

In particular, applied routes in Science did not show much progression to level 3 'academic' qualification/subjects and therefore progression to higher education could be restricted for candidates following those routes.

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Early entry GCSE candidates: Do they perform to their potential?

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Introduction

There has been concern recently that a large and increasing number of candidates are certificating for GCSEs at a younger age than scheduled. Although there has been a trend of increasing early entry¹ over recent years (Gill, 2010), there has been a particularly large increase in the last two years (Department for Education, 2011). It is thought that the driver for this increase is the scrapping of the Key Stage 3 (KS3) tests (the final tests were taken in 2008). These were taken in year 9, and their absence means schools can now start teaching some GCSE subjects in this year, and subsequently enter candidates at the end of year 10, or in the winter sessions of year 11. One possible reason for early certification is that candidates can 'bank' a grade in the subject (in particular a grade C would contribute towards achieving the league table target of 5 A* to C grades as well as other important school accountability measures) allowing more time in year 11 to concentrate on other subjects. The concern is that many of these candidates are not reaching their potential in the subject because they certificate before they are ready. For example, Vidal Rodeiro & Nadas (2012) found evidence that candidates taking a (modular) English GCSE early were less likely to achieve a high grade than those certificating at the normal time.

A further issue relates to participation and performance in the subject at A level. Candidates who certificate early (particularly if they do so in June of year 10 or earlier) usually then have a break in studying the subject, meaning that they may lose interest or feel less confident that they are prepared for further study. Those students who do go on to take the A level in the subject may struggle because of this break.

This research first explores the extent of early certification in GCSEs. Two different years of data are used, to see whether there have been any changes in early certification patterns over time. Concerns about candidates not achieving their potential are then investigated by looking at GCSE performance based on certification session, as well as participation and performance in the same (or similar) subject at A level. Specifically, the research questions were:

- RQ1** What are the patterns of early certification in GCSE subjects in recent years?
- RQ2** How do candidates who certificate in a GCSE prior to June of year 11 perform relative to candidates taking the GCSE in June of year 11, after accounting for prior attainment?
- RQ3** What effect does certificating in a GCSE early have on uptake and performance in the same (or a related) subject at A level, after accounting for prior attainment?

1. This article refers both to 'early entry' and 'early certification'. However, they both mean the same thing – namely certificating for a GCSE before the summer of year 11.

Data

The data for the analyses were taken from the National Pupil Database (NPD). This is a database of candidate level attainment and personal characteristics compiled by the Department for Education from data supplied by centres and awarding bodies. Two different extracts were used; the Key Stage 4 (KS4) extract which records all attainment by candidates at the end of KS4, and the Key Stage 5 (KS5) extract which records all attainment at A level or equivalent by candidates aged 16 to 18.

For the GCSE analysis (research questions 1 and 2) KS4 extracts from 2009 and 2011 were used, to enable comparisons over time to be made. Each extract includes all candidates at the end of KS4 (i.e. in year 11) who took at least one qualification equivalent to a GCSE. All results for these candidates are recorded, including those taken in prior years or sessions. For example, if a candidate who was at the end of KS4 in 2011 took a GCSE in 2010 (i.e. when they were in year 10) this result would be recorded in the 2011 KS4 extract along with their results of GCSEs taken in 2011. If the candidate then re-sat the GCSE they took a year early in 2011 the result would also be recorded in the 2011 extract. A variable for the year and session (summer or winter) in which the candidate certificated in each qualification is also included, enabling early certification in a subject to be identified as well as whether or not a candidate re-sat a GCSE.

It should be emphasised that the cohorts here are defined by age, not by exam year. Thus, when discussing the number of candidates in the 2011 cohort entering early for a GCSE this is not the number who entered early in 2011, but refers to the number of candidates who were in year 11 (i.e. aged 16) in 2011 and entered early for a GCSE (i.e. in a previous year).

For the A level analysis (research question 3) candidates in the 2009 KS4 extract were followed up at A level (in 2011). In order to do this the KS4 extract from 2009 was matched to the KS5 extract from 2011 using the unique candidate identifier in the extracts. This made it possible to investigate the uptake and performance at A level of candidates taking GCSEs in different sessions or years.

Results

Entry patterns

Table 1 presents the number of entries for all GCSEs in different years and sessions for the two different cohorts. It should be noted that the winter session is referred to here as January (which is the month in which OCR has its main winter session), but this also includes different winter sessions for the other boards (November and March for AQA and EdExcel for example). Sessions prior to June of year 10 were combined as very few candidates certificate before year 10.

Table 1: GCSE entries by year and session (all subjects)

Session	2009 (n)	2009 (%)	2011 (n)	2011 (%)
June Y11	4,486,279	91.8	4,108,947	85.0
Jan Y11	137,602	2.8	385,827	8.0
June Y10	230,834	4.7	290,391	6.0
Pre-June Y10	30,369	0.6	51,343	1.1
All	4,885,084		4,836,508	

This shows that the percentage of early entries increased substantially between 2009 (8.2%) and 2011 (15.0%). The largest increase was in entries in the winter of year 11, which went up from 2.8% in 2009 to 8.0% in 2011.

Tables 2 and 3 present the most common subjects to be taken early by candidates in the two different cohorts. For these tables, any re-sits have been removed, so only the first sitting of the exam is included. The tables present all entries in the subject for that cohort of students, the number of early entries and the number of early entries prior to year 11. This is to distinguish between subjects where most of the early entries were in January of year 11 and subjects where most of the early entries were prior to year 11.

The top ten subjects were almost identical in both years, with English and Maths having the highest numbers of early entries. This was particularly the case in 2011, where 41.1% of all entries in English and 36.9% of all entries in Maths were early. It is also interesting to note that in 2011 there were very high numbers of entries in these subjects in the same year (i.e. winter session 2011). Core Science and Statistics were the next most popular subjects to be taken early, but all the early entries in Statistics and almost all in Core Science were before year 11. Indeed for all the other subjects in the tables, almost all early entries were pre-year 11. Thus it is only English and Maths that are taken in the winter of year 11 in large numbers.

Table 2: Ten most common early entry subjects (2009 cohort)

Subject	Total entries (n)	Early entries (n)	Early entries pre Y11 (n)	Early entries (%)	Early entries pre Y11 (%)
English	600,084	107,131	25,425	17.9	4.2
Mathematics	599,738	62,910	30,993	10.5	5.2
Science (Core)	466,277	56,674	51,359	12.2	11.0
Statistics	72,503	36,441	36,441	50.3	50.3
French	168,557	16,579	16,579	9.8	9.8
English Literature	484,092	13,997	13,012	2.9	2.7
Religious Studies	169,366	10,243	10,243	6.0	6.0
Media/Film/TV Studies	60,928	4,660	4,660	7.6	7.6
German	68,862	4,553	4,553	6.6	6.6
Office Technology	33,355	4,182	4,182	12.5	12.5

Table 3: Ten most common early entry subjects (2011 cohort)

Subject	Total entries (n)	Early entries (n)	Early entries pre Y11 (n)	Early entries (%)	Early entries pre Y11 (%)
English	591,740	243,094	65,578	41.1	11.1
Mathematics	612,083	225,885	77,082	36.9	12.6
Science (Core)	359,331	37,088	35,901	10.3	10.0
Statistics	61,600	29,943	29,943	48.6	48.6
French	142,624	16,506	16,506	11.6	11.6
English Literature	449,778	14,543	14,156	3.2	3.1
Religious Studies	196,849	12,706	12,706	6.5	6.5
Media/Film/TV Studies	53,355	5,566	5,566	10.4	10.4
Spanish	59,048	5,088	5,088	8.6	8.6
German	58,594	4,884	4,884	8.3	8.3

School type

It is interesting to consider whether candidates in different types of school are more likely to certificate early. Almost all candidates attended one of five different types of school at the end of KS4; comprehensive, academy, independent, grammar or secondary modern. Tables 4 to 7 present the percentage of candidates within each of these school types entering English or Maths GCSE in different years and sessions (first certification only).

In both subjects and both years, candidates in academy, comprehensive and secondary modern schools were more likely to certificate early than

Table 4: Percentage of candidates in each school type first certificating in each session (English 2009)

Exam session	School type				
	Academy	Comprehensive	Independent	Secondary Modern	Grammar
June Y11	81.9	80.8	95.2	76.3	94.0
Jan Y11	13.5	15.2	2.8	17.8	3.0
June Y10	4.6	3.9	1.9	5.8	3.0
Pre-June Y10	0.0	0.1	0.1	0.1	0.0

Table 5: Percentage of candidates in each school type first certificating in each session (English 2011)

Exam session	School type				
	Academy	Comprehensive	Independent	Secondary Modern	Grammar
June Y11	55.4	55.7	88.9	49.9	84.0
Jan Y11	31.0	33.2	7.6	33.8	9.8
June Y10	12.9	10.8	3.2	15.0	6.0
Pre-June Y10	0.8	0.3	0.4	1.2	0.2

Table 6: Percentage of candidates in each school type first certificating in each session (Maths 2009)

Exam session	School type				
	Academy	Comprehensive	Independent	Secondary Modern	Grammar
June Y11	88.3	89.7	94.0	87.0	92.6
Jan Y11	6.4	5.5	1.6	6.9	0.8
June Y10	5.1	4.4	4.1	5.3	6.6
Pre-June Y10	0.3	0.3	0.2	0.7	0.0

Table 7: Percentage of candidates in each school type first certificating in each session (Maths 2011)

Exam session	School type				
	Academy	Comprehensive	Independent	Secondary Modern	Grammar
June Y11	57.8	62.0	83.0	59.3	84.0
Jan Y11	26.4	26.1	9.9	21.4	5.5
June Y10	13.9	10.3	6.5	15.8	10.2
Pre-June Y10	1.9	1.5	0.8	3.2	0.4

those in independent or grammar schools. This difference was particularly stark in the January year 11 session. The differences may be partly due to the influence of school league tables and other accountability measures, with non-independent schools hoping to get candidates to 'bank' a grade C in a subject early so as to concentrate on other subjects. In all school types there were increases in the percentages of candidates certificating early in 2011 compared to 2009, but these increases were larger in academy, comprehensive and secondary modern schools.

Grades and progression

Research questions 2 and 3 involved exploring the relationship between the session(s) in which a GCSE is certificated and;

- i. the performance in the subject;
- ii. the likelihood of taking an A level in the subject and;
- iii. the performance at A level in the subject or a related subject.

