

Exploring Curriculum Making in Scottish Secondary Schools: Trends and Effects.

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Abstract

This article presents the findings from a recent study funded by the Nuffield Foundation, which aimed to provide insights into the experiences of young people and teachers in secondary schools across Scotland under the Curriculum for Excellence (CfE). Our research has uncovered a decrease in the number of National Qualifications entries in S4 under CfE, a phenomenon commonly referred to in Scotland as 'curriculum narrowing.' Furthermore, we have identified evidence of social stratification in overall and subject entry patterns in S4, with students from disadvantaged areas experiencing a more significant decline in entries and being limited to a narrower range of subjects. Additionally, our study has revealed signs of curriculum fragmentation during the Broad General Education phase (years S1-S3). The findings from our study also suggest that the curriculum decisions made in schools are primarily driven by the demand for better attainment data, particularly in National Qualifications during the Senior Stage (school years S4-S6), with less emphasis on what it means for an individual to become an educated person in a modern and complex society. Based on our findings, we have concluded that curriculum fragmentation and narrowing under CfE have a detrimental impact on the progression and attainment of young people. Schools that offer a broader curriculum in S4 demonstrate higher enrolment rates for Higher qualifications in S5 and Advanced Higher qualifications in S6. In contrast, schools that offer a narrower curriculum in S4, particularly those in deprived areas, are more likely to experience delays in higher-level qualification entry. A broader curriculum in S4 has been associated with improved performance in National 5 qualifications, higher scores in international tests such as PISA English and Maths, and higher scores on OECD measures of global competences. On the other hand, a narrower curriculum is correlated with less favourable outcomes after leaving school, especially in terms of Higher Education enrolment.

Keywords: Education; Secondary Schools; Qualifications; Scottish Curriculum for Excellence (CfE); Curriculum narrowing; Outcomes of young people.

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Introduction and the study background

Scottish Curriculum for Excellence

Scotland's *Curriculum for Excellence* (CfE) was implemented from 2010. The curriculum explicitly aims to improve the breadth and depth of learning for children and young people, in order to fully prepare them for the workplace and citizenship in the 21st Century (Scottish Government, 2009). In common with recent international developments in education, CfE seeks to provide a broad, competency-based education suited to the demands of the 21st century and is underpinned by strong values relating to social equity (Priestley and Biesta, 2013). It 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*. These capacities are seen to be essential for not just schooling, but for lifelong learning and reaching sustained destinations upon leaving schooling (Scottish Government 2009). Alongside the development of new curriculum framework, the Scottish Qualifications have been re-designed, and these changes were implemented from 2013.

Contrary to the CfE policy intentions existing research has highlighted some important areas of concern surrounding the implementation of CfE, in particular in the Senior Phase (years S4-S6) of secondary education. Thus, there is evidence of 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 referred to in Scotland as 'curriculum narrowing' (Shapira and Priestley, 2018; 2020). Evidence suggests that this narrowing is socially stratified, namely being experienced more by students in schools in disadvantaged areas (ibid), and hence has the potential to limit these students' future life chances (Iannelli, 2013). The Scottish Parliament's Education and Skills Committee (2019) found evidence of a lack of clarity regarding responsibility for curriculum structures and subject availability. Additionally, there was a disconnection between the Scottish Qualifications Authority (SQA) and Education Scotland, as well as a disconnection between the Broad General Education (BGE) in years S1-3 and the Senior Phase, according to the OECD in 2021. Furthermore, concerns were raised about teachers' understanding of the curriculum (Priestley and Minty, 2013), and the lack of agency for teachers as curriculum makers (Priestley, Biesta, and Robinson, 2015).

However, the above-mentioned evidence was patchy, focused on the Senior Stage only, mostly at the aggregated level of Local Authorities (Scot 2015, Shapira and Priestley 2019) and schools (Shapira and Priestley 2020) or focused on specific subjects (e.g., Smith 2019).

The main motivation behind our study, funded by the Nuffield Foundation, was to fill the gap in systematic and detailed empirical evidence about curriculum provision in Scottish at all stages of secondary education in Scotland under CfE. Furthermore, we sought to explore how CfE affects student equality and social justice, in a context where curriculum policy and practice are key to closing Scotland's poverty-related attainment gap.

Scottish National Qualifications and the curriculum narrowing under CfE

Before CfE, students in the third and fourth years of secondary schooling (S3 and S4) in Scotland enrolled in two levels of tiered qualifications called Standard Grades. Generally, students were enrolled for dual entry¹ (Foundation/General or General/Credit). During this stage, students typically studied eight courses, with each course requiring 160 hours of study. In 1994, the Higher Still Initiative introduced Intermediate courses at SCQF levels 4 and 5. Some schools replaced Standard Grade courses with these new qualifications in years S3-4. However, questionable practices emerged, driven by performance pressures and accountability. For instance, students on Higher courses who had already achieved a Standard Grade Credit qualification could be moved down to Intermediate 2 courses if their test scores were poor, despite already holding a qualification at that level².

In the school year 2013/14, the implementation of new qualifications led to the gradual disappearance of the dual pathway encountered at Standard Grade. The new qualifications provided a single pathway, a ladder of qualifications, with new National Qualifications at the SCQF levels 4 and 5 (National 4 and National 5, respectively). Additionally, the opportunities

¹ Unfortunately, statistics from the Scottish Qualifications Authority (SQA) do not reflect this dual enrolment. Instead, the data displays the qualification level for which the student received accreditation. For example, if a student was registered for Foundation and General Levels, but failed General and passed Foundation, the enrolment statistic would report Foundation only. This tiered system offered borderline level students a safety net as it enabled them to try for the highest possible level within their ability, while providing the safety net of a lower level of qualification.

² This is illustrated by the SQA attainment data for 2009. This data indicates that 14,035 students attained Intermediate 2 qualifications after already attaining a Standard Grade Credit qualification in the same subject. A more in-depth historical overview of Scottish National Qualifications can be accessed here:

https://www.sqa.org.uk/files_ccc/PNP_ResearchReport3_NationalQualificationsAShortHistory.pdf

to 'game the system' using alternative pathways were removed³. Access level 3 qualifications (National 3) and Higher (SCQF level 6) qualifications were relatively unchanged.

Previous empirical evidence surrounding curriculum provision under CfE

Despite CfE's goal of providing a broad, competency-based education rooted in social equity, and is supported by a variety of policies with an equally explicit focus on equity (e.g., Getting It Right For Every Child (GIRFEC), Scottish Attainment Challenge (SAC), Pupil Equity Funding (PEF)), there has been a widespread reduction in subject choice—resulting in the phenomenon of curriculum narrowing. For example, in 2017, in 57% of schools, only 6 subjects were offered in secondary year 4 (S4) (SPICe, 2019) compared to the typical 8 subjects in the pre-CfE era. The analysis of the enrolment data also shows an overall decline in subject entries for SCQF qualifications in S4 (Shapira and Priestley 2018). Furthermore, the evidence was emerging that curriculum narrowing was socially stratified because it was disproportionately affecting students from socio-economically disadvantaged backgrounds - schools in areas of higher levels of socio-economic disadvantage tended to see a more rapid decrease in subject choice in S4 (Shapira and Priestley, 2018).

One of the reasons for this reduction in the number of subject studies in S4 was the compression of 160-hour courses formerly taken over two years into a single school year (S4). However, empirical evidence, suggesting that curriculum narrowing under CfE has not been uniform across all schools but more pronounced in schools located in socially and economically disadvantaged areas (Shapira and Priestley, 2020), indicates that the processes behind this reduction were more complex and are linked to curriculum making processes at the school level. Factors such as the proportion of students on free meals, students with additional support needs, teacher-student ratios and especially the level of deprivation in a school's postcode area were found to be significant predictors of the number of subjects entered in school for in S4 (ibid).

