathematical studies, whereas prior to the Curriculum Framework working-class pupils and girls were less likely to study the core of these modes.
- Working-class pupils and boys are still less likely than middle-class pupils and girls to study languages other than English; middle-class pupils and girls are less likely to take technological activities.
- Although inequalities in access to the scientific studies mode have been removed, choice of science subject has become more differentiated by social class and ability. There continue to be more boys studying physics and more girls studying biology.
- Independent schools are not required to implement the Curriculum Framework, and have a more academic curriculum than comprehensive schools. Pupils in independent schools are more likely to study languages other than English, and less likely to study technological activities, than pupils in comprehensive schools.
- Typically most pupils in independent schools study two or three science subjects whereas in comprehensive schools one science subject is the norm.

Background

The National Curriculum laid down by Act of Parliament for England and Wales in 1988 does not apply in Scotland. Instead, the formal curriculum in Scottish secondary schools is structured by the Curriculum Framework which allows for choice of subject within eight 'modes of study' or areas of knowledge. The Framework was described by the National Commission on Education as a superior form of 'entitlement curriculum' to the current National Curriculum south of the border.

Two simultaneous curricular reforms led to the introduction of the Curriculum Framework and Standard Grade courses for the Scottish Certificate of Education (SCE) examination. In 1977, the Munn and Dunning Committees respectively sought to develop a common core curriculum, and a new system of assessment and certification, which would be appropriate to all pupils. The intention was that pupils of different abilities would no longer be selected to study different areas of knowledge in the curriculum. All pupils would have access to each mode of study. Differentiation would be achieved by three levels of Standard Grade courses.

The Curriculum Framework was introduced in 1983, and was later modified to meet different priorities for the curriculum. It was intended for pupils in their final two years of secondary schooling (the S3 and S4 stages), and subsequently applied to later secondary stages. The modes of study are detailed in Figure 1.

This Briefing uses data from a nationally representative series of surveys, the Scottish Young People's Surveys (SYPS), to measure the effects of the Curriculum Framework on the curriculum studied by pupils in their final two years of compulsory schooling. The most recent survey refers to pupils who completed the S4 stage in 1990.

Modes studied in comprehensive schools in 1990

All pupils should study at least one subject from the core of each mode. However, there is a shortfall in the extent to which this aim had been met by 1990. Results from the SYPS show that only 27 percent of pupils who completed S4 in 1990 studied the core of every mode. All pupils studied English, mathematical studies, scientific studies and social and environmental studies. Three quarters of pupils took physical education and technological activities. Less than half of all pupils studied creative and aesthetic activities, religious and moral education or language other than English. (Language other than English was not a core element for pupils who completed S4 in 1990, but was subsequently included in the core.

We report these results because they are relevant to the current Curriculum Framework.)

Figure 1: The core of the curriculum framework

Modes of study	Subject courses
Language and communication	English other language
Mathematical studies and applications	mathematics
Scientific studies and applications	biology or chemistry or physics or science
Social and environmental studies	classical studies or contemporary social studies or economics or geography or history or modern studies
Religious and moral education	religious studies religious and moral education
Physical education	physical education
Creative and aesthetic activities	art and design drama music
Technological activities and applications	computing studies craft and design home economics office and information studies technological studies

Source: Scottish Consultative Council on the Curriculum (1989) *Curriculum Design for the Secondary Stages: Guidelines for Headteachers*.

Compared to the situation before the introduction of the Curriculum Framework, the results for 1990 show that there had been considerable increases in the proportions of pupils taking mathematical and scientific studies and technological activities. These were the areas of the curriculum which (together with English) had been given greatest priority. There had been a small decline in the proportion doing physical education, and no growth in the proportions doing creative and aesthetic activities or religious and moral education. It appears that some schools may regard these as optional areas of the curriculum, although the designers of the Curriculum Framework, who were anxious to ensure a broad and balanced curriculum, intended that they should be core areas of study.

Gender and social class differences

Before the introduction of the Curriculum Framework, a pupil's chances of studying mathematical or scientific studies differed by gender and social class. Among the year group which preceded the introduction of the Curriculum Framework only 57 percent of girls from working-class backgrounds studied any science, compared to 75 percent of middle-class girls and 85 percent of middle-class boys. After the introduction of

the Curriculum Framework these differences were significantly reduced.

Table 1: Percentage of S4 pupils who studied the core of each mode in 1989-90

Mode	Comprehensive schools				Independent schools	
	Working class		Middle class		M	F
	M	F	M	F	M	F
Language and communication						
English	100	100	100	100	100	100
other language	26	49	50	73	90	98
Mathematical studies	97	98	99	99	99	99
Scientific studies	94	94	98	97	98	96
Social & environmental studies	95	94	97	97	97	96
Religious and moral education	45	51	39	48	54	56
Physical education	77	73	67	73	68	78
Creative and aesthetic activities	45	48	40	54	38	46
Technological activities	87	76	71	57	36	34
(N)	(1011)	(944)	(726)	(735)	(148)	(97)

Notes:

¹ Social class has been derived from Father's occupation.

