

ANNUAL QUALIFICATIONS INSIGHT 2019



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Annual Qualifications Insight 2019

Chief Executive Preface



CCEA plays a key role in supporting, recognising and rewarding learning throughout the years of compulsory education and beyond.

We provide advice to government on curriculum and assessment, developing and administering a wide range of qualifications, including GCSE and A level courses. CCEA also acts as regulator for all general and vocational qualifications offered in Northern Ireland. Each year CCEA generates a significant amount of data, charting participation and performance in Northern

Ireland GCSE and GCE examinations. For each of the last five years CCEA has produced an Annual Qualifications Insight Report. This Insight Report provides an in-depth look at trends and patterns, in both GCSE and A level, in more detail than we are able to produce during the results period in August.

The report contains analysis based on historic trends and patterns for GCSE and GCE qualifications over the last three academic years. It aims to promote discussion and engagement on educational matters, supporting policy makers, education professionals and industry to work together to improve education in Northern Ireland.

This year we have included further analysis on subject choice and motivations in an attempt to explain trends, such as the significant increase in popularity of Business Studies at GCE A level, in both males and females.

A handwritten signature in black ink that reads "Justin Edwards". The signature is written in a cursive style.

Justin Edwards
Chief Executive
Council for the Curriculum, Examinations and Assessment (CCEA)

1 Executive Summary¹

1.1 GCSE

1.1.1 Overall Entry

Across Northern Ireland, the 2019 entries for GCSE have declined slightly on 2018, falling by 5.2% from 170,348 to 161,405. This follows a decline of 0.4% between 2017 and 2018. Candidates took a total of 5,547,447 GCSEs across the Three Countries², meaning Northern Ireland accounts for 2.9% of the overall entry.

1.1.2 Overall Performance

In Northern Ireland, the proportion of entries awarded A/7–C/4 grades has increased by 1.1 percentage points this year to 82.2%. The A/7 grade also increased by 1.1 percentage points to 30.5%.

In keeping with the trend observed in Northern Ireland, Three Country GCSE results also improved. Statistics show that the proportion of GCSE entries achieving grades A/7 and A/7–C/4 have both increased, by 0.3 percentage points to 20.8% and by 0.4 percentage points to 67.3% respectively.

Female candidates continue to outperform males: by 10.7 percentage points at A/7, by 7.1 percentage points at A/7–C/4, and by 0.5 percentage points at A/7–G/1. Such a performance gap is a frequent finding at this level of study. This trend was also replicated across the Three Countries.

Northern Ireland candidates have consistently exceeded the Three Countries average across all grades and both genders.

1.1.3 Mathematics and English

This year performance in Mathematics increased, with 71.3% of entries achieving A/7–C/4 grades,

up 3.2 percentage points on 2018. Performance at A/7 also saw a significant increase, with an additional 2.4% of candidates (25.6%) achieving this grade in 2019.

Performance in English has continued to improve, with A/7–C/4 grades now representing 80.7% of entries in the subject, a rise of 0.5 percentage points. Performance at A/7 remains unchanged on last year (22.9%).

1.1.4 STEM, Languages, and Arts, Humanities and Social Sciences

The proportion of entries in STEM subjects (Science, Technology, Engineering and Mathematics) has declined by 6.1 percentage points over the last three years and 1.4 in the last year. On average, 84.6% of candidates achieve at least a C/4 grade in STEM subjects. Proportionally, the male and female entry for STEM has remained consistent, with roughly a 53%/47% split in favour of male candidates.

Overall, the number of entries for Languages fell in 2019. However, the overall share of the candidature for Languages has remained above 6% (6.2% compared to 6.8% last year). Candidates' performance in Languages continues to make it the strongest subject area in terms of results, with 88.3% of all entries achieving at least a C/4 grade.

Arts, Humanities and Social Sciences have become a more popular subject area at GCSE in the last year. Though the number of students has declined, the proportion of the total candidature has increased by 1.5 percentage points. Average performance in this subject category is comparable to STEM, with 84.1% of entries achieving at least a C/4 grade.

¹ Please note this report includes information from all Joint Council for Qualifications (JCQ) awarded qualifications, not just CCEA.

² 'Three Country' refers to England, Northern Ireland and Wales combined.

1.2 GCE A Level

1.2.1 Overall Entry

Results issued to candidates in Northern Ireland in August 2019 showed a 2.3% decline in the number of A level entries, from 29,004 in 2018 to 28,332 in 2019.

The number of A levels taken in the Three Countries has declined by 1.3% since last year, from 811,776 to 801,002.

1.2.2 Overall Performance

As at GCSE, Northern Ireland candidates continue to perform well at A level, with 8.8% of entries achieving the top A* grade and 30.9% attaining at least an A grade. Additionally, the overall A*–E pass rate remains high at 98.3%.

Northern Ireland results show a gender difference at grade A*, which is 0.9 percentage points higher for females; this reverses the trend noted in 2018, when male students outperformed their female counterparts at the highest grade for the first time. The performance gap at grades A*–A has also widened, from 1.2 percentage points in favour of females to 3.2 percentage points.

The Three Country results show relative stability in the performance of male and female candidates across the grades at A level.

In Northern Ireland, female candidates were 1.7 percentage points ahead of the Three Country figure at grade A*, and 0.6 percentage points ahead at grades A*–E. Male candidates in Northern Ireland are 0.1 percentage points ahead of the Three Country figure at grade A* and 0.9 percentage points ahead at grades A*–E.

1.2.3 STEM, Languages, and Arts, Humanities and Social Sciences

GCE A level participation is still highest among the STEM subjects. However, in 2019 STEM entries decreased by 3.5%, which could be explained by the decline in certain subjects, in particular Computing, and Design and Technology. Over the last year, the overall share of STEM in the A level market has decreased from 40.1% to 39.6%.

82.2% of the STEM candidature achieved at least a grade C – an improvement on last year's performance (81.3%).

Entry numbers in Languages have declined slightly over the last three years. At the same time, much like at GCSE, it is the highest performing subject area, with 95.6% of candidates achieving at least a grade C.

On average, 84.8% of all Arts, Humanities and Social Sciences entries achieved at least a grade C at this level. Performance across the Arts, Humanities and Social Sciences has improved considerably over the last three years.

Overall Northern Ireland Outcomes

GCSE



History

entries have increased by



11.2%

Social Science

subject entries have increased by

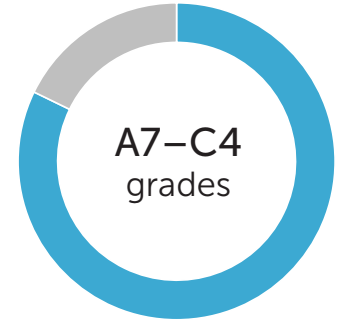
49.8%

Drama

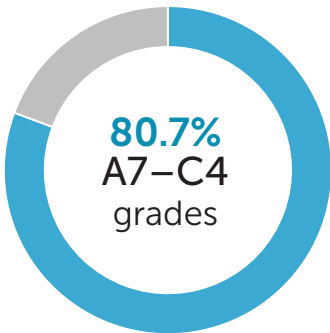
entries have increased by



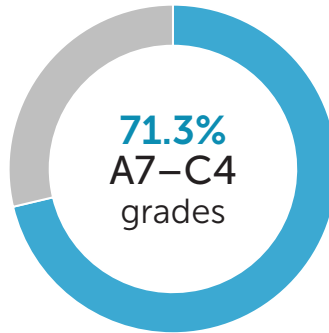
3.1%



English



Mathematics



an increase of **3.2%** on the previous year

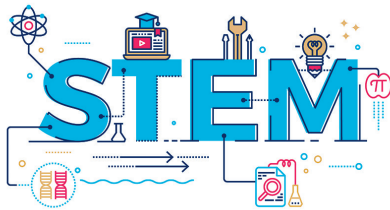
82.2%

of entries achieved

A7-C4 grades



the highest pass rate in the UK



41.6%

of all GCSE entries are STEM subjects – a decline of 1.4% on the previous year



Engineering

entries have increased by

19%



ICT entries have declined by 48%

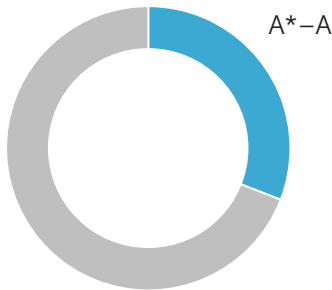


GCE

Percentage of entries achieving A*-A

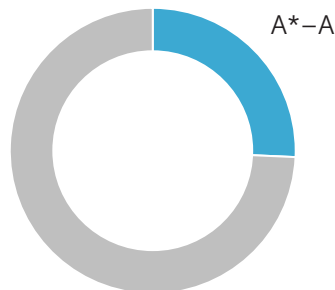
Northern Ireland

30.9%



Rest of the UK

25.5%



Mathematics

remains the most popular A level



Business Studies

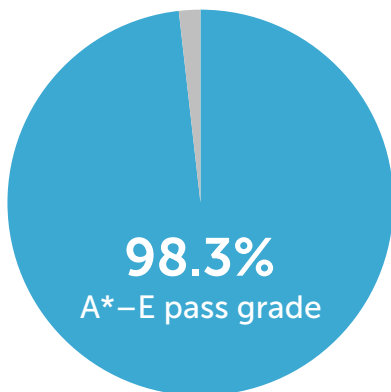
entries have increased by **29.6%**

in the last year; the subject is now the third most popular A level



Psychology

entries have increased by **8.3%**



98.3%

of students achieved an A*-E pass grade in Northern Ireland – higher than the UK average (97.6%)



39.6%

of NI students studied a **STEM** subject at A level

2 Introduction

2.1 Background/Rationale

This report contains a comparative analysis aimed at identifying trends in 16–18 year old students' uptake of and performance in selected GCSE and A level subjects³. The analysis will cover the last three academic years and include additional commentary on important identified trends. The aim of the document is to provide stakeholders with a summary of trends and to encourage debate and discussion on the issues identified.

2.2 Analysis

The Insight reports contain analysis, based on historic trends and patterns, for GCSE and GCE qualifications. Reports have been published annually since 2015 and have developed over the past four years to highlight CCEA's commitment to producing data for analysis and to show organisational transparency.

In previous Insight reports the focus was on numbers of subject entries; we did not attempt to analyse the motivations behind such trends. Section 5 of this report will investigate the motivations that underpin student subject choice, particularly at A level, where students have more autonomy about what they choose to study.

Over time it is hoped that the content of these reports can encourage new research endeavours and promote innovation across the education sectors.

