

# Curriculum and opportunity in Scottish secondary education: a half-century of expansion and inequality

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Debate about the curriculum of secondary schools has centred on two competing claims. One is the aspiration to provide a broad, liberal curriculum to all students as a route into common citizenship. The other is that a curriculum of this kind, far from being potentially universal, is intrinsically merely the culture of dominant social groups, is inaccessible to people who are not members of these, and is also harmful to most students' vocational opportunities. The analysis here considers these debates through data from a unique series of surveys of school students in Scotland, covering the whole of the second half of the twentieth century. It thus deals with a period when selection for entry to secondary school was ended for all public-sector schools, and when, following that reform, there were deliberate attempts in policy to extend a liberal curriculum to everyone. The analysis provides some vindication of the reformers' intentions that a liberal education could be experienced by a wider range of students than in the selective system. But it also shows that inequality of access to a broad curriculum became greater than previously.

**Keywords:** liberal education; vocational education; social class; sex; comprehensive schooling; Scotland; effectively maintained inequality

## Introduction

A recurrent critique of comprehensive schooling in Britain has been that it has imposed on working-class children a curriculum that had been devised for a liberal elite (Hargreaves, 1982). One common inference was then the belief that a curriculum that would be relevant to everyone had to have vocational aims at its heart (Favretto, 2000). Against these views was the long-standing advocacy of liberal education that informed a wide range of British political views in the twentieth century (Paterson, 2015), shaping policy on the curriculum in comprehensive schools when the Labour government encouraged the ending of selection for secondary education in the 1960s. The rhetorical endorsement of liberal education was particularly strong in Scotland, where its most prominent version was based on curricular breadth with philosophy at its heart; at secondary-school level, philosophy came to be embodied in the reading

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of English literature, treated as a humanistic study of ethics (Paterson, 2004). Thus, when all public-sector schools in Scotland became comprehensive in the decade and a half after 1965, the strong consensus was for a curriculum that would try to extend a liberal education to everyone.

This paper uses a unique series of surveys of school students—stretching from the early 1950s to the late-1990s—to investigate whether Scottish policy and practice on the curriculum were able to provide to everyone the kind of liberal breadth of learning that the Scottish tradition had extolled. The main empirical section investigates some measures of student success in a liberal curriculum in Scotland, looking at breadth, at liberal culture and also at vocational courses as a way of assessing whether relevance to employment was incompatible with the liberal ideals.

### **The curriculum and social inequality**

The school curriculum is worth studying because it is the means by which a society hands on the officially sanctioned aspects of its culture and thus access to the most distinguished social roles. The content of programmes which people follow at school influences their experience of the labour market in adult life (Arum & Shavit, 1995; van de Werfhorst *et al.*, 2003; Iannelli & Duta, 2018), their chances of entering higher education (Klein *et al.*, 2016; Duta, An & Iannelli, 2018), their opportunities for social mobility (van de Werfhorst, 2002; Iannelli, 2013) and their lifestyles (van de Werfhorst & Kraaykamp, 2001). Through their civic and political engagement (van de Werfhorst & Kraaykamp, 2001; Paterson, 2009), the curriculum also can ultimately sustain the values which underpin democracy.

The question of who gets access to those aspects of the curriculum that provide the widest opportunities and the richest experiences is an important aspect of understanding the mechanisms of social stratification. Theoretical discussion and empirical evidence have suggested that there is an historical affinity between advantaged social classes and a liberal curriculum. One interpretation of this is derived from the writing of Bourdieu, suggesting that a curriculum of this kind is itself a cause of inequality by alienating non-elite students (Bourdieu & Passeron, 1977; Hargreaves, 1982; Ball, 1990; Troyna & Vincent, 1995). The main policy response in most of the twentieth century, however, was to try to widen access to a liberal curriculum, providing the empirical field on which the pessimistic account could be tested. Goldthorpe (1996, p. 488) has pointed out that the sheer fact of educational expansion rather belied the claims of impervious elite culture. Goldthorpe followed Boudon (1974, p. 109), who noted that ‘one of the main functions of schooling [has been] precisely to neutralise these inequalities’ of access; this was the dominant view of the curriculum held by liberal and social democratic thinkers throughout the twentieth century (Paterson, 2015).

Kamens *et al.* (1996) observe a world-wide tendency in the twentieth century to discard the old classical curricula in favour of modernised versions of liberal education, emphasising mathematics, science and modern languages. Modernising tendencies that have the aim of bringing about what DiMaggio (1982) called cultural mobility have been noted by Barone (2009), Davies *et al.* (2008), de Graaf *et al.* (2000), Ichou and Vallet (2011), and Triventi *et al.* (2016). Concomitantly, there has been a general decline in vocational

programmes at secondary school, because these were believed to be incompatible with liberal education (Benavot, 1983), even though, as Arum and Shavit (1995) have shown, vocational courses could protect low-attaining students against unemployment upon leaving school.

The empirical question raised by these policy changes has been whether the reforms have had any impact on the inequalities of access to the full liberal curriculum. The most common conclusion is that this kind of inequality has fallen, though not uniformly across curricular areas. The main effect has been through postponing selection into distinct tracks, thus providing students with opportunities to learn in all curricular areas (Benavot, 1983, p. 74; Boscardin *et al.*, 2005; Barone, 2009, p. 95; Ichou & Vallet, 2011; Reeves, 2012; Schmidt *et al.*, 2015). Despite these tendencies, inequality of successfully competing a liberal curriculum does remain, even though at a lower level. Ichou and Vallet (2011), for example, found that inequality in access to the highest-status programmes in France (mathematics and science) has widened, reinforcing the inequality that had belonged to the traditional baccalauréat. Explanations of these remaining inequalities have proposed mechanisms that avoid cultural determinism. Ichou and Vallet (2011) adapt from Lucas (2001) the idea of effectively maintained inequality. According to this, when access to a particular level of education becomes widespread, inequality takes the new form of distinctions among informal or formal tracks within it. Davies *et al.* (2008) note that, within the common national curriculum in England, students of low socio-economic status (SES) tend to opt for subjects that have easier examinations.

A version of these debates applies to sex differences, but with the contrast that there is no doubting the extent of change in the last quarter of the twentieth century. Invidious associations between subject choices and sex have largely vanished (Buchmann *et al.*, 2008, p. 324). Moreover, the influences which confer the remaining advantages on high-SES students might also do the same for female students, because they have been found by Dumais (2002, p. 44) to be more likely than males to take part in high-status cultural activities.

