

Choice, Attainment and Positive Destinations: Exploring the impact of curriculum policy change on young people

MAIN PUBLIC REPORT

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Abbreviations

ASN	Additional Support Needs
BGE	Broad General Education
CfE	Curriculum for Excellence
CLPL	Career-Long Professional Learning
FE	Further Education
FSM	Free School Meals
GIRFEC	Getting It Right For Every Child
HE	Higher Education
HGIOS	How good is our school?
HMIE	His Majesty's Inspectors of Education
NMI	Her Majesty Inspectors of education
NQ	National Qualifications
NSSEC	National Statistics Socio-economic classification
OECD	Organisation for Economic Co-operation and Development
PEF	Pupil Equity Funding
PISA	Programme for International Student Assessment
QIO	Quality Improvement Officer
RIC	Regional Improvement Collaboratives
SAC	Scottish Attainment Challenge
SCQF	Scottish Credit and Qualifications Framework
SDS	Skills Development Scotland
SES	Socio-economic status
SIMD	Scottish Index of Multiple Deprivation
SLDR	School Leaver Destination Return

SSSSL	Survey of Scottish Secondary School Leaders
SNSA	Scottish National Standardised Assessments
SQA	Scottish Qualifications Authority
STEM	Science, Technology, Engineering and Mathematics
UCAS	Universities and Colleges Admissions Service
YASS	Young Applicants in School Scheme

1. Executive Summary

Background

The Curriculum for Excellence (CfE) has been widely acknowledged as the most significant educational development in Scotland for a generation (Priestley & Humes, 2010). Implemented from 2010, the holistic, competency-based curriculum for those aged 3-18 years aims to prepare children and young people for the workplace and citizenship in the 21st Century (Scottish Government, 2009). Alongside the development of a new curriculum framework, Scottish qualifications were re-designed and these changes were implemented from 2013.

Research aims and methods

This project, funded by the Nuffield Foundation, explores how curriculum narrowing in secondary schools in Scotland, under CfE, is linked to socio-economic characteristics, producing robust evidence on the factors influencing curriculum decisions made by pupils and their families, teachers/schools and Local Authorities. The evidence produced by this project will inform curriculum policies and practices, as well as deepen understanding of how curriculum-making relates to educational attainment, early transitions of young people and other outcomes.

The project utilised a mixed-methods research design including:

1. Analysis of existing secondary datasets (the Scottish Longitudinal Study (SLS); administrative education data held by the Scottish Government; and Scotland's PISA dataset), exploring patterns of subject enrolment in the senior phase of secondary education and associated relationships with pupil/family characteristics, school characteristics, attainment in National Qualifications and the OECD Global Competency measures, and the early destinations of school leavers.
2. Generation of new data to obtain a comprehensive and representative view of school curriculum provision in Scotland, highlighting patterns of offered subjects, their organization, student choices, and the influences that shape curricular decision-making in schools.
 - A survey of Secondary School Senior Leaders, regarding curriculum provision in the Broad General Education and Senior stages of secondary education.
 - Qualitative research (focus groups and interviews) was conducted with key stakeholders in Scottish education, including Local Authority Directors of Education and Quality Improvement Officers, school headteachers, school staff, young people, and parents/carers.

Main Findings

Patterns of provision in Scottish secondary schools

Senior phase provision

- Overall, under CfE, a reduction in the number of National Qualifications entries in S4 compared to the period prior to the introduction of the new curriculum.
- A decrease since 2013 in the number of subjects studied by S4.
- A steeper decline in enrolments in subjects such as Social Subjects, Expressive Arts and Modern Languages, compared to subjects seen as core curriculum (e.g., Maths and English).
- Evidence of social stratification in overall and subject entry patterns in S4, with a steeper decline (e.g., fewer entries, a narrower range of subjects) affecting students from comparatively disadvantaged areas.
- A greater likelihood of delayed patterns of entry to SCQF level 5 qualifications (in S5 rather than in S4) and Higher qualifications (in S6 rather than in S5) in schools serving more disadvantaged areas.

BGE provision

- Significant variation in the number of subjects studied in the BGE, both between schools and across different year groups.
- Evidence of the significant curricular fragmentation in many schools, with a large proportion of students being taught by over 15 teachers each week.
- Evidence of early subject choice in some schools, with students being channelled into Senior Phase courses before the end of the formal BGE in S3.

Explanations for patterns of provision

- Significant evidence of the existence of a culture of performativity in many schools, encouraging the instrumental selection of content and/or organisation of curriculum provision to maximise attainment in the Senior Phase.
 - BGE provision mirroring the senior phase choices, with the potential for fragmentation, incoherent provision and over-early subject choices.
 - The existence of practices which are counter-educational, including abolishing low-performing subjects in the Senior Phase, teaching-to-the-test and channelling students into courses to benefit school attainment statistics.

3. Shortages of teachers (especially in STEM subjects) and a lack of teacher non-contact time, which limit subjects offered and teachers' capacity for curriculum making.
4. Evidence that many key actors in the system (including Local Authority Directors of Education) dislike current practices associated with the attainment agenda, which they see as acting counter to the philosophy of CfE.

Effects

- Despite fewer young people entering SCQF level 5 qualifications in S4 since 2013, a higher proportion of those who took up these qualifications have passed. Similarly, the proportion of successful passes of Higher qualifications in S5 has increased since 2014. This implies that more selective entry into SCQF level 5 qualifications introduced under CfE might have positively impacted the qualifications pass rates and may have also resulted in better pass rates for Higher qualifications.
- However, entries to National 5 level qualifications in S5 have decreased under CfE, suggesting that the introduction of more flexibility in taking up National 5 level qualifications over a longer period and a reduction in the National 5 qualification uptake in S4, have not resulted, on average, in a larger uptake of these qualifications in S5.
- We also found that that curriculum narrowing is associated with negative consequences for young people in relation to attainment, transitions to subsequent study in school, and destinations beyond school:
 - Detrimental effect of a narrower curriculum in S4 on attainment, contrary to the commonly held belief that studying fewer subjects would improve results, including evidence that a narrower curriculum in S4 is linked (directly or indirectly) with fewer qualifications attained at SCQF level 5 qualifications in S5, at Higher level qualifications in S5 and at Advanced Higher levels qualifications in S6.
 - An association between a narrower curriculum in S4 and lower attainment in PISA tests, including measures of global competence.
 - An association between a narrower curriculum in S4 and less positive destinations after leaving school, especially in relation to HE entry.

Recommendations for policy and practice

We conclude the report with 23 detailed recommendations for policy and practice. These are primarily focused on policy, because of the important role of policy in creating the conditions for curriculum-making in schools, and we strongly recommend that these should be carefully reviewed by the Scottish Government, Local Authorities, and national and regional education agencies. The following points provide a flavour of these.

1. Accountability and performativity

- a. An independent review of data usage for accountability purposes.
- b. Reform of assessment methodology for National Qualifications, to incorporate more continuous coursework assessment, embedded in learning and less likely to promote teaching-to-the-test methodologies.
- c. Additional measures of student outcomes to provide a holistic picture of how well the education system is preparing young people for the transition to adult life.

2. Curriculum provision

- a. The development of new national guidance to articulate the structures, relationships and transitions between the BGE and Senior Phase.
- b. Further to the current review of Senior Phase National Qualifications, a reconsideration of the structure of the Senior Phase alongside a reform of assessment methodology and a shift in discourse away from NQs to SCQF levels.

3. Building capacity

- a. An increase in teacher non-contact time, some of which should be allocated for collaborative curriculum making.
- b. The development of teacher collaborative networks, with expert leadership, to coordinate curriculum-making at a regional level.
- c. The development of a national programme of professional learning, focused on curriculum and curriculum-making, in order to build a cohort of expert teachers who can act as leaders of regional teacher networks.
- d. The development of approaches for working with young people and caregivers to increase their awareness about the consequences of different curriculum choices.

4. Policy development

- a. Alongside the national discussion about the purposes of the curriculum, a commitment to consider how the technical structure of the curriculum currently in use might need to change.
- b. The development of national/regional systems for shared sense-making (in relation to policy) that allow stakeholders to develop a clear conceptualisation of any reform.
- c. Further investment in educational policies that break the relationship between socio-economic disadvantage and qualifications' uptake.

5. Better access to data for research

- a. To better inform educational policies, the creation of more efficient and transparent processes of collection of administrative education data to: engage researchers in the data collection design; improve researchers' access to existing administrative education datasets, including international datasets; and facilitate data linkage and data analysis for researchers.

2. Background

The Scottish Curriculum for Excellence (CfE) has been widely acknowledged as the most significant educational development in a generation (Priestley & Humes, 2010). Implemented from 2010, CfE is an early variant of the ‘new curriculum’ (Priestley & Biesta, 2013) that has emerged worldwide since the turn of the millennium – a holistic, competency-based curriculum for those aged 3-18 years, which aims to prepare children and young people for the workplace and citizenship in the 21st Century (Scottish Government, 2009). Alongside the development of a new curriculum framework, the Scottish qualifications were re-designed, and these changes were implemented from 2013. In [Appendix B](#), we illustrate the Scottish secondary education system mapping out the phases and qualifications under the pre-CfE and CfE systems.

In common with many competency-based curricula, CfE is framed around a set of capabilities and attributes, grouped under four headings as the *Four Capacities – Successful Learner, Confident Individual, Responsible Citizen and Effective Contributor*. As part of the CfE framework, there is reference to four contexts for learning: curriculum areas and subjects, interdisciplinary learning, ethos and life of the school, and opportunities for personal achievements. In order that these are embedded in the school curriculum, they are structured around three cross-curricular areas (literacy, numeracy and health and well-being) and eight curriculum areas:

- Expressive arts
- Health and wellbeing
- Languages (including English, Gàidhlig, Gaelic learners, modern languages, and classical languages)
- Mathematics
- Religious and moral education (including religious and moral education, and religious education in Roman Catholic schools)
- Sciences
- Social studies
- Technologies.

To monitor children’s and young people’s learning and progress, there is a set of statements – learning outcomes – that outline expectations for learners, which can be used to assist with planning learning and

assessing learning progression. These are referred to as Experiences and Outcomes (often referred to as Es and Os)¹.

Figure 1 provides a concise overview of these key elements of the CfE framework.