Therefore, the variation in subject choices between schools is likely influenced by the resources available in schools to provide a broad and flexible curriculum. Indeed, a survey by the Scottish Government in 2019 revealed that approximately half of head teachers reported constraints in implementing the Senior Phase. It is important to note that the selection of

³ It is noted that some schools maintained the old qualifications in 2013/14, when the new qualifications were first offered (Shapira and Priestley, 2018).

school subjects, both in Scotland and other parts of the UK, has been found to be influenced by social factors such as parental social class (Playford et al., 2016; Iannelli, 2013).

Emerging evidence points to school level curriculum decisions being influenced by a range of factors, including diverse and fragmented curricular structures across secondary (SPICE, 2019), a general lack of clarity in the Senior Phase about responsibility for curriculum structures and subject availability, and a disconnection between the education agencies SQA and Education Scotland. The former has responsibility for curriculum and the latter for qualifications.

This exacerbates the unintended consequences of CfE as a curriculum intended to offer a broad and coherent education for young people, combined with a qualification system focused on final exams (ibid). This has been further discussed in a recent report from the Organisation for Economic Co-operation and Development (OECD, 2021). In particular, one of the recommendations from this report was to 'Align curriculum, qualifications and system evaluation to deliver on the commitment of Building the Curriculum' which noted, '...the consequent absence of alignment between curriculum and assessment is the single biggest barrier to the implementation of CfE' (OECD, 2021: 127).

The socially stratified nature of curriculum narrowing under CfE identified by Shapira and Priestley (2018, 2020) was another major cause for concern. The social stratification of curriculum provision is detailed by Iannelli (2013), who identified how, in loosely stratified and loosely standardised education systems (such as in Scotland), decisions made by students at the beginning of the Senior Phase of secondary education concerning subject choice are highly consequential. Thus, subject choice at ages 14-15 years (S3 and S4 in Scottish secondary education) is linked with subsequent subject choice at ages 16-17 years (S5 and S6). This has an impact on the chances of a young person entering Higher Education, the career opportunities of young people and, ultimately, may limit social mobility. Indeed, Iannelli (2013) highlights how subject choice is socially patterned, with students from socio-economically disadvantaged family backgrounds less likely to select 'facilitating' subjects that help them to secure a university place (Iannelli and Smyth, 2017).

Given the critical importance of subject choice at ages 14-15, the emerging evidence regarding the social stratification of curriculum narrowing is particularly concerning.

Therefore, it is vital to develop a nuanced and in-depth understanding of the underlying processes that contribute to curriculum narrowing.

Prior to our study, there was a lack of robust evidence from which to draw conclusions about contemporary patterns of curriculum provision under CfE in Scottish secondary schools and their impact on student attainment and post-school transitions. Limited analysis had been conducted on enrolment patterns across National Qualifications (NQs) during Senior Stage only, mostly at the aggregated level of Local Authorities (Scot 2015, Shapira and Priestley 2018) and schools (Shapira and Priestley 2020) or focused on specific subjects (e.g., Smith 2019), without providing a comprehensive understanding of curriculum provision throughout secondary education. There was a shortage of independent research on curriculum provision, as some studies were commissioned by government or education agencies. The OECD's review of CfE (2021) emphasised the importance of a greater alignment between the two stages of Scottish secondary education (the Broad General Education (BGE) and the Senior Phase) and well as a need for greater focus on enabling teachers and other stakeholders to actively participate in curriculum development and implementation. Yet, such an enabling could be only possible if there is systematic evidence on how CfE being made, influenced, implemented and experienced in secondary schools, at both BGE and Senior Phases, by teachers, students and their parents and other stakeholders (including Education Scotland, Schools Inspectorate, SQA).

Our recently completed study, funded by the Nuffield Foundation, aimed to address the existing gaps in evidence. We sought to collect systematic data on the nature of curriculum provision, examining processes of curriculum development and implementation at various stages of secondary education in Scotland. Specifically, our study aimed to understand the factors that influence curriculum provision, including the breadth of the secondary curriculum and subject choice. We also aimed to understand how schools, teachers, students, and parents have been involved in the development, experience, and navigation of the new curriculum, and how these curriculum-making processes have impacted student outcomes, such as progression, attainment in National Qualifications, and transitions to further education or employment. Furthermore, we aimed to explore the relationship between the breadth of the curriculum and broader outcomes measured by the OECD Global Competences framework.

For addressing the aims of our study, we employed a mixed-methods research design. We accessed and analysed both existing data (including: the Scottish Longitudinal Study (SLS) dataset; administrative education data held by the Scottish Government; and Scotland's PISA dataset), as well as collecting new data. New data included:

- a survey completed by Secondary School Senior Leaders regarding curriculum provision across the BGE (S1-3) and Senior Phase (S4-6) (116 secondary school leaders from 29 Local Authorities and about one third of public funded Scottish secondary schools, completed the survey);
- focus groups and interviews with 133 participants representing a range of key stakeholders in Scottish education: Local Authority Directors of Education; Local Authority Quality Improvement Officers; School Headteachers; School Staff; Young People; and Parents/Carers⁴.

In what follows we will present and discuss the main findings from this project.

Senior Phase provision

Patterns of qualification uptake in S4.

As indicated in the discussion above, Senior Phase provision in the Curriculum for Excellence (CfE) has sparked considerable debate. The reduction in subjects studied during S4, from 8 to 5, 6, or 7, has been a topic of disagreement. Some argue that it enhances focus and improves achievement, while others claim it goes against the Scottish tradition of a well-rounded curriculum. Our research examines this issue, considering arguments and nuances such as social patterns and variations in age, school stage, and subject.

Regarding qualifications taken in S4, we observed a decline in the number of entries for National Qualifications. Between 2013 and 2014, there was a significant reduction in entries for the previous Standard Grade and Intermediate 2 qualifications (2013) and the new National 5 qualifications (2014). This reduction continued from 2014 to 2019, indicating that students from all backgrounds chose fewer subjects in S4 under CfE.

Figure 1 is about here

⁴ For further details on the study methodology see Shapira, M. et al. (2023d).

Interestingly, the percentage of passes for National 5 qualifications increased from around 60% in 2013 to approximately 80% after 2014. This suggests that while fewer National 5 qualifications were entered, those who did enter were more likely to pass. These findings also 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. We used the Scottish Longitudinal Study data to gain further insights about the trends in qualification passes in S4 at the level of students. We found that while there was a reduction in the number of passes in lower-level qualifications in S4 (SCQF 4 and especially SCQF 3), the number of passes at SCQF level 5 slightly increased over time. Combined with the findings about the reduction in entries to SCQF level 5 qualifications in S4 under CfE, this indeed suggests a focus on studying fewer SCQF 5 level qualifications to attain success under CfE (Barnett et al., 2022). However, in terms of absolute numbers, we have not observed an increase in the number of passes in National 5 qualifications. Indeed, as Figure 3 shows, a smaller number of S4 students in Scotland have been obtaining National 5 qualifications under CfE than before.

This implies that curriculum narrowing and heightened selectivity in entry into these qualifications have not provided benefits to all students. The improvement in attainment as shown by a higher share of qualification passes was limited to those who were permitted to enter the qualifications. However, a larger number of students, compared to before the implementation of CfE, were excluded from the opportunity to attempt passing the exam due to being denied entry into the qualifications.

Figure 2 is about here.