Scotland provides a convenient test of the two competing claims for the effects of curricular reform—on the one hand, that it might socialise students into a common culture, or on the other hand, that it provides a new form of stratification. Until the 1990s, the country's policies favoured a widening of access to a modernised but essentially unchanged structure and content of school subjects (McPherson & Willms, 1987, p. 532; Croxford, 1994; Gamoran, 1996, 1997). That curriculum had emphasised academic breadth and liberal culture (Neave, 1976; Gray *et al.*, 1983, pp. 86–102; Paterson, 2003, pp. 135–136). Reforms earlier in the century had extended the core liberal curriculum to those secondary schools that became the academically selective sector in the middle of the century (Paterson, 2011; Paterson *et al.*, 2011). That curriculum then became the aspiration towards which comprehensive schooling was intended to move after it was inaugurated in all public-sector schools between the mid-1960s and the early 1980s. Through competition with these schools, the ideal of a broad curriculum also came to lie at the heart of most of the small independent sector (with about 5% of secondary pupils). Since these schools charged fees, and thus had students who were predominantly from high-SES families, this tended to reinforce the prestige of a curriculum that was academic and broad.

The mechanism by which the curriculum was enforced was mainly through public examinations taken at the middle and end of secondary schooling. At the end were the Higher Grade examinations (colloquially referred to as the Highers), which had been inaugurated in 1888 by government as a means of defining a proper secondary course. The specific response to comprehensive reform was changes to the curriculum and assessment in the mid-secondary stages. The main such change was in the years 1986–1992, leading to courses called Standard Grade (Croxford, 1994, 2015; Gamoran, 1996; Tinklin, 2000, 2003). These superseded a reform in 1962, called Ordinary Grade, which was intended only for the most able third of students; it in turn replaced an even more limited opportunity in what were called Lower Grade courses, complementary to the Highers and intended for the most able 10%. At the very end of the century, there was a further reform that introduced courses called Intermediate. Evidence from parts of the same survey series as we use below found that the curricular framework associated with Standard Grade had widened access to English, mathematics and science (Croxford, 1994; Gamoran, 1996). In achieving this breadth, the framework was fulfilling the ideas of Hirst (1975) on which Standard Grade was based: the curriculum was defined in terms of domains of knowledge to which everyone should have access.

Thus our research questions for Scotland are:

1. Did participation in a broad, liberal curriculum grow in the second half of the twentieth century?
2. Was any such change at the expense of more specifically vocational learning?
3. Did the social basis of either a broad, liberal curriculum or vocational attainment change?
4. Can any such changes be attributed to deliberate policies?

## Methods

Studying the school curriculum requires contemporary surveys of school students, because surveys using adults' memories could not reliably reconstruct the details of the curriculum which they followed many years earlier. Scotland provides a uniquely long series of surveys of school leavers with a sufficient level of detail, covering the period from the early 1950s to the end of the century. We use 11 surveys which will be referred to by the date at which their members turned 16: 1952, 1974–1976, 1976–1978, 1978–1980, 1980–1982, 1984, 1986, 1988, 1990, 1996 and 1998. These surveys have been used in several of the publications cited above, but not hitherto as a single series. The 1952 survey was a birth-cohort study (Paterson *et al.*, 2011). The surveys 1974–1976 to 1980–1982 were leavers' surveys. The 1974–1976 survey covered pupils with the full range of attainment only in five regions of Scotland, which included around three quarters of all pupils (Gray *et al.*, 1983, pp. 16–23); only that part of the survey is used here. The surveys after 1982 were cohort surveys, based on a sample of students in the fourth year of secondary school who were then followed up over the subsequent years. Some data for the surveys from 1984 to 1998 were obtained from the time series assembled from the corresponding surveys as

part of the project 'Education and Youth Transitions' (Croxford *et al.*, 2007, p. 7). The surveys had response rates at the relevant sweeps ranging from 98% in the 1952 survey (Paterson *et al.*, 2011), through around 80% for the leavers' surveys between 1974–1976 and 1982 (McPherson & Willms, 1987), to around 65% for the surveys from 1984 onwards (Croxford *et al.*, 2007).

Sex is available in all surveys. Parental education is recorded as the age at which the parent left full-time education (summarised into: 15 or younger; 16; 17 or older). In every survey it is available for both parents. Social class is the Registrar General social class of the father, grouped into I,II; III; IV,V, other.

All the surveys recorded information on the last school attended. There were around 400 schools in each year. The schools are classified into six groups according to their date of founding and whether they had experience of teaching courses that might lead to the main school-leaving examinations (referred to as certificated courses) (Paterson, 2004; Paterson *et al.*, 2011). All but the second category were managed by public authorities. The sectors are as follows, with their average relative sizes over the series for illustration:

1. old secondaries, dating from before 1900 and providing certificated courses by the early twentieth century (12%);
2. schools not managed by public authorities, some of them in receipt of public grants; all provided certificated courses (4%);
3. new secondaries, founded between 1900 and the early 1920s in the initial phase of extending secondary courses to all children and that provided certificated courses by the 1920s (23%);
4. new secondaries founded between the 1920s and 1950s to provide certificated courses (12%);
5. two groups of school that, though not teaching a full range of secondary courses, nevertheless had some experience of providing part of some these: (a) schools created as part of the same reforms as category (3); (b) former parish schools or other short-course schools that had some experience of secondary education between the beginning of the century and the mid-1960s (12%);
6. schools that, on the eve of the ending of selection from the mid-1960s, had no experience of teaching certificated courses (38%).

The relative sizes in each survey year were generally within 2 percentage points of these averages; the greatest changes were that the old secondaries (category 1) rose from 9% in 1952 to 13% in 1998, and that the junior secondaries in category 6 fell from 40% to 35%.

In the 1950s, the schools in categories one to four were generally referred to as senior secondaries, and those in five and six as junior secondaries. Until the 1960s, pupils were allocated mainly on the basis of tests of intelligence to a senior secondary or a junior secondary. After the shift to comprehensive education was complete, the only remaining selection was into the schools in the independent schools (category 2), which charged fees. We refer to category 5 as academic junior secondaries and category 6 as other junior secondaries. This record of school history then can allow us to assess the extent to which the effects of earlier reforms persisted into the

post-1960s era. We have removed from the second category 16 schools whose curricula were based mainly on non-Scottish examination systems (A levels from elsewhere in the UK): this removed 0.8% of all pupils in the surveys.