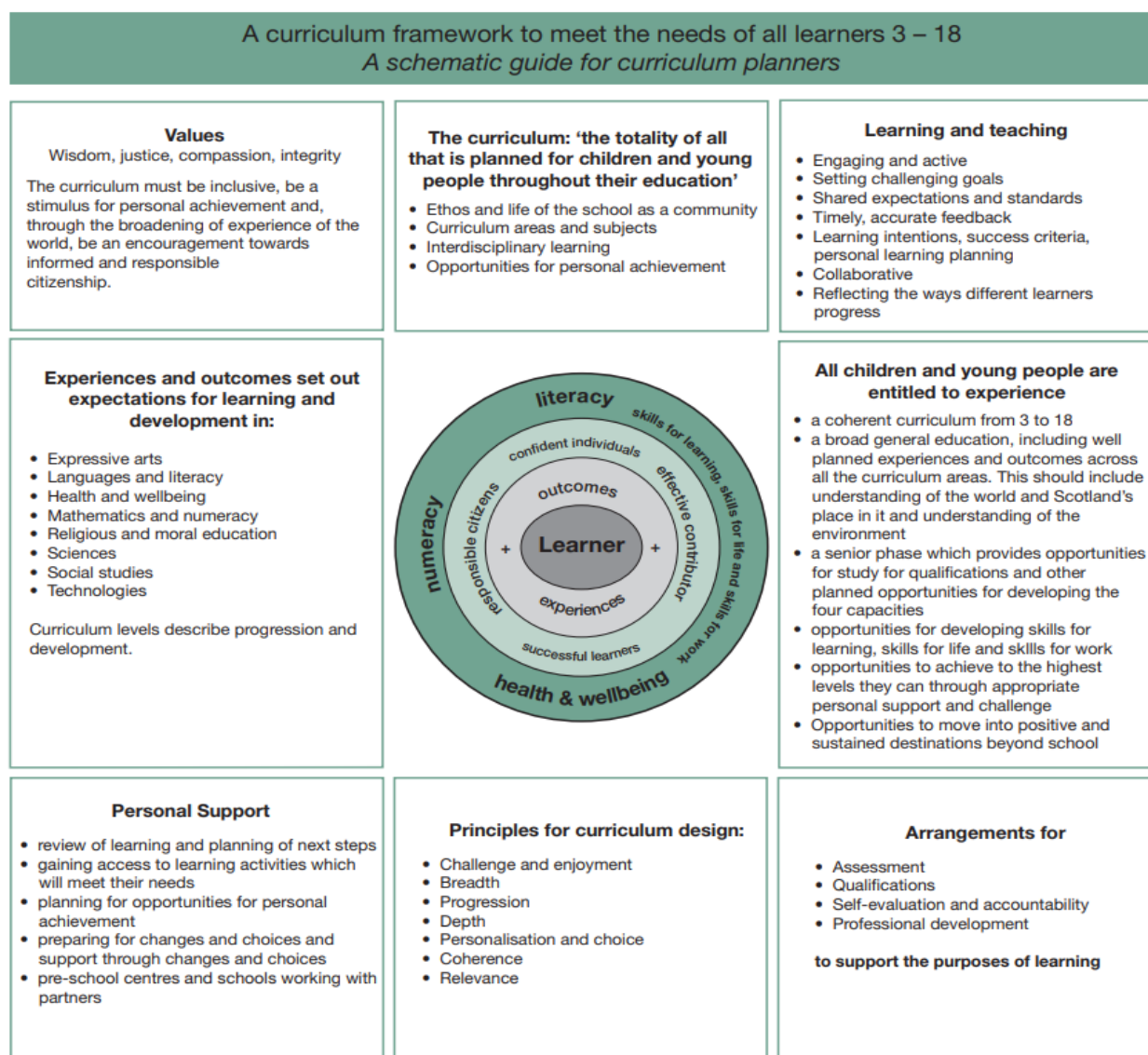


Figure 1: Curriculum for Excellence framework (Scottish Government, 2008)

Contrary to CfE policy intentions, research to date has highlighted some important areas of concern surrounding the implementation of CfE. For example, there is evidence of:

¹ <https://education.gov.scot/education-scotland/scottish-education-system/policy-for-scottish-education/policy-drivers/cfe-building-from-the-statement-appendix-incl-btc1-5/experiences-and-outcomes/>

- a reduction in the number and range of subjects studied by students, particularly in the senior qualifications phase (school years S4-S6) – a phenomenon widely termed in Scotland ‘curriculum narrowing’ (Shapira & Priestley, 2018; Shapira & Priestley, 2020)²;
- the social stratification of the curriculum, manifested through restricted choices for young people from socially disadvantaged backgrounds, with the potential to limit their future life chances (Iannelli, 2013):
- informal tracking (i.e., channelling the students into academic versus vocational subjects through subject choice decisions) that becomes an important factor in the reproduction of social inequality (cf. Iannelli & Smyth, 2017);
- concerns regarding teachers’ understandings of the curriculum (Priestley & Minty, 2013) and lack of agency as curriculum makers (Priestley, Biesta & Robinson, 2015).

There has been political interest in the areas of subject choice and curriculum provision – from both the Scottish Government and the Scottish Parliament’s Education and Skills Committee³ – but this scrutiny has tended to be focused on the Senior Phase (covering years S4-6). Overall, there is a lack of systematic data on the nature of curriculum provision more generally in Scotland. More significant, at a time when there have been claims that there is disconnection between the earlier years of secondary education (the Broad General Education – the BGE – covering years S1-3) and the later years of secondary education, termed the Senior Phase (OECD, 2021), there is an incomplete understanding about how curriculum policy is enacted across both phases in Scottish secondary schools.

This report seeks to address these gaps. The findings in this report are not just of relevance to Scottish educationalists but, as CfE is an archetypal example of curriculum policy developed around the world, they will be also of interest to policymakers and practitioners globally. Moreover, the research outlined in this report and associated working papers⁴ is important in relation to issues such as student equity and social justice, in a context where curriculum policy and practice are at the heart of attempts to close Scotland’s poverty related attainment gap. The research provides detailed empirical evidence, against

² This issue has tended to be framed somewhat reductively as being about the number of subjects studied. It is more constructive to view it in terms of breadth and balance in the curriculum, and the affordances offered by particular subject configurations for students (e.g., links to future attainment and wider achievement, and subsequent transitions/destinations). Throughout this report, the terms ‘number of subjects’ and ‘curriculum narrowing’ are thus utilised as a proxy for ‘breadth of study’.

³ <https://digitalpublications.parliament.scot/Committees/Report/ES/2019/9/16/Subject-choices-in-schools>

⁴ <https://curriculumproject.stir.ac.uk/publications/>

which one can judge claims that CfE in particular, and this curricular model more broadly, are inclusive and geared to the needs of all learners.

3. Study design and methodology

Research aims

The aims of the project were as follows.

1. To systematically examine the phenomenon of curriculum narrowing in relation to socio-economic inequality.
2. To produce robust research evidence about contemporary curriculum-making practices in secondary schools in Scotland under CfE.
3. To understand individual/family, school and Local Authority level factors that shape curriculum decisions, which impact educational attainment, early transitions of young people in the final years of the secondary education system, and a broader set of outcomes of young people.
4. To inform current and future curriculum policies and practices.

To achieve these aims, a mixed-method research design was adopted. This allowed the research team to approach the issue of curriculum implementation from multiple angles. The various research methods are detailed in the following sections of this chapter.

Analysis of data from existing (secondary) datasets

We undertook the following analyses of secondary data:

- Analysis of patterns of enrolment in qualifications and qualifications passed at an individual level and at a system level, and linkages with socio-economic factors such as characteristics of students, their families and schools. This consisted of secondary data analysis of existing datasets, including the Scottish Longitudinal Study (SLS⁵) dataset and administrative education data held by the Scottish Government.
 - We used a sub-dataset from the SLS, a 5.3% random sample from the Scottish Population Census. Our sub-dataset comprises young people who were born between 1996 and 2000, and who went through the upper stages of secondary education (S3-S6) in years 2011-2015. Family background information was available from the 2011 Scotland Population Census and

⁵ SLS linked datasets have no identifiable individual level data and are derived from linkages that are anonymised prior to handover to the research team.

- subject choices information was available from the administrative education data linked to the SLS data.
- We used the Scottish Government longitudinal administrative education data for years 2011-2019 for all state-funded secondary schools in Scotland. The dataset comprised School Census data, which provided information about students and schools in terms of their socio-demographic characteristics, SQA enrolment and attainment statistics data, and Positive Destinations data aggregated by secondary schools in Scotland. These datasets were linked using school IDs.
 - Analysis of the relationship between the breadth of curriculum at the beginning of the Senior Phase of secondary education in Scotland (measured by entries for National 5 level qualifications in S4) and students' outcomes at individual level and at system levels, and linkages with socio-economic factors such as characteristics of students, their families and schools. This was achieved by analysing the Scotland's PISA dataset and Scottish Government Positive Destinations administrative data.
 - PISA is an international study that aims to evaluate education systems worldwide by testing the skills and knowledge of 15-year-old students in participating countries/economies. We used the Scotland's 2018 PISA data subset linked to the 2018 Scottish Government administrative data on subject entries and attainment in publicly funded secondary schools in Scotland. Given that the PISA study tests the competences of 15 year olds, it seems that subject choice at 15 is a relevant measure of the breadth of education for young people (the 2018 PISA dataset in Scotland has a sample of students, equally split between S4 and S5 students⁶).
 - The 2018 PISA dataset offers a rich set of measures of global competence, including awareness of other cultures, a familiarity with the issues and the problems of local and global significance, the ability to engage in active discussion of these issues and the realisation that students possess the agency to contribute to their own well-being and to solve some of the world's problems. Furthermore, PISA data also comprise a rich set of measures about the family background of the study participants, which allows us to explore not only the school, but also how individual and family level characteristics impact on the outcomes of young people. Finally, the PISA test scores in mathematics, language and science tests offer additional measures of competences, since these tests evaluate how young people can apply knowledge gained at their schools to solve real-life problems (Schleicher, 2020).

⁶ See <https://ffteducationdatalab.org.uk/2021/04/pisa-2018-in-scotland-its-all-a-bit-of-a-mess> for details.

For the secondary data analysis we used descriptive, bivariate and multivariate methods of statistical data analysis, including Poisson regressions (for the SLS data analysis), linear regressions (for the administrative education data analysis) and multilevel regressions (for the Scotland's PISA dataset analysis).