2.3 Educational Context

In 2013, the government in England announced a range of reforms which included changes to GCSE grading, using numbers (9–1) rather than letters (A*–G). As a result, the Northern Ireland and Welsh governments reviewed their approach to GCSEs, including a consideration of grading.

In June 2016, the then Minister for Education in Northern Ireland, Peter Weir MLA, requested the following changes to the grading of GCSEs offered by CCEA:

'[...] the A grade will be realigned to reflect the level of achievement on the English 9–1 scale, and a new grade C* will be introduced to align with the level of achievement consistent with the grade 5 on the English 9–1 scale.'*

Source: CCEA (2016), *Why the Change?*

To meet the Minister's requirements, the Northern Ireland awarding organisation (CCEA) introduced a nine-point lettered scale (A*–G, including C*). This applies to qualifications taught from September 2017 and awarded from 2019. As such, there will be reference to the 9–1 grades within the GCSE section of this report. In addition to this, due to the first awarding of the new CCEA grading system, reference will be made in Section 4.1 to the outcomes from this awarding series.

The Welsh government chose to keep the previous eight letter grade (A*–G) model, allowing 9–1 graded qualifications where an A*–G qualification was not available.

³ Please note this report includes information from all JCQ awarded qualifications, not just CCEA.

2.4 Report Structure

Section 3 of this report provides a summary of entry analysis for GCSE and A level subjects covering the 2016/17 to 2018/19 academic period. Similarities and differences between the entry figures for each year for males and females are outlined for all Northern Ireland students. Notable entry patterns are highlighted and identified for additional study.

Section 4 focuses on grade outcomes for students in GCSE and A level subjects, again covering the 2016/17 to 2018/19 academic years. Notable trends and patterns are then identified for further analysis. This takes into consideration economic, political and social data to attempt to explain any identified trends.

The remainder of this report is structured as follows:

- Section 3: Entries;
- Section 4: Performance (Grade Outcomes);
- Section 5: Further Analysis: Subject Choice and Motivations; and
- Section 6: Conclusions.

3 Entries

3.1 GCSE Entries and Performance (Overall)

Across Northern Ireland, the 2018 entries for GCSE have declined since 2017, falling by 0.4%. This follows a decline of 3.2% between 2016 and 2017. These declines in entries are in line with the falling school population at this age.

The total number of GCSEs taken across the Three Countries was 5,470,076 (an increase of 0.2% since 2017), making Northern Ireland candidates accountable for 3.1% of the overall entries. The proportionate age profile of GCSE candidates in Northern Ireland remains stable and in line with 2017.

Table 1: Number (and Percentage) of Northern Ireland GCSE Candidates Aged 15, 16 and 17 in 2017/18 and 2018/19

| Age | 2017/18 | 2018/19 | % Change |
|--------------|-----------------|-----------------|--------------|
| 15 year olds | 4,717 (2.8%) | 3,822 (2.4%) | -18.9% |
| 16 year olds | 129,734 (76.2%) | 125,925 (78.0%) | -2.9% |
| 17 year olds | 35,897 (21.1%) | 31,658 (19.6%) | -11.8% |
| Total | 170,348 | 161,405 | -5.2% |

Source: Joint Council for Qualifications (JCQ) – Provisional GCSE Full Course Results (Northern Ireland), 2018–2019

The five most popular subjects at GCSE in 2019 are detailed in the table below:

Table 2: Most Popular GCSE Subjects (by Percentage of Total GCSE Awards in 2018/19)⁴

| | Overall | Males | Females |
|---|-----------------------------|-----------------------------|------------------------------|
| 1 | Science Double Award (9.8%) | Science Double Award (9.5%) | Science Double Award (10.1%) |
| 2 | Religious Studies (6.6%) | Religious Studies (5.9%) | Religious Studies (7.2%) |
| 3 | English Literature (6.2%) | English Literature (5.6%) | English Literature (6.7%) |
| 4 | History (4.3%) | History (4.6%) | History (4.0%) |
| 5 | Science (3.6%) | Geography (4.0%) | Science (3.4%) |

Source: JCQ – Provisional GCSE Full Course Results (Northern Ireland), 2019

3.1.1 GCSE Subject Categories

The entry for STEM subjects (Science, Technology, Engineering and Mathematics) has declined by 6.1% over the last three years and 1.4% in 2019. The proportional split between male and female STEM candidates has remained consistent at roughly 53%/47%, with more male candidates.

Overall, the number of entries for Languages fell in 2019. French is becoming less popular, decreasing by 6.3% since last year; Spanish and Irish have also seen a 12% and 7.5%

⁴ Mathematics and English have not been included in this table as these are compulsory subjects in most schools.

decrease on last year respectively. German saw the largest decrease in entry (25%) over the same period. However, although the overall share of the candidature for Languages has declined by 0.6% this year, it has remained above 6% (6.2% compared to 6.8% last year).

The Arts, Humanities and Social Sciences are becoming a more popular subject choice at GCSE. Though the actual number of students has declined, the proportion of the total candidature has increased by 1.5% to 38%.

3.2 GCSE Entry Patterns and Changes

Table 3: Northern Ireland GCSE Entries by Subject (2016/17–2018/19)

| | 2016/17 | 2017/18 | 2018/19 | % change on last year |
|---|---------|---------|---------|-----------------------|
| STEM | | | | |
| Biology | 4,077 | 4,016 | 3,971 | -1.1% |
| Chemistry | 3,085 | 3,033 | 3,016 | -0.6% |
| Computing | 630 | 659 | 458 | -30.5% |
| Design and Technology | 4,205 | 4,096 | 3,816 | -6.8% |
| Engineering | 389 | 426 | 507 | +19.0% |
| Further Mathematics | 3,445 | 3,584 | 3,655 | +2.0% |
| ICT | 7,778 | 7,454 | 3,876 | -48.0% |
| Mathematics | 23,963 | 24,477 | 23,034 | -5.9% |
| Other Sciences | 304 | 329 | 259 | -21.3% |
| Physics | 3,035 | 2,951 | 2,842 | -3.7% |
| Science | 6,331 | 6,282 | 5,879 | -6.4% |
| Science (Double Award) | 14,254 | 15,944 | 15,840 | -0.7% |
| Languages | | | | |
| French | 4,709 | 4,301 | 4,031 | -6.3% |
| German | 937 | 1,050 | 788 | -25.0% |
| Irish | 1,987 | 1,991 | 1,841 | -7.5% |
| Spanish | 3,877 | 3,817 | 3,359 | -12.0% |
| Arts, Humanities and Social Sciences | | | | |
| Art and Design | 4,085 | 3,909 | 3,854 | -1.4% |
| Classical Subjects | 178 | 201 | 141 | -29.9% |
| Drama | 1,309 | 1,434 | 1,478 | +3.1% |
| English | 21,720 | 21,820 | 20,894 | -4.2% |
| English Literature | 10,132 | 10,078 | 9,930 | -1.5% |
| Geography | 5,826 | 5,903 | 5,827 | -1.3% |
| History | 6,368 | 6,199 | 6,893 | +11.2% |
| Music | 1,453 | 1,421 | 1,379 | -3.0% |
| Performing and Expressive Arts | 362 | 0 | 9 | N/A |
| Religious Studies | 11,373 | 11,019 | 10,576 | -4.0% |
| Social Science Subjects | 213 | 255 | 382 | +49.8% |

| | 2016/17 | 2017/18 | 2018/19 | % change on last year |
|------------------------|---------|---------|---------|-----------------------|
| Other | | | | |
| Business Studies | 3,658 | 3,896 | 3,493 | -10.3% |
| Home Economics | 4,191 | 4,071 | 4,412 | +8.4% |
| Media and Film Studies | 1,717 | 1,789 | 1,529 | -14.5% |
| Physical Education | 3,139 | 3,026 | 2,767 | -8.6% |

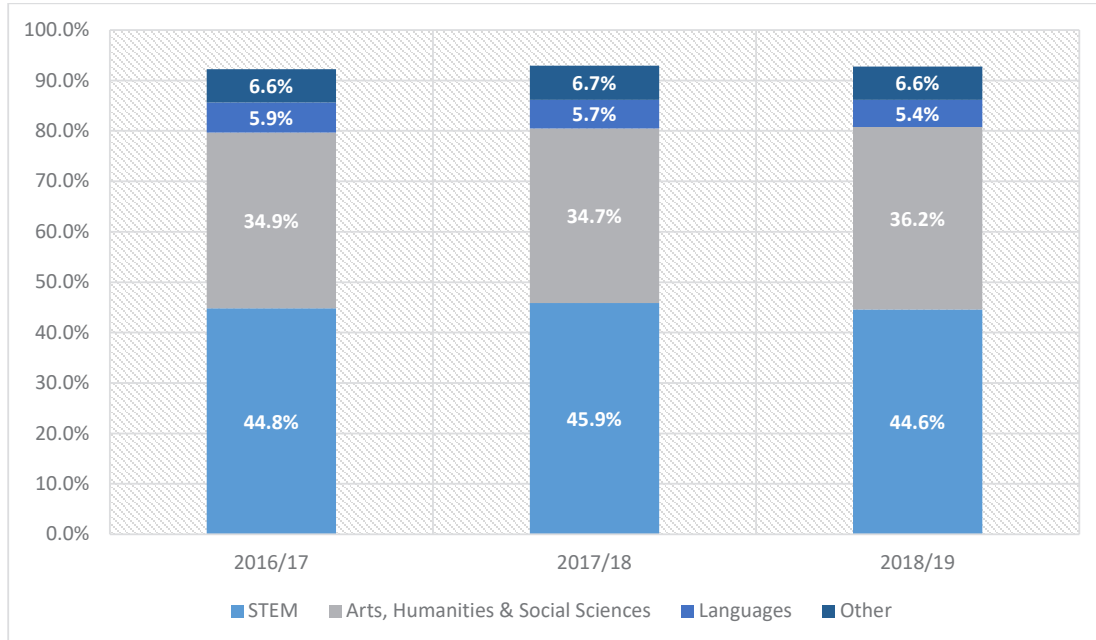
Source: JCQ – Provisional GCSE Full Course Results (Northern Ireland), 2017–2019

Table 4: GCSE Male Subject Trends by Number of Entries (2016/17–2018/19)

| | 2016/17 | 2017/18 | 2018/19 |
|--------------------------------------|---------|---------|---------|
| STEM | 37,937 | 37,957 | 34,903 |
| Languages | 5,035 | 4,687 | 4,242 |
| Arts, Humanities and Social Sciences | 29,555 | 28,691 | 28,330 |
| Other | 5,600 | 5,587 | 5,155 |

Source: JCQ – Provisional GCSE Full Course Results (Northern Ireland), 2017–2019

Figure 1: GCSE Male Subject Trends by Percentage (2016/17–2018/19)⁵



Source: JCQ – Provisional GCSE Full Course Results (Northern Ireland), 2017–2019

In 2018/19, the proportion of male GCSE entries in STEM subjects declined by 1.3 percentage points to 44.6%. This follows an increase of 1.1 percentage points the previous year. When individual subjects are taken into consideration, it can be seen that the decline this year is largely driven by fewer entries for ICT (-2.2%) and Computing (-0.2%).