A second school variable gave an index of participation in the curricular reforms associated with comprehensive education (Gamoran, 1996). This recorded whether a school had adopted the new courses in English in time for these to be taken by the 1988 cohort survey; the information is not available for independent schools. We use this engagement with English as an indicator of the school's general engagement with the reform at that date, grouping schools into three categories: in 1988, used only Standard Grade (13% of survey respondents in that year), used a mixture of Ordinary and Standard Grades (46%), and used only Ordinary Grades (41%). The percentages in each of these groups were very similar throughout the period from 1952 to 1998.

### *Breadth*

We model the breadth of students' attainment at mid-secondary level and in the senior secondary years. Until 1950, breadth was defined officially as the required group of subjects that a student had to pass at either Higher or Lower level in order to be awarded a Leaving Certificate. The grouping requirement was removed after 1950, so that awards were given in individual subjects, but the status of the old group remained high, associated as it was with the high-status selective schools (Gray *et al.*, 1983, p. 88). That grouping had required English, mathematics, a science and a language, with the highest-status version having two languages. However, changes to subjects and syllabuses make this anachronistic for the later period. The subjects that came to be called history and geography used to be examined as part of English, but now were distinct; and a new subject called modern studies (essentially politics and sociology) was inaugurated in 1962. There was the same slow shift away from Latin and Greek to modern languages as was found in other countries (Cha, 1991), and a decline in the incidence of taking two languages (Gray *et al.*, 1983, pp. 87–89). The science subjects were changing (for example with biology growing in size, leading to a decline in botany and zoology). So we will use what Gray *et al.* (1983, p. 88) call modified breadth: English, mathematics, at least one science, and at least one of a language, a social science, and an aesthetic subject (music, art, etc). Completing such a programme is defined here at two levels: as having attained that combination of awards in the mid-secondary level courses that were in existence in the survey year (Lower, Ordinary Grade, Standard Grade, Intermediate 1, Intermediate 2), or as having attained it at the Higher level. The lower levels, although taken by students predominantly at ages 15–16 in the fourth year of secondary school, could also be taken in the following two years. The Higher courses were taken mainly in the fifth and sixth year.

### *Vocational*

A concern with vocational relevance lasted right through the Scottish introduction of comprehensive education (Raffe, 1984). So we also consider achievement

of vocationally relevant certificates, defined as awards in those courses which came under the heading 'technological studies' in the eventual curriculum framework (Tinklin, 2000). This includes not only technical courses strictly defined (such as engineering, woodwork or metal work), but also those more commonly called home economics or secretarial studies. We do not include computer science, but rather group it with mathematical subjects. There were barely any such vocational courses in 1952, and so this series starts with the 1974–1976 survey.

### *English*

In Scotland until the 1990s, this subject aimed for what a government paper on it in 1952 called the 'inculcation of a liberal culture' (Paterson, 2004; SED, 1952, p. 24). The core of the syllabus was always the study of literary texts, and thus reflection on society, culture and ethics. Accordingly, we also record attaining awards in English.

In constructing each of these measures at the Ordinary-Grade, Standard-Grade or Lower-Grade level, we assume that anyone who passed a Higher Grade in a subject had in effect passed at least one course at these lower levels; the reason we have to do this is that some students (especially in the early years) by-passed the lower grades of examination on the way to attempt Higher Grades.

### *Statistical models*

Because all the outcomes are dichotomies, we model them by logistic regression, and report the results as analysis of deviance and as predicted proportions attaining the specified threshold; the interpretation of these is explained by examples in connection with the tables and graphs below. The modelling was done in R using the package 'svyglm'. This allowed weights to be taken into account. For all the surveys from 1974–1976 to 1998, there were post-stratification weights to compensate for varying rates of response; the weighting categories were sex by attainment (for example, Gray *et al.*, 1983; Croxford *et al.*, 2007, p. 7). For several surveys, the sampling fraction also varied by attainment and by region, and so the weights take account of this design as well; the sampling fraction varied by year, and so the weights were standardised to have the same sum in each year (which affects the predicted proportions but not the effective sample sizes for the analysis of deviance). Because several of our explanatory variables are categories of schools, we include school as a clustering variable in the design for svyglm, thus allowing for the clustering in the calculation of standard errors. Analysis of deviance tables are shown using Type II tests (with the Anova function from the 'car' package in R), which are the results of dropping each term in turn from the model shown in the table.

The distributions of the outcome variables and the class and parental-education variables are summarised in Tables 1–3; on sex, all proportions were 49–51% except in 1952, when 48% were male). The base of these tables omits respondents for whom sex, attainment, or the school name were not known (3% of all respondents to the relevant sweeps of the surveys). In the analysis, missing information on social class or parental education is included as a category in the corresponding variable.

Table 1. Distribution of dependent variables

Percentage of sample	Mid-secondary				Senior secondary				Sample size
	Breadth	Passed English	Vocational	Both breadth and vocational	Breadth	Passed English	Vocational	Vocational	
1952	2	10	NA	NA	2	8	NA	NA	1,158
1974-1976	17	38	23	5	5	18	5	5	15,932
1976-1978	22	44	29	8	6	20	6	6	8,631
1978-1980	20	41	28	6	6	20	7	7	21,022
1980-1982	24	45	35	10	6	19	8	8	6,966
1984	26	45	36	11	8	24	9	9	3,817
1986	28	50	37	14	8	22	10	10	3,830
1988	31	51	38	14	10	29	10	10	3,318
1990	30	55	32	13	11	32	11	11	2,530
1996	47	70	44	26	14	38	17	17	2,230
1998	50	73	43	28	15	39	18	18	4,431

Percentages weighted; sample sizes unweighted.



Table 2. Distribution of Registrar General social class of father

Percentage in rows						
Year when respondent was aged 16	I	II	III	IV	V	Not known
1952	2	10	53	17	17	1
1974–1976	5	13	48	16	4	13
1976–1978	5	18	44	15	4	15
1978–1980	4	17	45	15	4	15
1980–1982	4	16	46	14	4	17
1984	4	19	39	13	4	21
1986	5	19	41	11	3	21
1988	5	24	37	13	4	18
1990	6	25	37	13	4	17
1996	7	21	35	11	4	22
1998	8	22	34	10	2	24

Percentages weighted; for sample sizes, see Table 1.

