

THE EARLY IMPACT OF THE REVISED LEAVING CERTIFICATE GRADING SCHEME ON STUDENT PERCEPTIONS AND BEHAVIOUR

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EXECUTIVE SUMMARY

INTRODUCTION

This report examines the early effects, on student perceptions and behaviour, of a change in the grading structure for the Leaving Certificate (LC) examination, which took place in 2017. Potential change in LC outcomes is an important policy issue, given the crucial role played by upper secondary grades in access to higher education (HE) and in (higher quality) employment in Ireland (Hannan et al., 1998; McCoy et al., 2010a; Smyth and McCoy, 2009). In Ireland, the terminal, externally assessed system, with its high-stakes character, has been found to profoundly influence the nature of learning and skills development experienced by young people (McCoy et al., 2014b; Burns et al., 2018; Smyth et al., 2011). This report assesses whether an adjustment in the grading system has had an impact on the perceptions and behaviour of the first cohort of students experiencing the new scheme, in their final year of school.

THE LEAVING CERTIFICATE GRADING REFORMS

Following recommendations from the Transitions Reform Steering Group, new grading bands were introduced and applied for the first time in June 2017. The reform of the grading bands was accompanied by a range of additional proposals, including an emphasis on change in the higher-education sector, particularly in terms of how undergraduate courses are organised. The changes saw a return to an eight-point scale at higher and ordinary levels, with the aim of supporting ‘greater reliability and validity of the examination grades’ (NCCA, HEA, 2011, p. 15). For the first time, the reform also explicitly included the level of achievement in the name of the grade (‘H1’, ‘O1’ etc., instead of ‘A1’, ‘A2’ at higher level and ordinary level, etc.). The changes also saw some important amendments in the allocation of Central Applications Office (CAO) points, for the purposes of entry to HE. The maximum number of points achievable at higher level was maintained at 100 points, but the highest number of points at ordinary level reduced from 60 to 56. With a view to encouraging the take-up of higher-level subjects, those achieving 30–39 per cent (‘H7’) are now awarded points (37 points, equivalent to 70–79 per cent on an ordinary-level paper). The change in the points system was also accompanied by changes to matriculation requirements in the universities and institutes of technology.

The rationale for the reform of the grading bands was:

- to fairly reward scholastic achievement;
- to minimise the use of random selection to allocate HE places;
- to preserve the relative value of ordinary and higher level in the current points scale;
- to encourage the take-up of higher-level subjects, by awarding points for the new H7 (30–39 per cent) grade.

KEY FINDINGS

For the most part, students adopted the new grading scheme without much difficulty, although a smooth transition to the new grading scheme was often based on schools providing information to students and their parents in advance, ideally early in fifth year. Analyses of the anonymised examination data show the growing proportion of students sitting higher-level papers, particularly for Irish, English and mathematics. It is clear that the grading changes, and the awarding of points for 30–39 per cent on higher-level papers, achieved the stated aim of promoting the take-up of higher-level subjects. However, DEIS schools (Delivering Equality of Opportunity in Schools) in low- and medium-points bands lost out somewhat, with a widening gap between DEIS and non-DEIS schools in higher-level take-up. The results also highlight the constraints posed by small school size in terms of higher-level subject provision, with a clear gradient between school size bands and higher-level subject take-up. Students spoke about the incentives offered for persevering with higher-level courses, particularly for mathematics (which they linked explicitly with the availability of bonus points), as well as the challenges this created in terms of workload and stress. They were also conscious of the dilemma in staying with a level for which they felt ill-equipped, but in a system where 30 per cent is considered a ‘pass’.