⁵ Please note that percentages in Figure 1 and Figure 2 do not add up to 100 as Double Award and Applied subjects are not taken into consideration.

The opposite trend can be seen for Arts, Humanities and Social Sciences. After a decline over the last number of years, male entries have increased from 34.7% in 2017/18 to 36.2% in 2018/19; increases in subjects such as History and Drama largely account for this change.

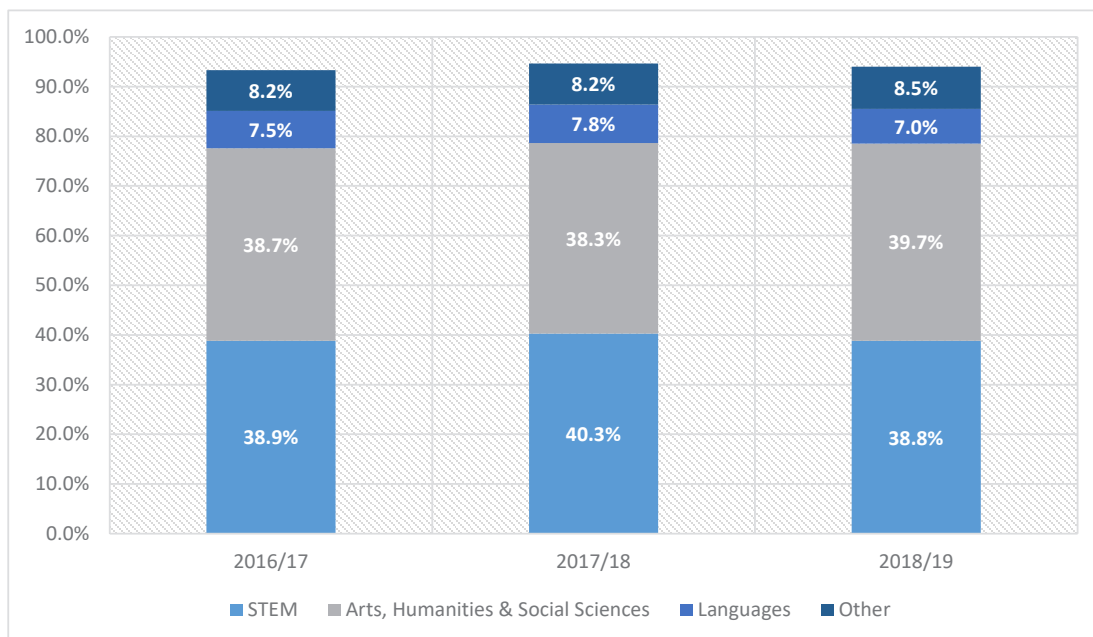
Language entries amongst males have continued to decrease in line with the previous three year trend, down from 5.9% in 2016/17 and 5.7% in 2017/18 to 5.4% in 2018/19.

Table 5: GCSE Female Subject Trends by Number of Entries (2016/17–2018/19)

| | 2016/17 | 2017/18 | 2018/19 |
|--------------------------------------|---------|---------|---------|
| STEM | 33,559 | 35,294 | 32,250 |
| Languages | 6,475 | 6,472 | 5,777 |
| Arts, Humanities and Social Sciences | 33,464 | 33,548 | 33,033 |
| Other | 7,105 | 7,195 | 7,046 |

Source: JCQ – Provisional GCSE Full Course Results (Northern Ireland), 2017–2019

Figure 2: GCSE Female Subject Trends by Percentage (2016/17–2018/19)



Source: JCQ – Provisional GCSE Full Course Results (Northern Ireland), 2017–2019

In 2018/19, the proportion of female GCSE entries in STEM subjects declined. STEM comprised 38.8% of all subject entries at GCSE level. This is a decrease of 1.5 percentage points on the previous year. Much like the trend among male students, this has been driven largely by the decline in uptake of subjects such as ICT (-1.8%).

Arts, Humanities and Social Sciences entries for female students increased by 1.4 percentage points, from 38.3% in 2017/18 to 39.7% in 2018/19. Language entries for female students have declined by 0.8 percentage points in the last year.

3.3 A Level Entry Summary

3.3.1 AS Level

In 2019, Northern Ireland AS entries declined by 5.9% compared to 2018. This equates to 2,256 fewer AS entries. AS entries declined by 44.1% in the combined Three Countries, equating to 152,717 fewer grades awarded. These declines continue to be affected by the policy decision in England to decouple AS from the reformed A level qualifications (UCAS, 2015).

Table 6: Three Country, Northern Ireland and CCEA AS Level Entries

| | Three Country | Northern Ireland | CCEA ⁶ |
|----------|---------------|------------------|-------------------|
| 2017/18 | 346,126 | 40,325 | 35,459 |
| 2018/19 | 193,409 | 38,069 | 34,375 |
| % Change | -44.1% | -5.6% | -3.1% |

Sources: JCQ – Provisional AS Full Course Results (Northern Ireland and Three Country), 2019 and CCEA Internal AS Full Course Results, 2019

3.3.2 A Level

In 2019, the overall A level entry decreased by 2.3% in Northern Ireland. This equates to 672 fewer candidates.

The Three Country A level entry declined by 1.3% (10,774 candidates), again less than what was experienced at AS level and in Northern Ireland.

Table 7: Three Country, Northern Ireland and CCEA A Level Entries

| | Three Country | Northern Ireland | CCEA |
|----------|---------------|------------------|--------|
| 2017/18 | 811,776 | 29,004 | 23,920 |
| 2018/19 | 801,002 | 28,332 | 24,172 |
| % Change | -1.3% | -2.3% | +1.1% |

Sources: JCQ – Provisional A Level Full Course Results (Northern Ireland and Three Country), 2019 and CCEA Internal A Level Full Course Results, 2019

The five most popular subjects at GCE A level in 2019 are detailed in the table below:

Table 8: Most Popular A Level Subjects (by Percentage of Total A Level Awards in 2018/19)

| | Overall | Males | Females |
|---|---------------------------|-------------------------|---------------------------|
| 1 | Mathematics (10.2%) | Mathematics (13.2%) | Biology (10.5%) |
| 2 | Biology (9.1%) | Business Studies (8.1%) | Religious Studies (8.7%) |
| 3 | Business Studies (6.8%) | Biology (7.2%) | English Literature (8.5%) |
| 4 | Religious Studies (6.5%) | History (7.0%) | Mathematics (7.9%) |
| 5 | English Literature (6.1%) | Physics (6.5%) | Business Studies (5.9%) |

Source: JCQ – Provisional A Level Full Course Results (Northern Ireland), 2019

STEM subjects such as Mathematics, Biology and Physics continue to have higher entries among male students, whilst Biology, Religious Studies and English Literature have

⁶ CCEA figures are based on results at time of award.

the highest entries amongst female students. Business Studies entries have increased considerably for male and female students, and it appears for the first time in the top five for both genders.

3.3.3 A Level Subject Categories

In 2019, STEM entries declined by 3.5%, potentially owing to the reduced entry in Computing (-12.9%), Design and Technology (-9.7%) and Biology (-6.4%).

In terms of proportional entry, there was a slight decline in STEM entry (0.7%). This appears to be driven by a reduction in the number of males taking STEM subjects. However, STEM is still the most popular subject category at A level, and Northern Ireland continues to have a higher proportion of STEM entries when compared to the Three Countries (39.6% compared to 37.4%).

Over the last three years, entry for the Arts, Humanities and Social Sciences declined from 40.2% in 2016/17 to 39.2% in 2018/19. Languages also had fewer entries; the proportional entry has declined from 4.7% to 4.2% over the three years.

3.4 A Level Entry Patterns and Changes

Table 9: Northern Ireland A Level Entries by Subject (2016/17–2018/19)

| | 2016/17 | 2017/18 | 2018/19 | % change on last year |
|---|---------|---------|---------|-----------------------|
| STEM | | | | |
| Biology | 2,889 | 2,745 | 2,570 | -6.4% |
| Chemistry | 1,743 | 1,659 | 1,648 | -0.7% |
| Computing | 315 | 364 | 317 | -12.9% |
| Design and Technology | 1,017 | 972 | 878 | -9.7% |
| Further Mathematics | 199 | 197 | 172 | -12.7% |
| ICT | 1,455 | 1,021 | 1,029 | +0.8% |
| Mathematics | 3,129 | 2,964 | 2,899 | -2.2% |
| Other Sciences | 142 | 461 | 588 | +27.5% |
| Physics | 1,293 | 1,242 | 1,121 | -9.7% |
| Languages | | | | |
| French | 473 | 429 | 358 | -16.6% |
| German | 100 | 110 | 69 | -37.3% |
| Irish | 333 | 332 | 291 | -12.3% |
| Spanish | 529 | 434 | 458 | +5.5% |
| Arts, Humanities and Social Sciences | | | | |
| Art and Design | 915 | 884 | 862 | -2.5% |
| Classical Subjects | 118 | 80 | 78 | -2.5% |
| Drama | 458 | 351 | 352 | +0.3% |
| English Literature | 1,986 | 1,853 | 1,741 | -6.0% |
| Geography | 1,702 | 1,610 | 1,619 | +0.6% |
| History | 2,144 | 1,740 | 1,731 | -0.5% |
| Law | 46 | 24 | 20 | -16.7% |

| | 2016/17 | 2017/18 | 2018/19 | % change on last year |
|--------------------------------|---------|---------|---------|-----------------------|
| Music | 326 | 382 | 296 | -22.5% |
| Performing and Expressive Arts | 160 | 214 | 185 | -13.6% |
| Political Studies | 998 | 999 | 1,050 | +5.1% |
| Psychology | 502 | 459 | 497 | +8.3% |
| Religious Studies | 2,114 | 2,026 | 1,853 | -8.5% |
| Sociology | 918 | 779 | 831 | +6.7% |
| Other | | | | |
| Business Studies | 1,427 | 1,528 | 1,939 | +26.9% |
| Media and Film Studies | 1,275 | 1,207 | 1,091 | -9.6% |
| Physical Education | 562 | 536 | 533 | -0.6% |