## Results

All the outcome variables show large increases from the 1950s to the end of the century (Table 1). At the beginning, although breadth was the core of the highest-status courses, only 2% attained it. At mid-secondary, broad achievement of this kind rose to 17% in the mid-1970s, and to a quarter in the late-1980s on the eve of the Standard Grade reform; it then doubled to one half with that reform by the end of the century. The jump between 1990 and 1996 shows the effect of the new curricular framework. The rise of breadth at Higher was gentler, through 8% in the mid-1980s to 15% by end of century. For English as the core of the liberal curriculum, the trend at mid-secondary tells a similar story to that of breadth. From just 1 in 10 in the early 1950s, the percentage attaining a pass at mid-secondary rose to one half in the 1980s and to three quarters by the end of the century. By that date, at Higher, 4 out of 10 gained English. So in that sense liberal culture was now pervasive at mid-secondary, and quite common at levels beyond that. Moreover, this extension of breadth was not at the expense of attainment in vocational subjects. At mid-secondary, until the 1990s, the proportion with a vocational qualification was in every year at least as high as the proportion with breadth. Vocational attainment at Higher rose very similarly to breadth.

These firm trends show that the system as a whole could combine a broad, liberal curriculum with vocational attainment. The same combination was true for a quarter of individuals by the end of century: the proportion with both breadth and vocational attainment at mid-secondary rose through the comprehensive reforms, with a boost from the curricular framework. Nevertheless, only very small proportions had both breadth and vocational attainment at Higher (not shown in the table): under 2% to 1990s, rising only to 4% at end.

Thus the answer to our first research question is that participation in a broad, liberal curriculum did grow markedly, both at mid-secondary and at levels beyond that.

Table 3. Distribution of ages at which parents left full-time education

Percentage in rows					
Year when respondent was aged 16	Both 17 or older	One 17 or older	One or both 16, neither 17 or older	Both 15 or younger	Both unknown
1952	1	3	4	87	6
1974–1976	4	6	9	69	11
1976–1978	6	8	13	63	11
1978–1980	4	7	14	65	10
1980–1982	4	8	17	63	8
1984	5	10	17	59	10
1986	5	11	19	54	11
1988	6	12	22	48	12
1990	9	14	26	40	12
1996	13	18	33	21	16
1998	14	20	33	17	16

Percentages weighted; for sample sizes, see Table 1.

In answer to our second question, this did not happen at the expense of vocational attainment, except perhaps temporarily in the late-1980s.

If theories of the kind proposed by Lucas and others are correct, then it would be expected that the expansion of breadth and of the liberal curriculum would be dominated by people with well-educated parents who were in the highest-status classes. The proportion of students in these groups grew (Tables 2 and 3). The share in the top two classes rose from 12% in 1952 to 30% in 1998. There was a rise also from 4% to 34% in the proportion with at least one parent educated beyond age 17. Bourdieu-type theories could not explain the rise of vocational attainment, because the proportion in low-status groups fell, from 34% to 12% in the bottom two classes, and from 87% to 17% where both parents left school by age 15. The purpose of the modelling is to investigate the social basis of the expansion.

The models are summarised in Table 4, which shows the deviance associated with each term in the models. (The full table of regression coefficients is in Table A1 in the online Supplementary Material.) An interactive term records whether the statistical effects on the outcome of each variable in the term varies according to the value of the other variable: for example, in the fifth row, whether the statistical effect of social class differs between male and female students. Broadly, the larger the deviance, the more that term explains the variation among survey respondents in the outcome variable, but comparison is more valid by comparing the mean deviance (which is the deviance divided by the corresponding number of degrees of freedom, which are also shown in the table). For example, for all the outcome variables, the largest mean deviance is associated with social class, suggesting that class is the strongest predictor of the outcome. The measures of statistical significance shown in the table come from comparing the deviance with a chi-squared distribution that has the corresponding number of degrees of freedom. A non-significant deviance means that there is no reliable evidence that the corresponding variable is associated with the outcome. An example is many of the entries for the 'sex-by-class' interactive term. We comment on this example further below. When interpreting tables like Table 4, numerical comparisons are valid only within a column for a particular outcome variable, not between columns.

All the outcomes show change over time (the first row), confirming what we have inferred from Table 1. Sex, class and parental education all have statistical effects, and all these effects change over time (except for class in relation to vocational attainment at mid-secondary).

The nature of these effects and changes are best seen graphically. To avoid excessive complexity, the graphs show three levels of SES corresponding to the three grouped levels of class in the models and the modal level of parental education for that class group in that year. That was age 15 for all classes until 1988. Thereafter, for group I and II it was age 16 in 1990, and one 17 in 1996–1998, and for the other groups it was age 16 in 1996–1998.

We look first at breadth at mid-secondary. Figure 1 shows a rise for all levels of SES, but the rise was strongest at high-SES, reaching over 80% for high-SES females and over 70% for high-SES males. The rise was far behind, though not insubstantial, for the other SES groups, to at least about a quarter for both male and female. At Higher (not shown), the SES differences are even clearer: by far the strongest rise

Table 4. Binomial logistic models with year, sex, class and parental education: Type II analysis of deviance

Term in model (: is interactive effect)	Degrees of freedom <sup>a</sup>	Mid-secondary				Senior secondary		
		Breadth	Passed English	Vocational	Breadth and vocational	Breadth	Passed English	Vocational
		1	2	3	4	5	6	7
Year	10, 9	2,720**	1,163**	769**	1,521**	1,159**	532**	557**
Sex	1	18**	876**	140**	1	63**	356**	146**
Class <sup>b</sup>	2	2,774**	2,294**	417**	576**	1,286**	2,717**	479**
Parental education	4	3,222**	2,426**	204**	356**	2,244**	3,371**	276**
Sex: class	2	9*	3	2	6*	2	5(*)	10**
Sex: parental education	4	56**	54**	6	7	34**	56**	29**
Class: parental education	8	45**	35**	79**	45**	45**	64**	33**
Year: sex	10, 9	119**	44**	64**	73**	105**	28**	152**
Year: class	20, 18	35*	38**	14	37**	35*	41**	48**
Year: parental education	40, 36	926**	206**	60**	64**	850**	237**	97**
Sex: year: class	20, 18	9	19	19	19	15	17	11
Sex: year: parental education	40, 36	134**	48	52*	57*	159**	57*	48(*)

The table shows the type-II tests associated with each term.

Key for statistical significance levels: \*\* $p < 0.01$ ; \* $0.01 < p < 0.05$ ; (\*)  $0.05 < p < 0.10$ .

<sup>a</sup>Number of years (as shown in Table 1): 11 for columns 1,2, 5 and 6, 10 for columns 3, 4 and 7.

<sup>b</sup>Class is in three groups: I, II; III; IV; V, other.