Increased higher-level take-up has not translated into increased attainment, as there has been a significant drop in grades, all else being equal, for mathematics and Irish at higher level and Irish at ordinary level. The results again show growing inequality between DEIS and non-DEIS schools in terms of mathematics performance levels. The effects of school size also emerge, with students attending larger schools faring better in terms of English and mathematics performance and overall points achieved. While the grading changes have the stated objective ‘to preserve the relative value of ordinary and higher level in the current points scale’, the issue was the subject of considerable debate among students and teachers across all the case-study schools. Both higher- and lower-performing students felt that the gap between the points awarded for higher and ordinary papers is too wide and that ordinary-level points do not fairly reflect the workload and effort involved. While the equivalence of the two sets of scales was preserved under the grading

changes, the maximum number of points awarded for ordinary-level papers was reduced, as was the maximum number of points awarded for the Leaving Certificate Vocational Programme (LCVP). Students spoke about the impact of the perceived low number of points for achieving at ordinary level in terms of their motivation, engagement and academic self-image. The negative self-image of lower-performing students was further reinforced by the dominance of the ‘points race’ and the perceived excessive emphasis on maximising achievement in the exams. The normalisation of grinds (private tuition) was further reflective of the emphasis on points, with grinds being prevalent across all case-study schools. Staff also spoke about the fixation of students on marking schemes and the value of rote learning in maximising their performance.

Finally, the results showed a reduction in the numbers of courses and applicants with random allocation in higher-education entry. Although expressed as a proportion of all applicants to HE, random allocation impacted on few students before or after the reform.

POLICY IMPLICATIONS

Findings from this study highlight the need for additional policy focus on the LC grading and associated points schemes. While the reforms have achieved a number of objectives, namely reducing the prevalence of random selection in higher-education entry and promoting the take-up of higher-level subjects, it is not clear that this latter outcome is a positive one for all students, particularly if they struggle to meet the requirements of the higher-level course. The patterns of take-up of higher-level subjects show important variation across school contexts, reflecting the way in which lower take-up of higher-level subjects at junior cycle in DEIS schools constrains the extent to which students are eligible to take higher-level subjects at senior cycle. The introduction of common-level specifications and examinations under the new junior cycle may go some way towards addressing these constraints. This highlights the crucial importance of ensuring high expectations for all students from the outset in second level. The barriers faced by smaller schools in subject-level offerings (as well as subject range) also raise important issues for policy, and clustering schools might be one way of addressing this. The additional supports crucial for student decision-making, particularly relating to guidance counselling, must be available to students across all school contexts. The ongoing career guidance review will be important in this regard. The perceived downgrading of ordinary-level papers (and associated CAO points) and the demoralisation of students studying subjects at ordinary level (and even the terms ‘higher’ and ‘ordinary’) suggest the need for a re-examination of the rationale for separate subject levels, particularly in the context of a steady increase in the take-up of higher-level subjects over time.

CHAPTER 1

Introduction and context

1.1 INTRODUCTION

In 2017 new Leaving Certificate (LC) grading bands and a new common points scale (CPS) for entry to higher education (HE) were introduced by the Department of Education and Skills (DES). The key objectives were:¹

- to fairly reward scholastic achievement;
- to minimise the use of random selection to allocate HE places;
- to preserve the relative value of ordinary level and higher level in the current points scale;
- to encourage the take-up of higher-level subjects, by awarding points for the new H7 grade.

Reform of the grading bands reflected broader concern about the quality of the transition from second-level to HE (DES, 2015) and was accompanied by a range of proposals, including those relating to the organisation of undergraduate courses in HE. Such concerns about the nature of the LC and its role as a key mechanism for HE are not recent, dating back to 1978 and, later by the Commission on the Points System, in the late 1990s. The prominence of the LC in the Irish educational landscape makes it all the more important to assess any early impact of the reform on young people's outcomes, and to analyse whether certain groups of young people, in terms of gender or socio-economic background, are more affected than others. This report draws on systematic analyses of examination data and in-depth case studies of second-level schools, to examine the early effects on student perceptions and behaviour of a change in the grading structure for the LC examination. In doing so, the research also highlights broader issues relating to senior-cycle education and the approach to assessment. The remainder of this chapter provides important context for the study findings by tracing the historical evolution of LC grading and its role as a selection mechanism for HE.