Figure 3 is about here

Although subject entries declined overall, the magnitude of reduction varied across different subject areas. Mathematics, Sciences, English, Social Subjects, and Expressive Arts experienced a roughly 30% decrease, while Modern Languages and Technological Subjects saw larger reductions of about 45% and 60% respectively. Reductions in Classical and General Vocational Studies were smaller and followed trends existing prior to the introduction of new qualifications. Although entries in S4 to compulsory subjects (i.e., Maths and English), initially decreased, they then gradually increased over the period 2015-2019. Entries to Sciences and

Technological Subjects, once subject uptake decreased between 2013-2014, then remained relatively stable over this period, while entries to Social Subjects, Expressive Arts, Modern Languages and especially to Classical subjects (e.g., Greek, Latin) continued to decline. The findings from the qualitative strand of the study suggest a hierarchy of subjects, with those deemed least important (e.g., with no potential to demonstrate better attainment results) suffering greater declines. This could be attributed to students being discouraged from pursuing these subjects or the complete removal of such subjects from the Senior Stage. For instance, one Headteacher in our study had to eliminate 'low attaining' Technological Studies from the Senior Phase curriculum.

These trends provide insights into the narrowing of the S4 curriculum under CfE. While the initial drop in qualifications uptake in S4 under CfE can be partly attributed to the exclusion of National 3 and 4 qualifications from the official educational statistics on qualification entries in S4, the reduction in entries for National 5 qualifications since 2014 is more indicative of curriculum narrowing. Under CfE, the S4 curriculum narrowed in terms of diversity and subject composition. The only area with a slight increase in entries was the General and Vocational subject area, however, this couldn't compensate for the decline in entries for a broader range of academic subjects.

Figure 4 is about here.

Our qualitative findings reveal that this decline is primarily due to a narrowing in the available subjects and inflexible timetabling structures. Furthermore, teachers, parents, and students have expressed concerns that the pressure to achieve results, particularly in terms of National 5 passes seen as a prerequisite for Higher study, has negatively impacted the educational experience and opportunities for young people, especially those from disadvantaged backgrounds. A Headteacher from one case study school suggests that the number of young people exposed to academic study should be considered more important than the number who pass the exams. Interviews with caregivers and young people indicated that some learners were withdrawn from National 5 and Higher courses if they were unlikely to attain the desired level. Caregivers also suggested that in some cases, learners were entered at lower levels to improve the school's attainment statistics. Similarly, educators reported that

young people who were unlikely to pass Higher courses were withdrawn to preserve high pass rates.

The data also reveals socially stratified trends in the curriculum narrowing. The gap in subject entries for National 5 qualifications in S4 between the least and most deprived schools widened under CfE compared to the gap for Standard Grade/Intermediate 2 entries before 2014. Reductions in overall subject entries were socially patterned, with more disadvantaged areas and students experiencing steeper declines. Schools in socio-economically advantaged areas were more likely to adhere to the traditional pattern of eight SCQF level 5 qualifications, meeting Higher Education entry requirements more easily.

Figure 5 is about here.

Further analysis, based on the SLS data (Barnett et al. 2022), demonstrated that under CfE the number of passes in SCQF level 3 and 4 qualifications has dropped across all groups of students, but students living in more disadvantaged areas experienced a larger drop. However, while the number of passes in SCQF level 5 qualifications under CfE have increased for all groups of students, this increase was larger for students with parents from the most advantageous social class. For students from a deprived socio-economic background, the decrease in National 3 and 4 passes wasn't matched by the corresponding increase in National 5 indicating, again, that the curriculum narrowing was socially stratified (Barnett et al., 2022). 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. We also found a neighbourhood effect on the number of qualifications passes. Thus, we found that students from a similar family background were entering smaller numbers of subjects in S4 if they were living in deprived areas. Conversely, we found that students from similar socio-economic backgrounds and with similar characteristics were passing more National 5 qualifications and fewer National 3 and 4 qualifications if they lived in more advantaged local areas. We also discovered that the impact of the child's residential area's level of deprivation on the number and configuration of qualification passes for National 4 and 5 qualifications has increased under CfE. Based on

these findings we can conclude that there is a socially stratified pattern in the curriculum narrowing and composition of qualifications attained by students in S4.

Patterns of qualification uptake in S5 and S6.

One of the aims of the CfE reforms was to introduce flexibility in the Senior Phase, allowing qualifications such as National 5 to be taken across multiple years rather than just in S4. This was intended to provide students with the opportunity to catch up and pass more SCQF level 5 qualifications in S5 if they did not achieve enough passes in S4.

Figure 6 demonstrates the numbers of subjects entered for Standard Grade/Intermediate 2/National 5 qualifications in S5 during the period 2011-2019. The data shows that entries for Intermediate 2/Standard Grade qualifications in S5 have been increasing between 2011-2014, that is prior to introduction of new qualifications under CfE. However, the data show that entries for National 5 qualifications in S5 have been decreasing since 2015, under CfE.

It appears that despite the reduced uptake of National 5 qualifications in S4, the introduction of flexibility in taking these qualifications in S4 did not result in a larger uptake of these qualifications in S5 on average.

Figure 6 is about here

Our findings indicate that the percentage of A-C passes for Higher and Advanced Higher qualifications remained stable under CfE over the period 2014-2019. During this period, there was a slight increase in the average number of Higher qualifications passes for students in S5, but a decrease in National 5 passes for S5 students and Higher passes for S6 students (see Figure 2).

Additionally, the average number of Higher qualifications passes in S5 increased for all SIMD deciles under CfE, but the increase was faster for more disadvantaged deciles. This may be due to selective entry to National 5 qualifications in schools located in more disadvantaged areas, resulting in better outcomes at the Higher level in S5 for these schools. Under CfE, the average number of passes at SCQF level 5 and Higher qualifications in S6 decreased, with a larger decrease in schools located in more affluent areas.

We also observed trends in the timing of uptake of particular qualifications for students. Schools located in areas of low socio-economic deprivation, with a lower proportion of students registered for free school meals and a higher number of full-time teachers per student, had a larger uptake of Intermediate 2/Standard Grade/National 5 qualifications in S4 and Higher qualifications in S5. The association between schools' characteristics and the uptake of Intermediate 2/Standard Grade/National 5 qualifications in S4 has strengthened under CfE. Conversely, disadvantaged schools showed a delayed uptake of qualifications, with more Intermediate 2/Standard Grade/National 5 qualifications taken in S5, and more Higher qualifications taken in S6 compared to advantaged schools.

Furthermore, examination of the decline in entries for Standard Grade/Intermediate 2/National 5 qualifications per subject grouping, in S5 (Figure 7) shows that, since 2014 there has been a decline in entries to all subject groups except Maths, where figures remained relatively stable with some fluctuations over the period 2015-2019. The decline in entries to National 5 qualifications since 2014 onwards was particularly large for English (50% decline) but also for other subjects.

Figure 7 is about here.

While the data (Figure 8) show that pre-CfE the entries to Standard Grade/Intermediate 2 qualifications in S5 were rising faster in SIMD decile 1 (the most deprived area) than in SIMD decile 10 (the least deprived area)⁵, under CfE, the decline in the number of entries to National 5 level qualifications in S5 followed a similar pattern across these two deciles.

Figure 8 is about here

These findings contradict the expectations of the CfE architects, who believed that the new National 5 qualifications would provide more flexibility for students and that spreading out the uptake of these qualifications over a longer period would allow students to catch up and achieve more SCQF level 5 qualifications, not just in S4 but also in S5 (and subsequently more Higher qualifications in S6). Instead, under CfE, fewer passes have been attained in National 5 qualifications in S5 and Higher qualifications in S6, especially in schools located in affluent

⁵ Again, this is suggestive of the use of 'fallback' where students were struggling with Higher courses.

areas. Indeed, our analysis shows that, under CfE, schools with disadvantaged characteristics, such as being located in more deprived areas and/or having a higher proportion of students registered for free school meals, have comparatively higher proportions of those who enter and pass National 5 qualifications in S5 and Higher qualifications in S6 (see Shapira et al. 2023 b).