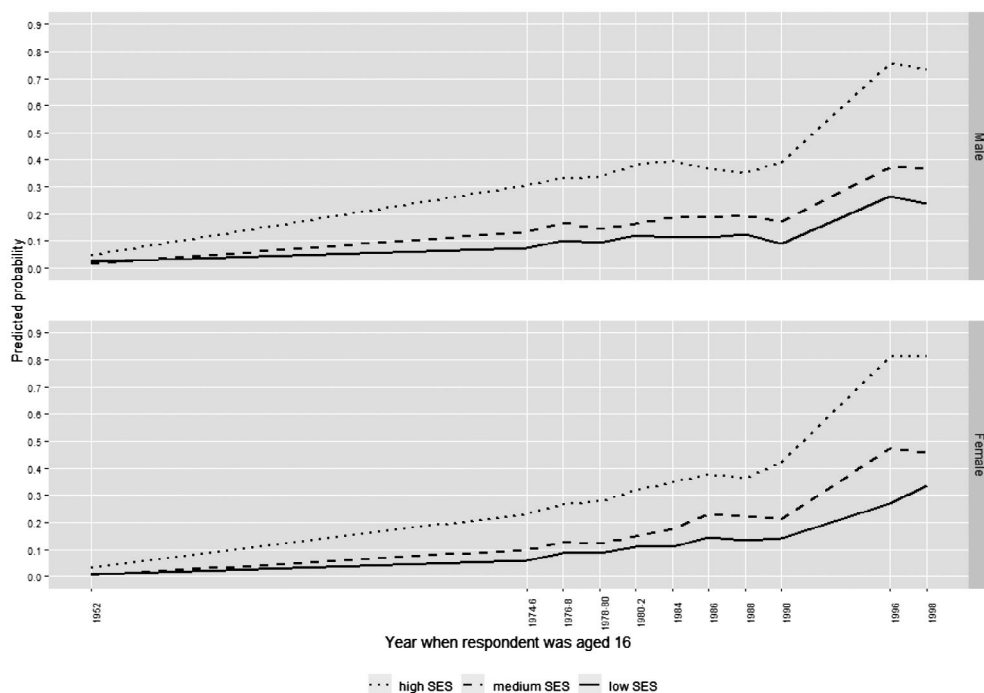


Figure 1. Breadth at mid-secondary, by sex and socio-economic status. *Source:* predicted values from model 1 in Table 4

in breadth from the late-1980s to the end of the century was for high-SES students, reaching 30% for female and male. Other groups remained under 10%, a rise from earlier periods but with no evidence of any specific boost from the new curricular framework in the mid-secondary stages. This widening SES differentiation in breadth was also evident in analysis that was confined to people who had stayed on beyond the minimum leaving age (not shown in tables or graphs).

For English at mid-secondary, Figure 2 shows that there was a steady rise in all SES groups, reaching over 90% for high-SES groups by 1998. For gaining this rudiment of liberal culture, there was much less differentiation than for breadth (especially for females), with the lowest percentage at the end of the century (for low-SES males) being around 50%. But there was no narrowing over time, and there was perhaps a slight widening of inequality for males. There was then a clear sex gap by 1998 at medium SES and low SES: 80% female compared to 60% male for medium SES; just under 70% compared to 50% for low SES. This corresponds to the statistically significant term for 'sex: parental education' in the model for mid-secondary English in Table 4. SES differentiation for English at Higher was greater than at mid-secondary; again this differentiation was similar among those who stayed on (not shown).

Vocational attainment, in contrast, was less differentiated by SES than was breadth or English. Figure 3 shows this for mid-secondary. For both male and female, there was convergence over time of medium SES with high SES. The trend of this convergence was similar for males and females (reflecting the non-significant or only weakly significant interactive terms in Table 4: 'sex: class' 'sex: year: class' are not significant

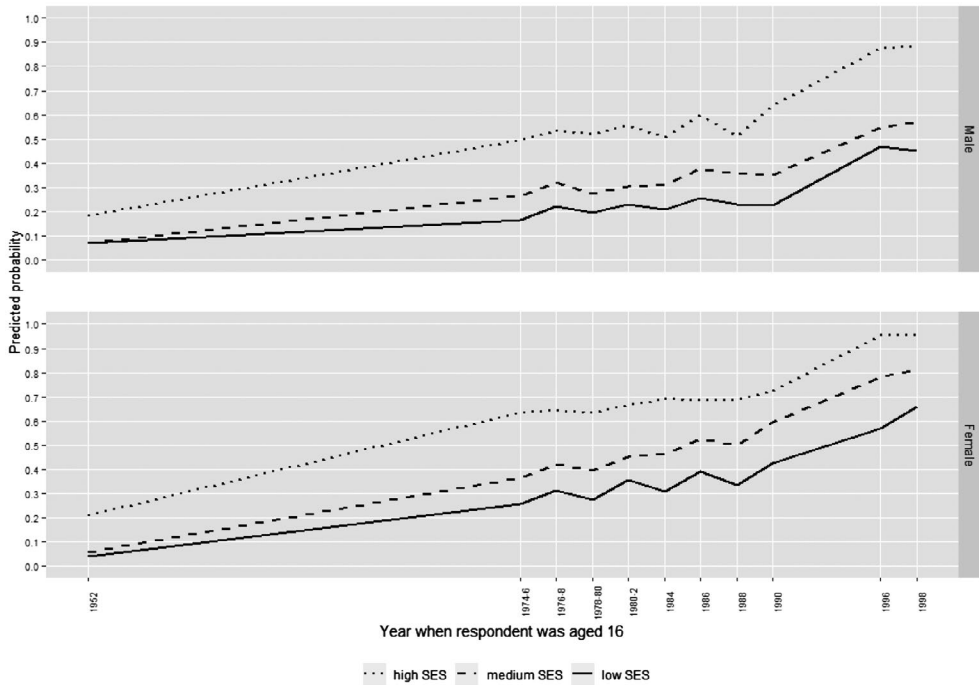


Figure 2. Pass mid-secondary English, by sex and socio-economic status. *Source:* predicted values from model 2 in Table 4

( $p > 0.05$ ), and ‘sex.year.parental education’ is significant only at the 0.05 level). But there was still a weak SES gradient, and certainly no evidence that vocational attainment was disproportionately for low-SES groups. At Higher (not shown), vocational attainment was a distinctly high-SES feature. That SES reach of vocational attainment was confirmed by the capacity to combine breadth and vocational courses (not shown): all SES groups recorded a rise, and all had a greater percentage with this combination than the high-SES groups had in the early 1950s.