New (primary) data collection and analysis

The aim of the primary data collection was to generate a representative and relatively comprehensive picture of school curriculum provision in Scotland, highlighting patterns of subjects offered, their organisation, and student choices, as well as surfacing the influences that shape curricular decision-making in schools. The primary data consists of:

- A survey, completed by secondary school senior leaders. The questionnaire asked senior leaders to provide an overview of their school's context regarding curriculum provision across the BGE (S1-3) and Senior Phase (S4-6), and to provide more contextual information on the causative factors influencing their curriculum provision and curriculum making practices. In total, between June and September 2020, 116 secondary school leaders from 29 of Scotland's 32 Local Authorities completed the survey; this represents about one third of public funded Scottish secondary schools.
 - Engagement with key actors to explore reasons for emerging patterns of provision. This was qualitative research, consisting of focus groups and interviews, with key stakeholders in Scottish education. In total this comprised 17 national level focus groups, as well as 10 focus groups and 7 interviews across 3 case study secondary schools. In total, 133 participants took part in the case studies and national level focus groups (57 in the school case studies, 76 in the national focus groups). All discussions were undertaken via Microsoft Teams. The participants cover a range of key stakeholders in Scottish education: Local Authority Directors of Education; Local Authority Quality Improvement Officers; headteachers and other school senior leaders; teachers and other school staff; young people; and parents/carers.

4. Main findings

In this chapter we present the findings thematically. The chapter commences with an overview of key findings, before addressing each of the following themes in turn:

- patterns of provision in Scottish secondary schools;
- explanations for patterns of provision;
- and effects of patterns of provision – on 1] attainment, 2] transitions and 3] destinations.

Summary of key findings

Senior phase provision

- Since 2013, there has been a significant reduction in the number of National Qualifications entries in S4⁷ for SCQF⁸ Levels 3, 4 and 5 combined, with the greatest reductions seen in SCQF Levels 3 and 4.
- Since 2013, the number of subjects studied by S4 students has decreased: in 2013, over two-thirds of S4 students studied 7-8 subjects, whereas in 2014, less than half of the students studied that many.
- Some subjects (e.g., Social Subjects, Expressive Arts and Modern Languages) have been subject to a decline in enrolments, in comparison with subjects seen as core curriculum (e.g., Maths and English).
- There is evidence of social stratification in overall and subject entry patterns in S4, with a steeper decline (e.g., fewer entries, narrower range of subjects) affecting students from comparatively disadvantaged areas.
 - Schools in more disadvantaged areas were more likely to have delayed patterns of entry to SCQF level 5 qualifications (in S5 rather than in S4).
 - The patterns of provision for Higher and Advanced Higher remained largely stable, however, in schools serving disadvantaged areas, delayed patterns of entry to Higher qualifications were observed (in S6 rather than in S5).

⁷ See Appendix B for mapping between Scottish National Qualifications (pre- and under CFE) and the stages of secondary education in Scotland

⁸ The Scottish Credit and Qualifications Framework. <https://scqf.org.uk/>. Also see Appendix A.

BGE provision

- Significant variation in the numbers of subjects studied in the BGE, both between schools and across different year groups.
- Evidence of the significant curricular fragmentation in many schools, with a large proportion of students being taught by over 15 teachers each week and considerable potential for incoherent provision.
- Evidence of early subject choice in some schools, with students being channelled into Senior Phase courses before the end of the formal BGE in S3 (sometimes as early as the end of S1).

A culture of performativity

- BGE provision is shaped to a large extent by a backwash effect from the Senior Phase, meaning that subjects tend to mirror senior phase choices, leading to the abovementioned issues of fragmentation, incoherence and over-early choices.
- Pressure to raise attainment in the senior phase can lead to practices which are counter-educational, including abolishing low-performing subjects in the Senior Phase, teaching-to-the-test and channelling students into courses to benefit school attainment statistics.
- Many key actors in the system (including Local Authority Directors of Education) dislike current practices associated with the attainment agenda, which they see as acting counter to the philosophy of CfE.
- Shortages of teachers (especially in STEM subjects) and a lack of teacher non-contact time can limit subjects offered and teachers' capacity for curriculum making.

Effects

- A narrow curriculum in S4 is associated with fewer subjects studied at subsequent levels of qualifications (i.e., Higher and Advanced Higher) in S5 and S6.
- Under CfE, an increased proportion of young people enrolled in SCQF Level 5 qualifications passed these qualifications, indicating a more selective entry to these qualifications than prior to 2014. Students in S4 enrolled in National 5 qualifications were more likely to pass these qualifications than those enrolled in equivalent Standard Grade qualifications were to pass Standard Grade credit level qualifications.
- Moreover, there has been an increase, since the introduction of the new National Qualifications, in the average number of Higher qualifications passes obtained by young people in S5.

- A narrow curriculum in S4 is associated (directly or indirectly) with reduced attainment in subsequent school study (i.e., with fewer qualifications attained at SCQF level 5 qualifications in S5, at Higher level qualifications in S5 and at Advanced Higher levels qualifications in S6).
- A narrow curriculum in S4 is associated with lower attainment in PISA tests, including measures of global competence.
- A narrow curriculum in S4 is associated with less positive destinations after leaving school, especially in relation to HE entry.

Patterns of provision in Scottish secondary schools

In this section, we outline the main findings in relation to how the curriculum is organised and patterned in schools. This discussion primarily draws upon the analysis of the secondary datasets and the primary data generated via the survey of school leaders. We start with an overview of Senior Phase provision, before addressing provision in the BGE phase.

Senior phase provision

Senior Phase provision under CfE has been subject to considerable debate in recent years⁹. The phenomenon of curriculum narrowing in school year S4 (typically a reduction under CfE from 8 subjects studied to 5, 6 or 7) has been acknowledged for some time¹⁰, but there has been disagreement about whether this is detrimental; some argue that it allows a sharper focus and raises attainment; others claim that it acts counter to a Scottish tradition of a broad and balanced curriculum¹¹. Our research has looked anew at this issue, examining both the above arguments and some of the nuances surrounding the debates (for example the social patterning of the phenomenon, and variations by age/school stage and subject).

Qualifications undertaken in S4

We found that there has been a reduction in the number of entries for National Qualifications in S4. Between 2013 and 2014, there was a large reduction in the number of qualifications that students entered in S4 (for the previous Standard Grade and Intermediate 2 qualifications in 2013, and previous Intermediate 2 and new National 5 qualifications in 2014). Thus, between 2013 and 2014, when the new

⁹ E.g., <https://www.gov.scot/news/review-of-senior-phase/>

¹⁰ This is widely seen as an unintended consequence of the shift under CfE from two-year to one-year courses at this level – with the same time allocation of 160 hours of study, but less time to complete the course.

¹¹ For example, see: <https://www.tes.com/magazine/archive/scotlands-curriculum-really-narrowing>

National 5 qualifications were introduced under CfE, the number of subject entries for these qualifications fell on average from around 1000 to 730 entries per school and remained at the same level from 2014-2019. We can see in this overall reduction in number of subject entries overall in S4 under CfE that students from all socio-demographic backgrounds selected fewer subjects in S4 than was the case pre-CfE. An interesting trend here is that over the period of 2011-2019, the percentage of passes for National 5 qualifications increased from just under 60% to around 80% from 2014 onwards. In other words, while fewer National 5 level qualifications were entered after 2014 compared to the previous period when the students were entering Standard Grade and Intermediate 2 qualifications, under CfE those who entered SCQF level 5 qualifications were more likely to pass them successfully than before. These findings suggest that, under CfE, the entry into SCQF level 5 qualifications became more selective and this selectivity might be partially responsible for the improved attainment for SCQF level 5 qualifications.

While the number of entries to almost all subject groupings fell, the size of the reduction varied across the subject groupings¹². Subjects such as Maths, Sciences, English, Social Subjects, and Expressive Arts, experienced around 30% reduction in the number of entries between 2013 and 2014. The reduction in the number of entries was larger for Modern Languages (about 45%) and for Technological Subjects (about 60%). The reduction in the numbers of entries to Classical and especially General Vocational Studies were considerably smaller and seems to follow a pre-existing trend of reduction in entries to these subjects.

Furthermore, for Maths and English, which are compulsory qualifications at National 5 level, the initial reduction in the number of entries (between 2013-2014) was followed by a gradual increase in the number of entries between 2015-2019. For subjects such as Sciences and Technological Subjects, once subject uptake dropped, the entry figures then remained stable, with small fluctuations, at that level. However, for Social Subjects, Expressive Arts and Modern Languages the trend in reduction of the number of entries continued after 2014, and through the period of 2015-2019. This suggests a hierarchy of subjects, with those deemed least important (e.g., for future transitions/employment) suffering greater declines.

These trends offer us some insights about how the S4 curriculum narrowed under CfE. While the initial drop in the number of entries to qualifications between 2013 (when students in S4 were entering Standard

¹² See Working Paper 3 for details

Grade and Intermediate 2 qualifications) and 2014 (when students in S4 entered Intermediate 2 and National 3,4, and 5 qualifications) can be partially driven by the fact that, since 2014, entries to National 3 and National 4 qualifications (or their equivalent) have been excluded from the data that we used for our analysis, the trends in the reduction of entries to National 5 level qualifications since 2014 are more indicative. Thus, under CfE, the S4 curriculum narrowed in terms of the diversity and the composition of subject entries, which is evidenced by declining entries to Social Subjects, Classics, Modern Languages and Expressive Arts. There was a slight increase in the entries to General Vocational Subjects, but it could not compensate for the decline in entries to a broad range of academic subjects in S4. These findings support the earlier assertions that the Senior Phase curriculum has narrowed under CfE.

Our research points to socially stratified variation in these trends. Under CfE, the gap in the number of subject entries for National 5 qualifications in S4 between schools located in the least and the most deprived areas was larger than the corresponding gap in subject entries for Standard Grade/Intermediate 2 in S4 prior to 2014. Reductions in overall subject entries are socially patterned, with schools in more socio-economically disadvantaged areas experiencing a steeper decline in entries. Similarly, the reduction in the number of subjects taken in S4 was larger for those who lived in areas of higher deprivation. Therefore, we can see that not only has the S4 curriculum become narrower under CfE – students were both entering and passing fewer qualifications than pre-CfE, but the data highlight how schools in more socio-economically advantaged areas are more likely to follow the traditional pattern of typically eight SCQF level 5 qualifications, seen in the pre-CfE era, than are schools in less advantaged areas. This allows students at these schools to meet the expectations of Higher Education entry requirements¹³ more readily, in a context where many Universities expect that qualifications at a certain level are attained in one year (i.e., in one sitting).