1.2 CHANGES TO GRADING BANDS 1969–2017

Much of the academic literature pertaining to the LC has focused on LC achievement and the associated 'points system' as a mechanism for selection into HE (see for example McCoy et al., 2010a; McCoy et al., 2010b; Smyth, 2016). Surprisingly, in this

¹ <http://www.transition.ie/files/2015/Leaflet%20for%20Students%20-%20Revised%20Common%20Points%20Scale.pdf>

literature, less attention has been paid to how grading bands for LC or academic standards have changed over time. A key feature of the Irish education system, as with many other European and international examples, is its system of external curriculum-based assessment, whereby achievement is defined according to an external standard, as opposed to a standard of students in a classroom or a school. Such systems seek to signal academic standards through the examination and assessment system, and the latter is often used as a mechanism to harmonise/standardise educational standards across schools, or to raise academic standards nationally. However, it is also well established that external curriculum-based assessment systems often result in high stakes for the student (Bishop 1997; Adnett, et al., 2002; Smyth, et al., 2011; Baird, et al., 2014). Furthermore, as we know from other institutional contexts, the redefinition of standards through the assessment system can lead to confusion (Pring, 2018).

In the Irish context, the LC grading bands have experienced a number of inception that are documented in various sources. In the following section, three main time phases of grading band reform have been distinguished and will be discussed. These include the periods: 1969–1991; 1992–2016; and 2017–the present.

The period 1969–1991

Prior to late 1960s, LC papers were graded on an individual mark basis and results were issued in the form of a single percentage grade (Government of Ireland, 1999). The origin of the grading bands for performance in individual subjects first arose in 1969. Higher and ordinary syllabi for subjects emerged at this time and were used to replace a previous honours and pass distinction (Kellaghan and Hegarty, 1984, p. 76). That is, in 1969, an ‘honours-pass’ nomenclature was dropped and a grading system with six categories from A to F introduced (Coolahan 1981, p. 199). The grading scheme of the time is shown in Table 1.1. What is notable about the structure is its seven bands, and a consistent use of 15 percentage point intervals from A–F.

TABLE 1.1 GRADING SCHEME FOR LEAVING CERTIFICATE EXAMINATION, 1969–1991

Leaving Certificate grade	Percentage
A	85–100
B	70–84
C	55–69
D	40–54
E	25–39
F	10–24
NG	<10

Source: Coolahan (1981).

The period 1992–2016

In 1992, a decision was taken to increase the number of grading bands used to award performance in the LC examination (see Table 1.2). The reform was pragmatic, driven by a rationale to reduce the amount of random allocation for selection to HE. It is documented by the Transitions Reform Steering Group that this change in grading bands took place ‘at the request of the higher education institutions’. Furthermore, it was stated that:

this change to a 14-point grading scale for reporting Leaving Certificate achievement was made, not to improve the quality of reporting, but to improve the means by which the results of the examination could be used for selection for third-level education. There was no press for this change from within the school system (NCCA, HEA, 2011, p. 15).

TABLE 1.2 GRADING SCHEME FOR LEAVING CERTIFICATE EXAMINATION, 1992–2016

Leaving Certificate grade	Percentage
A1	90–100
A2	85–89
B1	80–84
B2	75–79
B3	70–74
C1	65–69
C2	60–64
C3	55–59
D1	50–54
D2	45–49
D3	40–44
E	25–39
F	10–24
NG	0–9

Source: CAO, various reports.

The reform meant that 14 grading bands were now used. What has attracted less attention in the Irish context is that the new grading system redefined the standards of academic achievement, creating a new award for high achievers in higher and ordinary papers – the new A1 band. While previously, an ‘A’ grade was applied to students who achieved between 85 and 100 per cent, an ‘A1’ grade was now applied to those who achieved between 90 and 100 per cent and an ‘A2’ grade to those who achieved the narrow band of 85–89 per cent. While an expanded granularity was applied to each of the existing grades, with the use of 5 percentage point grade intervals, the value of the pre-existing grades was generally maintained. That is, where the previous ‘B’ grade captured those within the 70–84 per cent range, three B grades (B1, B2, B3) were now used; the previous ‘C’ grade, which captured those within the 55–65 per cent range, was now replaced with three C grades (C1, C2, C3) and the previous ‘D’ grade, which captured those within the 40–54 per cent range, was now replaced with three D grades (D1, D2, D3). ‘E’ and ‘F’ grades remained the same. The new grading scheme maintained an ‘NG’ grade for those achieving between 0 and 9 per cent.