So we can say in reply to our third research question that the social basis of a broad, liberal curriculum was indeed extended more widely, especially at mid-secondary following the curricular framework that accompanied the introduction of Standard Grade. At both that level and at Higher, the change since the early 1950s was striking. Nevertheless, the SES gradients actually intensified. Vocational attainment was less differentiated by SES, and was quite widely combined with a liberal curriculum. It was not at all confined to low-SES groups.

Our final research question is whether any of these changes may be attributed to policy. We have reached one such conclusion already, relating to the clear evidence that breadth increased following the implementation of the curricular framework from the late-1980s. A subsidiary aspect of that relates to the associated introduction of Standard Grade which Gamoran (1996) and Croxford (1994) have shown was related to a widening of the social basis of access to English, mathematics and science considered as individual subjects. We do not go over this ground again, but rather investigate whether there is evidence that the introduction of Standard Grade was associated

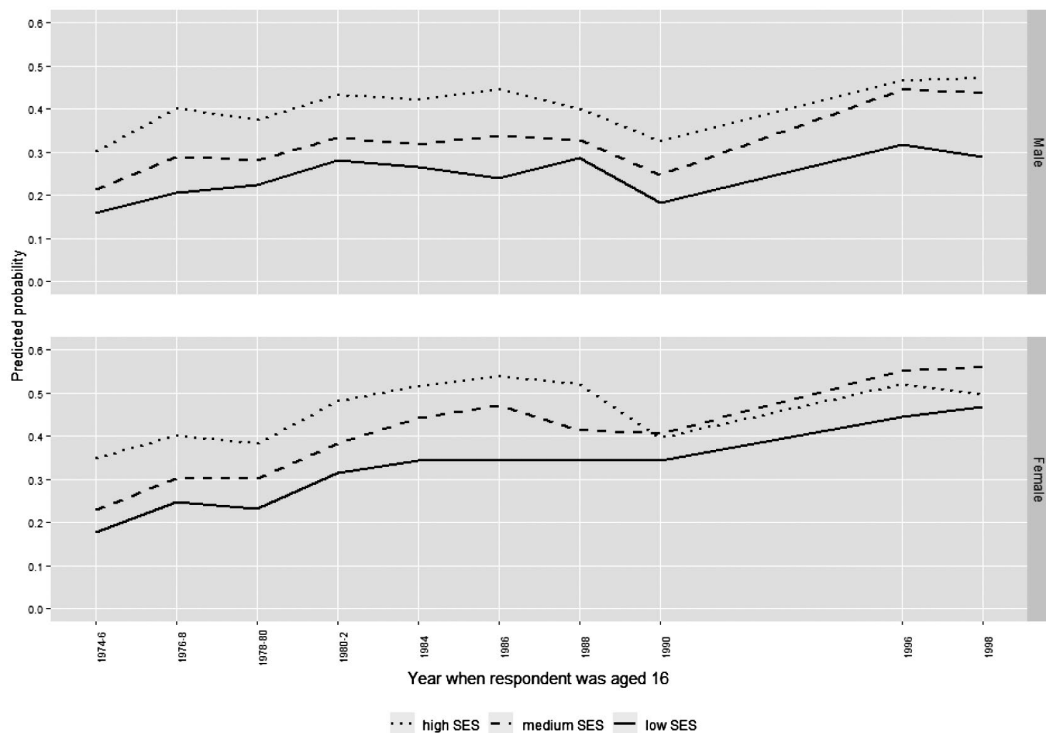


Figure 3. Mid-secondary vocational, by sex and socio-economic status. *Source:* predicted values from model 3 in Table 4

with any widening of access to breadth or to vocational attainment. (A further difference from Croxford's and Gamoran's work is that we consider students' cumulative attainment by the time they left secondary school, whereas they concentrated on the curriculum and attainment in the third and fourth years of secondary school.)

Following Gamoran (1996), we look at whether schools which were early adopters of Standard Grade had any distinct effect on these outcomes. A summary of the relevant parts of the models is in Table 5; this analysis is confined to public-sector schools. (The full table of regression coefficients is in Table A2 in the online Supplementary Material.) For each outcome, the statistical effect of the stage of transition was much weaker than those (not shown) of year, class, parental education, or sex. But there are two broad patterns corresponding to the 'transition' and 'transition: year' effects in the table. One is for the non-vocational outcomes, and is clearest with mid-secondary breadth. On the one hand, the SES gap (high minus low) in attainment of breadth was lower in the early adopters. In the period after the reform started (1986–1998), the difference between high-SES and low-SES male students' attainment of breadth was 0.086 lower in early adopters than in late adopters (standard error 0.028;  $p = 0.002$ ). For female students, the difference was 0.055 (s.e. 0.03;  $p = 0.07$ ). But this difference of inequality was probably already present before the reform (though less strongly): the corresponding SES gaps in the period 1952–1984 were 0.033 (s.e. 0.023;  $p = 0.15$ ) for male students and 0.041 (s.e. 0.017;  $p = 0.02$ ) for females.

Table 5. Binomial logistic models<sup>a</sup> with year, sex, class, parental education and transition to Standard Grade: Type II analysis of deviance Public-sector schools only

Term in model (: is interactive effect)	Degrees of freedom	Mid-secondary				Senior secondary			
		Breadth and vocational		Breadth and vocational		Breadth and vocational		Breadth and vocational	
		Breadth	Passed English	Vocational	Breadth	Passed English	Vocational	Breadth	Passed English
		1	2	3	4	5	6	7	
Transition <sup>b</sup>	2	159**	30**	5(*)	3	116**	19**	5*	
Transition: year	20 <sup>c</sup>	1,083**	62**	30*	28(*)	1,075**	281**	35**	
Transition: sex	2	5(*)	0.5	0.9	0.1	7*	6*	0.5	
Transition: class	4	7	15**	10*	9(*)	2	72**	5	
Transition: parental education	8	18*	21*	8	21**	10	16*	10	
Transition: year: sex	20 <sup>c</sup>	23	40**	22	42**	32*	24	20	
Transition: year: class	40 <sup>d</sup>	40	77**	36	55*	49	276**	28	

The table shows the type-II tests associated with each term. Key for statistical significance levels: \*\* $p < 0.01$ ; \*  $0.01 < p < 0.05$ ; (\*)  $0.05 < p < 0.10$ .

<sup>a</sup>All the models control for the terms shown in Table 4.