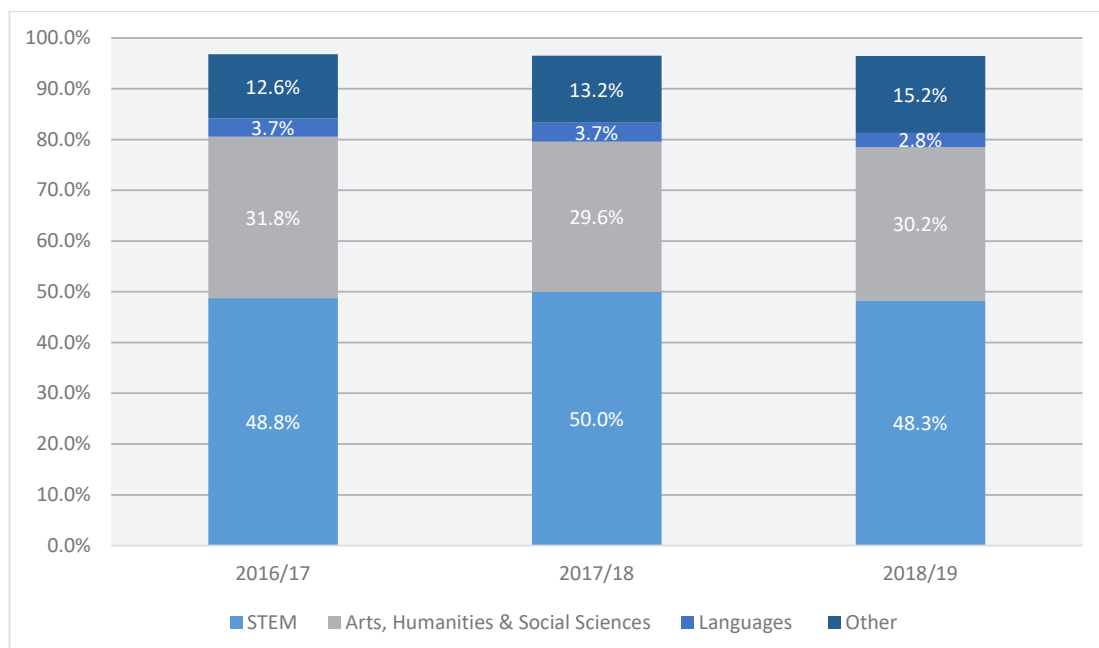
Source: JCQ – Provisional A Level Full Course Results (Northern Ireland), 2017–2019

Table 10: A Level Male Subject Trends by Number of Entries (2016/17–2018/19)

| | 2016/17 | 2017/18 | 2018/19 |
|--------------------------------------|---------|---------|---------|
| STEM | 6,604 | 6,442 | 6,003 |
| Languages | 495 | 477 | 350 |
| Arts, Humanities and Social Sciences | 4,305 | 3,819 | 3,754 |
| Other | 1,709 | 1,707 | 1,884 |

Source: JCQ – Provisional A Level Full Course Results (Northern Ireland), 2017–2019

Figure 3: A Level Male Subject Trends by Percentage (2016/17–2018/19)⁷



Source: JCQ – Provisional A Level Full Course Results (Northern Ireland), 2017–2019

⁷ Please note that percentages in Figure 3 and Figure 4 do not add up to 100 as subject categories designated 'All Other Subjects' are not taken into consideration.

In 2018/19, STEM entries declined by 2.7 percentage points from 2017/18; this follows an increase the previous year. However, STEM subjects still account for the largest share of the total entry among male candidates.

Entries in Arts, Humanities and Social Sciences subjects have fluctuated for males. Following a 2.1 percentage point decrease in 2017/18, entries have increased by 0.6 percentage points to 30.2% this year.

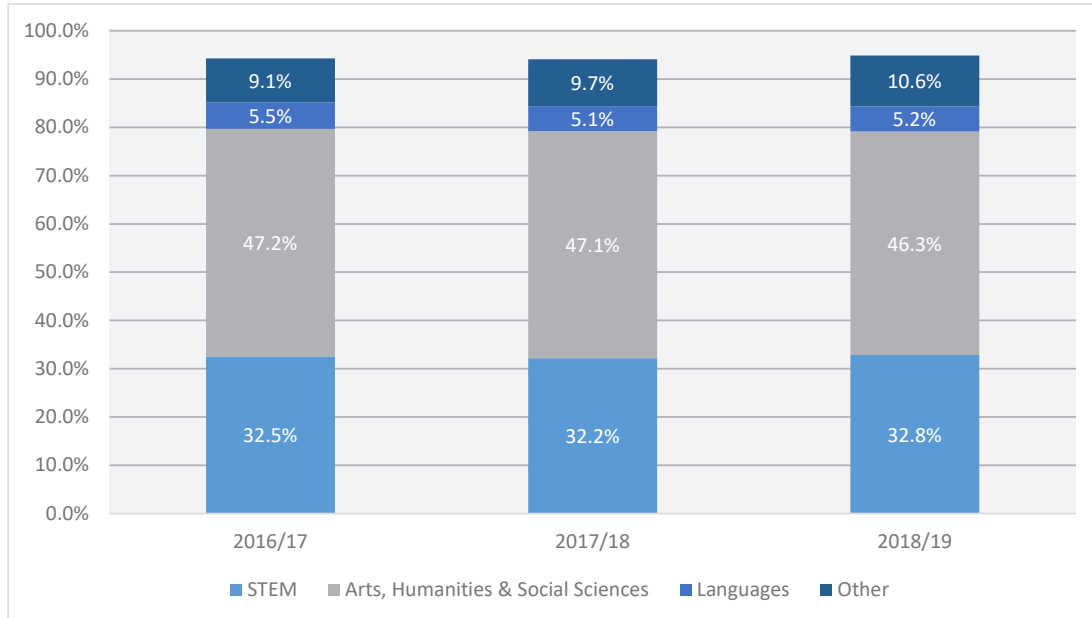
Language entries have declined from 3.7% in 2017/18 to 2.8% in 2018/19.

Table 11: A Level Female Subject Trends by Number of Entries (2016/17–2018/19)

| | 2016/17 | 2017/18 | 2018/19 |
|--------------------------------------|---------|---------|---------|
| STEM | 5,578 | 5,183 | 5,219 |
| Languages | 940 | 828 | 826 |
| Arts, Humanities and Social Sciences | 8,082 | 7,582 | 7,361 |
| Other | 1,555 | 1,564 | 1,679 |

Source: JCQ – Provisional A Level Full Course Results (Northern Ireland), 2017–2019

Figure 4: A Level Female Subject Trends by Percentage (2016/17–2018/19)



Source: JCQ – Provisional A Level Full Course Results (Northern Ireland), 2017–2019

4 Performance (Grade Outcomes)

4.1 CCEA Performance (GCSE Grading Changes)

As stated in Section 2.3, in 2013 the government in England announced a reform to GCSEs and a new grading system, using numbers (9–1) rather than letters (A*–G).

Northern Ireland reviewed its policy on grading, which resulted in the realignment of the A* grade to reflect the level of achievement of grade 9. In addition to this, a C* was introduced to align with the level of achievement consistent with grade 5.

The table below illustrates how this change relates to previous grades and maps onto the English 9–1 scale.

Table 12: New CCEA Grading Structure

| Previous CCEA Structure | New CCEA Structure | 9–1 Structure |
|-------------------------|--------------------|---------------|
| A* | A* | 9 |
| A | A | 8 |
| | | 7 |
| B | B | 6 |
| | C* | 5 |
| C | C | 4 |
| D | D | 3 |
| E | E | 2 |
| F | F | |
| G | G | 1 |

Source: CCEA (2014) GCSE Grading Scale Changes in Northern Ireland – Summer 2019

The Northern Ireland grade changes were implemented in 2017, with the first full cohort receiving grades awarded on the new scale in summer 2019. As this was the first year of the new grades, we cannot identify trends in performance. Instead, this section will present overall results for 2019. In total, over 48,000 individual GCSE students received results based on the new nine-grade A* to G scale from CCEA in summer 2019.

Table 13: CCEA GCSE Grading Outcomes (2018/19)⁸

| | A* | A | B | C* | C | D | E | F | G | U |
|--------------------|--------|--------|--------|--------|--------|--------|-------|-------|-------|--------|
| Male | 5.9% | 25.5% | 45.0% | 62.0% | 77.8% | 88.8% | 94.1% | 96.9% | 98.5% | 100.0% |
| Female | 10.2% | 36.8% | 57.4% | 72.9% | 85.4% | 93.2% | 96.5% | 98.1% | 99.0% | 100.0% |
| Total (140,065) | 8.1% | 31.4% | 51.4% | 67.6% | 81.7% | 91.0% | 95.3% | 97.5% | 98.7% | 100.0% |
| | 11,345 | 32,495 | 28,013 | 22,691 | 19,749 | 13,026 | 6,023 | 3,081 | 1,681 | 1,821 |

Source: CCEA – Provisional GCSE Full Course Results, 2019

The new grade A* aligns to grade 9 in the English grading system and therefore reflects exceptional performance. The grading change has resulted in fewer students achieving the new grade A*. Overall, 8.1% of GCSE entries in Northern Ireland were awarded this new grade compared to 9.9% obtaining the previous A* grade in 2018.

The new grade A is aligned with grades 7 and 8 in England. In total, 31.4% of entries were awarded grade A and above in 2019; this is comparable to 29.5% who achieved at least a grade A in 2018.

Grade B aligns to grade 6 in England. There were fewer entries awarded a grade B or above in 2019 (51.4%) than in 2018 (56.7%); this was expected due to the introduction of the new grade C*.

Approximately the same proportion of entries that achieved a grade C and above in the past continued to achieve grade C and above (81.4% in 2018 compared to 81.7% in 2019). Grade C aligns with grade 4 in the English grading system.

Grade D–G outcomes were comparable with previous years.

4.2 GCSE Performance Trends

4.2.1 Overall

This section reports on the GCSE grades issued in Northern Ireland, England and Wales, from A/7 to G/1. It takes into account all GCSE qualifications and the grades awarded by all of the awarding organisations. Overall, in 2019, there was a 1.1 percentage point increase at A/7 from 29.4% to 30.5% for Northern Ireland candidates. Grades A/7–C/4 also showed a 1.1 percentage point increase to 82.2%.

In Northern Ireland, female candidates continued to outperform males: at A/7 by 10.7 percentage points, at A/7–C/4 by 7.1 percentage points, and at A/7–G/1 by 0.5 percentage points. This trend is similar across the Three Countries.

Northern Ireland candidates have consistently outperformed the Three Country average across all grades and genders.