It would appear that little research regarding the reform was conducted at the time. However, there are reports of an increase in the number of requests from LC candidates for remarking scripts (Government of Ireland, 1999, p. 66). It was also at this time that concern began to emerge regarding variation in grading practices across subjects (Kellaghan and Millar, 2003).

A return to a system of broader grades was considered by the commission on the Point System in the late 1990s. As indicated in the report:

A strong argument can be made in favour of a system of broader grades on the basis that the relative reliability levels would be higher with a differential of 10 or 15 points than 5 percentage points. However, at the same time the Commission recognises that the 5 percentage point range has a general public acceptability and that a move away from this would increase the likelihood of random selection (Government of Ireland, 1999, p. 67).

The period 2017–the present

The final phase of grading band reform occurred as a result of the recommendations of the Transitions Reform Steering Group, which was established in 2012, to examine a range of issues relating to the transition from second-level to further education and HE. The group is chaired by the Secretary General of the DES and includes representatives from the Higher Education Authority (HEA), the Irish Universities Association (IUA), Institute of Technology Ireland, Quality and Qualifications Ireland, the National Council for Curriculum and Assessment, the State Examinations Commission (SEC) and Solas. In 2017, following recommendations from the SEC Transitions Reform Steering Group, the new grading bands for the LC were applied (see Table 1.3) alongside revised grading bands for the Junior Certificate (JC) examination. The SEC accompanied the new grading scheme with the instruction ‘... grades are derived from marks not percentages ... Rounding up to the next grade band is not permissible’. This phase of reform comes at a time when reform of grading bands for GCSE is occurring in England (Parameshwaran, 2015; Barrance and Elwood, 2018).

While a number of rationales were put forward for the reform, a discourse around improving academic standards is evident, representing a departure from previous reforms. A 2011 report by the Transitions Reform Steering Group argued for:

A return to a seven-point scale, or even an eight-point scale (leaving two points within the A grade to encourage the highest achievers—a system weakness according to our PISA data) would support greater reliability and validity of the examination grades (NCCA, HEA, 2011, p. 15).

At this time, reform of the grading bands was also to be accompanied by a range of additional proposals, including emphasis on change in the HE sector, particularly in terms of how undergraduate courses are organised.

TABLE 1.3 GRADING SCHEME FOR LEAVING CERTIFICATE EXAMINATION, 2017

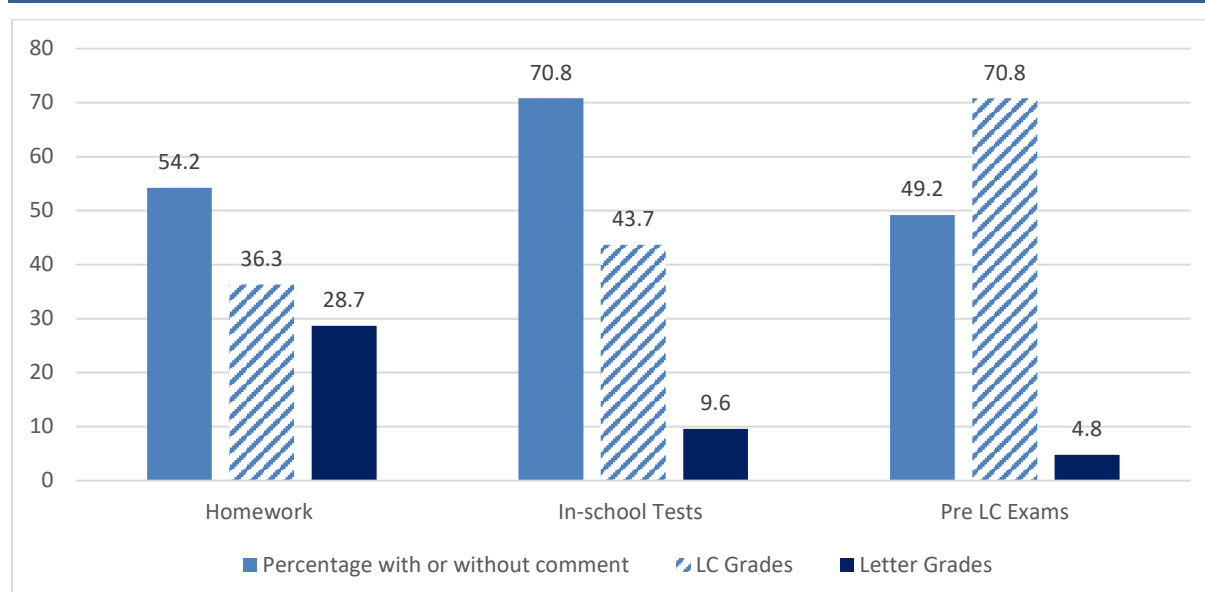
Higher-level grade	Ordinary-level grade	Percentage
H1	O1	90–100
H2	O2	80–89
H3	O3	70–79
H4	O4	60–69
H5	O5	50–59
H6	O6	40–49
H7	O7	30–39
H8	O8	0–29