<sup>b</sup>Transition to Standard Grade: see text.

<sup>c</sup>18 for columns 3, 4 and 7.

<sup>d</sup>36 for columns 3, 4 and 7.



Moreover, the lower gap in the early adopters after the reform started was due to lower attainment of breadth by high-SES students, and this, too, was a pattern which pre-dated the reform. The average difference of early minus late adopters in attainment of breadth by high-SES males was  $-0.052$  (s.e.  $0.026$ ;  $p = 0.05$ ) in 1952–1984 and  $-0.11$  ( $0.027$ ;  $p < 0.001$ ) in 1986–1998. The corresponding figures for high-SES females were  $-0.058$  ( $0.019$ ;  $p = 0.002$ ) and  $-0.056$  ( $0.033$ ;  $p = 0.09$ ). For the medium-SES and low-SES students, there were no evidence of differences in the 1986–1998 period between the early and late adopters.

For passing English at mid-secondary, the pattern was similar though less pronounced. After the reform (1986–1998), the difference between high-SES and low-SES attainment in the early adopters was less than in the late adopters: for males, the difference was  $0.12$  (s.e.  $0.042$ ;  $p = 0.004$ ), and for females it was  $0.063$  (s.e.  $0.036$ ;  $p = 0.08$ ). Again this was due to lower attainment by high-SES students in the early adopters. The average difference between early and late adopters in attainment of English by high-SES males in the period 1986–1998 was  $-0.096$  (s.e.  $0.036$ ;  $p = 0.008$ ); for high-SES females, the analogous difference was  $-0.066$  (s.e.  $0.029$ ;  $p = 0.02$ ).

For breadth and English at Higher, there was similarly clear evidence of the same kind of pattern for male students: after the reform, lower inequality in the early adopters than in the late adopters, explained by lower attainment by high-SES students. The pattern was also evident for females, but with  $p$ -values greater than  $0.05$ . For the vocational outcomes, in contrast, there was no reliable evidence of any difference of inequality between the early and late adopters, corresponding to the much lower values of the deviance for the ‘transition’ and ‘transition: year’ effects in Table 5.

In short, with the caveats about some weaker evidence, the early adopters of Standard Grade were perhaps relatively less effective than other schools at providing a broad liberal curriculum to high-SES students, and were no different from other schools in providing that for lower SES groups or in providing vocational attainment to any SES group. The pre-existing difference in these early adopters probably tells us more about the process by which Standard Grade was implemented than about its effects.

The other way in which we ask the question about the effects of policy is by investigating any legacies of reforms to schooling before the comprehensive period. The relevant parts of the models summarising the statistical effects of sector are in Table 6, where there is clear evidence that there was variation among sectors in the patterns of change over time in the statistical effects of class (final row); for most of the outcomes, the same was true of the effect of sex. (The full table of regression coefficients is in Table A3 in the online Supplementary Material.) The corresponding predicted values show how long it took for the legacies of the earlier policy changes in the public-sector schools to be ended. This happened by the early 1980s after a persisting hierarchy between the early 1950s and the mid-1970s. Before the completion of comprehensive education, the oldest schools had the highest proportions of students in public-sector schools who attained breadth or English, both at mid-secondary and later; this was true at all levels of SES. The schools founded in the first half of the century came next in these respects, and the junior secondaries were lowest. Comprehensive schooling merged these legacies into a common curriculum for the

Table 6. Binomial logistic models<sup>a</sup> with year, sex, class, parental education and school origin: Type II analysis of deviance

Term in model (: is interactive effect)	Degrees of freedom	Mid-secondary				Senior secondary			
		Breadth		Breadth and vocational		Breadth		Vocational	
		1	2	3	4	5	6	7	
School origin <sup>b</sup>	5	1,395**	5,450**	769**	1,441**	10,444**	5,750**	818**	
School origin: year	50 <sup>c</sup>	12,421**	11,227**	424**	1,147**	9,870**	17,715**	1,779**	
School origin: sex	5	11(*)	190**	15*	14*	30**	15**	5	
School origin: class	10	28**	809**	49**	315**	73*	77**	405**	
School origin: parental education	20	151**	64**	32*	47**	79**	73**	45**	
School origin: year: sex	50 <sup>c</sup>	531**	516**	53	49	467**	56	68*	
School origin: year: class	100 <sup>d</sup>	469**	3,779**	194**	2,281**	1,731**	1,097**	2,272**	

The table shows the type-II tests associated with each term.

Key for statistical significance levels: \*\* $p < 0.01$ ; \* $0.01 < p < 0.05$ ; (\*)  $0.05 < p < 0.10$ .

<sup>a</sup>All the models control for the terms shown in Table 4.

<sup>b</sup>Origin of school before 1960s: see text.

<sup>c</sup>45 for columns 3, 4 and 7.

<sup>d</sup>90 for columns 3, 4 and 7.