⁸ Please note that Table 13 shows the percentage of GCSE **entries** that were awarded each of the grades listed **or above**. The bottom row shows the exact number of GCSE entries that were awarded each of the grades shown.

Table 14: Three Country and Northern Ireland (NI) GCSE Performance by Gender in 2018/19 (and 2017/18)

| | Overall | | Males | | Females | |
|----------|----------------|----------------|----------------|----------------|----------------|----------------|
| | NI | Three Country | NI | Three Country | NI | Three Country |
| %A/7 | 30.5 (29.4) | 20.8 (20.5) | 25.0 (23.2) | 17.6 (17.2) | 35.7 (35.3) | 24.1 (23.7) |
| %A/7–C/4 | 82.2 (81.1) | 67.3 (66.9) | 78.5 (76.9) | 62.9 (62.3) | 85.6 (85.1) | 71.7 (71.4) |
| %A/7–G/1 | 98.8 (99.1) | 98.3 (98.3) | 98.6 (98.8) | 97.8 (97.8) | 99.1 (99.4) | 98.8 (98.8) |

Source: JCQ – Provisional GCSE Full Course Results (Northern Ireland and Three Country), 2019

4.2.2 English and Mathematics

Mathematics and English are compulsory subjects in most schools. For this reason, Mathematics and English Language are detailed separately in this section, as well as being assessed in their respective subject categories.

Below is information on GCSE candidates' performance in Mathematics and English.

Table 15: Three Country and Northern Ireland (NI) GCSE Performance in English in 2018/19 (and 2017/18)

| | Overall | | Males | | Females | |
|----------|----------------|----------------|----------------|----------------|----------------|----------------|
| | NI | Three Country | NI | Three Country | NI | Three Country |
| %A/7 | 22.9 (22.9) | 14.0 (14.1) | 15.4 (15.2) | 9.6 (9.8) | 30.4 (30.6) | 18.7 (18.7) |
| %A/7–C/4 | 80.7 (80.2) | 62.0 (61.8) | 74.3 (73.7) | 54.2 (54.3) | 87.1 (86.8) | 70.5 (69.9) |
| %A/7–G/1 | 99.3 (99.6) | 98.7 (98.9) | 99.1 (99.4) | 98.1 (98.3) | 99.6 (99.7) | 99.4 (99.5) |

Source: JCQ – Provisional GCSE Full Course Results (Northern Ireland and Three Country), 2019

There was no change in 2019 for Northern Ireland candidates' attainment in English at the A/7 grade, which remained at 22.9%. Grades A/7–C/4 show a 0.5 percentage point increase to 80.7%. Grades A/7–G/1 declined slightly by 0.3 percentage points. In Northern Ireland, female candidates continue to outperform males: at A/7 by 15 percentage points, at A/7–C/4 by 12.8 percentage points and at A/7–G/1 by 0.5 percentage points.

Table 16: Three Country and Northern Ireland GCSE Performance in Mathematics in 2018/19 (and 2017/18)

| | Overall | | Males | | Females | |
|----------|----------------|----------------|----------------|----------------|----------------|----------------|
| | NI | Three Country | NI | Three Country | NI | Three Country |
| %A/7 | 25.6 (23.2) | 16.1 (15.8) | 24.0 (22.3) | 16.7 (16.8) | 27.1 (24.0) | 15.5 (14.9) |
| %A/7–C/4 | 71.3 (68.1) | 59.6 (59.4) | 70.3 (67.1) | 59.9 (59.7) | 72.3 (69.1) | 59.2 (59.2) |
| %A/7–G/1 | 96.6 (97.7) | 97.6 (97.4) | 96.5 (97.2) | 97.3 (97.2) | 96.8 (98.2) | 97.8 (97.6) |

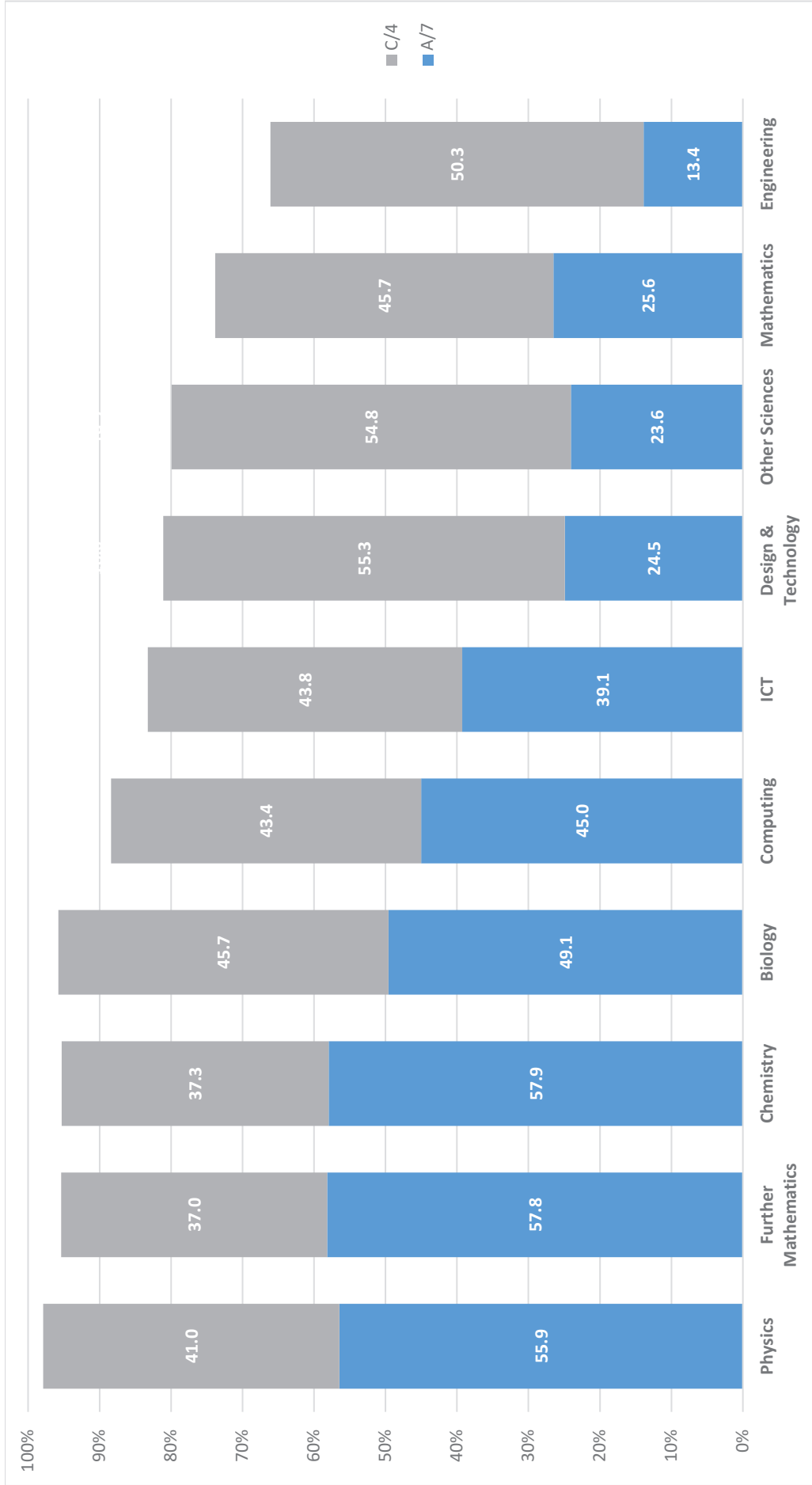
Source: JCQ – Provisional GCSE Full Course Results (Northern Ireland and Three Country), 2019

GCSE Mathematics candidates' outcomes in Northern Ireland showed an increase of 2.4 percentage points at the A/7 grade. Grades A/7–C/4 showed a 3.2 percentage point increase to 71.3%. Grades A/7–G/1 declined by 1.1 percentage points to 96.6%.

In Northern Ireland, female GCSE Mathematics candidates continued to outperform males: at A/7 by 3.1 percentage points, at A/7–C/4 by 2 percentage points and at A/7–G/1 by 0.3 percentage points.

4.2.3 STEM

Figure 5: GCSE STEM Performance 2018/19: Percentage of Northern Ireland GCSE Entries Achieving Grades A/7 –C/4



Source: JCQ – Provisional GCSE Full Course Results (Northern Ireland), 2019

4.2.4 Languages

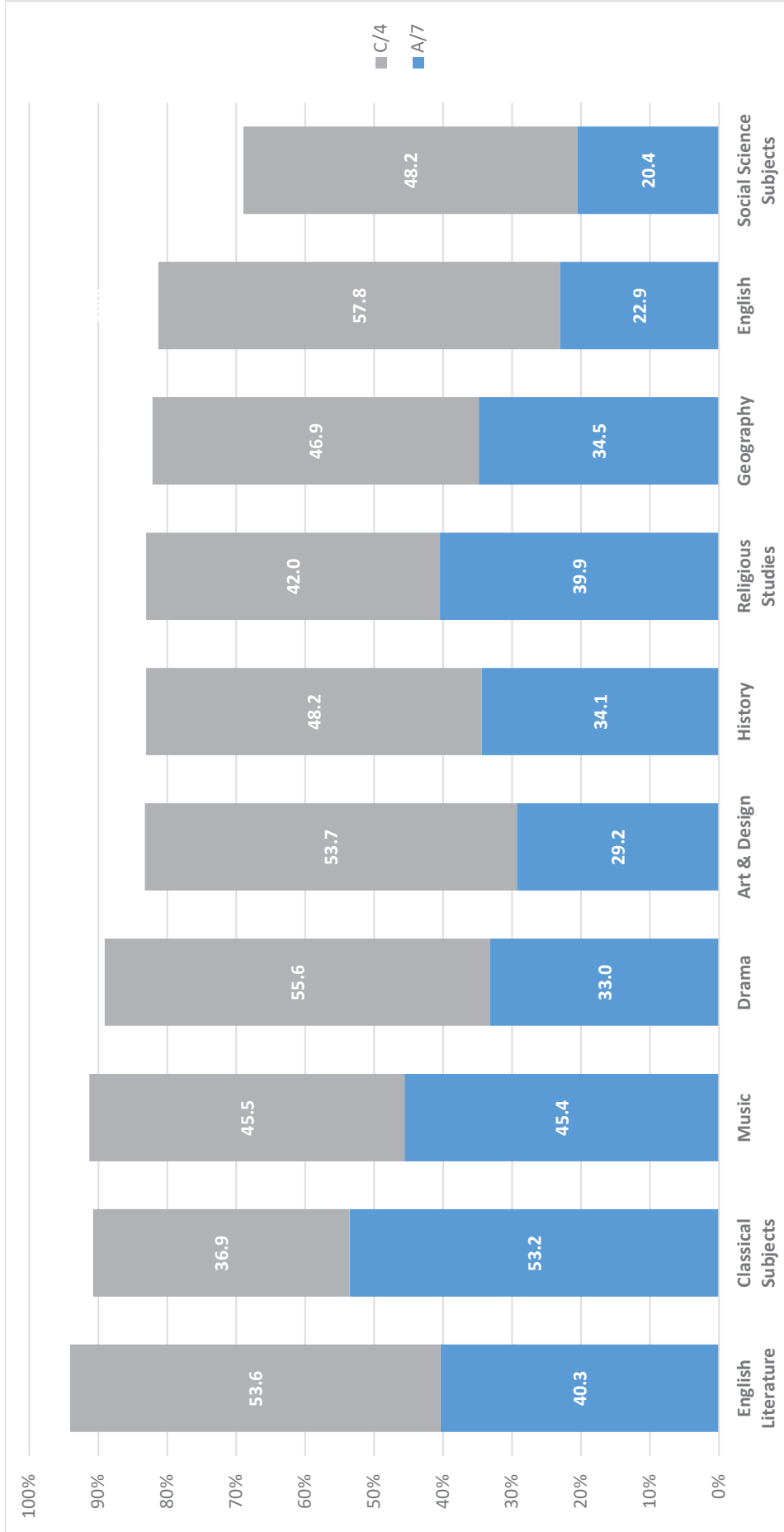
Figure 6: GCSE Languages Performance 2018/19: Percentage of Northern Ireland GCSE Entries Achieving Grades A/7 – C/4