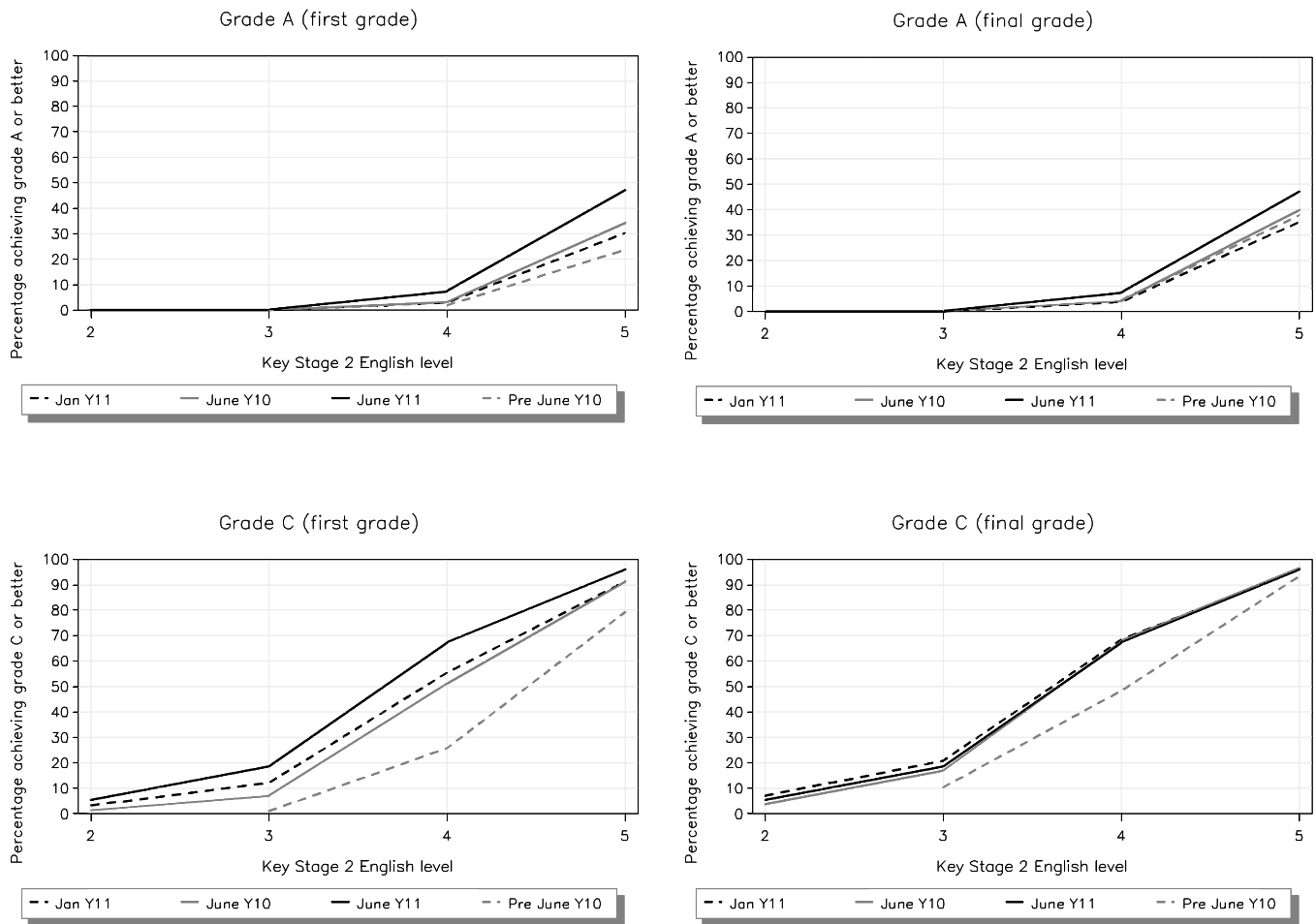
GCSE performance

To explore the performance at GCSE it was decided to focus on the two most popular early certification subjects; English and Maths. Two separate analyses were undertaken, looking at the performance of candidates the first time they certificated in the subject and the final time they certificated, by first exam session. This means it is possible to observe the impact of certificating early, whilst also taking into account the effect of re-sitting. Performance was summarised by the percentage of candidates achieving at least a grade A in the subject and the percentage of candidates achieving at least a grade C.

The prior attainment measure used for this analysis was the Key Stage 2 (KS2) test level achieved by the student in the relevant subject. There are issues with using this measure: first, the tests were taken five years prior to the scheduled date for GCSEs; and secondly, pupils in independent schools are not required to take these tests, meaning that there is no prior attainment data for many pupils in these schools. For example, in the 2011 cohort 61.8% of pupils in independent schools had KS2 results in English, compared with 95.9% of pupils in comprehensive schools. However, since no other prior attainment data is available, achievement in KS2 tests should at least give some indication of pupils' ability levels. KS2 levels range from 2 to 5, with pupils 'expected' to reach level 4 by the end of KS2.

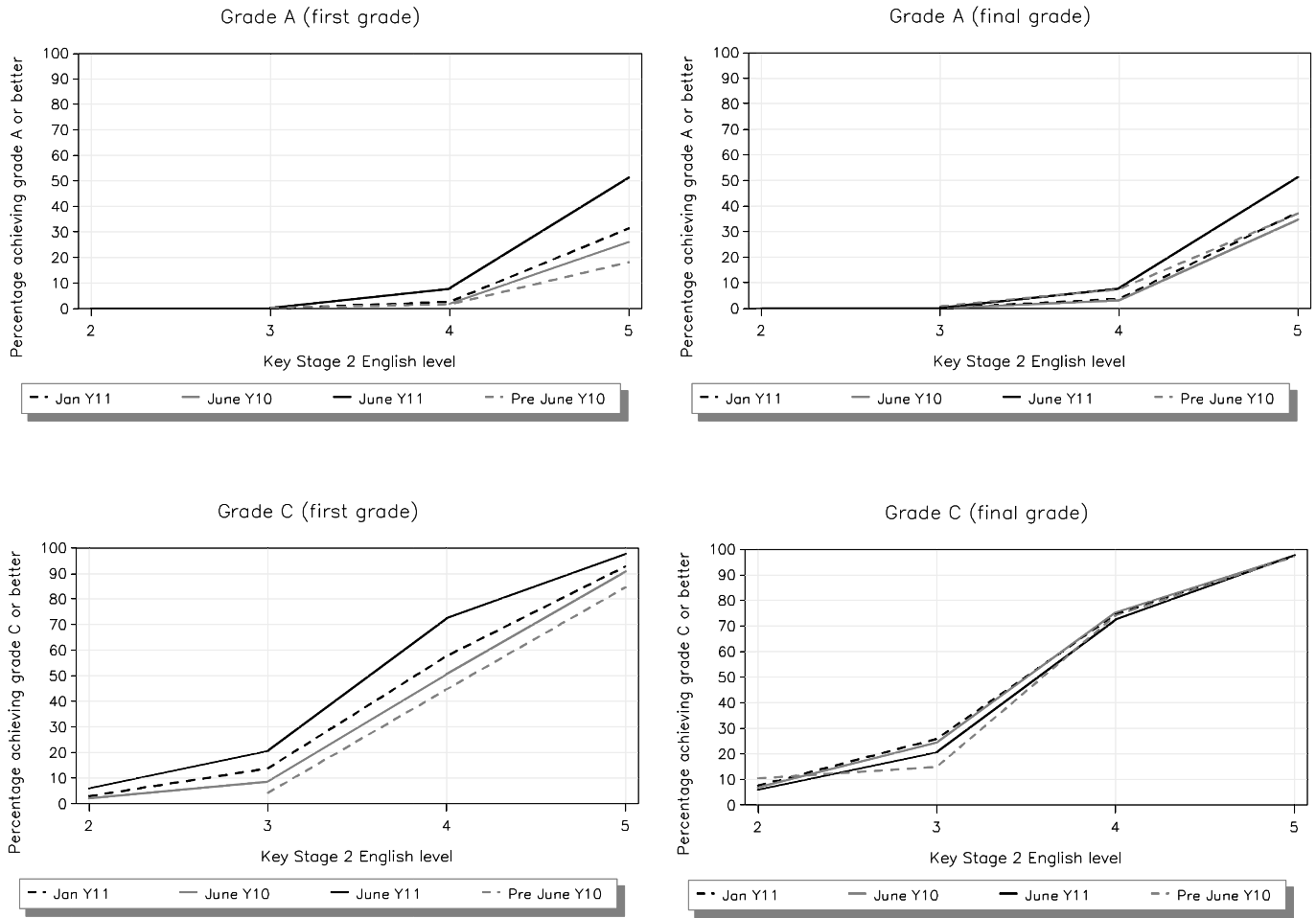
Figure 1 presents the results for English GCSE for the 2009 cohort and Figure 2 for the 2011 cohort. In each figure the graphs on the left hand side present the percentage of candidates achieving each grade or better the first time they certificated (by first exam session and KS2 level). The graphs on the right hand side show the percentage of candidates achieving each grade or better as their final (or best) grade (by first exam session and KS2 level). The table presents the same data. To give an example, in the 2009 cohort (Figure 1) 34.5% of candidates who took English for the first time in June of year 10 achieved a grade A or better in that exam session. However, 40.0% of these candidates achieved a grade A or better as their final grade (i.e. taking re-sits into account).

The first graph in both Figure 1 and Figure 2 show that candidates in both cohorts who certificated early were clearly less likely to achieve a grade A or better in that certification than those (with the same KS2 level) who certificated for the first time in June of year 11. Looking at the graphs for final grade, candidates certificating for the first time in



Category			KS2 English level			
			2	3	4	5
Grade A	First grade	Pre-June Y10	0.0	0.0	1.9	23.7
		June Y10	0.0	0.1	3.2	34.5
		Jan Y11	0.0	<0.1	3.0	30.4
		June Y11	0.1	0.2	7.5	47.1
	Final grade	Pre-June Y10	0.0	0.0	4.5	37.9
		June Y10	0.0	0.1	4.2	40.0
		Jan Y11	0.0	0.1	3.8	35.2
		June Y11	0.1	0.2	7.5	47.1
Grade C	First grade	Pre-June Y10	0.0	1.0	25.8	79.3
		June Y10	1.4	7.1	51.1	91.3
		Jan Y11	3.3	12.2	55.5	91.3
		June Y11	5.4	18.7	67.4	96.1
	Final grade	Pre-June Y10	0.0	10.4	48.4	93.4
		June Y10	3.7	17.0	67.9	96.5
		Jan Y11	7.1	20.9	68.5	96.1
		June Y11	5.4	18.7	67.4	96.1

Figure 1: English 2009 – Percentage achieving key grades, by KS2 level and first certification session



Category			KS2 English level			
			2	3	4	5
Grade A	First grade	Pre-June Y10	0.0	0.4	1.7	18.2
		June Y10	0.0	0.0	1.8	26.0
		Jan Y11	0.0	0.1	2.7	31.5
		June Y11	0.1	0.2	7.9	51.4
	Final grade	Pre-June Y10	0.0	0.8	7.5	37.1
		June Y10	0.0	0.1	3.2	34.8
		Jan Y11	0.0	0.1	3.7	37.6
		June Y11	0.1	0.2	7.9	51.4
Grade C	First grade	Pre-June Y10	0.0	4.2	44.7	84.7
		June Y10	2.2	8.7	50.8	90.9
		Jan Y11	2.9	13.8	57.8	92.9
		June Y11	6.0	20.7	72.6	97.7
	Final grade	Pre-June Y10	10.5	14.9	74.2	97.3
		June Y10	6.9	24.5	75.4	97.7
		Jan Y11	7.5	25.9	74.6	97.5
		June Y11	6.0	20.7	72.6	97.7

Figure 2: English 2011 – Percentage achieving key grades, by KS2 level and first certification session

June of year 11 were still most likely to get a grade A or better, although the differences were smaller.