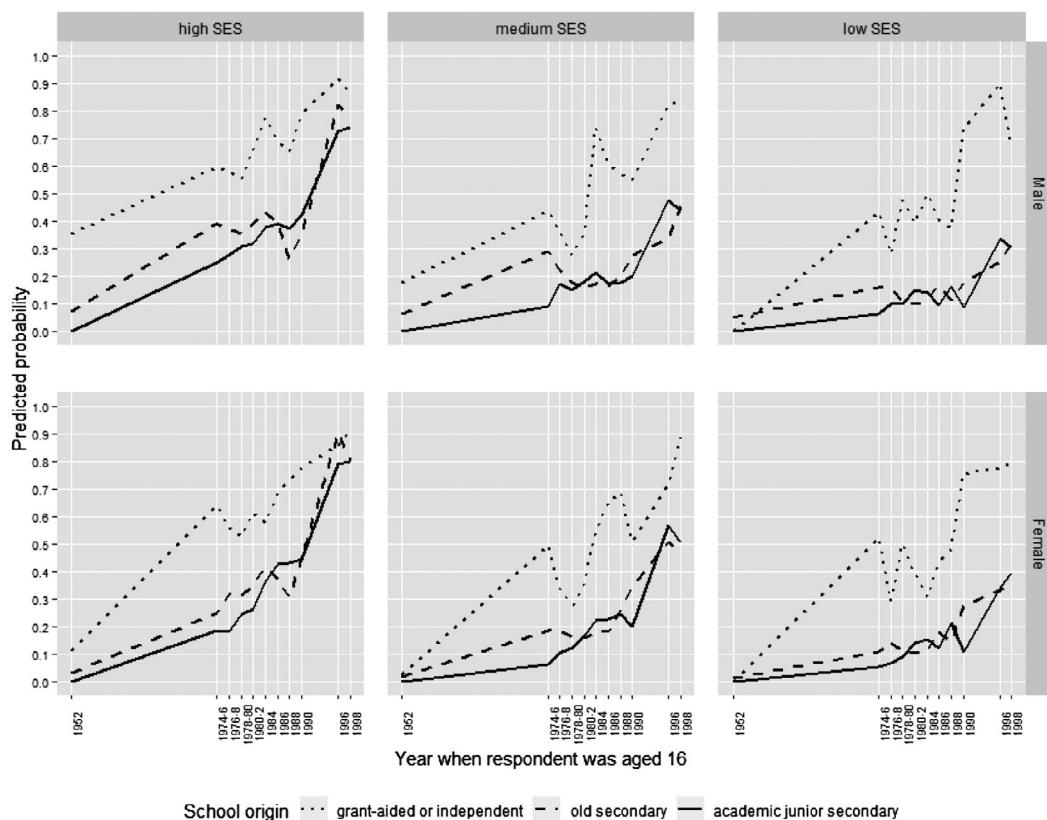


Figure 4. Breadth at mid-secondary, by sex, socio-economic status and selected school origin.  
 Source: predicted values from model 1 in Table 6

first time, by the mid-1980s. This history is illustrated for mid-secondary breadth in Figure 4, picking out academic junior secondaries as a comparison. The gap between the old secondaries and the academic junior secondaries diminished by the 1980s for all the combinations of sex and SES. This same convergence happened for almost all the outcomes, with only one partial exception: in vocational attainment at Higher, for both male and female high-SES students, the gap between these two historical sectors did not vanish until the 1980s. With this exception, therefore, the convergence of sectors happened before the Standard Grade reforms.

Figure 4 also illustrates the comparison of independent schools with public-sector schools. At each level of SES, the independent schools had higher attainment than the other schools, probably mainly because of selection that is not fully allowed for by controlling for SES. But for high-SES students, the public sector schools had almost caught up by end of century, especially for female students. That pattern was also true of mid-secondary English, breadth at Higher and English Higher. The pattern was quite different for vocational attainment, where, by the 1990s, the independent schools were below the other sectors at mid-secondary for all levels of SES and both sexes. So the independent schools might be said to have inherited the traditions of liberal breadth, but only for a highly selected minority and—unlike in the public-sector schools—at the expense of vocational attainment.

## Conclusion

The strength of this investigation of the extent and social basis of the secondary-school curriculum is the length of time over which the data extend, and the detailed information which is thus provided about the curriculum which students followed. The main disadvantage of the data set is the absence of measures that could track change in the distribution of attainment by cognitive ability over time. For example, we cannot say whether the extension of a broad curriculum to students of low SES was predominantly to highly intelligent people in such groups, nor can we be sure that differences between categories of school are caused by the schools' practices rather than by the formal or informal selection of students into them. Thus our findings are best thought of as descriptive of the social distribution of the curriculum rather than a causal account of how that distribution came about.

Our first conclusion is that there was a growth over the half century in the proportion of students who experienced a broad, liberal curriculum. This was especially notable in the middle years of secondary, where, by the end of the century, nearly one half of students had successfully followed a broad curriculum, and three quarters had passed the core liberal subject, English. The growth at higher levels was also definite, to over four out of 10 for English and to one in six for breadth.

Our second conclusion is that this growth was not at the expense of vocational achievement. At both mid-secondary and higher levels, the proportion of students who passed a vocational subject was similar to that which achieved breadth. This institutional combination of a liberal and vocational curriculum was true also of a quarter of individual students at mid-secondary level.

The social distribution of the broad, liberal curriculum also changed. On the one hand, successful completion of that curriculum grew at all levels of SES. Moreover, as shown previously by Croxford (1994) and Gamoran (1996), inequality of access to specific areas of the curriculum did narrow. But full breadth of study became a new differentiating factor. The expansion was much greater for high-SES students than for others, with females ahead of males in all groups. So, despite the expansion for everyone, the social differentiation of this curriculum had widened. The social basis of vocational attainment was not so differentiated. In particular, that meant that there was no evidence that vocational courses were dominated by low-SES students.

Thus social stratification was intensified in ways that are consistent with Lucas's theory of effectively maintained inequality, and thus also with the conclusions of the analysis by Ichou and Vallet (2011) of inequality in access to the secondary curriculum in France. The new Scottish comprehensive schools enabled all students to experience a properly planned secondary education for the first time, and the role of national policy in this respect was seen most clearly in the convergence of the former junior-secondary schools with the former senior-secondary schools. That there was also an important policy role for individual schools was seen in the particular success of those former junior-secondary schools that had a long tradition of providing some opportunities for academic learning. This convergence attributable to policy at all levels took the form of extending to low-SES and medium-SES students the opportunity for successful study of a broad curriculum and, in the subject of English, of its humanistic core.

Nevertheless, in this same process, the most striking advances were made by the high-SES students, so that inequality widened, exactly as Lucas's theory would lead us to expect. The largest increase in the attainment of breadth happened among high-SES students in the former junior secondaries, and so the process of ending selection was itself closely linked with the process of effectively maintaining inequality. Although the schools which pioneered the Standard Grade reforms did achieve lower inequality of outcome in breadth and in English, they did so only, it seemed, by working against the advantages of high-SES students, not by disproportionately increasing the attainment of medium-SES or low-SES students. None of this was deliberate policy, because it reflected a long history of poorer relative attainment among high-SES students in the pioneering schools. It may even have been that these schools swiftly adopted the Standard Grade curriculum because of that history. In any case, the convergence of schools into a common curriculum at mid-secondary level was happening before the Standard Grade reforms started. Thus a policy deliberately intended to narrow the social differences in curricular access was somewhat thwarted by the pressures from effectively maintained inequality, but not wholly nullified by them. The overall effect of successive policies—on ending selection, and on reforming the curriculum—may then be summed up in a paradox. While an unprecedentedly large minority of low-SES students experienced curricular breadth for the first time, the gap between them and high-SES students widened.

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### **Disclosure statement**

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### **Geolocation Information**

The data are from samples covering all secondary schools in Scotland between 1952 and 1998.

### **Data availability statement**

The core data used in the analysis for the years 1976–1998 are available from the UK Data Archive as the *Education and Youth Transitions* data set (SN 5765; <https://doi.org/10.5255/UKDA-SN-5765-1>).

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