Further analysis of curriculum narrowing in school year S4 by the Scottish Credit and Qualifications Framework levels¹⁴ (i.e., level 3, level 4 and level 5) demonstrates different patterns according to SCQF levels. This analysis suggests that the reduction in overall number of qualifications passed in S4 is related mainly to a drop in the number of qualifications passed at lower levels (SCQF 4 and especially SCQF 3). At the same time, the number of qualifications passes at SCQF level 5 slightly increased over time. This

¹³ Complete University Guide 2022 Entry Requirements. <https://www.thecompleteuniversityguide.co.uk/student-advice/applying-to-uni/entry-requirements>

¹⁴ Prior to CfE, students tended to sit tiered qualification at 2 levels – either 3 and 4, or 4 and 5. See Appendix A for further detail about the articulation of SCQF levels and qualifications.

suggests that, under CfE, schools may be focusing on studying a smaller number of SCQF 5 level qualifications in order to pass their exams and attain at this level. Once more, this trend is socially stratified; our analysis demonstrated that, although under CfE the number of passes in SCQF level 3 and 4 qualifications has dropped across all groups of students, students living in more disadvantaged areas experienced a larger drop in the number of passes at these levels of qualifications. Furthermore, although there was an increase in the number of SCQF level 5 qualification passes overall, this increase was larger for female students and students with parents from more advantaged social classes, while it was far smaller for students from disadvantaged socio-economic backgrounds, those receiving free school meals, students with additional support needs and those from single-parent families.

Additionally, we found that residential neighbourhood characteristics are important, even after accounting for the individual and family characteristics of students. Thus, we found that students from similar family circumstances are entering smaller numbers of subjects at SCQF levels 3, 4 and 5 combined in schools, if they live in deprived local areas. Conversely, we found that, everything else being equal, students were passing more level 5 qualifications and fewer level 3 and 4 qualifications, if they live in more advantaged local areas. We also found that the effect of a student's residential area's level of deprivation on the number of passes on SCQF level 4 and 5 qualifications has increased under CfE.

These findings indicate that, while for students living in more advantaged areas a decrease in the number of SCQF level 3 and 4 qualifications was matched by an increase in the number of SCQF level 5 passes, for those who lived in disadvantaged areas a decrease in the number of lower-level qualification passes did not result in the corresponding increase in the number of passes at higher level of qualifications.

Together with the findings about the positive impact of parental social class and the negative impact of measures of family deprivation on the number of SCQF level 5 qualifications attained, we can conclude that curriculum narrowing and the reconfiguration of the composition of qualifications attained by students in S4 was socially stratified and disproportionately affected students from disadvantaged socio-economic backgrounds.

Qualifications taken in S5 and S6

Our findings¹⁵ show that the percentage of A-C passes for Higher and Advanced Higher qualifications remained quite stable over the period 2014-19. During this period, there was a slight increase in the

¹⁵ See Working Paper 5 for details

average number of passes that S4 students attained for Higher qualifications in S5. At the same time, there was a decrease in the average number of passes that S5 students attained for National 5 qualifications and S6 students attained for Higher qualifications. Furthermore, although under CfE the average number of passes per student at Higher qualification in S5 has increased across all SIMD deciles, the rate of the increase for more disadvantaged deciles was faster¹⁶. Linked to the findings about a larger decrease in entries to National 5 qualifications in schools located in more disadvantaged areas, more selective entry to National 5 qualifications in schools located in these areas might have subsequently resulted in better outcomes at Higher level in S5 in these schools. Finally, the average number of passes at the SCQF level 5 qualifications and at Higher qualifications in S6 decreased under CfE. This decrease was larger in schools located in more affluent areas.

We also discern trends in relation to the stage at which particular qualifications are undertaken by students. We found¹⁷, for example, that the uptake of Intermediate 2/Standard Grade /National 5 qualifications in S4 and Higher qualifications in S5 was larger in schools located in areas of low socio-economic deprivation, in schools with lower proportion of students registered for free school meals and in schools with a higher number of full-time teachers per student. The strength of the association between the characteristics of schools and the Intermediate 2/Standard Grade/National 5 qualifications uptake in S4 has increased under CfE. Conversely our analysis showed that disadvantageous characteristics of schools have been associated with a 'delayed' uptake of qualifications. In such schools, more Intermediate 2/Standard Grade /National 5 qualifications were taken up in S5 (rather than in S4) and more Higher qualifications were taken up in S6 (rather than in S5) on comparison with more advantaged schools).

These findings run counter to the expectations of CfE architects that new National 5 qualifications offer students more flexibility and that spreading the uptake of these qualifications over a longer period offers the students an opportunity to catch up and take up and pass more SCQF level 5 qualifications, not just in S4 but also later, in S5 (and subsequently to take up more Higher qualifications in S6). The findings show that under CfE fewer passes in these qualifications have been attained and that it has become less common to pass SCQF level 5 qualifications in S5, especially in schools located in affluent areas. Thus, under CfE, schools with disadvantageous characteristics, for example being located in more disadvantaged

¹⁶ See Working Paper 4 for details

¹⁷ See Working Paper 3 for the details

areas, and/or having a higher proportion of students registered for FSM, have comparatively larger proportions of passes for National 5 qualifications in S5 and for Higher qualifications in S6.

Provision in the BGE

The previous section draws upon analysis of secondary datasets to explore trends in subject choices and attainment in the Senior Phase. In this section, we draw primarily upon the survey of school leaders to draw conclusions about patterns of provision in the earlier Broad General Education phase covering school years S1-S3.

Analysis of this dataset illustrates that there is considerable variation in curriculum provision across secondary schools. First, there are significant differences in the range of subjects studied across the BGE. Second, there are variations in the stage of schooling at which the first choice is given to students they will subsequently study (i.e., the school year in which they first have autonomy over subjects studied). Third, schools address the boundary between the BGE and Senior Phase in different ways, with implications for issues such as curriculum narrowing. We address each of these in turn.

The survey indicates significant variation in the numbers and configurations of subjects studied in years S1-3. Table 1 (below) illustrates several trends (it is important to stress that the figures in the table indicate the number of subject teachers encountered in a typical week by students in these year cohorts). First, there is a clear tendency for the majority of schools to offer a great number of subjects concurrently in S1 and S2. The table also shows that many schools reduce the number of subjects studied significantly at the end of school year S2.

Maximum number of subjects	S1	S2	S3
7 subjects	0 %	0%	1%
8 subjects	1%	1%	5%
9 subjects	0%	0%	6%
10 subjects	4%	4%	13%
11 subjects	4%	4%	24%
12 subjects	6%	9%	28%
13 subjects	12%	6%	7%
14 subjects	22%	19%	7%
15 subjects	18%	23%	4%
16 subjects	12%	12%	1%
17 subjects	13%	11%	2%
18 subjects	4%	7%	0%
19 subjects	1%	2%	0%
20 subjects	1%	2%	0%
21 subjects	0%	1%	0%
22 subjects	1%	0%	0%

Table 1: Range of subjects studied in the BGE

The data paint a picture of a highly fragmented BGE in many schools, with a large proportion of students in S1 and S2 being taught by 15 or more teachers each week. Qualitative data support this conclusion, with school staff and leaders reporting a BGE phase that is not only fragmented, but also formed of largely traditional configurations of subjects. Such configurations were reported by some participants as being not fit-for-purpose for various reasons. They are geared to subject selection (as taster subjects) and assessment demands (the learning of narrow skills) for future Senior Phase study, rather than the educational purposes of the BGE phase. Approaches often involve instrumental selection of content with these issues predominantly in mind. Such approaches limit capacity to address areas of knowledge (e.g. media literacy), which are not well-covered in the traditional subjects. Moreover, the sheer number of subjects running concurrently in many schools can militate against in-depth study and the making of interdisciplinary connections between subjects. There is some use of more innovative provision evident in the data (e.g., subject rotations, hybrid subjects such as Social Studies, and one teacher/three subjects approaches to Science and Social Subjects), but the general picture is one of BGE provision that essentially mirrors senior phase subjects, and which constitutes both preparation for the senior phase qualifications and competition for the best students. This leads potentially to incoherent provision with significant gaps in knowledge to be acquired – in effect, a curriculum which runs counter to the principles of CfE, which aspire to the creation of a broad and balanced foundational curriculum in the BGE.

A second issue lies in the practice in some schools of very early narrowing down – even as early as the end of year S1 – to subjects that will be taken in the senior phase. Linked to this is the third issue, relating to when senior phase courses start. There has been lively debate in Scotland about the structure of provision, with two predominant approaches. The first is a 2+2+2 model that treats the BGE as a two-year phase (S1 and S2), a two-year National 5 programme (S3 and S4) and a two-year post-compulsory phase (S5 and S6). This is in line with previous, pre-CfE patterns of provision. The alternative is a 3+3 model, with a 3-year BGE (S1-S3) and a three-year Senior Phase. This latter approach is more in line with the philosophy of CfE, offering the potential for a broad foundational programme in the BGE and flexible provision across the Senior Phase – as we have seen from our data, neither scenario has fully emerged: the Senior Phase largely comprises a ladder of SCQF qualifications (e.g., levels 5-7); and the BGE largely mirrors senior phase provision in its subject configuration. In many senses, the predominant model is not 2+2+2 or 3+3, but instead 2+2+1+1 or 3+1+1+1. The overall picture here is one of considerable variation in provision in the BGE, raising equity issues (e.g., variable curricular experiences and outcomes differentiated by school and/or local authority) and questioning whether provision is fit-for-purpose in the context of current curricular policy. We will explore the reasons that lie behind this variation in the next section of the chapter.

Explaining patterns of provision

The school leaders survey returns indicated that there are many key factors influencing curriculum design. These include:

- Data, related to attainment and positive destinations, are highly influential in shaping decisions about curriculum design and provision in the majority of schools. This largely relates to meeting performance indicators and other externally specified measures of ‘success’, which can lead to instrumental decision-making (and the potential to undermine the educational aims of the curriculum).
- Linked to the above, many national policies are influential in the design of a school’s curriculum. However, it is a cause for concern that the Four Capacities of CfE – the core purposes laid out in national curricular policy – seem to be at best only moderately influential in informing curriculum design in many schools.

The survey findings are best viewed alongside the qualitative findings, which provide greater context and insight into how the curriculum is experienced by young people and school staff, providing a more

nuanced understanding of factors shaping curriculum making in Scottish secondary schools and contextualising and supporting further the findings from the quantitative strand of the study. The qualitative data highlight positive features of curriculum making in secondary schools, for example positive views relating to lessons learned from COVID-19 practices, especially in relation to the use of technology and digital learning, as well as clearly illustrating the professionalism and dedication of staff across the secondary education system. Conversely, the data surfaced some areas for concern in relation to curriculum making.