Source: JCQ – Provisional GCSE Full Course Results (Northern Ireland), 2019

4.2.5 Arts, Humanities and Social Sciences

Figure 7: GCSE Arts, Humanities and Social Sciences Performance 2018/19: Percentage of Northern Ireland GCSE Entries Achieving Grades A/7–C/4



Source: JCQ – Provisional GCSE Full Course Results (Northern Ireland), 2019

4.2.6 Other Qualifications

Figure 8: GCSE Other Performance 2018/19: Percentage of Northern Ireland GCSE Entries Achieving Grades A/7–C/4



Source: JCQ – Provisional GCSE Full Course Results (Northern Ireland), 2019

4.2.7 GCSE Performance Summary

Table 17: Cumulative A7–C4 Grades for GCSE in Northern Ireland (2018/19)

| | Male | % Change | Female | % Change | Gender Gap |
|---|-------|----------|--------|----------|------------|
| STEM | | | | | |
| Biology | 95.3% | 0.4% | 94.4% | -0.4% | 0.9% |
| Chemistry | 93.4% | -0.5% | 96.9% | 0.9% | -3.5% |
| Computing | 88.7% | -0.8% | 86.3% | -3.5% | 2.4% |
| Design and Technology | 76.8% | 0.1% | 86.8% | -2.5% | -10.0% |
| Engineering | 63.6% | -6.6% | 65.0% | -3.1% | -1.4% |
| Further Mathematics | 94.0% | 0.6% | 95.6% | -1.4% | -1.6% |
| ICT | 81.0% | 4.6% | 86.1% | 0.3% | -5.1% |
| Mathematics | 70.3% | 3.2% | 72.3% | 3.2% | -2.0% |
| Physics | 95.7% | 0.4% | 98.7% | 0.2% | -3.0% |
| Science | 66.9% | 0.0% | 73.9% | -1.8% | -7.0% |
| Science (Double Award) | 86.6% | 1.5% | 90.1% | -0.1% | -3.5% |
| Languages | | | | | |
| French | 78.2% | 0.7% | 87.3% | 1.0% | -9.1% |
| German | 80.0% | 1.0% | 88.7% | 0.7% | -8.7% |
| Irish | 91.8% | -2.9% | 95.4% | -1.1% | -3.6% |
| Spanish | 86.9% | 0.0% | 94.9% | 1.3% | -8.0% |
| Arts, Humanities and Social Sciences | | | | | |
| Art and Design | 75.4% | -0.3% | 86.2% | 0.7% | -10.8% |
| Classical Subjects | 92.2% | 3.8% | 88.3% | -8.2% | 3.9% |
| Drama | 81.9% | -2.4% | 92.0% | -1.0% | -10.1% |
| English | 74.3% | 0.6% | 87.1% | 0.3% | -12.8% |
| English Literature | 91.0% | 1.2% | 96.2% | 1.0% | -5.2% |
| Geography | 76.6% | 2.6% | 86.9% | 0.7% | -10.3% |
| History | 79.9% | 2.3% | 84.8% | 1.1% | -4.9% |
| Music | 89.0% | 2.4% | 91.7% | -0.4% | -2.7% |
| Performing and Expressive Arts | 0.0% | 0.0% | 77.8% | 77.8% | N/A |
| Religious Studies | 74.6% | 0.6% | 87.6% | 0.7% | -13.0% |
| Social Science Subjects | 69.1% | 17.4% | 68.4% | -7.5% | 0.7% |
| Other | | | | | |
| Business Studies | 76.8% | 3.0% | 84.3% | 0.0% | -7.5% |
| Home Economics | 63.2% | -2.6% | 74.9% | -6.2% | -11.7% |
| Media and Film Studies | 73.9% | 5.9% | 82.8% | 2.4% | -8.9% |
| Physical Education | 81.1% | 0.8% | 87.4% | 0.0% | -6.3% |

Source: JCQ – Provisional GCSE Full Course Results (Northern Ireland), 2019

Overall, Northern Ireland candidates' performance continued to improve at GCSE, with 30.5% of GCSE entries achieving at least an A/7 grade – an increase of 1.1 percentage points from last year. The number of entries achieving grades A/7 to C/4 has also increased by 1.1 percentage points to 82.2%.

Females continued to outperform males in most subjects at A/7 to C/4.

84.6% of all STEM entries achieved at least a grade C/4. Female students outperformed males in almost all STEM subjects at grades A/7 to C/4, with the only exceptions being Biology and Computing (see Table 17).

GCSE candidates performed better in Languages compared to other subject categories. On average, 88.3% of entries achieved at least a grade C/4 at GCSE. Females continued to outperform males in all GCSE Languages at grades A/7 to C/4.

Female students also outperformed males at the C/4 grade in almost all subjects in the Arts, Humanities and Social Sciences category. The exceptions were Classical and Social Science subjects. The average performance in the Arts, Humanities and Social Sciences at C/4 has remained at 84.1% this year.

In terms of individual subjects, the largest proportion of students achieved at least an A/7 grade in Chemistry, with 57.9% of the candidature attaining the grade.

4.3 AS Level Performance Trends

Table 18: Three Country, Northern Ireland and CCEA AS Level Performance by Gender in 2018/19 (and 2017/18)

| | Three Country | | Northern Ireland | | CCEA ⁹ | |
|-------|----------------|----------------|------------------|----------------|-------------------|----------------|
| | Males | Females | Males | Females | Males | Females |
| % A | 21.2 (29.5) | 21.8 (25.6) | 25.3 (25.5) | 28.9 (28.8) | 25.9 (26.2) | 29.6 (29.5) |
| % A–E | 87.0 (90.0) | 90.4 (91.3) | 94.8 (94.2) | 96.0 (95.8) | 94.9 (94.5) | 96.3 (96.2) |

Source: JCQ – Provisional AS Full Course Results (Northern Ireland and Three Country), 2019 and CCEA Internal AS Full Course Results, 2019

In 2018/19, a greater proportion of females in both Northern Ireland and the Three Countries achieved higher grades when compared to males at AS level.

The Three Country results indicate that the performance gap at grade A is 0.6 percentage points, whilst in Northern Ireland, the difference at grade A has increased by 0.3 percentage points from 3.3 to 3.6 percentage points.

The Three Country overall pass rate (grades A–E) was 3.4 percentage points higher for females. In Northern Ireland, the gender difference in performance at the overall pass rate was 1.2 percentage points, a slight decrease of 0.4 percentage points from the previous year.

⁹ CCEA figures in Table 18 and Table 19 are based on results at time of award.

In Northern Ireland, female candidates were 7.1 percentage points ahead of the Three Country figure at grade A and 5.6 percentage points ahead at grades A–E. Male candidates in Northern Ireland were 4.1 percentage points ahead of the Three Country figure at grade A and 7.8 percentage points ahead at grades A–E.

4.4 A Level Performance Trends

4.4.1 Overall

Table 19: Three Country, Northern Ireland and CCEA A Level Performance by Gender in 2018/19 (and 2017/18)

| | Three Country | | Northern Ireland | | CCEA | |
|--------|----------------|----------------|------------------|----------------|----------------|----------------|
| | Males | Females | Males | Females | Males | Females |
| % A* | 8.2 (8.5) | 7.5 (7.6) | 8.3 (8.4) | 9.2 (8.0) | 9.0 (9.1) | 9.8 (8.8) |
| % A*–A | 25.4 (26.6) | 25.5 (26.2) | 29.1 (29.7) | 32.3 (30.9) | 31.0 (31.4) | 34.4 (33.1) |
| % A*–E | 97.0 (97.1) | 98.0 (98.1) | 97.9 (97.6) | 98.6 (98.7) | 98.0 (98.0) | 98.8 (98.9) |

Source: JCQ – Provisional A Level Full Course Results (Northern Ireland and Three Country), 2019 and CCEA Internal A Level Full Course Results, 2019

In 2019, A level results in Northern Ireland showed that females achieved higher grades than males. The gender difference at grade A* was 0.9 percentage points; this reverses the result last year, when male students outperformed their female counterparts at the highest grade for the first time. However, Northern Ireland male performance exceeds the Three Countries average across all grades.

The performance gender gap at grades A*–A also widened in Northern Ireland. Between 2017/18 and 2018/19 the gender difference increased from 1.2 percentage points to 3.2 percentage points.

98% of females in the Three Countries achieved a pass grade (grades A*–E); this is 1 percentage point higher than the overall male pass grade in the Three Countries. In Northern Ireland, a larger proportion of female students attained a pass grade (98.6% compared to 97.9%); however, it should be noted that this gap has declined by 0.4 percentage points in the last year.

In Northern Ireland, the proportion of female candidates achieving a grade A* was 1.7 percentage points higher than the Three Country figure, and 0.6 percentage points higher at grades A*–E. Achievement at grade A* among male candidates in Northern Ireland was 0.1 percentage points higher than the Three Country figure; at grades A*–E it was 0.9 percentage points higher.