The examination of entries to Higher qualifications before and under CfE show similar trends. Under CfE, more entries to Higher qualifications in S5 have been made in schools where students were entering more National 5 qualifications in S4. The uptake of Higher qualifications in S5 was found to be positively associated with advantageous characteristics of schools, such as a low level of school area deprivation and a low percentage of students registered for free school meals. Conversely, more entries to Higher qualifications in S6 have been made in schools located in more disadvantaged areas; in schools with a higher percentage of students registered for free school meals; and in school where students entered fewer National 5 qualifications in S4 (see for details Shapira et al. 2023a, 2023 b).

Why, then, is it not positive news that more young people in disadvantaged schools are passing National 5 qualifications (albeit in S5) and Higher qualifications (albeit in S6)? The problem is that the trends outlined above offer an indirect indication that schools located in advantaged socio-economic areas and schools with a more socially and economically advantaged body 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. This allows student to more readily meet the expectations of Higher education entry requirements, while a delayed uptake of these qualifications is on offer for students attending disadvantaged schools.

Many universities expect that qualifications at a certain level are being obtained in one year (or in one sitting) (Johnson and Hayward, 2008). Therefore, not taking up a wide range of 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. Many Russell group universities also require 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 ...*⁶

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 S5.*⁷

The findings from our qualitative interviews further support our concerns arrived from the findings about the delayed uptake of National 5 and Higher qualifications in disadvantaged schools. Some caregivers, especially those who had not progressed to university from school, caregivers from countries outwith Scotland, and caregivers who spoke English as a second language, indicated a lack of understanding about university requirements (e.g., 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. Caregivers noted that this gap in knowledge was detrimental to their child gaining access to their first choice of university course and called for the university entry requirement to be made transparent and to be communicated earlier in their child's school career. This would enable students and parents to make informed decisions about subject choice and qualification uptake at different stages of secondary education.

⁶ For information about university entry requirements for the candidate with Scottish qualifications in Scotland and England see <https://www.ucas.com/undergraduate/what-and-where-study/ucas-undergraduate-entry-requirements> ; for an example of entry requirement of Russell group universities for the candidates with Scottish qualifications see for example [UK qualifications | University of Oxford](#).

⁷ See <https://www.ed.ac.uk/studying/undergraduate/entry-requirements/scottish-qualifications/highers>

Curriculum Provision in BGE

One of the aims of our study was to collect systematic data about curriculum provision at all stages of secondary education and in particular address the gap in evidence about curriculum provision in Broad General Education (BGE), that is school years S1-S3. Our survey of school leaders allowed us to obtain an understanding of patterns of curriculum provision in BGE (see Peace-Hughes et al., 2022).

The results show that there is considerable variation in curriculum provision across secondary schools which gives rise to equity concerns. Students' curricular experiences and outcomes can differ significantly based on their school or local authority, raising questions about the suitability of the current curriculum policy. First, there are significant variations in the numbers and configurations of subjects studied in years S1-3. Second, there are variations in the stage of schooling at which the first choice is given to students on what 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 data strongly suggest a concerning fragmentation of the Broad General Education (BGE) in many schools. It appears that a significant number of students in S1 and S2 are being taught by 15 or more different teachers weekly. This fragmentation is further reinforced by qualitative evidence, with school staff and leaders reporting that the BGE phase is primarily composed of traditional subject configurations. Unfortunately, these configurations were deemed inadequate for their intended purposes by some participants. They were found to primarily serve as 'taster subjects' for future subject selections and narrow skill-based assessments in the Senior Phase, rather than fulfilling the educational goals of the BGE phase.

In many cases, these approaches result in a limited and focused selection of content that may overlook important areas of knowledge, such as media literacy, which might not be adequately addressed within the traditional subject framework. Additionally, the simultaneous study of multiple subjects in many schools can hinder in-depth exploration and the formation of interdisciplinary connections.

While there were some instances of innovative approaches, such as subject rotations and hybrid subjects like Social Studies, the prevailing trend suggests that BGE provision largely mirrors the subjects offered in the Senior Phase. Essentially, it becomes a preparation for Senior Phase qualifications, creating a competitive environment for high-achieving students.

This often leads to an incoherent provision that does not align with the principles of the Curriculum for Excellence (CfE), which seeks to establish a strong and comprehensive foundational curriculum within the BGE. As a result, significant gaps in knowledge acquisition occur, contradicting the intended goals of CfE.

Another issue that arises in certain schools is the early specialisation of subjects, often as early as the end of S1 (the first year of secondary school). This is closely connected to the issues of timing of senior phase courses. In Scotland, there has been ongoing debate about the structure of education provision, with two main approaches being discussed.

The first approach is the 2+2+2 model, where the Broad General Education (BGE) lasts for two years (S1 and S2), followed by a two-year National 5 program (S3 and S4), and finally a two-year post-compulsory phase (S5 and S6). This aligns with the pre-CfE patterns of provision.

The alternative is the 3+3 model, where the BGE extends for three years (S1-S3), followed by a three-year Senior Phase. This is more in line with the principles of CfE, allowing for a broad foundational program in the BGE and flexibility in the Senior Phase. However, our data indicate that neither of these scenarios has fully materialised. Instead, the Senior Phase mainly consists of a progression of SCQF qualifications (e.g., levels 5-7), resembling a ladder-like structure, while the BGE largely mirrors the subject configuration of the Senior Phase.

The survey provided insights into the factors that influence curriculum design in Scottish secondary schools. These factors include external demands on schools to meet performance indicators and other externally imposed measures of success, which can undermine the educational aims of the curriculum. To fully understand the curriculum, it is important to consider the survey findings in conjunction with the qualitative data.

The qualitative data offer more context and insight into the experiences of young people and school staff, providing a deeper understanding of the forces shaping curriculum development in these schools.

Participants, including education directors and headteachers, expressed dissatisfaction with factors that impact curriculum development. These factors often conflict with their professionalism and the goals of CfE. Tensions were highlighted between government, school inspectors, and local authorities, who prioritise raising attainment, and teachers' professional values and the core values of CfE. Additionally, there was a conflict between efficiency savings and providing a curriculum that meets the needs of all learners, despite policies like GIRFEC (Getting it right for every child⁸).

Specialist teacher shortages and limited non-contact time significantly affected the BGE curriculum provision. Our findings also revealed a prevalent culture of performativity in many schools, where attainment and teaching-to-the-test were emphasised. This continues into the Senior Stage, resulted in students being directed towards "higher attaining" subjects, sometimes leading to the withdrawal of students from certain courses if they were unlikely to achieve a certain level. This practice was motivated by improving school attainment statistics, rather than considering the students' learning experience and aspirations. Examples were given of teachers having to disregard students' choices and remove a low-performing subject, as well as instances of teachers receiving unpleasant criticism from the Head of Education for underperforming in a subject like Geography.

⁸ See <https://www.gov.scot/policies/girfec/>

Broad secondary curriculum and other outcomes of young people

In our qualitative analysis we found significant tensions between the attainment agenda on the one hand and teachers' professional values and the core values of CfE on the other hand. These tensions arise from accountability demands related to students' attainment and often result in teachers compromising their professional values. They use instructional teaching methods and "teach to the test" rather than employing the active pedagogy promoted by CfE.