Participants, including Local Authority Directors of Education and headteachers, reported considerable dissatisfaction with some of the factors that shape curriculum making – and these are seen as being often in tension with their professionalism and the aspirations of CfE. For example, the research highlighted the following:

- There are significant tensions between pressures from the government, the school inspectorate (HMIe) and Local Authorities to raise attainment on the one hand, and teachers' professional values and the core values of CfE on the other. These arise from accountability demands relating to students' attainment, and often result in teachers utilising instructional teaching methods and 'teaching-to-the-test' rather than employing the active pedagogy promoted by CfE.
- There is conflict between efficiency savings and providing a curriculum for all learners, with some headteachers reporting that, contrary to policy intentions (e.g., the flagship *Getting It Right For Every Child* policy, known as GIRFEC), some young people are being 'left behind' because their needs are not being met.
- There are significant capacity issues, such as a shortage of specialist teachers in some subjects, the use of limited non-contact time to cover absence, and issues related to the professional education and registration of teachers.

Overall, the research points to the existence of a culture of performativity in many schools, encouraging the instrumental selection of content and/or organisation of curriculum provision to maximise attainment in the Senior Phase, and teaching-to-the-test. For example, subject teachers in our focus groups stated that students are 'steered' (or in the most extreme cases 'farmed', denoting a lack of student agency in their choices) into 'higher attaining' subjects (i.e., subjects with the highest pass rates and/or attainment at the highest grades). In interviews with caregivers and young people, it was claimed that young people were withdrawn from National 5 and Higher courses if they were unlikely to attain that level. Caregivers

suggested that, in some instances, the motivation for students being entered at lower levels was to improve the school's attainment statistics. Correspondingly, educators reported that young people who wanted to continue with Higher courses for the learning experience were withdrawn if they were unlikely to pass.

A particular effect of performativity, as reported by focus group participants, is its influence on provision more broadly. This is seen in the narrowing of the secondary curriculum, with evidence of decisions being driven by pressures to produce better attainment data. In one example, a headteacher stated:

The results were poor year on year and the kids were failing so eventually I just cut the subject [Technical Studies] and put the pupils elsewhere. At times you have to do these things to wake up a department, so I suppose the consequences are it's a cutthroat industry for pupil choice selection. (Headteacher)

Performativity is also seen in the backwash effect that the National Qualifications exert on curriculum making in the earlier BGE phase (e.g., BGE provision that mirrors Senior Phase subjects rather than being based on an educational rationale for the phase in question, and early selection of subjects that will be assessed in the Senior Phase). As one headteacher reported, the BGE in her school was very traditional, its development being a low priority in comparison with the Senior Phase. Overall, we see in the data a picture of BGE provision that has been comparatively under-resourced and subject to relatively little innovation, despite its fundamental importance – as a foundational education experience – to the development of CfE.

Our qualitative data suggest that students studying levels below SCQF level 5 were disadvantaged because limited resources were prioritised for National 5 level or above, and because schools continue to be judged according to their '5 at' attainment statistics (i.e., number of students attaining 5 National 5's and 5 Highers). Headteachers from high attaining schools reported that provision of lower-level courses was impacted by financial constraints; for example, their schools could run discrete National 5 and Higher courses but were unable to timetable National Progression Awards because of financial constraints. The deployment of multi-course teaching¹⁸ could also potentially exert impacts on the attainment of young people working at lower levels, including those students with ASN. Indeed, caregivers expressed concern

¹⁸ This refers to the widespread practice of timetabling different levels of qualification (e.g., National 4 and National 5) in the same class, even where there are significant differences in content.

that children studying National, 1, 2 and 3 faced challenges in terms of subject choice and having their individual learning needs met, particularly in a multi-course classroom.

The research illustrates the effects of the hierarchical structure of Scottish education on curriculum making, with participants reporting the considerable risk involved in innovating; often, it is deemed to be safer to persist with tried and tested approaches, rather than developing the curriculum in line with the principles of CfE. The Scottish education system, structured around a centre-periphery model with asymmetric power relations (despite recent policy rhetoric about an ‘empowered system’), leads to stakeholder groups facing pressure to perform from the layer above them. As one teacher stated:

Geography results were poor across the authority one year and Geography teachers were summoned by the Head of Education and given an absolute rollocking. It was deeply, deeply unpleasant. (Teacher)

This sits in considerable tension with stated policy intentions to empower schools and teachers, and acts to restrict the sorts of teacher professional agency necessary to enact CfE meaningfully. We will return to this issue in our final chapter.

Effects of patterns of provision

While curriculum narrowing and a system driven by an attainment agenda are undoubtedly matters for controversy, it can be argued that the forms of provision highlighted in the above sections can be justified if they lead to better attainment, that is students leaving schools with qualifications and knowledge/skills/attributes that maximise their life chances, as well as serving the needs of the community (e.g., skills for the workplace). For example, is narrowing the curriculum in S4 associated with better attainment subsequently, and are there benefits of an approach which specialises at the expense of a broader curriculum? In this section we address this issue, exploring data relating to attainment, transitions and destinations¹⁹ – in other words the effects of curriculum provision on the life chances of young people. Our analysis suggests that curriculum narrowing is associated with negative consequences for young people in relation to attainment, transitions to subsequent study in school, and destinations beyond school.

¹⁹ We use the Scottish Government’s definition of a ‘positive destination’, which includes Higher Education, Further Education, employment, training, personal skills development and voluntary work.

Attainment of SCQF qualifications

We found that a narrower curriculum in S4 had a detrimental effect on attainment, contrary to the commonly held belief that studying fewer subjects would improve results. To investigate this, we examined the relationship between the number of subject entries—both overall and average per student—and attainment, and we tested the relationship between a narrowing of the curriculum between 2013 and 2014 and attainment at levels 5, 6, and 7 of National qualifications. We used bivariate and multivariate data analysis to control for the attainment in previous year(s) and various school characteristics.

- Subject choice in S4 was associated with the average number of A-C passes for National 5 qualifications in S4. The results of the multivariate analysis, which controlled for various school characteristics, indicated that schools with a higher number of entries to qualifications in S4 achieved more A-C passes for National 5 qualifications (or their equivalent).
- Higher qualifications passes in S5 were strongly correlated with the number of subjects entered for Higher qualifications in S5; schools in which students were opting for more subjects at Higher level in S5 also yielded more Higher level qualification passes.
- We did not find a direct correlation between S4 subject choice and attainment at the Higher level in S5, after controlling for performance at the National 5 level in S4. However, we found that in schools where more subjects were passed at National 5 in S4, more Higher passes were obtained in S5.
- We discovered a negative correlation between passes for Higher qualifications in S5 and curriculum narrowing – schools that experienced a greater decrease in National Qualification entries in S4 between 2013 and 2014 had fewer A-C passes for Higher qualifications in S5.
- Coupled with our finding that subject choice in S4 was associated positively with the average number of A-C passes for National 5 qualifications in S4, we can conclude that S4 subject choice is linked to Higher attainment in S5, albeit to a degree dependent on performance at the National 5 level in S4.

Other outcomes

Another fruitful line of inquiry for the research lay in the availability of PISA data, which was linked to administrative education data to provide insights, for example, into any association between the

narrowness of the curriculum and attainment in PISA tests. The analysis²⁰ of Scotland's 2018 PISA dataset highlights that the number of subjects entered in schools for National 5 level qualifications (as a proxy for a broader secondary curriculum in S4) was positively associated with attainment measured by PISA test scores. Additionally, we found a relationship between a greater number of subjects studied in S4 with higher scoring in global competences measures (introduced in 2018).

In particular, we found that the average number of subject entries in schools by students for National 5 level qualifications in S4 was positively associated with the attainment measured by PISA Math and English scores, even after accounting for characteristics of students, their families and their schools. Similarly, we found that numerous measures of global competences are positively associated with the breadth of the curriculum, measured by the school-average number of qualifications entered by students in S4. The analysis of the relationship between the subject choice in S4 and the OECD measures of global competences revealed that, after accounting for the characteristics of students (age, gender), their families (education, economic, social and cultural resources and immigration status) and school (SIMD, % FSM, % ASN, Student/Teacher ratio), the positive relationship between the average number of subjects entered by students in schools for National 5 qualifications in S4 was statistically significant for PISA composite indexes of:

- awareness about importance of intercultural communications,
- global mindedness,
- resilience
- sense of belonging to schools.

These findings suggest that enrolling in a broad range of subjects in S4 and hence a broader secondary curriculum, is associated with the wider competences of young people that makes them better prepared for life in modern, complex and interconnected world.

Transitions

Despite the intention to introduce greater flexibility under CfE, by allowing students to spread taking up National 5 qualifications across S4, S5 and S6, we found that fewer National 5 level qualifications were entered in S5 under CfE compared to the equivalent level qualifications under the old curriculum.

²⁰ For details see Working Paper 6

Furthermore, the number of entries to National 5 level qualifications in S5 has been decreasing continuously under CfE, over the period 2014-2019.

Furthermore, we found that uptake of National 5 qualifications in S5 was negatively associated with the uptake of National 5 qualifications in S4. We found that under CfE the uptake of National 5 qualifications in S4 was positively correlated with the uptake of Higher qualifications in S5; however, we also found that, in schools located in the areas of similar level of social disadvantage, this relationship between the subject uptake for National 5 qualifications in S4 and Higher qualifications in S5 disappeared.

However, we did find that under CfE, everything else being equal, the uptake of National 5 qualifications in S4 was negatively associated with a delayed uptake of Higher qualifications (i.e., in S6 rather than in S5). When controlling for other factors, schools where fewer entries to National qualifications were recorded in S4 had more entries to Higher qualifications in S6. This pattern of delayed entry in qualifications is socially stratified: students attending schools in disadvantaged areas were more likely to undertake National 5 qualifications in S5 and Higher qualifications in S6.

Destinations

Our analysis shows that there is a positive correlation between the average number of subjects studied in S4 and positive post-schooling destinations for young people. Over time, we have seen a growing proportion of school leavers arriving at positive destinations (i.e., Higher Education, Further Education, and employment combined) within three months of leaving school, with a corresponding decrease in the proportion of unemployed individuals (the latter was particularly notable since 2013). This suggests that the implementation of Curriculum for Excellence (CfE) is having a positive effect on student outcomes.

Examining different types of ‘positive destinations’ separately, we found that having a higher number of S4 subjects was negatively correlated with school leavers entering employment or Further Education after leaving school. However, having a higher average number of S4 subjects was associated with school leavers entering Higher Education two years later. This suggests that those who have done more subjects in S4 are more likely to progress directly to Higher Education after leaving school.

We discovered that under CfE, the correlation between the number of subjects a student studies in S4 and the probability of them transitioning to a positive destination two years after leaving school has increased. Prior to CfE, the total number of subjects studied by students in S4 in the schools they attended

showed less of a correlation with the number of students who successfully transitioned to a positive destination, than under CfE.