4.4.2 STEM

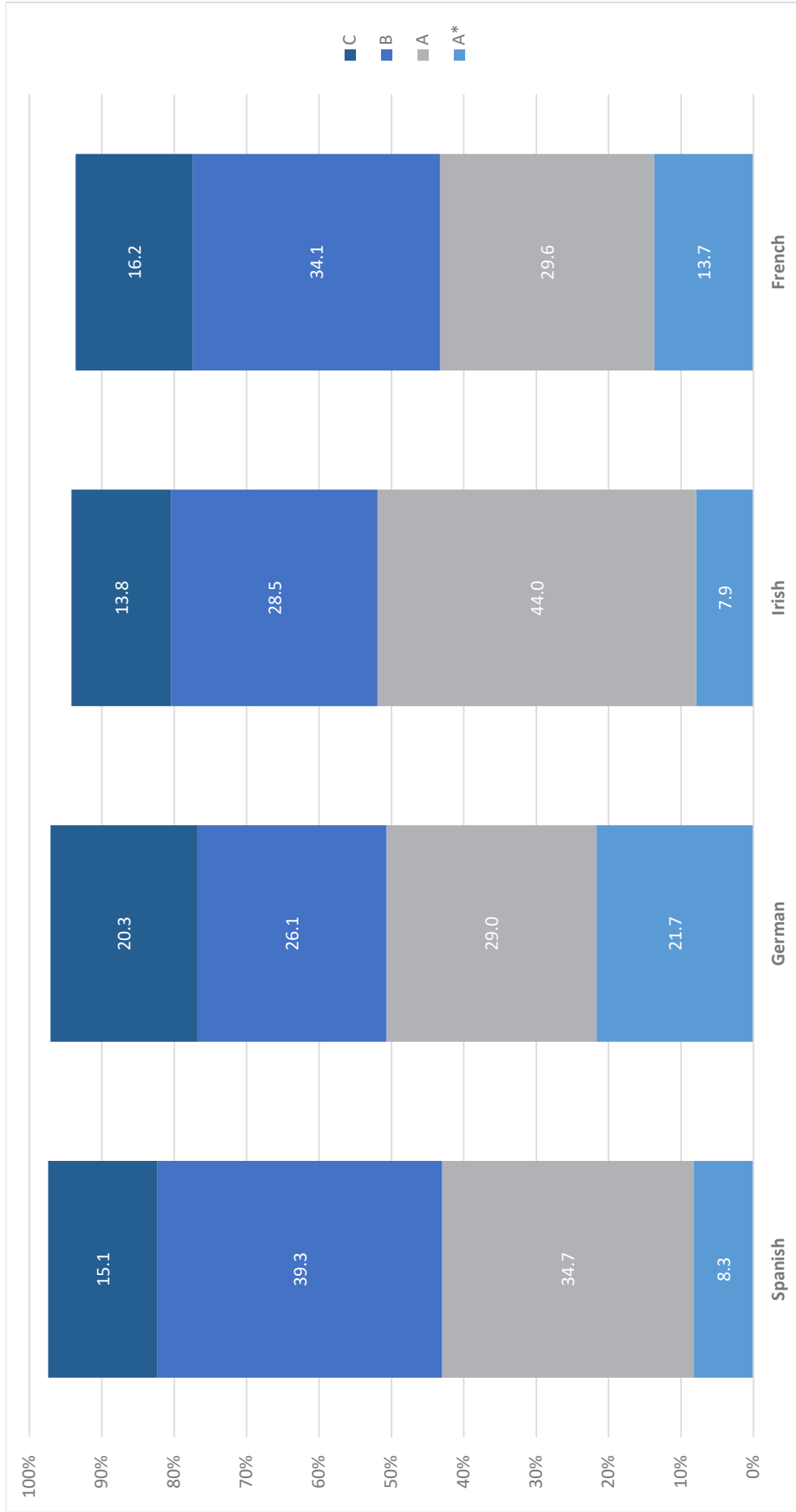
Figure 9: A Level STEM Performance 2018/19: Percentage of Northern Ireland Entries Achieving Grades A*–C



Source: JCQ – Provisional A Level Full Course Results (Northern Ireland), 2019

4.4.3 Languages

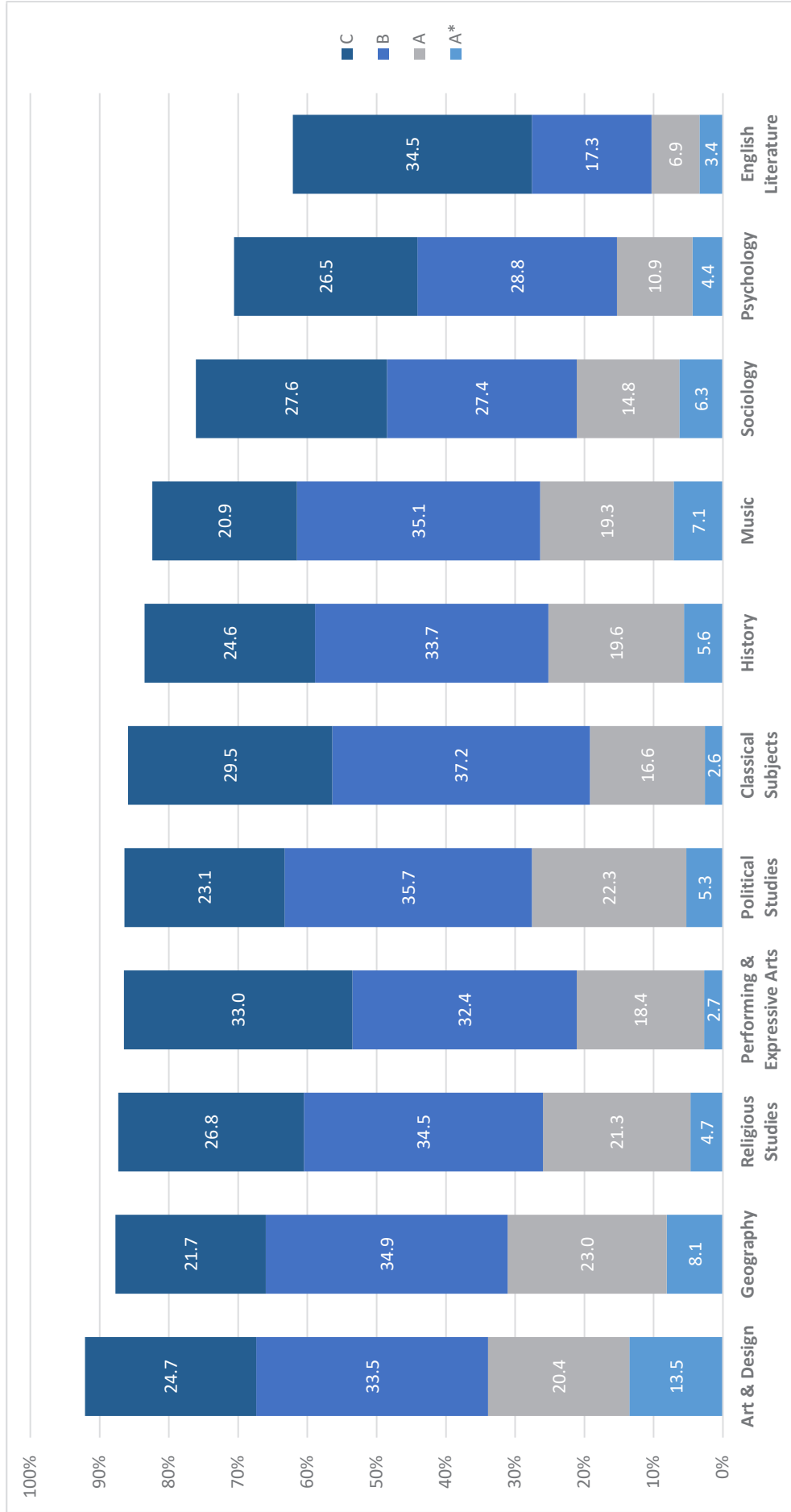
Figure 10: A Level Languages Performance 2018/19: Percentage of Northern Ireland Entries Achieving Grades A*–C



Source: JCQ – Provisional A Level Full Course Results (Northern Ireland), 2019

4.4.4 Arts, Humanities and Social Sciences

Figure 11: A Level Arts, Humanities and Social Sciences Performance 2018/19: Percentage of Northern Ireland Entries Achieving Grades A*–C



Source: JCQ – Provisional A Level Full Course Results (Northern Ireland), 2019

4.4.5 Other Qualifications

Figure 12: A Level Other Performance 2018/19: Percentage of Northern Ireland Entries Achieving Grades A*–C



Source: JCQ – Provisional A Level Course Results (Northern Ireland), 2019

4.4.6 A Level Performance Summary

Table 20: Cumulative A*–C Grades for A Level

| | Male | % Change | Female | % Change | Gender Gap |
|---|-------|----------|--------|----------|------------|
| STEM | | | | | |
| Biology | 83.5% | 0.5% | 85.3% | 2.8% | -1.8% |
| Chemistry | 86.7% | 0.1% | 87.6% | -0.3% | -0.9% |
| Computing | 82.9% | -2.5% | 74.6% | -15.4% | 8.3% |
| Design and Technology | 78.1% | 6.7% | 84.9% | 0.7% | -6.8% |
| Further Mathematics | 96.7% | 2.4% | 100% | 1.8% | -3.3% |
| ICT | 70.6% | -1.6% | 75.9% | 3.7% | -5.3% |
| Mathematics | 88.2% | 1.1% | 90.0% | -0.6% | -1.8% |
| Other Sciences | 66.9% | 2.6% | 65.5% | 4.5% | 1.4% |
| Physics | 81.2% | 3.9% | 78.8% | 0.9% | 2.4% |
| Languages | | | | | |
| French | 90.7% | -0.3% | 94.6% | 2.0% | -3.9% |
| German | 100% | 13.7% | 95.2% | 3.7% | 4.8% |
| Irish | 94.4% | 2.6% | 94.0% | -2.2% | 0.4% |
| Spanish | 96.3% | 1.3% | 97.8% | 1.4% | -1.5% |
| Arts, Humanities and Social Sciences | | | | | |
| Art and Design | 87.2% | -3.8% | 93.8% | -0.1% | -6.6% |
| Classical Subjects | 78.6% | -8.9% | 90.0% | 4.3% | -11.4% |
| Drama | 94.6% | 12.1% | 93.2% | -2.8% | 1.4% |
| English Literature | 80.4% | 0.2% | 87.0% | -0.5% | -6.6% |
| Geography | 84.1% | 2.9% | 90.8% | 0.9% | -6.7% |
| History | 82.4% | 1.4% | 84.6% | -0.1% | -2.2% |
| Law | 50.0% | -11.5% | 58.3% | 21.9% | -8.3% |
| Music | 82.9% | -2.0% | 82.2% | -0.3% | 0.7% |
| Performing and Expressive Arts | 85.3% | 6.2% | 86.8% | 0.8% | -1.5% |
| Political Studies | 84.2% | -0.9% | 88.7% | 1.8% | -4.5% |
| Psychology | 59.4% | 2.0% | 73.3% | -0.2% | -13.9% |
| Religious Studies | 85.7% | -0.2% | 87.8% | -1.3% | -2.1% |
| Sociology | 71.1% | -0.4% | 77.2% | 6.8% | -6.1% |
| Other | | | | | |
| Business Studies | 81.9% | -3.5% | 82.5% | -6.6% | -0.6% |
| Media and Film Studies | 84.1% | 2.9% | 82.2% | -1.7% | 1.9% |
| Physical Education | 88.7% | 0.8% | 93.1% | -0.8% | -4.4% |

Source: JCQ – Provisional GCSE Full Course Results (Northern Ireland), 2019

In Northern Ireland, 8.8% of candidates achieved an A* grade and 30.9% attained grades A*–A. At the A* grade, female candidates outperformed males by 0.9 percentage points. Across the A level suite of specifications, females continued to outperform males at A* to C in most subjects. This included all Languages and most STEM subjects.