Among other findings, these findings also indicate that using rising attainment as the sole measure of curriculum success is unhealthy, counter-educational, and contradicts the goals of CfE. Given the pressure placed on schools by the government, local authorities, and school inspectors to raise attainment, it is important to turn to additional indicators to evaluate whether CfE is indeed meeting its goals and providing young people with educational experiences that enable them to develop into confident individuals, effective contributors, responsible citizens, and successful learners (Scottish Government 2009) to ensure their successful transition from education into adult life.

Therefore, in our study we explored whether students who have exposure to a broader secondary curriculum are more likely to develop competencies that equip them with the necessary skills to thrive in the complex modern world. We also explored the relationship between the breadth of the secondary curriculum and the early destinations of school leavers.

The OECD global competencies available in the 2018 Scotland's PISA study measure the extent to which young people (15-16 years old) demonstrate cultural openness and sensitivities, self-awareness, resilience, and active citizenship. The language of the OECD global competencies framework (PISA 2018) is similar to the language of CfE's four capacities. Therefore, in our study, we explored the relationship between the breadth of the secondary curriculum experienced by 15–16-year-old students and the outcome measures available in the PISA dataset. Given that the PISA study tests the competencies of 15-year-olds, subject choice in S4 is a relevant measure of the breadth of education that young people are exposed to (the 2018 PISA data in Scotland have a sample of students equally split between S4 and S5 students).

We found (for detailed findings, see Shapira et al. 2023 c) that students who attended schools with a broader S4 curriculum were acquiring better competence in using general language, mathematics, and other knowledge and skills obtained in schools for solving real-life problems. This relationship remained strong, positive, and statistically significant even after accounting for the students' family background and the characteristics of their schools.

Furthermore, students who were exposed to a broad upper secondary curriculum not only achieved better academic outcomes but also developed a better understanding of the complexities of modern societies, self-awareness, resilience, and active citizenship. In schools with a broader curriculum in S4, students scored higher on the OECD measures of global competencies. For example, students attending schools with more subject entries for National 5 level qualifications in S4 were more likely to feel a sense of belonging to the school, learn about different cultures, feel proud of their accomplishments, and feel empowered to do something about the world's problems.

Conclusions and what's next

In this study, we aimed to fill the gaps in existing evidence by investigating curriculum provision in Scottish secondary schools and the relationships between patterns of curriculum provision and educational experiences and outcomes of young people. To achieve our research objectives, we employed a variety of methods for data generation and analysis. This included analysing existing secondary data from sources such as the Scottish Longitudinal Study, Scottish Government administrative education data, and the Scotland PISA data linked to the Scottish Government administrative education data. Additionally, we collected new quantitative data through School Leaders survey, and new qualitative data through case studies and national focus groups. These approaches allowed us to gather insights into curriculum provision and the decision-making processes involved, including the role of teachers, students, and their families.

The analysis revealed that under CfE, curriculum narrowing in the compulsory S4 year of the Senior Phase was experienced by students from all socio-demographic backgrounds, but even more so by students who lived in and attended schools in areas of high deprivation.

The analysis of the administrative education data revealed that despite fewer young people entering SCQF level 5 qualifications (National 5 or their equivalent) under CfE an increased *proportion* of young people were passing these qualifications. However, under CfE in absolute numbers fewer young people were obtaining SCQF level 5 qualifications than prior to 2013. Rather than improved attainment this indicates that more selective entry to National 5 qualifications under CfE has been introduced. Students who have been taking these qualifications were more likely to pass than students enrolled in equivalent Standard Grades prior to 2014. This practice of selectively entering students in exams based on their likelihood of success raises concerns of student equity, especially for young people from disadvantaged backgrounds. The teachers we interviewed often expressed the view that the previous Standard Grade system was more equitable because the qualification entry was less selective. We also found that provision in the earlier BGE phase (years S1-S3) was subject to significant variations depending on school area or local authority, raising questions about equity and the suitability of the current curriculum policy. The BGE curriculum provision was found to be fragmented, 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 educational logics of the curriculum. This disproportionately affects students from comparatively disadvantaged backgrounds, through narrower choice, and delayed entry to important qualifications.

Despite the aim of CfE to introduce more flexibility in qualification entries, our findings show a decrease in the uptake of National 5 level qualifications in S5, compared to the increase in entries for Intermediate 2/Standard grade qualifications in S5 prior to CfE. This suggests that the desired spread of qualification uptake over a longer period has not been significantly achieved for National 5 qualifications. Additionally, under CfE, we have observed a trend where socially and economically advantaged schools have higher uptake of National 5 qualifications in S4 and Higher qualifications in S5. At the same time the 'delayed' uptake of National 5 qualifications and Highers qualifications has increasingly become a feature of schools located in areas of social and economic disadvantage.

Our examination of curriculum narrowing at the subject grouping level under CfE does not support the expectation that students are offered broad educational experiences. In addition to mandatory subjects like Maths, English, and General Vocational subjects, we have observed a decrease in entries for other non-compulsory subjects at the National 5 level under CfE. Our qualitative study further suggests that this curriculum narrowing, resulting in fewer entries for non-compulsory subjects, is primarily caused by limited subject options, shortages of specialist teachers, inflexible timetabling structures, and pressure on schools to achieve results. These factors have had a negative impact on the educational experience of young people, limiting their opportunities to develop the necessary knowledge, skills, and attributes for life beyond school.

The administrative datasets that we have used in the study do not allow measurement of whether the curriculum choices could be linked to a broader set of competences, which young people are expected to acquire through their secondary education.

Given the commonalities and shared visions between the 'Four Capacities' of CfE and the OECD's 'global competence' frameworks we explored the extent to which the breadth of the Scottish secondary curriculum, expressed as the number of subjects selected by young people in S4, is linked to measures of global competence available in the 2018 PISA dataset, as well as to other alternative measures of young people's outcomes such as PISA tests scores in science, language, and maths. We found that that subject choice in S4 for National 5 level qualifications corresponds to some extent, at least, with the notion of a broad and inclusive curriculum⁹; thus being able to enrol in a broader range of subjects at age 15 is associated with the competences of young people. This includes their abilities to use their knowledge to solve real-life problems, as measured by the PISA tests, as well as potentially improving their wellbeing by increasing their sense of belonging to schools, their confidence, their understanding of the complexities and diversity of the contemporary world, and their confidence that they would be able to make a contribution to society.

⁹ We also note that this notion is far more nuanced than simply the number of subjects taken, involving consideration of the range and configuration of knowledge/skills studied and issues relating to coherence, progression and balance.

Some Recommendations

The research paints a concerning picture of a secondary educational system that prioritizes meeting external demands over meaningful curricular purposes and principles. Instead of supporting a coherent and purposeful curriculum that fosters progression and the development of the Four Capacities of CfE, the system often focuses on producing specific performance data. This creates a tension between the aspirations of CfE and the external accountability demands of the system, with the latter taking precedence and leading to instrumental decision-making. This situation echoes the insight from Apple (2001) that students must now perform to benefit the school, but in this case, schools are obligated to perform to benefit the system. This establishes potential for 'reforms that deform' (Smyth and Shacklock, 1998: 8); educational reforms that end up distorting the true purpose of education.

Our findings allowed us to offer several recommendations.

Most importantly, our findings demonstrate the need for a continued focus on the availability of a broad range of learning experiences for all young people in Scotland and the need for adequate provision of resources to ensure any curriculum policy changes do not disadvantage disproportionately any groups of young people, potentially limiting their future life chances and further reproducing social inequality.

The curriculum narrowing in S4 is experienced by students attending schools in disadvantaged areas to a much greater extent than by their peers from more advantaged backgrounds.