Given our finding that curriculum narrowing and the reconfiguration of the composition of qualifications attained by students in S4 was socially stratified and affected disproportionately students from disadvantaged socio-economic backgrounds, this is particularly concerning, as there is a significant correlation between the average number of subjects taken in S4 and the eventual outcomes of school leavers two years later, highlighting an inequitable disparity in educational opportunities.

Our findings offer an indirect indication that schools located in advantaged socio-economic areas and schools with more socially and economically advantaged bodies of students are following the ‘traditional’ (i.e., pre-CfE) patterns of qualifications uptake, where students were taking up most of their SCQF level 5 qualifications in S4; this in turn facilitates taking more Higher qualifications in S5 and more Advanced Higher qualifications in S6, and thus allows students to more readily meet the expectations of Higher Education entry requirements, where many Universities expect that qualifications at a certain level are obtained in one year (or in one sitting) (Johnson & Hayward, 2008).

Therefore, not taking up a wide range SCQF level 5 qualifications in S4 may put young people at a disadvantage – many universities (and especially the elite universities) require at least 5 passes (i.e., grades A-C) at National 5 level to be obtained in one year (one sitting) and at least 4 passes in Higher qualifications also to be obtained in one year, with many Russell group universities also requiring five Higher qualifications as well as Advanced Higher qualifications from applicants with Scottish qualifications.

For example, these are Undergraduate entry requirements of Oxford University for candidates with Scottish qualifications:

...We welcome the valuable skills developed by students studying within the Curriculum for Excellence and would usually expect AAAAB or AAAAA in Scottish Highers, supplemented by two

or more Advanced Highers. Conditional offers will usually be for AAB if a student is able to take three Advanced Highers...²¹.

University of Edinburgh undergraduate entry requirements specify that:

Although you are not required to take all of your Highers in a single year, you must achieve at least **BBB at Higher, in one year** of S4 to S6, with highly competitive areas requiring achievement by the end of S5²².

The findings from our qualitative interviews show that some caregivers indicated a lack of understanding about university requirements (e.g., about the need for Higher grades to be achieved in one sitting). For instance, one caregiver stated that she had not understood the consequences of her child spreading the uptake of their qualifications (including a work-based learning course) over two years rather than taking them all in one year. Indeed, caregivers conveyed that assumptions are made regarding their knowledge in terms of the requirement for grades to be achieved in one sitting. Caregivers called for this requirement to be made transparent and to be communicated earlier in their child's school career, because in some cases this gap in knowledge was detrimental to their child gaining access to their first choice of university course. It was noted that this communication was particularly important for caregivers who had not progressed to university from school, caregivers from countries outwith Scotland, and caregivers who spoke English as a second language.

²¹ For information about university entry requirements for the candidate with Scottish qualifications in Scotland and England see [University Entry Requirements | UCAS](#); for an example of entry requirement of Russell group universities for the candidates with Scottish qualifications see: [SQA National 5 requirements | The University of Online resources | University of Oxford](#)

²² [SQA Highers and Advanced Highers | The University of Edinburgh](#)

5. Conclusions

The Scottish *Curriculum for Excellence* (CfE) explicitly aims to improve the breadth and depth of learning for young people, in order to fully prepare them for the workplace and citizenship in the 21st Century. Yet, by 2018, evidence emerged of curriculum narrowing and a reduction of choice in the Senior Phase of secondary education, with this phenomenon disproportionately affecting students from disadvantaged socio-economic backgrounds. Moreover, there was a major gap in the evidence base for policymaking and practice about the ways in which CfE is being developed in schools, and its impact on the subject choices of young people in Scotland – in relation to the outcomes of young people, in terms of their subsequent adult life and initial transitions from school to training, FE, HE and employment. Indeed, prior to this study there has been a lack of systematic data about the nature of curriculum provision in Scotland (e.g., how the curriculum is patterned in the different stages of secondary education). Moreover, there was little existing Scottish research that explained the reasons for the form that curriculum takes in different schools or the relationships that exist within the curriculum.

This study aimed to bridge the gap in the evidence through exploring curriculum provision in Scottish secondary schools and the relationships between patterns of provision and educational outcomes/transitions. To address the aims of the study, we combined various approaches to the generation and analysis of data: the analysis of existing secondary data (such as the Scottish Longitudinal Study and Scottish Government administrative education data; the Scotland PISA data linked to the Scottish Government administrative education data); the generation of new quantitative data (i.e., the School Leaders survey); and the generation of new qualitative data (i.e., case studies and national focus groups) about curriculum provision and accompanying processes of decision making, including the role of teachers, students and their families in these decisions. In this concluding section of the report, we provide a summary of the findings, while offering some reflections on implications of the research.

The analysis revealed that under CfE, curriculum narrowing in the compulsory S4 year of the Senior Phase (defined as a reduced number of subject entered/studied in S4 at SCQF levels 3,4, and 5 combined) was experienced by students from all socio-demographic backgrounds, but even more so by students who lived in area of high deprivation. Although under CfE students have passed fewer SCQF levels 3, 4, and 5 combined than pre-2014, this decrease the number of qualifications passed seems to be related to a drop in the number of SCQF level 4 and level 3 qualifications passed. In contrast, the number of qualifications passed at SCQF level 5 increased slightly between 2012-2014 and continued to increase under CfE. We also found that provision in the earlier BGE phase (years S1-S3) was subject to a significant

backwash effect. This was evident in the fragmentation of provision, with students being taught by 15 or more teachers in a week being commonplace, subjects mirroring senior phase patterns and (in some cases) very early narrowing of choice, as students are channelled into the subjects they will take in S4. The research provides clear evidence that many practices are determined by external demands for data, rather than by the intrinsic – arguably more educational – logics of the curriculum, and that this disproportionately affects students from comparatively disadvantaged backgrounds, through narrower choice, and delayed entry to important qualifications.

In exploring the relationship between subject choice in S4 and attainment across the Senior Phase, analysis of Scottish Government administrative education data highlights how, despite fewer young people entering SCQF level 5 qualifications (National 5 or their equivalent) since 2013, an increased *proportion* of young people were passing these qualifications, indicating a more selective entry to National 5 qualifications under CfE, with students in S4 more likely to pass these qualifications at SCQF level 5 than students enrolled in equivalent Standard Grade qualifications prior to 2014. Moreover, there has been an increase, since the introduction of the new National Qualifications, in the average number of Higher qualifications passes obtained by young people in S5.

One of the aims of CfE was to introduce more flexibility in terms of qualifications entries, allowing students to spread the qualification uptake over a longer period of time, rather than to follow the traditional mode of the qualification uptake in Scotland prior to CfE, with a majority of SCQF level 5 qualifications being expected to be attained in S4 and a majority of Higher qualifications being expected to be attained in S5. If this was indeed the case and students were taking fewer National 5 qualifications in S4 because they have been postponing their uptake for S5, we should be able to see an increase in National 5 qualifications uptake in S5 under CfE.

And yet we found that, while the entries to Intermediate 2/Standard grade qualifications in S5 rose between 2011-2014 (i.e., prior CfE), entries to National 5 level qualifications in S5 under CfE have decreased. Therefore, it seems that the introduction of more flexibility in taking up National 5 level qualifications and a reduction in the qualification uptake in S4, have not resulted, on average, in a larger uptake of these qualifications in S5, despite the reduced uptake of these qualifications in S4.

Our examination of curriculum narrowing on the subject grouping level indicates that, under CfE, contrary to the CfE architects' intention to spread out the opportunity of taking National 5 qualifications between

S4 and S5 to encourage more students taking up a broad range of qualifications at this level and hence to expose them to a more flexible curriculum, it seems that, apart from compulsory subjects, Maths and English, and General Vocational subjects (which are seen as easier qualifications to pass), the upper secondary curriculum manifested a decline in the numbers of entries for other non-compulsory subjects in National 5 level qualifications under CfE. Thus, the entries to non-compulsory subjects in S4, which dropped between 2013-2014, either remained on that level (for subjects such as Sciences and Technological Subjects) or continued to decline (Social Subjects, Expressive Arts and Modern Languages) through the period of 2015-2019.

It is crucial for these findings to be viewed in tandem with our qualitative findings, which report on the use of attainment data at school level. These findings indicate that attainment driven decision-making is central to the culture in which schools operate, whereby staff are under pressure to meet the demands of the system, rather than the system supporting decision-making grounded in an educational rationale. Furthermore, our qualitative study suggests that the decline in the numbers of entries for other non-compulsory subjects at National 5 level qualifications under CfE, was caused primarily by a narrowing in the range of subjects available to take, and inflexible timetabling structures. Teachers, parents and students, who participated in the qualitative strand of our study, expressed concerns that school secondary curriculum practices are predominantly shaped by pressure on schools to achieve results (in terms of passes for National 5 qualifications, which are often seen as a prerequisite for Higher study in the same subject) and by timetabling constraints, both of which had a negative impact on educational experience and opportunity for young people. Indeed, this narrow focus on what is assessed for National Qualifications can be argued to be counter-educational, limiting young people's opportunities to develop the knowledge, skill and attributes necessary for life beyond school. As a headteacher from one case study school suggested, the number of young people 'sitting' (i.e., enrolling for) National 5 rather than passing the exam and attaining National 5 should be considered as more important, because exposure to academic study was beneficial for many young people.

The research thus paints a rather gloomy picture of a secondary educational system that places demands on schools to perform in particular ways, and many practices which involve schools striving to meet the demands of the system, rather than vice versa. One might argue that the important curriculum is the one that is enacted and experienced daily in classrooms – the nano curriculum (Priestley et al., 2021). This should be a coherent and purposeful experience that takes account of the need for progression, and which is geared to developing the attributes and capabilities set out in the Four Capacities of CfE. Taking this

argument a step further, one might expect that the system should support this curriculum. Any yet, instead we see a situation where the system, with its emphasis on producing particular kinds of performance data, can reduce the focus on what matters to meeting external demands, rather than encouraging and supporting the sorts of practices that emphasise meaningfully curricular purposes and principles. We thus see an inherent tension between the aspirations of CfE and the external accountability demands of the system, with the latter invariably taking precedence over the former, leading to instrumental – as opposed to educational – decision-making. This is redolent of the insight from Apple (2001) that students must now perform to benefit the school; here, we see a situation where schools are obliged to perform to benefit the system, and the potential for ‘reforms that deform’ (Smyth & Shacklock, 1998, p.8).

6. Recommendations for policy and practice

To conclude this report, we offer several recommendations, which follow from the analysis of secondary and primary data. These are largely focused on policy: either because the research highlights implications for policy framings of CfE, tensions within and between policies, and the influence of accountability mechanisms, often with their roots in national requirements for producing and using data; or because changes in practices in schools and supporting agencies are likely to require resources and new policy framings provided by government. The recommendations are grouped into several themes.