Similarly, those certifying early were less likely to achieve a grade C or better in their first certification than those (with the same KS2 level) certifying for the first time in June of year 11. However, when looking at the final grade achieved a different picture emerges. For the 2009 cohort, there was almost no difference in the percentages achieving grade C or better for each (first) certification session. Only those who certificated prior to June of year 10 were less likely to get a grade C or better in their final grade. For the 2011 cohort there was barely any difference in the percentages amongst candidates with level 4 or 5 at KS2 for the different first certification sessions. However, for those with level 3 only at KS2, the candidates who certificated for the first time in June of year 10 or January of year 11 were most likely to get a grade C or better.

Figures 3 and 4 present the results for Maths for the 2009 and 2011 cohorts respectively. Looking at the results of first certification only for the 2009 cohort, candidates certifying in June of year 10 or June of year 11 were the most likely to achieve a grade A or better, particularly amongst those with level 5 in their KS2 Maths. When looking at final grade however, those who first certificated prior to June of year 10 or in June of year 10 were more likely to get a grade A than those certifying for the first time in June of year 11. For the 2011 cohort, those certifying for the first time in June of year 11 were clearly the most likely to get a grade A or better when considering first certification grade only. This was also the case when considering final grade, although those certifying first in June of year 10 were almost as likely. Those certifying first prior to June of year 10 or in January of year 11 were less likely to get a grade A or better in their final grade, particularly amongst those with level 5 at KS2.

Turning to the percentages getting at least a grade C in both the 2009 and 2011 cohorts, those certifying first in June of year 11 performed best when considering first certification grade only (at all levels of KS2). However, when looking at final grade this is not the case. For candidates in the 2009 cohort with level 3 at KS2, the highest percentage getting a grade C or better was amongst those certifying first in January of year 11. For those with level 4 at KS2, candidates certifying first prior to June of year 10 were most likely to get a at least a grade C. For candidates with level 5 at KS2 there was barely any difference due to the first certification session. In the 2011 cohort the differences were very small, at each level of KS2.

In summary, there is evidence that candidates certifying early for GCSEs in English and Maths tended to perform worse in their first certification than those certifying at the expected time. This is not very surprising as a lot of these candidates will not have had time to study the subject in enough depth to perform to their potential. For the best performing candidates this pattern was evident in terms of final grade as well, with the percentage achieving at least a grade A lower for candidates certifying early (with the exception of the 2009 cohort in Maths).

A level uptake and performance

In order to investigate the uptake and performance at A level of candidates certifying early for a GCSE, it was necessary to merge the KS4 NPD extract from 2009 with the KS5 extract from 2011. This should capture the majority of candidates in the 2009 cohort who went on to take an A level in the relevant subject.

The same two GCSE subjects (English and Maths) were used for this analysis. However, at A level there are three separate English subjects;

English Language & Literature, English Language and English Literature. The most popular of these, by some distance, was English Literature, so it was decided to look at this subject separately, as well as investigating uptake and performance in all of the subjects combined (i.e. 'any English A level').

As well as looking at performance in A level Maths, it was also proposed that performance in A level Sciences might be affected by when Maths GCSE was taken. Since the Sciences (particularly Physics and Chemistry) rely heavily on mathematical knowledge, it may be that students who took Maths early would struggle in their Science A levels. Therefore, candidates taking A level Sciences were matched back to their GCSE results to determine when their Maths GCSE was taken. This analysis was undertaken for performance at A level only, not uptake.

The matched datasets were reduced further, for two reasons. Candidates getting below a grade C in the relevant GCSE were excluded as there were very few candidates who went on to take an A level in the subject. Secondly, there were very few candidates who took English GCSE prior to June of year 10, and even fewer of these went on to take any A levels. Therefore, candidates in this category were excluded.

A level uptake

Table 8 presents the number of matched candidates who took a GCSE in the listed subject and went on to take at least one A level or equivalent, and the percentage of these going on to take an A level in the subject (or a related one).

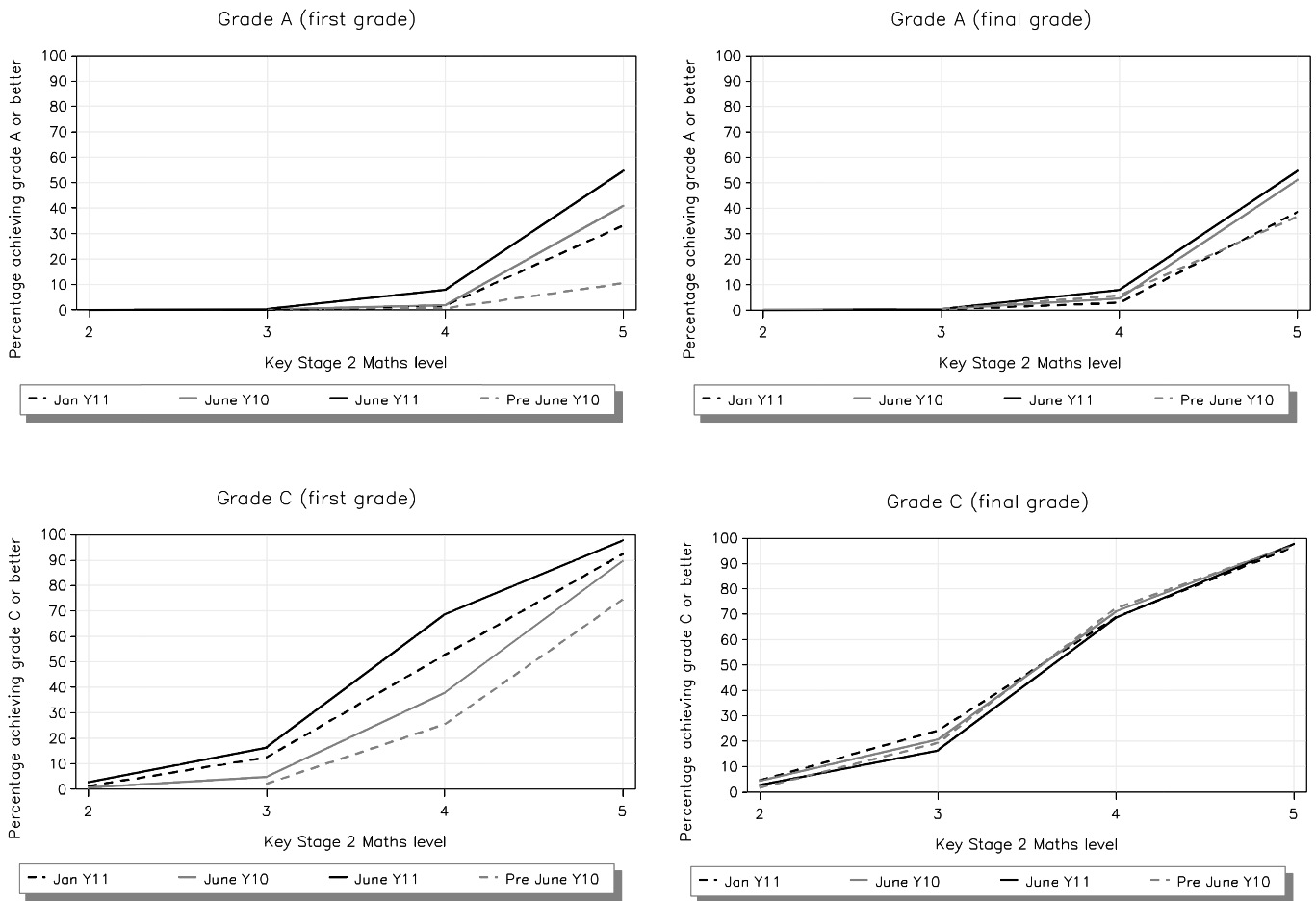
Table 8: Number of matched candidates and percentage taking A level

GCSE Subject	A level subject	Candidates taking at least one A level	Candidates taking A level in subject (%)
English	Any English	228,997	30.8
English	English Literature	228,997	17.2
Maths	Maths	218,400	24.8

Separate analyses were undertaken classifying candidates by when they first certificated in the subject at GCSE and when their final certification was. This was because both may impact on decisions about further study in the subject: candidates taking the GCSE early may feel that their study was rushed and therefore they did not enjoy it or do not feel it prepared them for further study, and this perception may persist even if they re-sit. Similarly, those whose *final* certification session was 'early' will have a gap before A level and thus may lose interest in the subject or not feel prepared for further study. Candidates were also classified by their final GCSE grade in the subject, as those who perform better at GCSE are more likely to go on to take the subject at A level.