Therefore, it is necessary to invest in educational policy that breaks the strong relationship between measures of socio-economic disadvantage and patterns of qualification uptake and the patterns of passing through different levels of qualifications. Similarly, approaches should be developed for working with young people and carers to increase their awareness about the consequences of different curriculum choices.

Our project findings demonstrate the need to think educationally about curriculum making – a focus on developing practices that are fit for purpose, and to keep in mind when pressures to innovate lead to instrumental, short-term decision making. This study demonstrates starkly how the latter can readily occur. Linked to this, the project illustrates the dangers of a system driven by data and the need for the system to think systemically. In particular, we need to

avoid curricular practice being driven by the system (external demands) rather than educational purposes and principles and to consider how the system as a whole might support the development of meaningful educational practice in classrooms and schools.

Therefore, the Scottish Government should commission an independent review of data usage for accountability purposes across the various layers of the education system and look anew at national guidance to articulate the structures, relationships and transitions between the BGE and Senior Phase.

Furthermore, the assessment methodology for National Qualifications should be reformed, to incorporate more continuous coursework assessment, embedded in learning and less likely to promote teaching-to-the-test methodologies.

Finally, additional measures of student outcomes need to be developed to provide a holistic picture of how well the education system is preparing young people for the transition to adult life.

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¹⁰ The Nuffield Foundation is an independent charitable trust with a mission to advance social well-being. It funds research that informs social policy, primarily in Education, Welfare, and Justice. It also funds student programmes that provide opportunities for young people to develop skills in quantitative and scientific methods. The Nuffield Foundation is the founder and co-founder of the Nuffield Council on Bioethics, the Ada Lovelace Institute and the Nuffield Family Justice Observatory. The Foundation has funded this project, but the views expressed are those of the authors and not necessarily the Foundation. Visit www.nuffieldfoundation.org

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Figures

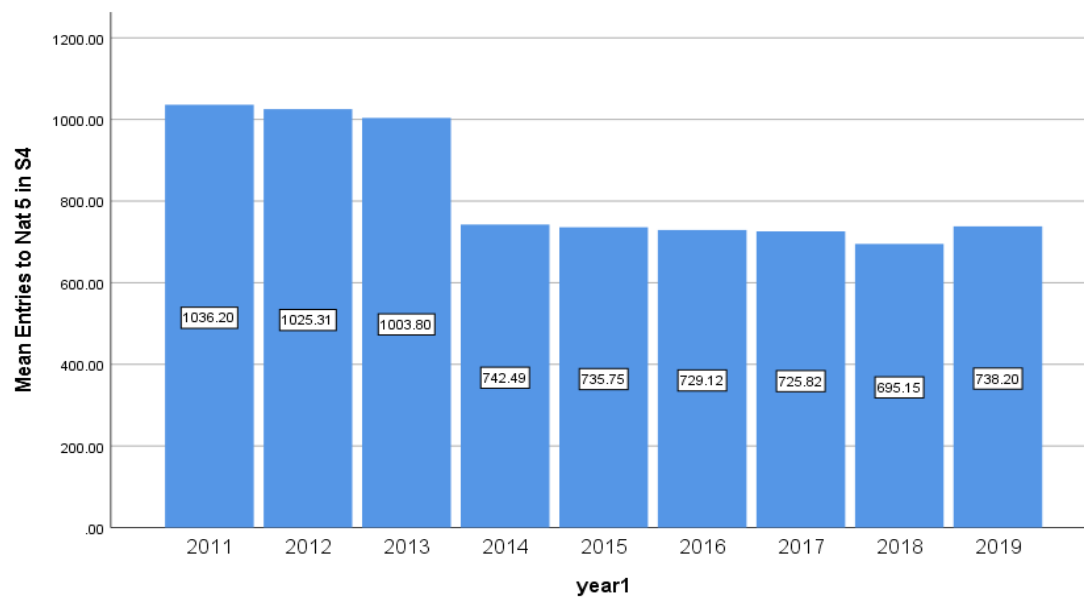


Figure 1:

The number of subjects entered for Standard Grade/Intermediate 2/National 5 qualifications in S4, 2011-2019 (school level data).

Source: Scottish Government administrative education data, 2011-2019.

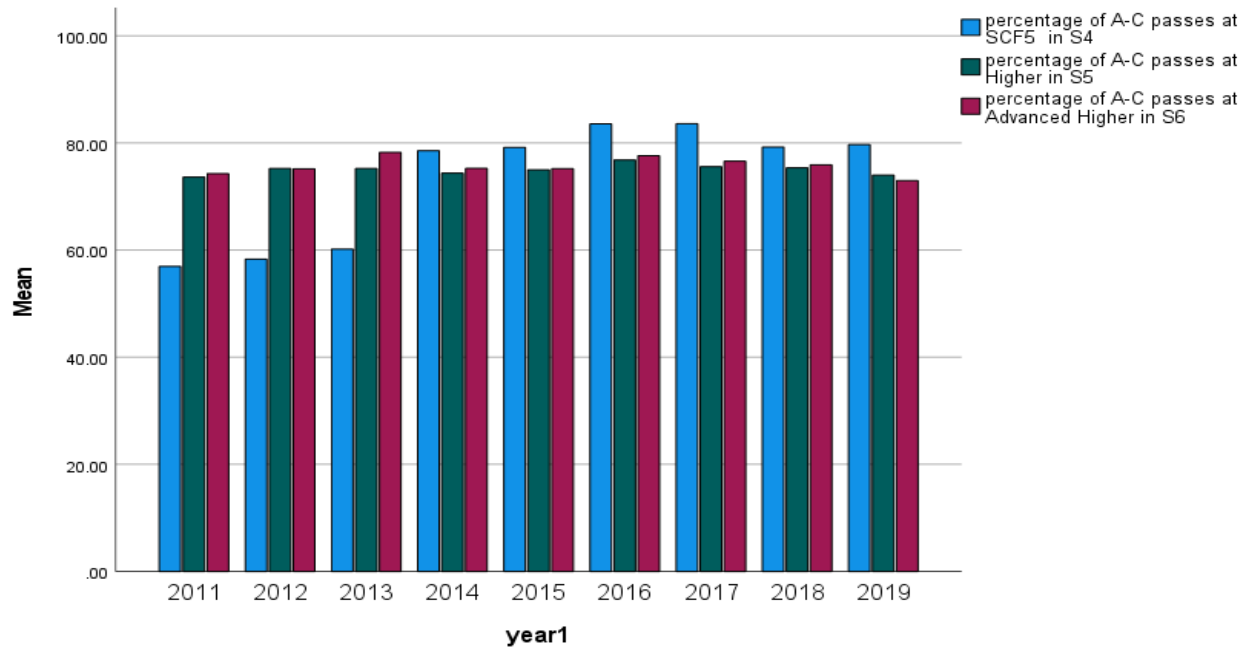


Figure 2:

Trends in percentage of passes at different levels of National Qualifications (school level data).

Source: Scottish Government administrative education data, 2011-2019.