Theme 1: accountability and performativity

Many of the phenomena highlighted by the research, including curriculum narrowing (with socially differentiated impacts on young people), appear to have their roots in the performativity that develops as a result of external demands upon school, particularly for the production of particular types of data, especially those linked to attainment. The survey of school leaders and the testimonies of different stakeholders in focus groups demonstrate the destructive effects of external demands and accountability systems on school practices, as evidenced through curriculum narrowing (with its socially differentiated impacts on young people). Our research, including data from focus groups and case study interviews, suggests that there is a culture of performativity in the system, characterised by an excessive emphasis on attainment and associated practices, such as data-driven decision-making and teaching to the test. This is further supported by survey data from school leaders and qualitative data. We therefore recommend that:

- **Recommendation 1.** The government should commission **an independent review of data usage for accountability purposes** across the various layers of the education system, with the goals of:
 1. understanding how different policies create conflicting demands on the system;
 2. mapping the different backwash effects that accrue from use of data, including issues relating to curriculum making – design, assessment, pedagogy, etc. – and their impacts; and
 3. developing new approaches that are less likely to produce perverse incentives.

We also recommend that this review should include consideration of how other successful, less performative systems use data to inform practice.

Linked to the above, the research identified the erosion of teachers' time, essential for curriculum making, which is a result of external demands, often involving second order tasks. Participants in focus groups spoke of the time lost to administrative tasks that are generated by system demands for data and accountability. We therefore recommend that:

- **Recommendation 2.** The government, via the proposed national agency (Muir, 2022), looks anew at the issue of bureaucracy in schools, with a view to **developing more proportionate approaches to areas such as moderation of school-based assessment decisions and recording/reporting of attainment.**

When reforming the Senior Phase National Qualifications, following the current Hayward Review, we recommend that consideration is given to the backwash effects of qualifications on provision and pedagogy. The distorting effects of the current senior phase on learning and teaching, including in the earlier BGE phase, was widely noted by participants in the qualitative research as highly problematic. These include aspects such as the 'two-term' dash and the predominant exam-based assessment methodology. We thus suggest that the following aspects are important:

- **Recommendation 3. Changes to the structure of the Senior Phase** to move beyond the current series of 'two-term dashes', which encourage a superficial approach to learning, to a more holistic and seamless stage of education.
- **Recommendation 4. Reform of assessment methodology** to incorporate more continuous coursework assessment, which is embedded in learning and less likely to promote teaching-to-the test methodologies.
- **Recommendation 5. A shift in the discourse, away from NQs to SCQF levels.** This needs to occur across the system to reduce the narrow focus on raising attainment in particular qualifications, encompassing everything from how we evaluate schools (inspections, Insight etc.) to university entrance requirements.
- **Recommendation 6. It is necessary to introduce additional measures of student outcomes.** Attainment and positive destinations are useful measures. However, they cannot provide us with a holistic picture of how well the education system is preparing young people for the transition to adult life. The measures of global competence from the OECD PISA study, explored in this study, offer a good example of how the system could monitor the impacts of the curriculum, taking into account a broader set of outcomes for young people.

Theme 2: curriculum provision

The research indicates that, while the flexibility inherent in CfE is to be welcomed, it also raises issues of equity across the system. Survey and focus group data pointed to the wide variety of different approaches – for example, variability in the numbers and range of subjects offered in the Senior Phase, variability in when students choose their subjects, and variability in the range of types of subjects offered in the BGE. This is especially evident in respect of early choices and premature curriculum narrowing in the BGE, and narrow choice of subjects in the Senior Phase, associated with the demographic characteristics of schools, with their potential for negative impact on future choices, transitions and positive destinations.

The development of new national guidance to articulate better the possible structures of BGE and Senior Phase and the relationships/transitions between them is needed. This guidance should be research-informed, pointing to advantages and disadvantages of different approaches, and its development should involve stakeholders (including classroom teachers). It should ensure that terminology is clearly conceptualised to avoid ambiguity. We recommend that:

- **Recommendation 7.** New guidance should set out principles for organising the BGE, with explicit goals of reducing the current high levels of fragmentation (e.g., students in S1 seeing 15 or more teachers in a week) and to avoid dubious practices of early narrowing to fit future qualifications – a phenomenon strongly suggested by the survey and focus group data. This should address issues related to the principles that underpin this stage of education, issues such as coherence and progression, and possible approaches (e.g., different configurations of subjects, interdisciplinary/integrated provision) that might be adopted. This guidance should spell out the implications of issues such as fragmentation and early choice.
- **Recommendation 8.** There should be clear guidance developed, following the post-Hayward reforms on different approaches to structuring the Senior Phase, drawing on research to provide an appraisal of the advantages and disadvantages of each approach.
- **Recommendation 9.** Furthermore, this guidance should be developed to address the issue that **curriculum narrowing in S4 – and the consequences of this narrowing for further curriculum choices, attainment and destinations of young people – are being experienced by students attending schools in disadvantaged areas to a much greater extent than by their peers from more advantaged backgrounds.**
- **Recommendation 10.** Approaches should be developed to further support schools and individual students from socio-economically disadvantaged backgrounds in making

curriculum choices which best suit their abilities, preferences and aspirations, in order to support them in making choices that would facilitate a positive transition into adulthood.

Theme 3: building capacity

The research illustrates that there is a need to develop capacity across the system to support curriculum making. Focus group data from local authority officers, school leaders and teachers noted the need to improve capacity, highlighting aspects such as the value of resources for the curriculum and the comparative lack of these, as well as lack of time and support for curriculum making as part of their everyday professional practice. Capacity-building also includes developing better understandings of both curriculum as a concept and processes required to develop it. It entails the development of new infrastructure to support curriculum making, to foster collaborative curriculum making across schools and clusters of schools, and to produce resources. Both aspects – professional learning and contextual development – are essential if the empowerment agenda promoted by the Government²³ and Education Scotland²⁴ is to lead to genuine teacher professional agency. We recommend:

- **Recommendation 11. Increase non-contact time**, some of which should be allocated for collaborative curriculum making.
- **Recommendation 12. Develop teacher networks, with expert leadership to coordinate curriculum making at a regional level.** This might be accomplished via the proposed regional curriculum hubs working with the RICs ; however, we recognise, from our survey data, the current low levels of visibility and influence of the RICs in schools, and this is something that needs to be addressed to ensure collaboration and support across regions. An important principle here is that the focus of networks should be on developing practice from curriculum principles and purposes – not evaluation and measurement of performance.
- **Recommendation 13. The development of a national programme of professional learning, focused on curriculum and curriculum making**, to build a cohort of expert teachers who can act as leaders of regional teacher networks.
- **Recommendation 14. Developing approaches for working with young people and caregivers to increase their awareness about the consequences of different curriculum choices is essential.** Curriculum choices at age 14 (or younger in some cases) have strong impacts on

²³ <https://www.gov.scot/publications/empowering-schools-education-reform-progress-update/>

²⁴ <https://education.gov.scot/improvement/learning-resources/an-empowered-system>

further curriculum choices, in the senior stage of secondary education and on attainment; therefore, being able to make correct and timely subject choices is linked to the ability of young people to make a transition into a positive destination. The relationship that we found between the measures of socio-economic disadvantage and subject choice, as well as the caregivers' testimonies about not knowing what certain curriculum decisions meant for their children, make the need to develop this awareness very urgent.

Theme 4: policy development

We very much welcome the National Discussion about the purposes of the curriculum. This is essential if stakeholders are to buy-in to the curriculum and subsequent reforms. Participants in the qualitative research pointed to issues such as poor understanding of the curriculum, its vagueness and use of technical jargon. The survey data suggest that the curriculum is not seen as the primary source for developing practice in schools. Mainly, participants pointed to poor support and resourcing for curriculum making in schools. From these findings, and drawing upon insights from earlier research and theorisations of the Scottish curriculum (e.g., Priestley & Minty, 2013), we make the following recommendations in this respect:

- **Recommendation 15.** The national conversation should be accompanied **by a commitment to consider how the technical form of curriculum currently in use** (Es & Os, benchmarks, etc.) might need to change, to encompass revised purposes and principles. Consideration should be given to how the current form shapes curriculum making, and what alternatives (e.g., Big Ideas frameworks, cf. British Columbia²⁵) might be more suitable.
- **Recommendation 16.** **Systems for shared sense-making across the system should be developed to ensure that stakeholders develop a clear conceptualisation of any reforms,** and especially appreciation of how new policy is different from existing policies and practices. The Finnish education system has well-developed processes for sense-making, which are worth exploring (e.g., see Soini et al., 2021).
- **Recommendation 17.** **It is necessary to invest in educational policy that breaks the strong relationship between measures of socio-economic disadvantage and patterns of qualification uptake.** Under CfE, the 'delayed' uptake of qualifications (i.e., taking up National 5 qualifications in S5 and Higher qualifications in S6) is associated with schools with socio-

²⁵ <https://curriculum.gov.bc.ca/>

economically disadvantaged characteristics; this association was absent prior to the introduction of NQs under CfE. A strong association between subject choice and schools' resources measured by the staff-student ratio point to at least towards one way forward.

- **Recommendation 18.** Similarly, it is necessary to invest in educational policy that breaks the strong relationship between measures of socio-economic disadvantage and the patterns of passing through different levels of qualifications. We found that under CfE, a larger number of passes for National 5 qualifications in S5 was associated with socio-economic disadvantage at the level of schools. The number of passes for Higher qualifications in S5 are strongly and negatively linked to the number of passes for National 5 qualifications in S4. Similarly, schools with disadvantaged characteristics have a smaller number of Higher passes in S5 and a larger number of Higher passes in S6. All this has important consequences for the abilities of young people from a less advantaged background to meet university requirements.

Theme 5: better access to data for research

The findings of this study were very much informed by working with several administrative datasets. While greatly appreciating the cooperation and help of the data holders and the data providers who made this study possible, we want to mention that we encountered numerous problems and countless delays due to data access issues and the time it took for individual data providers to prepare the datasets for the analysis. In particular, the SLS data likened with administrative education data was available only up to year 2014. As the result, while we were able to explore the secondary curriculum narrowing in S4 between 2012/12 and 2014, when we not able to follow up the impact that the introduction of CfE impacted the subject choices and attainment for cohorts of students going through the upper phase of the secondary education in Scotland in years 2015-2019.

Therefore, we make the following recommendations:

- **Recommendation 19.** Improved processes for: administrative education data collection, the preparation and development of documentation, data accessibility for researchers. At present, the process of accessing administrative education data by researchers is enormously time-consuming and presents a major impediment for education policy research, which is timely and often responding quickly to contemporary processes in education system.