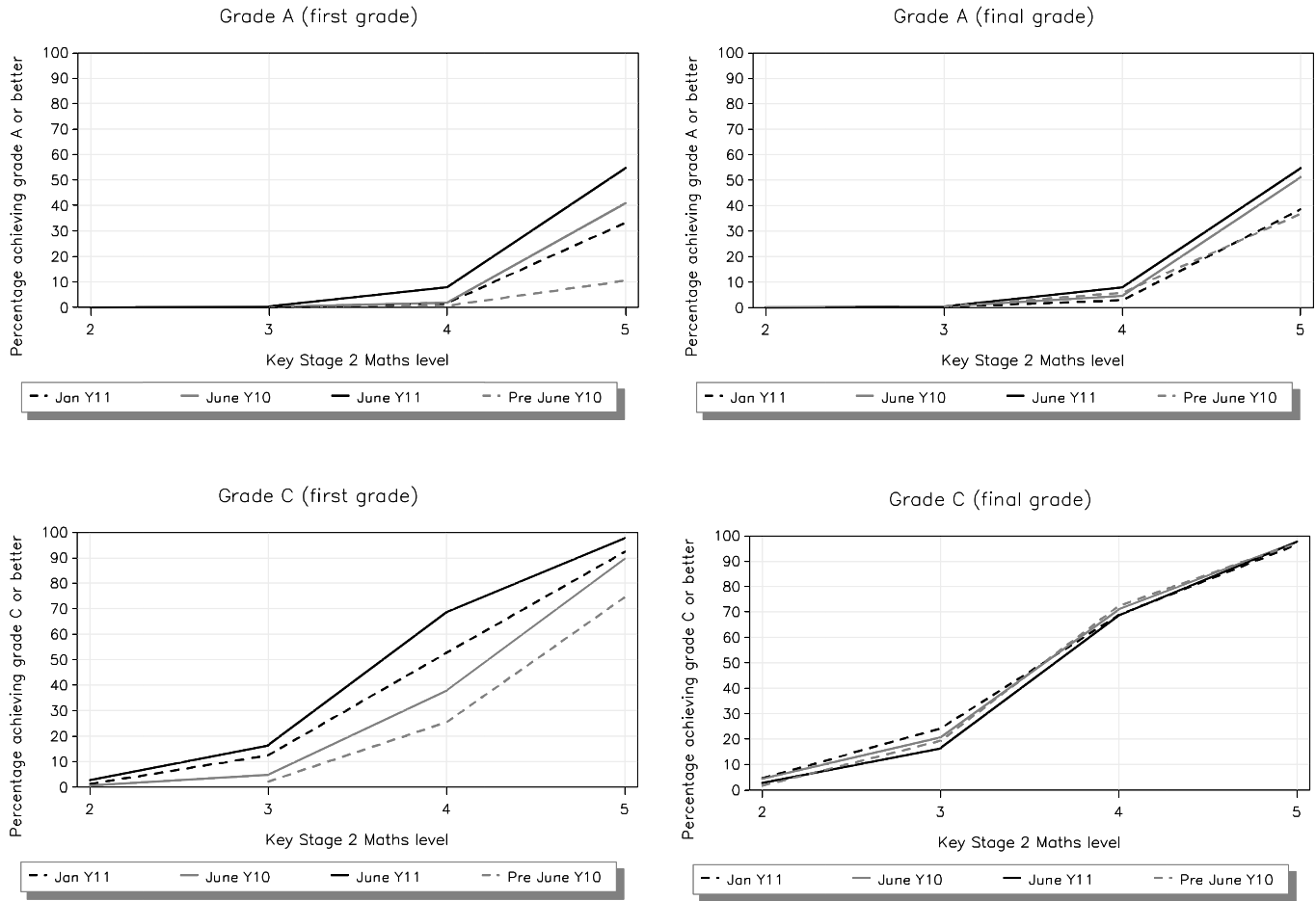
Figure 5 presents the percentage of candidates achieving each of grades A* to C at GCSE going on to take any English A level. Figure 6 presents the percentages going on to take English Literature A level. In each figure the left-hand graph is for the *first* certification session for the GCSE and the right-hand graph for the final certification session.

Figure 5 shows that candidates certifying in English GCSE for the first time in January of year 11 or June of year 10 were more likely to go on to take an English A level than those (with the same GCSE grade) who certificated for the first time in June of year 11. This pattern holds when looking at final certification session. Figure 6 shows that those certifying in June of year 10 were more likely to go on to take an A level in English Literature (although the differences were very small).



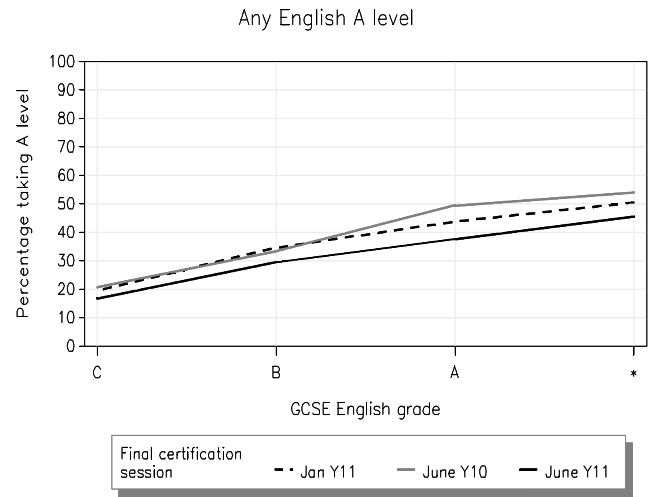
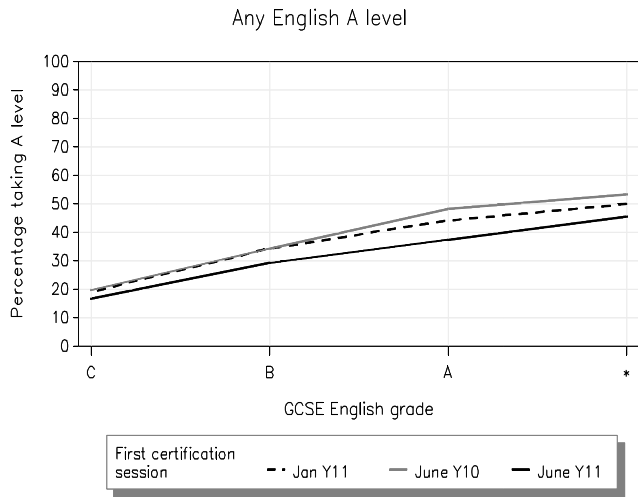
		First certification session	KS2 Maths level			
			2	3	4	5
Grade A	First grade	Pre-June Y10	0.0	0.0	2.4	20.6
		June Y10	0.0	<0.1	3.4	49.4
		Jan Y11	0.4	0.1	1.3	28.5
		June Y11	<0.1	0.2	5.2	45.8
	Final grade	Pre-June Y10	0.0	0.0	13.2	48.2
		June Y10	0.0	0.1	5.2	57.2
		Jan Y11	0.4	0.2	1.8	32.8
		June Y11	<0.1	0.2	5.2	45.8
Grade C	First grade	Pre-June Y10	0.0	4.4	49.4	82.9
		June Y10	0.0	3.5	40.3	92.4
		Jan Y11	0.8	10.3	48.5	87.6
		June Y11	1.6	13.4	62.6	96.0
	Final grade	Pre-June Y10	0.0	8.8	75.2	97.2
		June Y10	0.3	9.3	59.5	97.3
		Jan Y11	0.8	19.6	65.1	94.3
		June Y11	1.6	13.4	62.6	96.0

Figure 3: Maths 2009 – Percentage achieving key grades, by KS2 level and first certification session



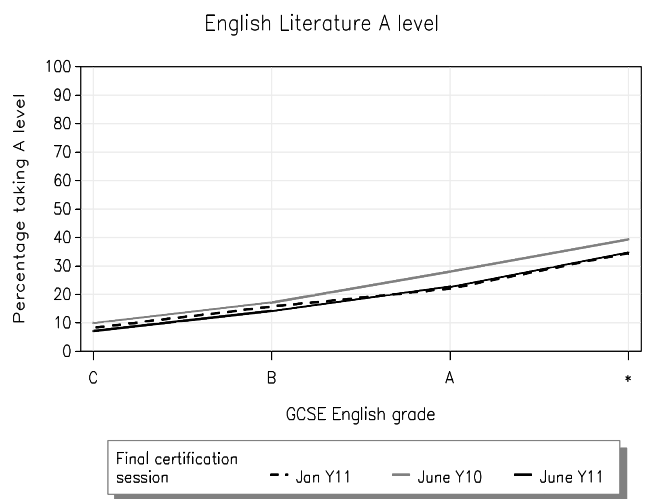
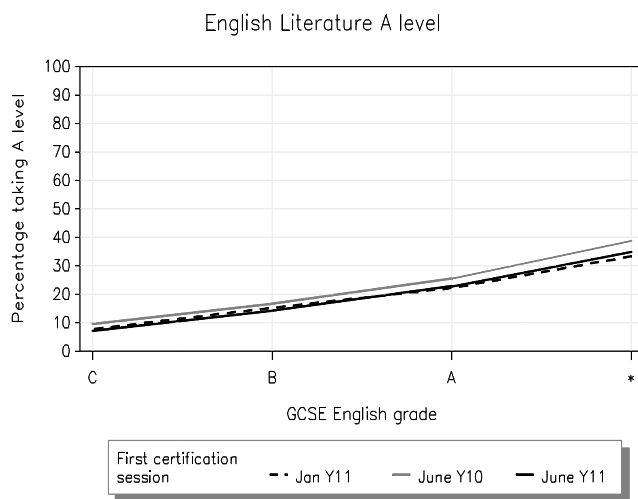
		First certification session	KS2 Maths level			
			2	3	4	5
Grade A	First grade	Pre-June Y10	0.0	0.2	0.7	10.5
		June Y10	0.0	0.1	1.9	40.9
		Jan Y11	0.0	0.1	1.8	33.3
		June Y11	0.1	0.4	8.0	54.8
	Final grade	Pre-June Y10	0.0	0.5	5.8	36.9
		June Y10	0.2	0.5	4.7	51.3
		Jan Y11	0.0	0.3	2.9	38.6
		June Y11	0.1	0.4	8.0	54.8
Grade C	First grade	Pre-June Y10	0.0	2.1	25.5	74.6
		June Y10	0.6	4.8	37.9	89.8
		Jan Y11	1.2	12.5	52.7	92.4
		June Y11	2.8	16.5	68.7	97.8
	Final grade	Pre-June Y10	1.7	19.3	72.5	97.2
		June Y10	4.5	20.7	71.2	97.8
		Jan Y11	4.6	24.2	68.9	96.6
		June Y11	2.8	16.5	68.7	97.8

Figure 4: Maths 2011 – Percentage achieving key grades, by KS2 level and first certification session