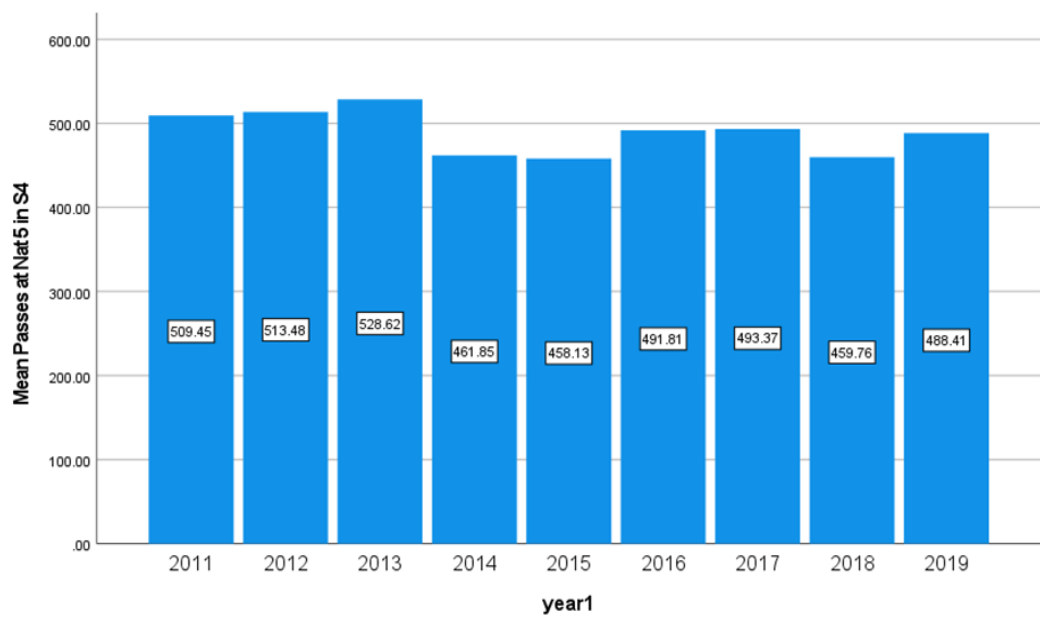


Figure 3:

Number of 1-2 Standard Grade passes and A-C passes for Intermediate 2, and National 5 qualifications in S4 (school level data).

Source: Scottish Government administrative education data, 2011-2019.

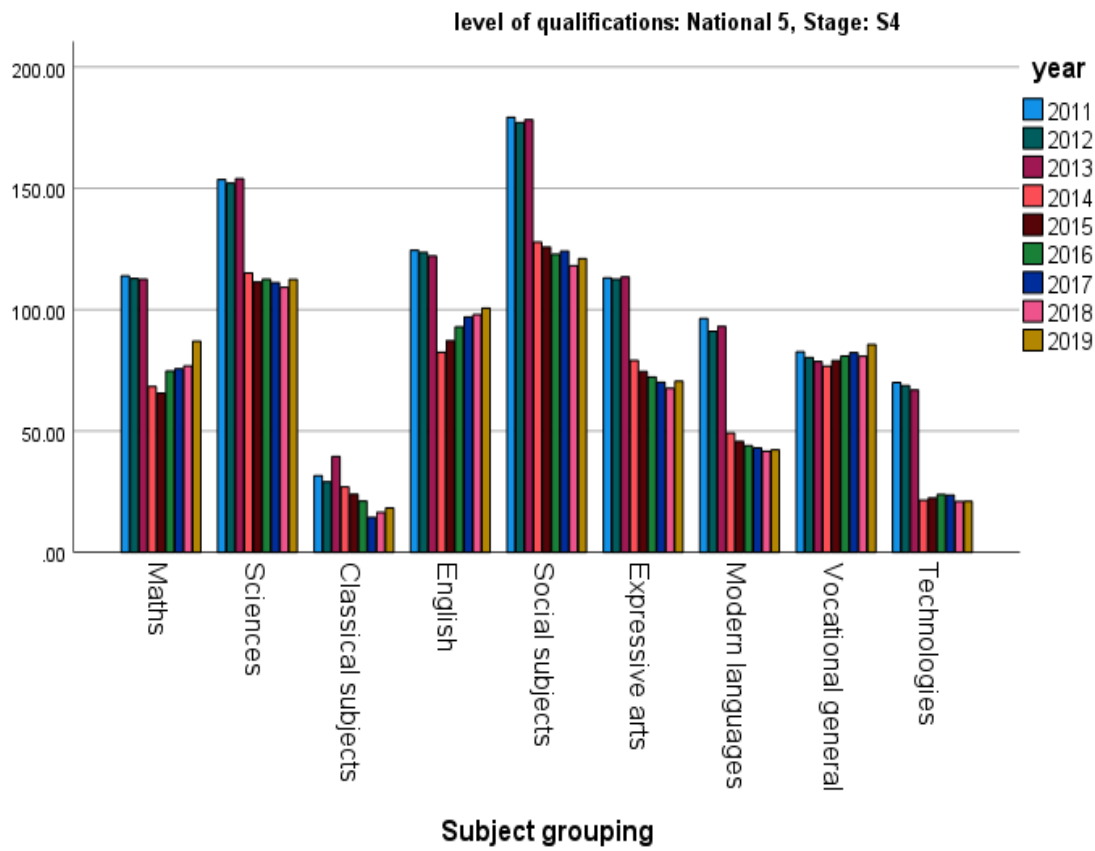


Figure 4:

The number of subjects entered for Standard Grade/Intermediate 2/National 5 qualifications per subject grouping, in S4, 2011-2019 (school level data).

Source: Scottish Government administrative education data, 2011-2019.

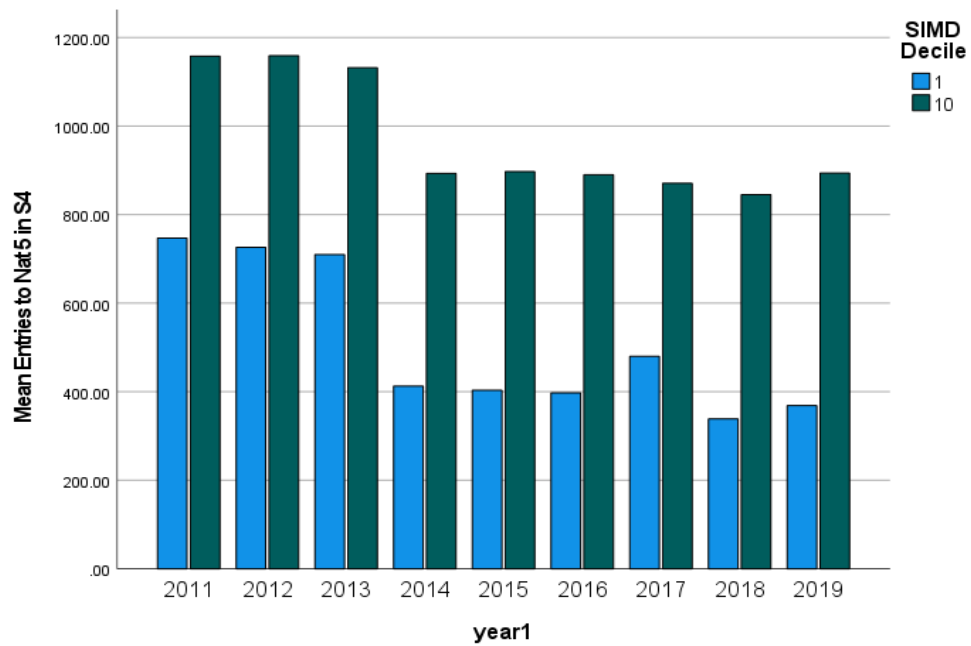


Figure 5:

The number of subjects entered for Standard Grade/Intermediate 2/National 5 qualifications in S4, in schools in SIMD decile 1 and SIMD decile 4, 2011-2019 (school level data). SIMD decile 1 – highest level of deprivation; SIMD decile 10 – lowest level of deprivations.

Source: Scottish Government administrative education data, 2011-2019.