² Numbers of working class pupils at independent schools are too small for separate analysis.

In 1990 there were still gender and social class differences in the chances of studying some modes, as shown in Table 1. Only 26 percent of boys from working-class backgrounds studied a language other than English, compared to 50 percent of middle-class boys, and 73 percent of middle-class girls. Fewer middle-class pupils than working-class pupils took technological activities.

The curriculum in independent schools

Independent schools are not required to implement the Curriculum Framework. Table 1 shows that males and females in independent schools were less likely to do technological activities than pupils in comprehensive schools, and more likely to take languages other than English. Their participation in all other modes was similar on average to that of pupils in comprehensive schools. It appears that independent schools give greater priority to 'academic' subjects than comprehensive schools.

Differences within the scientific studies mode

The need to increase participation in science and technology has been a priority for education policy since the 1970s, and has been reiterated by the government White Paper *Realising Our Potential*. In Scotland the Curriculum Framework has encouraged all pupils to study at least one science. However, the choice of science subjects within the mode has become increasingly differentiated by ability, gender and social class. A pupil's choice of science subjects at the S3-S4 stage is

important because it may open or close opportunities for further study in post-compulsory and higher education.

Table 2: Percentage of S4 pupils who studied each science subject in 1989-90

	Comprehensive schools				Independent schools	
	Working class		Middle class		M	F
	M	F	M	F		
Physics	35	14	58	32	84	64
Chemistry	33	29	54	49	79	73
Biology	20	42	30	48	58	64
Science	40	34	18	15	5	0
Studied 3+ sciences	2	2	9	5	41	29
(N)	(1011)	(944)	(726)	(735)	(148)	(97)

Table 2 shows that in 1990 boys were more likely than girls to study physics, and less likely to study biology. Working-class pupils were more likely than middle-class pupils to study 'general' science, and less likely to study the other three science subjects. Chances of studying each science subject were further related to pupil ability (table not shown).

Pupils in independent schools tended to study two or three sciences, whereas 60 percent of pupils in comprehensive schools studied just one science subject. Studying more than one science subject may provide added advantage to pupils aiming for higher education.

Implications

There are important similarities between the current *Higher Still* reforms relating to an older age group and the reforms which led to the Curriculum Framework discussed here. Both reforms affirmed the value of the broad-based curriculum and rejected the selection of young people into academic or vocational tracks.

The principle of a broad-based curriculum is highly valued in Scottish education, but may be at odds with other priorities and policies. A broad-based curriculum reduces opportunity for specialisation in priority areas such as science and technology. Current government policies promote competition, diversity and consumer choice within the education system. Comparisons between the comprehensive and independent sectors suggest that consumer choice leads to specialisation in academic subjects including sciences. The development of secondary education 'markets' may put the broad curriculum under pressure if comprehensive schools follow independent schools in giving emphasis to particular modes.

The Curriculum Framework was designed in an age when ideals of social justice underpinned educational reforms. Schools now implement it in a situation of scarce resources, time pressures and competition for pupils. It is therefore not surprising that the voluntary implementation of the Curriculum Framework has fallen short of its target of a common core curriculum for all.

The research suggests that traditional inequalities in access to the curriculum by gender and social class have changed but not disappeared. Inequalities in access to *modes* have been reduced, only to reappear in differentiation of *subjects* within modes. There is a need to reaffirm the importance of equality of access to a broad-based Scottish curriculum.

Further Details

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About this study

The data used in this report are from the SYPS 1985-1991 of the four cohorts of young people who completed their S4 stage of compulsory schooling in June 1984, 1986, 1988 and 1990 respectively. The survey collects information about subjects studied in the S3 and S4 stages; these have been grouped into modes of the Curriculum Framework using the classification of the Scottish Consultative Council on the Curriculum (1989) *Curriculum design for the Secondary Stages: Guidelines for Headteachers* (Dundee: SCCC). The SYPS was funded by the Scottish Office Education Department. This study was supported by the UK Economic and Social Research Council.

Related CES publications include:

Croxford, L (1994) "Trends in the Scottish Curriculum Framework for the S3-S4 Stages 1983-1990", *Scottish Educational Review*, 26 (2), pp 97-109.

Croxford, L (1994) "Equal Opportunities in the Secondary-School Curriculum in Scotland, 1977-91", *British Educational Research Journal*, 20 (4), pp 371-391.

Croxford, L (forthcoming 1996) "Participation in Science Subjects: the Effect of the Scottish Curriculum Framework", *Research Papers in Education*.

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