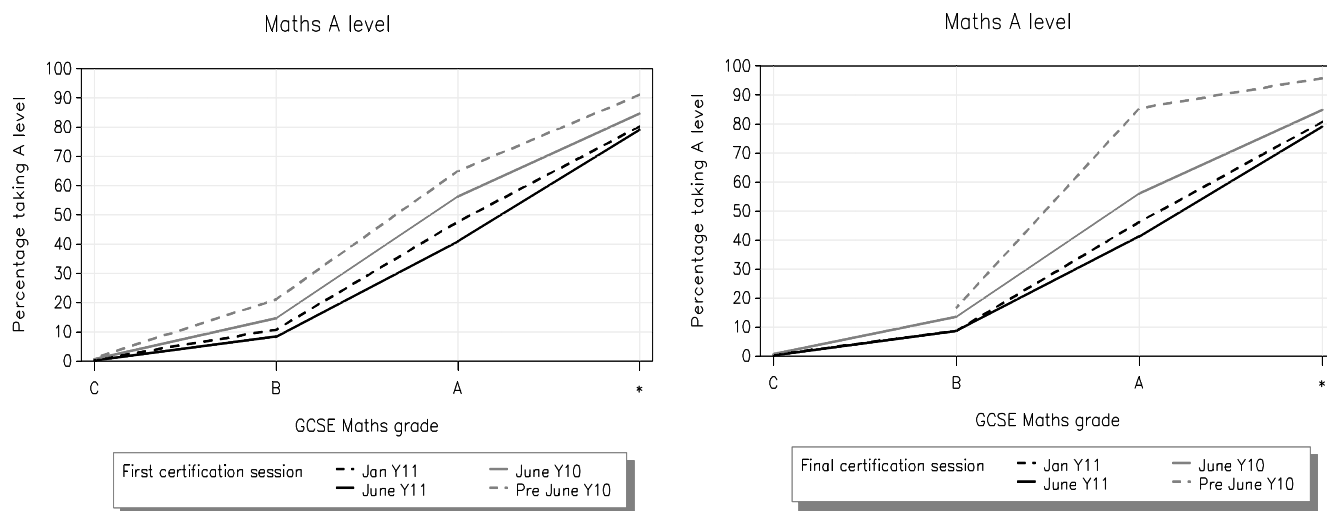
	GCSE session	GCSE grade			
		C	B	A	A*
First	June Y10	19.8	34.3	48.2	53.2
	Jan Y11	19.0	34.3	44.0	49.9
	June Y11	16.7	29.4	37.4	45.5
Final	June Y10	20.7	33.2	49.4	54.0
	Jan Y11	19.4	34.5	43.7	50.4
	June Y11	16.7	29.4	37.4	45.5

Figure 5: Percentage of A level candidates taking any English A level, by GCSE English grade and certification session (first and final)



	GCSE session	GCSE grade			
		C	B	A	A*
First	June Y10	9.7	16.6	25.5	38.7
	Jan Y11	7.7	15.1	22.2	33.3
	June Y11	7.1	14.1	22.8	34.8
Final	June Y10	10.0	17.2	27.9	39.2
	Jan Y11	8.2	15.7	22.0	34.5
	June Y11	7.2	14.2	22.7	34.8

Figure 6: Percentage of A level candidates taking English Literature A level, by GCSE English grade and certification session (first and final)



	GCSE session	GCSE grade			
		C	B	A	A*
First	Pre-June Y10	1.1	21.1	64.9	91.0
	June Y10	0.8	14.6	56.2	84.5
	Jan Y11	0.5	10.7	47.6	80.2
	June Y11	0.4	8.4	40.8	79.0
Final	Pre-June Y10	0.0	16.7	85.4	95.8
	June Y10	0.7	13.6	56.0	84.9
	Jan Y11	0.3	8.7	46.2	80.7
	June Y11	0.4	8.7	41.2	79.0

Figure 7: Percentage of A level candidates taking Maths A level, by GCSE Maths grade and certification session (first and final)

Figure 7 presents the percentage of candidates achieving each of grades A* to C at GCSE Maths going on to take Maths A level. For both first certification session and final certification session, candidates who took the GCSE in June of year 11 were the least likely to go on to take Maths A level (for all GCSE grades). Those certificating prior to June of year 10 were most likely to take an A level in the subject.

These figures suggest that there is no detrimental effect on A level uptake of certificating early in the GCSE in the subject. In fact, there is some evidence that candidates who certificate early are more likely to go on to study at A level. This is the case for both the first and the final certification session.

A level performance

The indicators of A level performance used were the achievement of a grade C or better and achievement of a grade A or better in the relevant A level. The A level subjects investigated were English (any), English Literature, Maths, Biology, Chemistry and Physics. For the Science subjects candidates were categorised by when they certificated in GCSE Maths, to investigate the hypothesis that those who certificated early in Maths may be disadvantaged in Science A levels because of their mathematical content.

As with A level uptake, separate analyses were undertaken for first certification session and final certification session. Candidates certificating early may be disadvantaged because their GCSE study was rushed and did not prepare them fully for further study (even if they re-sit). The gap in studying for those whose final certification was

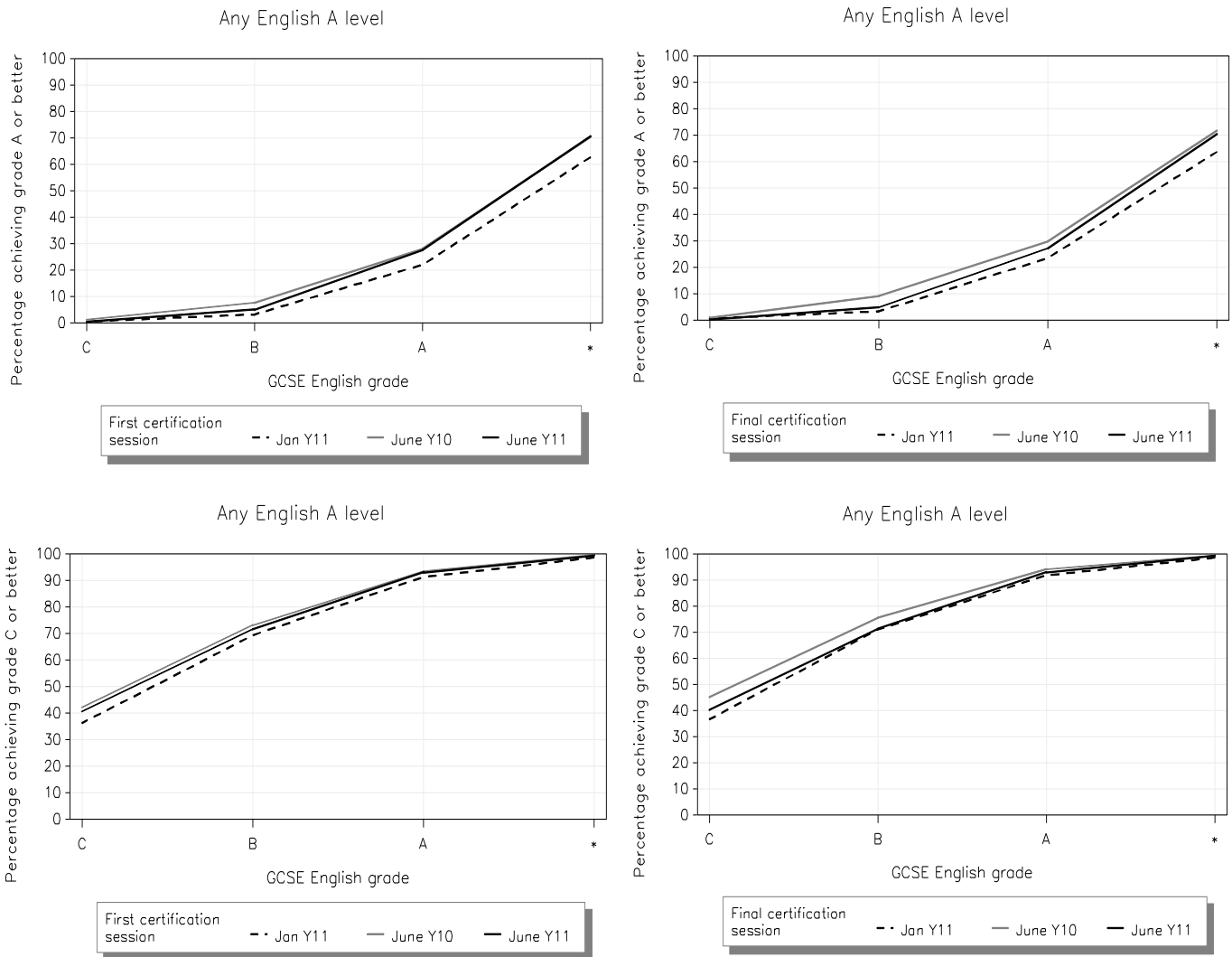
early may also disadvantage some candidates because they have forgotten what they learnt. Candidates were also categorised by the grade they achieved in the subject at GCSE, as higher achieving GCSE candidates are more likely to perform better at A level. It should also be noted that for the Science A levels, GCSE grade refers to the grade achieved on the most advanced Science taken by the candidate. Thus, for those not taking separate Science GCSEs, if the candidate took the Additional Science qualification then the grade refers to this subject. If not, then the grade refers to that achieved in Core Science.

Table 9 presents the number of matched candidates taking the A level and the percentages achieving grade A or better and grade C or better.

Figures 8 to 13 present the percentages of candidates achieving at least a grade A and at least a grade C in an A level subject, by their GCSE grade in the subject and the GCSE certification session in the same or a

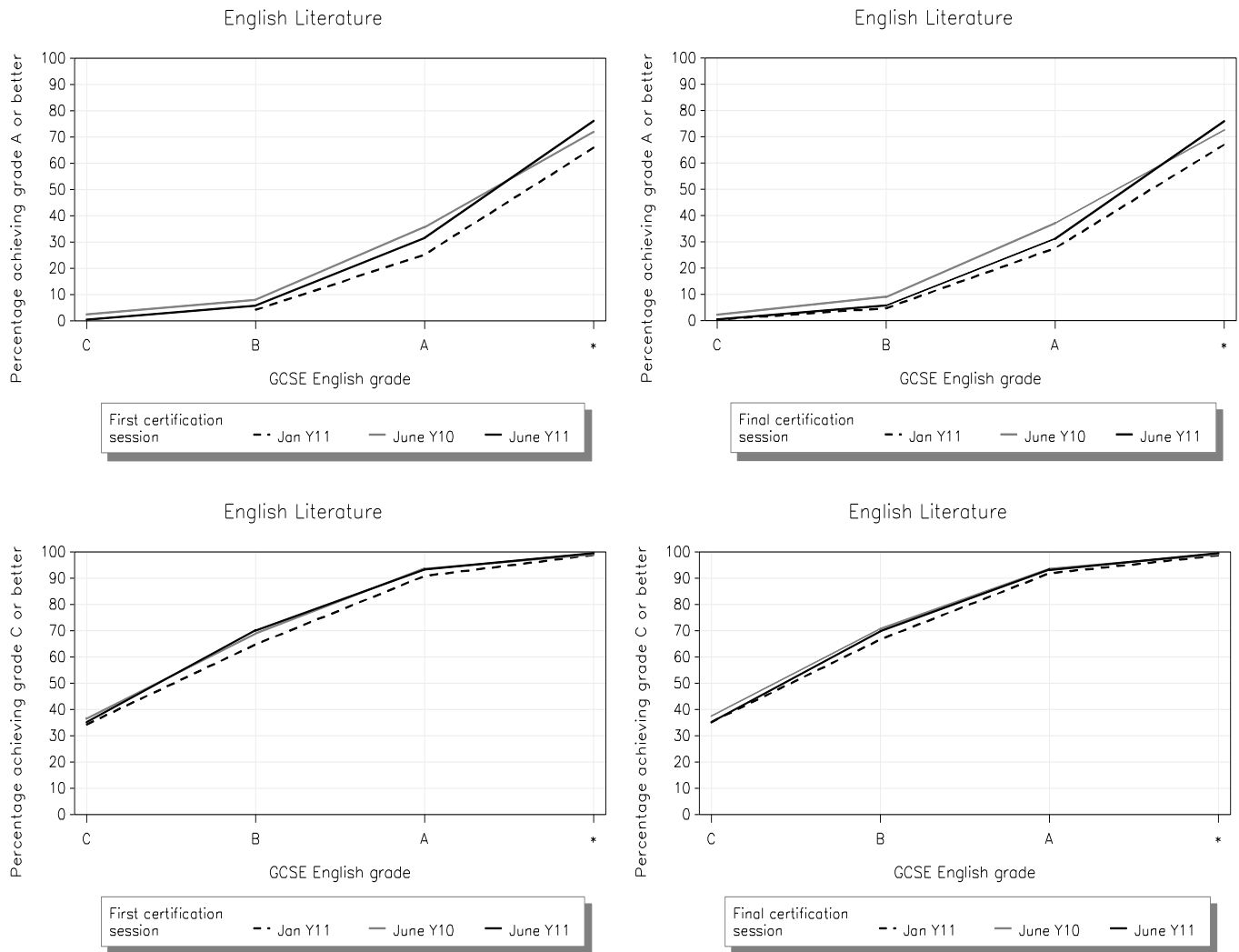
Table 9: Number of matched A level candidates and percentages achieving grade A or better or grade C or better