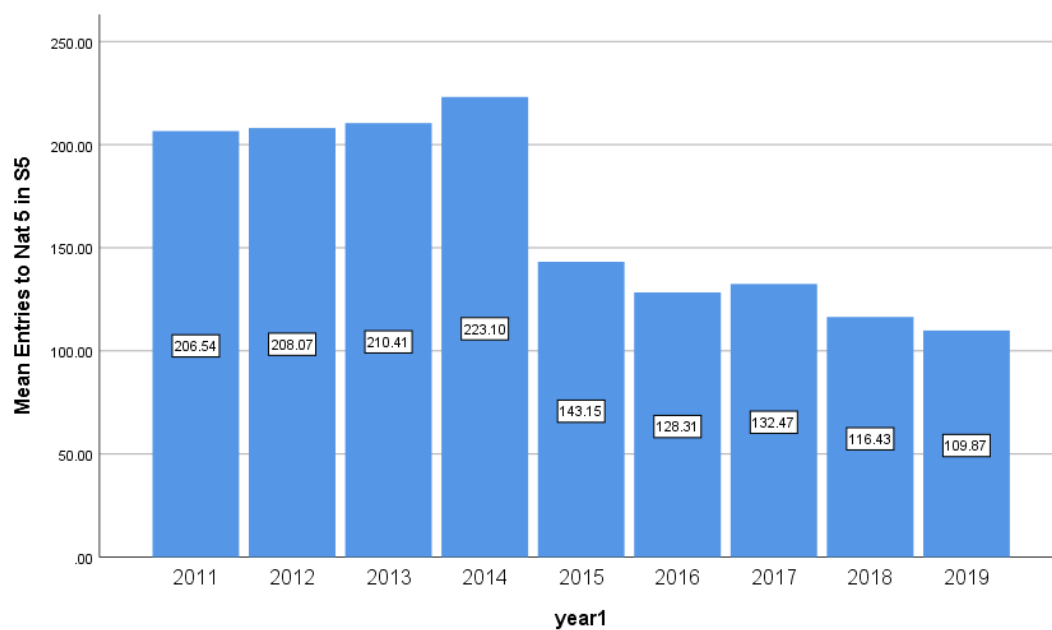


Figure 6:

The number of subjects entered for Standard Grade/Intermediate 2/National 5 qualifications per subject grouping, in S5, 2011-2019 (school level data).

Source: Scottish Government administrative education data, 2011-2019.

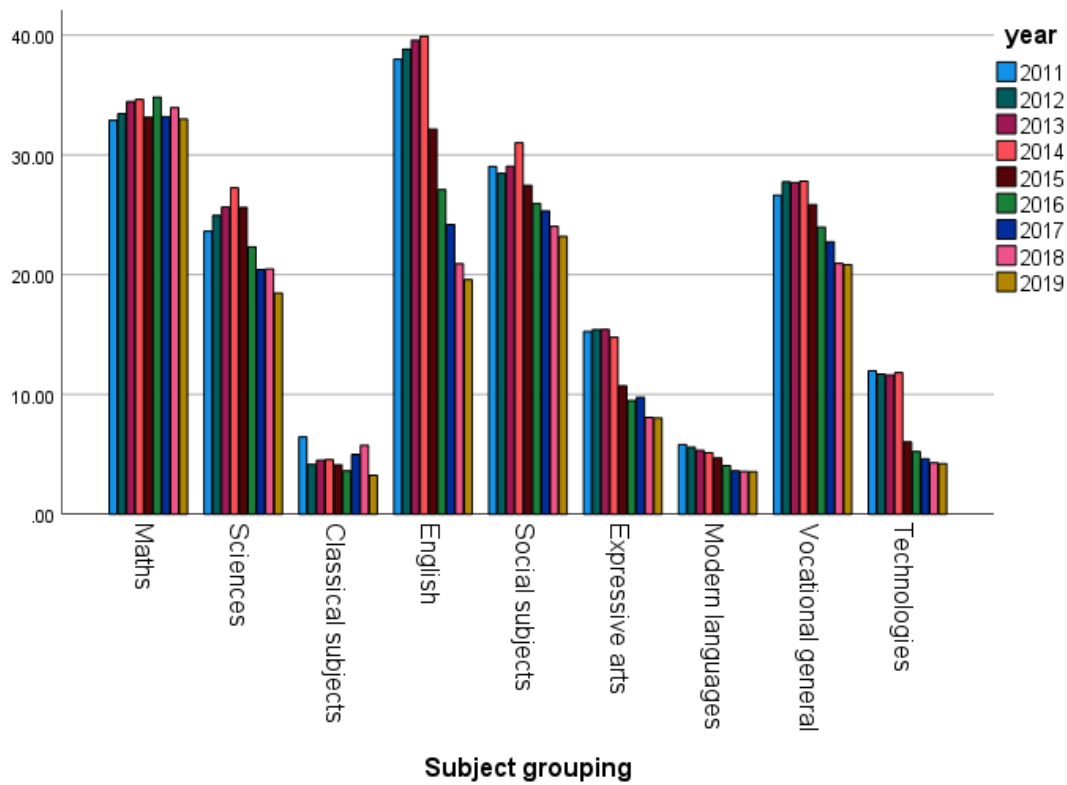


Figure 7:

The number of subjects entered for Standard Grade/Intermediate 2/National 5 qualifications per subject grouping, in S5, 2011-2019 (school level data).

Source: Scottish Government administrative education data, 2011-2019.

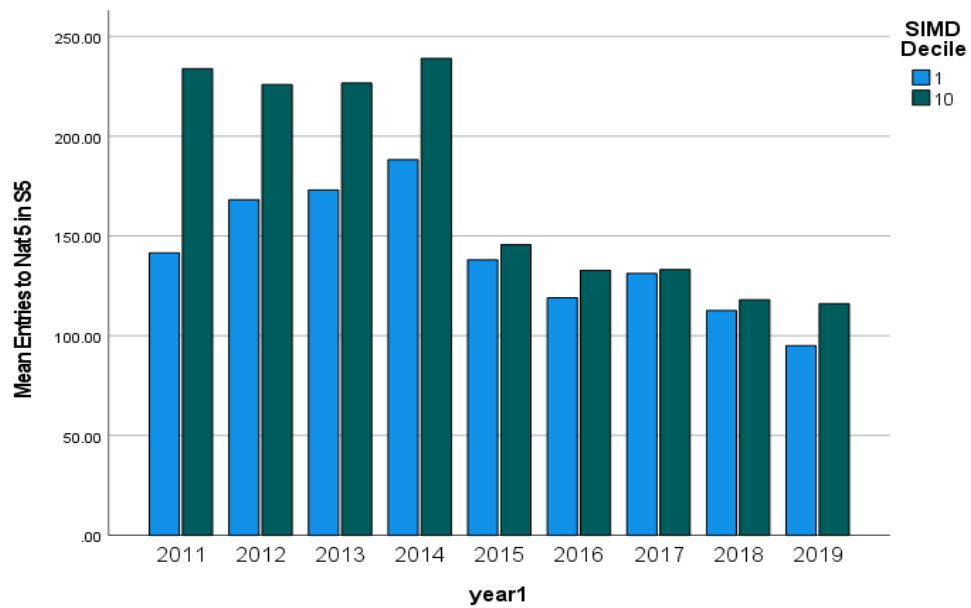


Figure 8:

The number of subjects entered for Standard Grade/Intermediate 2/National 5 qualifications in S5, in schools in SIMD decile 1 and SIMD decile 4, 2011-2019 (school level data). SIMD decile 1 – highest level of deprivation; SIND decile 10 – lowest level of deprivation.

Source: Scottish Government administrative education data, 2011-2019.