82.2% of the STEM candidature achieved at least a grade C – an improvement on last year's outcomes (81.3%).

Languages remained the subject area with the highest outcomes, with 95.6% of candidates achieving at least a grade C.

On average, 84.8% of all Arts, Humanities and Social Sciences candidates achieved at least a grade C at this level; this is comparable with last year's figures (84.1%).

Further Mathematics was the subject with the highest outcomes, with 50% of the cohort achieving an A*.

5 Further Analysis: Subject Choice and Motivations

This section focuses on information identified in previous sections as being of note and attempts to explain trends in the data.

5.1 Introduction

Over the past 20 years, there have been several educational and curriculum reviews across the UK. These have resulted in widespread changes to the teaching of the curriculum and assessment of students at Key Stage 4 and beyond.

Curriculum 2000 was introduced in September 2000 as a reform of the A level system within the United Kingdom. New AS/A2 level examinations replaced the old system of a final examination at the end of two years of study and introduced unitised qualifications. Students could cash in AS units in the first year, leading to an AS qualification and A2 units in the second year, which combined with AS units would make up the final GCE A level qualification.

In Northern Ireland and Wales, CCEA and WJEC maintained the structure of AS and A level qualifications. English awarding organisations instead offer linear A levels; the AS qualification is stand-alone and does not contribute to the A level grade. These English qualifications are available to learners in Northern Ireland, but the majority (85.3%) of A level entries are with CCEA.

Major changes to curriculum and qualifications, as well as changing societal priorities over the last 20 years, have affected how students choose which subjects to study up to the age of 16 and beyond.

5.2 Student Motivation

UK researchers have investigated the motivation behind student choices post-16 in England. Stables (1996) investigated students' A level choices, and Payne (2003) found that student attainment, background characteristics (such as gender and ethnicity), home circumstances and guidance affected the choices that students made at 16.

McCrone, Morris and Walker (2005) concurred that individual factors, school provision and context play a part in the decision-making process at age 14. Vidal Rodeiro (2007) highlights that there are several factors influencing subject choice at AS/A2 level. These include:

- the previous study of the subject;
- the students' perception of the easiness/difficulty of the subject;
- the probability of passing or failing;
- the interest in or enjoyment of the subject;
- the perceived usefulness/importance of the subject;
- the type of school;
- career aspirations;
- parental socio-economic aspirations; and
- the advice the student receives.

Vidal Rodeiro also found that when students were asked the reasons for their subject choices, responses were dominated by enjoyment, future career considerations, usefulness and ability.

In Northern Ireland, a Queen's University Belfast study titled 'Inequalities and the Curriculum: Young people's views on choice and fairness through their experiences of the curriculum as examinations specifications at GCSE' (Barrance and Elwood, 2018) found that GCSE students do not all have equal access to different courses. This research suggested that choice is restricted for some students when they enrol at post-primary school. Students surveyed in this research highlighted that subject choice remains a contentious area for young people, with students suggesting that national policies and school practices did not always allow them to choose their preferred subjects.

5.3 Socio-Economic Factors

Research carried out by Van de Werfhorst, De Graaf and Kraaykamp (2001) and Dryler (1998) showed a positive correlation between parents' occupation or study field and a student's subject choice at post-primary school. Van de Werfhorst et al (2001) argued that a student's choice must be understood within the parent's position in both the economic and the cultural hierarchy.

Vidal Rodeiro (2007) commented that children of the 'higher level professionals' were more oriented towards science subjects, whilst other children were more inclined to select a mixture of subjects. The research also showed that children from a lower socio-economic group were more likely to enter for subjects such as Citizenship, Film Studies, Health and Social Care, ICT, Law, Media Studies, Psychology, Social Studies, or subjects in the vocational or humanities fields.

Barrance and Elwood (2018) argued that students from more advantaged backgrounds have greater access to support at home to help them make choices and influence what is available. They suggested students might therefore find it easier to exercise more autonomy in their subject choices. Thus, it is argued, those from the most disadvantaged backgrounds have fewer resources and less access to assistance when making decisions with repercussions for their life trajectories (Lumby and Foskett, 2005).

In Northern Ireland, the Entitlement Framework aims to provide access for students to a broad and balanced curriculum to enable them to reach their full potential no matter which school they attend or where they live.

The Education (NI) Order gives statutory effect to the Entitlement Framework and guarantees that all students have access to a minimum number of courses at Key Stage 4 and post-16. Schools must offer access to at least the specified number of courses at Key Stage 4 and post-16, of which at least one third must be general and one third applied. To meet the statutory requirements, from September 2017 the Entitlement Framework requires all post-primary schools to provide students with access to a minimum of 21 courses at both phases (Department of Education, 2017). In Northern Ireland, schools are part of Area Learning Communities and work in collaboration with other schools, further education colleges and training providers to deliver access to the Entitlement Framework. This theoretically enables all schools to offer a broad and balanced, economically relevant curriculum to meet the needs and aspirations of all students. It is therefore suggested that access to qualifications is comprehensive in Northern Ireland, but how students are influenced in their decisions may be more discriminating.

5.4 Gender Influences

Literature in the field of subject choice indicates that gender and ability biases exist in students' choices. Vidal Rodeiro's 2007 research showed that the pattern of AS/A2 entries tended to follow traditional gender stereotypes. Males showed a preference for more practical subjects such as Mathematics, Physics, Computing, ICT, Business Studies and Accounting. Female students' preferences were for subjects such as English, Biology, Psychology, Sociology, Religious Studies and Modern Languages, alongside the more practical Art and Design. In 2019, females outnumber males in A level Chemistry and account for approximately 45% of the Mathematics and Business Studies A levels, showing some evidence of change.

Modern Languages is an example of where gender is influential. The gender split has been consistent over time, with around one third of UK entries for Languages being male (Malpass, 2014). It is argued that underachievement earlier in school has a later knock-on effect on males taking Languages post-16.

The link between students' attainment and subsequent motivation is much more evident in males than females. Through survey data, Patrick, Ryan and Pintrich (1999) found that, at school in general, male students tend to be more extrinsically motivated (i.e. motivated by reward and outcomes), whilst females are more likely to be intrinsically motivated (i.e. motivated by enjoyment). Females also typically report greater use of cognitive strategies than males, which can help offset any potential demotivation caused by poor academic performance. These findings of gender differences could help with understanding uptake of subjects at A level and beyond.

5.5 School Type/Influence

The literature indicates that school type is a key determining factor when it comes to a student's subject choices. Vidal Rodeiro (2007) found that students attending grammar schools and independent colleges were more oriented towards science subjects, whilst students at comprehensive schools were more inclined to have a mixture of subjects. Students attending further education colleges were more likely to take subjects in the Arts, Humanities and Social Sciences.

A review of the literature around factors influencing students selecting STEM subjects post-16 (Tripney et al, 2010) cited findings from the synthesis of two studies. These suggested that students in co-educational schools were more likely than those in single-sex schools to view teachers/school staff as an influence on their STEM-related subject choices.

Within the Northern Ireland setting, research by Barrance and Elwood (2018) found that schools restricted students' choices at GCSE (a) passively through selection procedures; and (b) by taking a more active role in influencing students' choices, either encouraging them to take certain subjects or navigating them away from others. Students who participated in the research indicated that this was not just a problem for less able students, who were prevented from taking more 'prestigious' subjects, but also for more able students, who were pressurised to take subjects because the schools want to keep their pass rates up. Student participants in the research suggested that this pressure was not always in their best interests but that their schools were driven by accountability measures in pushing students to take particular options. This resonates with the research of Weeden in 2011.

Finally, during CCEA research events focusing on female participation in A level computing (CCEA, 2019), a number of delegates cited schools' influence on subject timetabling as a factor in subject choice and requested further investigation.

5.6 Conclusion

Literature suggests there are a myriad of factors that may influence students' choice of qualifications in post-primary school. At GCSE level, where the curriculum is more prescriptive, the type of school will be influential, whilst at post-16 other motivations such as the popularity of the subject, future career plans and socio-economic factors are more likely to play their part.

Research on subject preference and choice has been limited in Northern Ireland and would be worth exploring in further detail.

6 Conclusions

CCEA produces a significant amount of information and data analysis on GCSE and GCE qualifications using our own qualification results, Northern Ireland figures and Three Country (Northern Ireland, England and Wales) information.

This report presents a detailed summary analysis for GCSE, AS and A level subjects and grade outcomes for the period 2016/17–2018/19. It outlines similarities and differences in entry figures for male and female candidates in Northern Ireland and highlights notable entry patterns. The report also takes a more in-depth look at motivations behind subject choice.

As noted, students' subject choices are influenced by a variety of factors including enjoyment, perceived usefulness to future career aspirations and school influence, including timetabling issues. However, based on the literature, it is clear that there has been no research carried out on motivations and subject choice with particular reference to Northern Ireland. This is an area worth pursuing to help understand how CCEA could support uptake in specific subject areas.

Regardless of the motivations behind subject choice, it is clear from the data in this report that Northern Ireland students' performance remains consistent at both GCSE and A level. It is hoped that information contained in this report, and previous reports, will encourage discussions amongst various stakeholders, including educationalists, policy makers and employers, and help inform future debate.

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