GCSE Subject	A level Subject	Matched candidates	% getting grade A or better	% getting grade C or better
English	Any English	70,258	23.0	79.8
English	English Literature	39,236	30.2	81.7
Maths	Maths	54,146	43.2	81.5
Maths	Biology	42,831	27.9	73.1
Maths	Chemistry	32,545	33.6	78.4
Maths	Physics	21,890	31.8	72.7



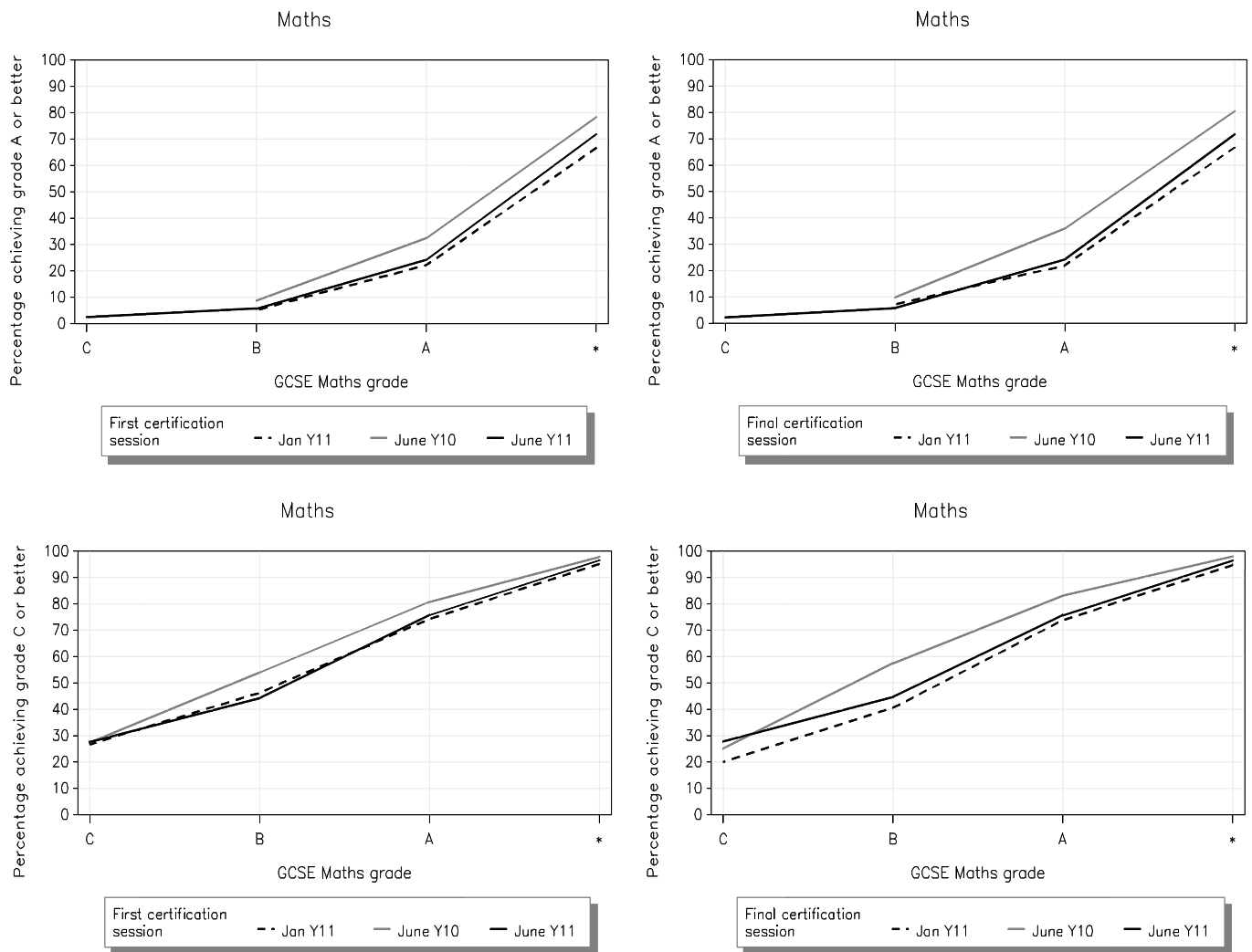
		GCSE session	GCSE grade			
			C	B	A	A*
Grade A	First	June Y10	1.2	7.6	28.0	70.4
		Jan Y11	0.5	3.2	21.9	62.6
		June Y11	0.5	5.0	27.5	70.6
	Final	June Y10	1.1	9.1	29.7	71.7
		Jan Y11	0.6	3.3	23.5	63.6
		June Y11	0.5	4.9	27.2	70.4
Grade C	First	June Y10	42.1	73.1	93.4	99.4
		Jan Y11	36.2	69.2	91.2	98.5
		June Y11	40.6	71.6	93.1	99.3
	Final	June Y10	45.2	75.4	94.1	99.4
		Jan Y11	36.5	71.0	91.7	98.5
		June Y11	40.2	71.3	93.0	99.3

Figure 8: Percentage of candidates taking any English A level achieving key grades, by GCSE English grade and certification session (first and final)



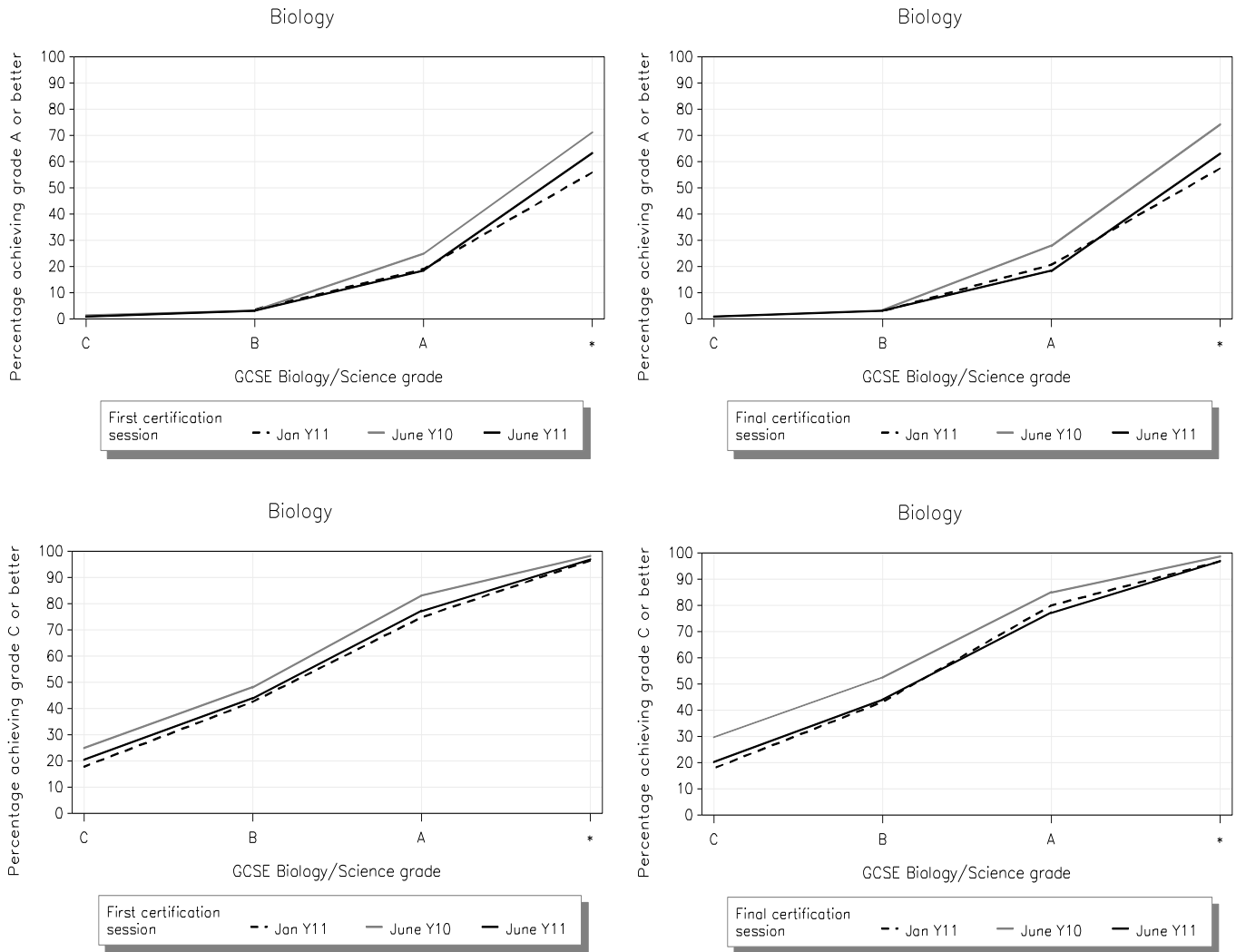
		GCSE session	GCSE grade			
			C	B	A	A*
Grade A	First	June Y10	2.5	8.0	35.7	71.9
		Jan Y11	0.0	4.1	25.2	65.8
		June Y11	0.6	5.8	31.5	76.1
	Final	June Y10	2.3	9.1	37.1	72.5
		Jan Y11	0.3	4.7	27.5	66.9
		June Y11	0.5	5.7	31.2	75.9
Grade C	First	June Y10	36.6	68.9	93.7	99.1
		Jan Y11	34.2	64.7	90.8	98.8
		June Y11	35.3	70.2	93.3	99.4
	Final	June Y10	37.5	70.7	93.5	99.0
		Jan Y11	35.1	66.6	91.8	98.6
		June Y11	35.1	69.8	93.2	99.5