- **Recommendation 20. Greater awareness** should be developed among researchers about the data resources available for research and about the processes in accessing and working with the data.
- **Recommendation 21. In addition to administrative education data, researchers should be given easier access to data collected by international organizations, such as the OECD, PISA and TALIS data, linked to Scottish Government administrative education data.** This access would allow further research into understanding how the Scottish education system, including features of the curriculum and characteristics of schools, are linked to a broader set of outcomes available in these datasets, and what features of Scottish education allow it to perform well against these international measures of young peoples' success.
- **Recommendation 22. Administrative education data need to become more easily accessible for researchers,** not only on the aggregate level of schools (or Local Authorities) but also **on the individual level of learners.** Only then will researchers be able to engage in meaningful research. In doing so this will develop a fuller understanding of how individual, family and school characteristics and features of a school's curriculum interact to develop students' capacities, knowledge and skills.
- **Recommendation 23.** To streamline the access of researchers to a wealth of existing administrative and secondary education data in Scotland, there needs to be capacity building in the assessment of, and working, with the data but this needs to be matched with **the development of improved researcher training regarding how to work with administrative data in ethical, safe, and secure ways.**

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Appendices

Appendix A.

To allow a consistent comparison between the periods prior to and after the introduction of new qualifications under CfE, we counted all subjects selected at SCQF levels 3, 4 and 5 in S4 (see Table 2 for SCQF qualifications and levels). Subjects were counted even if the student did not obtain a pass in that subject as we are interested in the number of subjects selected by the student. This helps us to explore if there have been any changes to the number of subjects selected to study by students following curriculum change.

Prior to CfE the subject entries in S3-S4 were recorded for Standard Grade level and the data does not specify whether the entry was made for General/Foundation or Credit/General level. Therefore, in most cases we could only establish that a subject/qualification was entered on either SCQF levels 3, 4 or 5 combined²⁶; however only the results would tell us the exact level of the qualification prior CfE.

Therefore, to explore the impact of individual and family level characteristics of students on subject choice in S4 and to allow a comparison between the subject choices at different levels of SCQF, prior to and after the introduction of new qualifications under CfE, we used subject passes (i.e., the qualification results), to establish the level at which the subjects/qualifications were taken. Pass grades were as follows: for Standard Grade qualifications, grades 1 or 2; for Intermediate 2 and National 5 qualifications, grades A-C.

SCQF Level	Pre-CfE	CfE
SCQF Level 3	Standard grade Foundation, Access 3, SCQF Level 3	National 3, Access 3, SCQF Level 3
SCQF Level 4	Standard grade General, Intermediate 1, SCQF Level 4	National 4, Intermediate 1, SCQF Level 4
SCQF Level 5	Standard Grade Credit, Intermediate 2, SCQF Level 5	National 5, Intermediate 2, SCQF Level 5

Table 2: SCQF qualifications and levels

²⁶ The only exceptions were the qualifications created in 1994 by the Higher Still programme. These qualifications included Access qualifications (the equivalent of SCQF level 3) and Intermediate qualifications which were the equivalents of either the SCQF level 5 (Intermediate 2) or the SCQF level 4 (Intermediate 4).

Appendix B

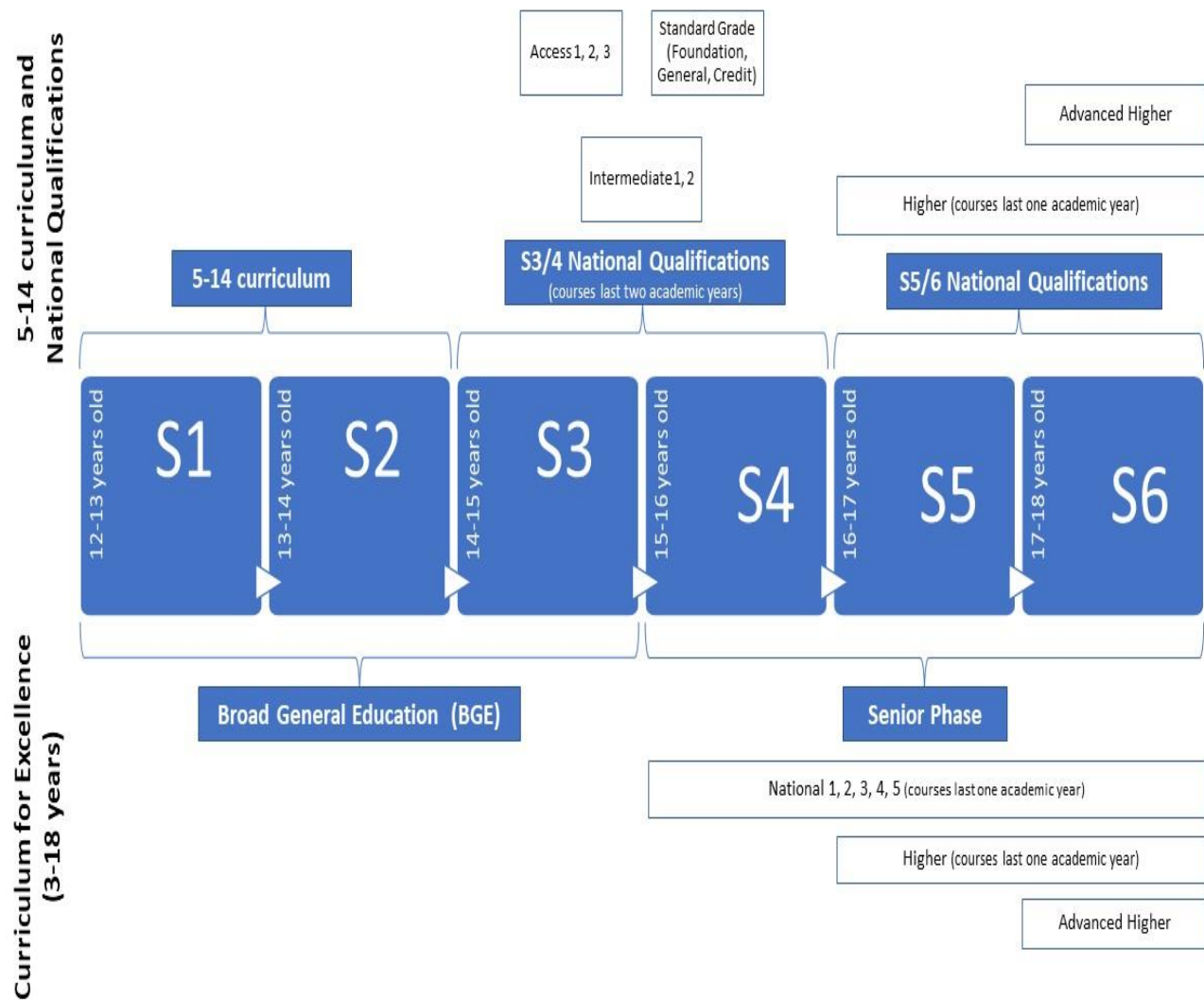


Figure 1: Comparison of the pre-CfE and CfE curricula

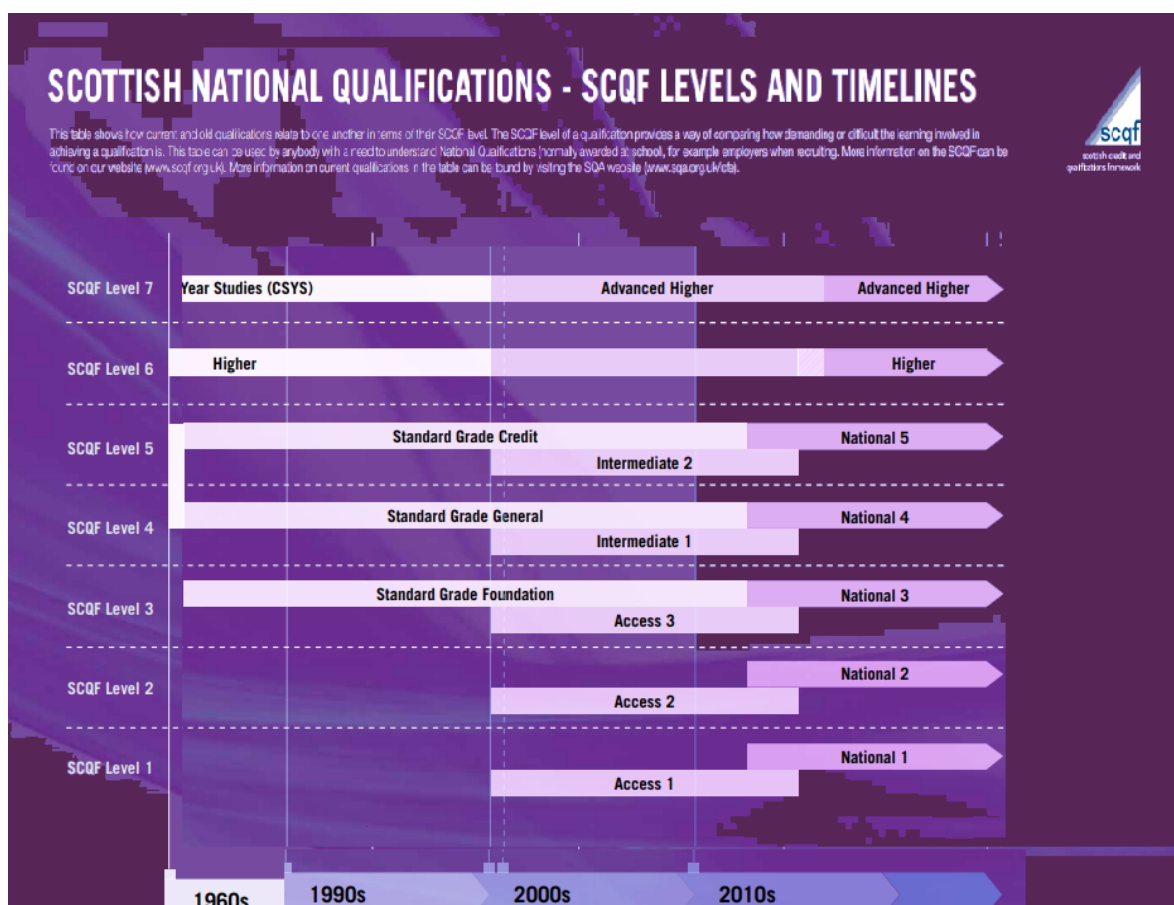


Figure 2: Relationship between 'old' (pre-CfE) and 'new' (CfE) SCFQ qualifications