Figure 9: Percentage of candidates taking English Literature A level achieving key grades, by GCSE English grade and certification session (first and final)



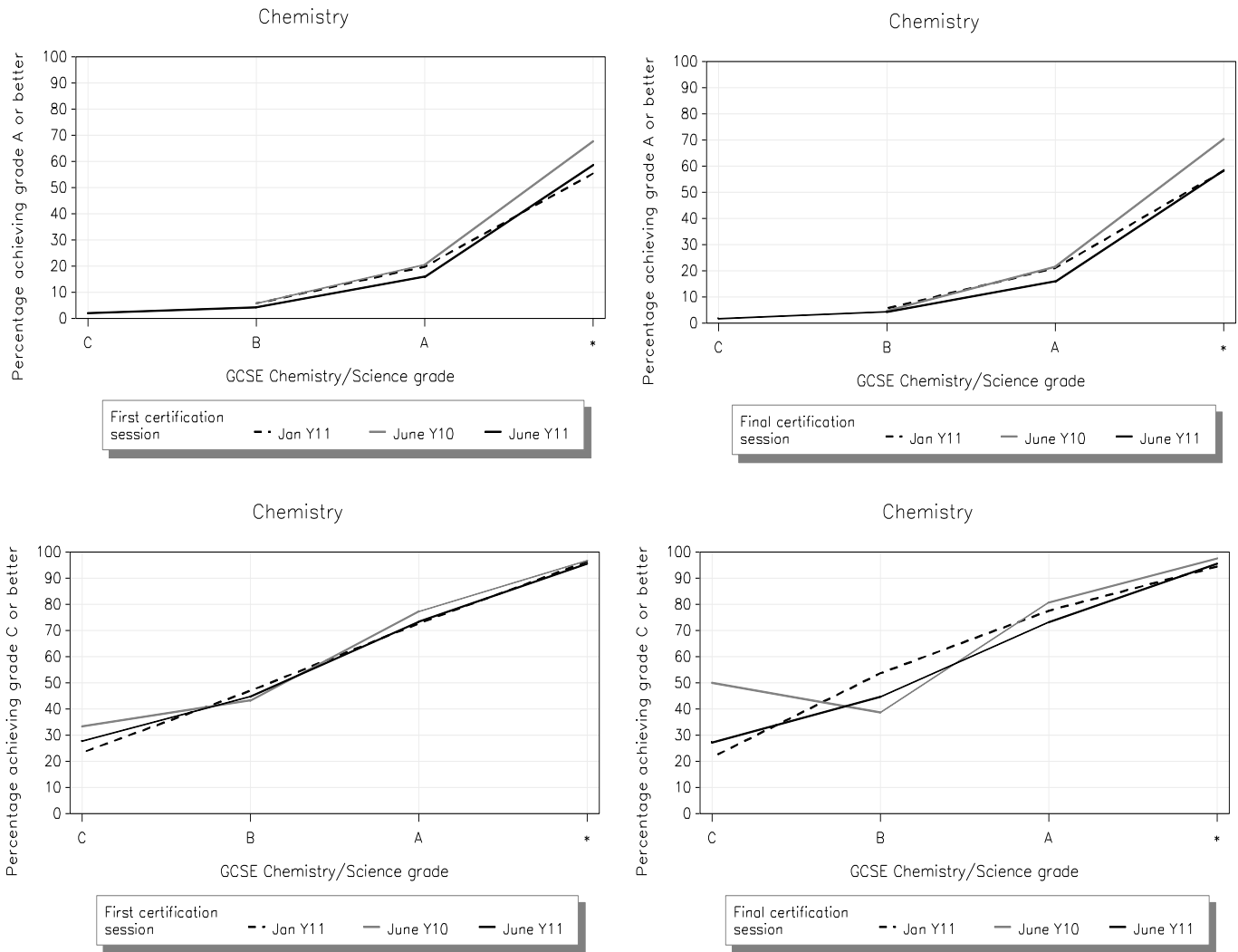
		GCSE session	GCSE grade			
			C	B	A	A*
Grade A	First	June Y10	0.0	8.9	32.5	78.2
		Jan Y11	0.0	5.1	22.1	66.6
		June Y11	2.6	5.7	24.2	71.8
	Final	June Y10	0.0	9.7	35.9	80.4
		Jan Y11	0.0	7.1	21.9	66.7
		June Y11	2.2	5.8	24.2	71.6
Grade C	First	June Y10	27.3	53.9	80.7	97.7
		Jan Y11	26.7	46.2	74.2	95.0
		June Y11	27.7	44.2	75.7	96.5
	Final	June Y10	25.0	57.4	83.1	97.9
		Jan Y11	20.0	40.5	73.7	94.6
		June Y11	27.7	44.6	75.6	96.4

Figure 10: Percentage of candidates taking Maths A level achieving key grades, by GCSE Maths grade and certification session (first and final)



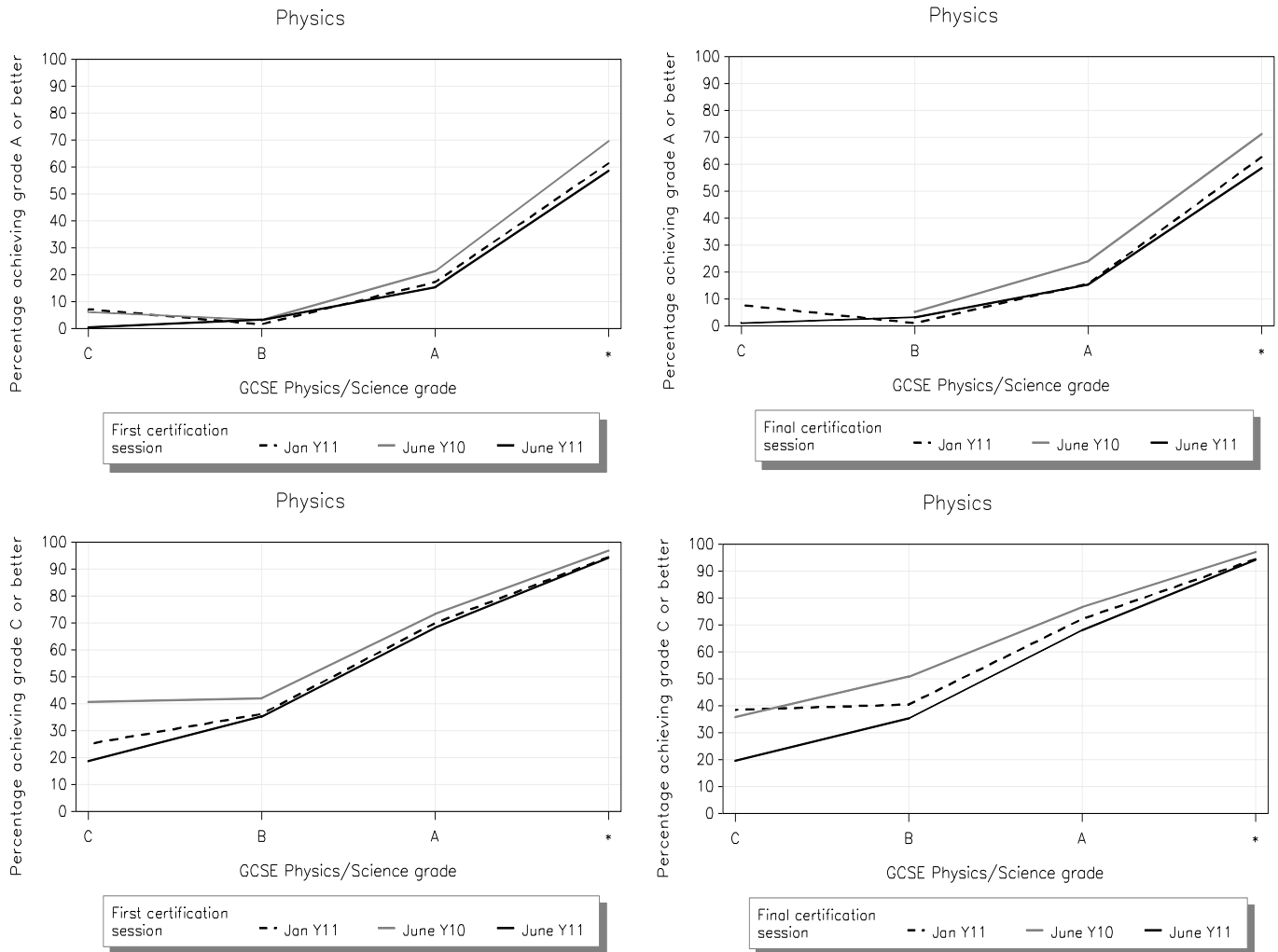
		GCSE session	GCSE grade			
			C	B	A	A*
Grade A	First	June Y10	1.5	3.2	24.9	71.1
		Jan Y11	0.0	3.5	19.0	55.8
		June Y11	1.0	3.1	18.4	63.2
	Final	June Y10	0.0	3.4	27.9	74.2
		Jan Y11	0.0	2.9	20.5	57.4
		June Y11	1.0	3.1	18.4	63.0
Grade C	First	June Y10	25.0	48.2	83.1	98.1
		Jan Y11	17.8	42.5	74.7	96.3
		June Y11	20.5	44.0	77.3	96.9
	Final	June Y10	29.6	52.5	85.0	98.5
		Jan Y11	17.8	43.1	79.9	96.7
		June Y11	20.4	44.0	77.2	96.9

Figure 11: Percentage of candidates taking Biology A level achieving key grades, by GCSE Biology/Science grade and GCSE Maths certification session (first and final)



		GCSE session	GCSE grade			
			C	B	A	A*
Grade A	First	June Y10	0.0	5.7	20.5	67.7
		Jan Y11	0.0	5.7	19.7	55.4
		June Y11	2.1	4.2	15.9	58.6
	Final	June Y10	0.0	4.7	21.5	70.3
		Jan Y11	0.0	5.6	21.0	58.2
		June Y11	1.9	4.3	16.0	58.4
Grade C	First	June Y10	33.3	43.3	77.3	96.7
		Jan Y11	23.3	46.9	72.6	96.3
		June Y11	27.8	44.7	73.3	95.5
	Final	June Y10	50.0	38.6	80.7	97.5
		Jan Y11	21.4	53.6	77.5	94.4
		June Y11	27.3	44.7	73.2	95.5

Figure 12: Percentage of candidates taking Chemistry A level achieving key grades, by GCSE Chemistry/Science grade and GCSE Maths certification session (first and final)



		GCSE session	GCSE grade			
			C	B	A	A*
Grade A	First	June Y10	6.3	3.2	21.3	69.6
		Jan Y11	7.1	1.5	17.2	61.3
		June Y11	0.5	3.3	15.3	58.6
	Final	June Y10	0.0	5.3	24.0	71.2
		Jan Y11	7.7	1.0	15.7	62.7
		June Y11	1.1	3.2	15.3	58.5
Grade C	First	June Y10	40.6	41.9	73.2	96.7
		Jan Y11	25.0	36.2	69.9	94.4
		June Y11	18.8	35.3	68.2	94.2
	Final	June Y10	35.7	50.8	76.7	97.0
		Jan Y11	38.8	40.4	72.2	94.4
		June Y11	19.5	35.2	68.0	94.2

Figure 13: Percentage of candidates taking Physics A level achieving key grades, by GCSE Physics/Science grade and GCSE Maths certification session (first and final)

related subject. The left-hand graphs are for the *first* certification session for the GCSE and the right-hand graph for the *final* certification session

The figures show results that are very similar for all subjects. Candidates certifying in the GCSE in June of year 10 were almost always the most likely to get a grade A or better or a grade C or better in the A level (for each level of prior attainment). This was true for both the first and the final certification sessions at GCSE. Otherwise, for most subjects there was very little difference in the percentage achieving the key grades or better for those certifying in January of year 11 and those certifying in June of year 11. The only exception was in relation to any English A level, with those certifying in January of year 11 less likely to get a grade A or better than those certifying in June of year 11.

This suggests there is very little evidence that candidates who certificate early at GCSE are disadvantaged in their performance at A level, either through poor preparation because of cramming the work into a shorter period of time, or through having a gap between GCSE and A level study. It should be noted that we can only infer that candidates who certificate early and do not re-sit are, in fact, taking a break from studying the subject. It may be that many of them continue their study, either through non-GCSE qualifications such as the Free Standing Maths Qualification or through non-certificating courses.

Discussion

Analysis of the entry patterns in GCSEs has shown an upsurge in early certification since the scrapping of the KS3 tests. This is particularly the case in English and Maths where a high percentage of candidates in 2011 certificated in January of year 11. The motivation for entering so many candidates early is not known, but it may be an attempt to bank a good grade in a subject so that other subjects can be focused on in the summer of year 11.

An analysis of entries by school type showed that candidates in comprehensive, academy and secondary modern schools were more likely than those in independent schools to certificate early in either English or Maths. It is not known why this is the case but it highlights the influence of school strategy on early entry patterns, with some schools entering whole classes early, perhaps in order to try and get the all-important grade Cs for league table purposes and other accountability measures. Other schools are likely to be more sensitive to the aptitudes of individual candidates, whilst others still may not have any candidates entering early.

The increase in early certification in recent years begs the question: are candidates who certificate early performing below their potential? In the data on GCSE performance in English and Maths there was some evidence of this. Candidates who certificated early were (mostly) less likely to achieve a grade A or better than those who certificated at the expected time, both in terms of first grade and final grade. Candidates who certificated early were also less likely to achieve at least a grade C in their first certification. However, when final grade was taken into account, there was very little difference in the likelihood of achieving a grade C or better between the different certification sessions. Thus, it seems that high performing candidates who certificate early are more likely to perform below their potential, but for candidates of lesser ability there is apparently no particular disadvantage of early

certification. This outcome may be because of the focus on attaining grade C at GCSE; higher ability candidates who certificate early would not find it difficult to achieve a grade C so are given less attention by teachers focussing on getting less able candidates up to grade C. However, the higher ability candidates may not yet be ready to get up to grade A and so are performing below their potential.

In terms of A level uptake, candidates certifying at the expected time generally had the lowest probability of going on to take the subject at A level, after accounting for GCSE grade in the subject. So there is no evidence that having a break from studying for a subject leads to loss of interest or lack of confidence in continuing study.

Finally, there was little evidence that the performance at A level of candidates who certificated early in the GCSE subject was worse than that of candidates who certificated at the expected time, after accounting for prior attainment. Across all subjects (and GCSE grade), candidates who certificated for GCSE in June of year 10 had a higher probability of achieving a grade A or better or a grade C or better at A level than those certifying at the expected time. Only in relation to any English A level were some candidates seemingly disadvantaged by certifying early (in terms of the probability of achieving a grade A or better).

It should be noted that there is an issue with using the GCSE grade as prior attainment in the A level analysis. Figures 1 and 3 showed that candidates in the 2009 cohort certifying early at GCSE were more likely to perform below their potential. Thus, for these candidates, the GCSE grade used in the A level analyses may not reflect their 'true' ability in the subject. Now, assume that the likelihood of going on to take an A level is dependent (to some extent) on a candidate's true ability in the subject. Then, candidates who certificated early and received, for example, a grade B, but whose 'true' ability was a grade A would have a higher probability of going on to take an A level than equivalent candidates who certificated at the usual time and received a grade B (a true reflection of their ability). This would then have the effect of artificially inflating the percentage of those certifying early and getting a grade B going on to take an A level (or achieving a particular A level grade or better). This might explain why candidates certifying at the expected time were apparently the least likely to go on to take an A level and (to some degree) less likely to achieve a particular grade or higher at A level.

We should also be careful about drawing too many firm conclusions about the effect of early certification on performance. This analysis has shown an association between certification session and GCSE grade, but this does not necessarily imply causation. It may be that candidates who certificate early are less likely to do well in the subject for a reason unrelated to when they take the exam.

When following up students' performance at A level it was only possible to look at the cohort of students who finished KS4 in 2009. This was before the real upsurge of early entry at GCSE. It may therefore be that most of the students taking the GCSE a year early had a particular aptitude for the subject and were therefore likely to perform well at A level. It would be interesting to see how well the GCSE 2011 cohort does in comparison, using data from the 2013 NPD when available.

Finally, it is also worth considering what the impact of the changes to GCSEs will have on the amount of early certification. Candidates starting GCSEs in September 2012 will have to take all exams at the end of the course, instead of being able to take some exams earlier in the

course. However, this does not prevent early entry, as it will still be possible to take the final exams in the summer of year 10 (from June 2014 onwards). This may mean fewer candidates certificate early because there are fewer opportunities to do so. However, it is also possible that more candidates will certificate early, because it will no longer be possible to take individual units early and then re-sit them later in the course as required. Instead, candidates may sit all their exams early, so that they then have the opportunity to re-sit if required.

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Reaching for the A*: Exploring the extent and effect of resitting at A level

Tom Sutch and Frances Wilson Research Division

Introduction

The introduction of Curriculum 2000 changed the traditional linear structure of A levels to a modular structure, and introduced an integrated AS level qualification, comprising half of the modules and set at the standard expected of A level students after one year of study (Tomlinson, 2002). This reform afforded candidates opportunities to resit individual modules to improve their grades, using the best results obtained in each module to count towards the A level. However, there has been frequent criticism that this has led to a resit culture, with students resitting modules multiple times until they achieve their desired grade, leading to fears that students may be achieving high grades at A level by resitting. In November 2006 changes to A level specifications were agreed. These changes included the introduction of the new A* grade. The new specifications were first taught from September 2008, and the first of the new A* grades were awarded in June 2010. The new A* grade was introduced to differentiate between the highest achieving candidates so that universities could select the best candidates. The A* is awarded to candidates who fulfil two criteria. First, candidates must achieve at least 80% of Uniform Mark Scale (UMS) marks overall (i.e. an A grade), and must achieve 90% or more of UMS marks at A2. In an open letter to schools, Ofqual (2010) stated that this structure aimed to reward consistently good performance throughout the A level, and to reward exceptional performance at A2. This structure also aims to reduce the incentive to resit AS modules, because a lower threshold is needed at AS level than at A2.

This study investigated resitting patterns in five OCR GCE A level specifications with a particular focus on high achieving students who achieved the new A* grade.

Background

Despite the fact that the introduction of the opportunity to resit units, as part of modularisation, represented a major reform in the structure of A levels, there has been relatively little literature from government or the qualifications regulator on the intended purposes of allowing resitting at a unit level.

One obvious rationale, given the high-stakes nature of the A level, is that resitting gives students a chance to set the record straight if they performed less well than expected, wished for or 'deserved' following a bad day with a particular examination¹. In 2007, Ken Boston, then Chief Executive of QCA, stated that 'candidates deserve a chance to demonstrate their ability if they failed to do so the first time' (MacLeod, 2007). This argument would apply to linear A levels too, albeit at a less fine-grained level. In a discussion of modularity in A levels, Dearing (1996) noted that one of the reported advantages of modular syllabuses is that they give 'an opportunity to resit a module and achieve, on merit, a better result through additional work' (p.90). This is a broader argument that allows for the role of unit assessment to be formative as well as summative, and arguably (depending on what is meant by 'additional work') accounts for the reinforcement of learning through coverage of related material in later units; however, taking advantage of maturational effects in this way could be seen by some as dubious. Gray (2002) argued that resitting was a legitimate and integral part of a modular assessment regime, and ultimately improved student attainment through mechanisms of feedback, multiple opportunity and motivation. When QCA removed a short-lived restriction on the number of resits per A level unit, it was for practical rather than ideological reasons, with the justification that results would not be greatly affected due to the low numbers likely to take advantage of multiple resitting (QCA, 2003b).

Poon Scott (2011) argued that the resit policy had unintended consequences, namely students and teachers devising elaborate resit strategies and an increased focus on the assessment process itself, which had a negative effect on student learning. There is a view commonly held, including by teachers (de Waal, 2009; Higton *et al.*, 2012), that a 'resit culture' has developed: because there is no penalty attached within the overall A level mark² for resitting units an unlimited number of times; students are entered for unit exams early to give them more test experience; and they resit as often as necessary to gain their desired

1. Although with a broader purpose than the special consideration provisions for adjusting marks for candidates who, for example, are ill on the day of the examination or recently bereaved.
2. However, there are other penalties, as resitting has implications for cost, loss of teaching time, and some universities look less favourably on marks gained through resitting. In practice there are only a few opportunities to resit.