Source: CAO briefing, 2016.

In a number of ways, this reform redefined the standards of academic achievement, as well as the expression of the standards, more dramatically than before. Firstly, and for the first time, the reform explicitly included the level of achievement in the name of the grade. For example, while previously an A1 grade represented high achievers in both higher-level and ordinary-level papers, the new grading scheme now distinguishes the level of study using separate naming conventions ‘H1’, ‘O1’, and so on. Secondly, the number of grading bands has been reduced from 14 to 8 bands for higher-level papers and 8 bands for ordinary-level papers. Thirdly, the standard for high achievers in higher and ordinary papers has been maintained, as those achieving a grade of between 90 and 100 continue to receive the highest grade available (previously an A1, now an H1 or an O1). Yet, the standard for achievement has changed for subsequent grades. That is, the new grades H2/O2 to H6/O6, both map onto and at times overlap the previous grade boundaries. For example, the new H2 and O2 grades now capture those within the 80–90 per cent range, replacing what were the A2 and B1 grades. The new H3 and O3 grades now capture those within the 70–79 per cent range, replacing what were the B2 and B3 grades. The new H4 and O4 grades capture those within the 60–69 per cent range, replacing the C1 and C2 grades. The new H5 and O5 grades capture those within the 50–59 per cent range, replacing the C3 and D1 grades. The new H6 and O6 grades capture those within the 40–49 per cent range, replacing the D2 and D3 grades. In terms of lowest levels of achievement, the H7/O7 and H8/O8 grade bands now replace the previous ‘E’, ‘F’ and ‘NG’ grade bands, while at this level, the standards of academic attainment have been largely maintained. For example, the new H7 and O7 grades capture those within the 30–39 per cent range, representing a narrower grade boundary, replacing the previous grade of ‘E’ (25–39 per cent). Finally, the new H8 and O8 grades capture those within the 0–29 range, replacing the ‘E’, ‘F’, and ‘NG’ grades. This period of reform of grade bands represents the most radical change for redefining academic standards at LC-level.

While there are many studies in the Irish context that explore student and school differences in grade achievement, few research studies have considered teachers’ everyday use of grading bands. This is surprising, given that grading practices in

schools are an important component of pedagogy (Andersen, 2018). In addressing the limitations of research in this area, in 2012 the NCCA commissioned a study of the impact of the grading system on teachers' classroom and assessment practices in senior cycle, specifically with regard to marking and grading the work of students in the classroom, in school tests and in pre-LC examinations (Boland and MacNeela, 2013). Some results are presented in Figure 1.1. While a diversity of feedback strategies is typically used by teachers, the research found that grading bands are more commonly used by teachers when marking pre-LC examinations (mocks). Three quarters of teachers used the grading bands when correcting mock examinations, compared to just over one-third when marking homework, and almost half when marking in-school tests. Thus, grading practices among teachers vary, and specifically the use of LC grading bands increases as students and teachers approach the LC examination.

FIGURE 1.1 PERCENTAGE OF TEACHERS USING LC GRADING BANDS FOR ASSESSMENT

Source: Taken from Boland and MacNeela (2013, pp. 6-9).

In the Boland and McNeela study, the use of grading bands was associated with attempts to encourage students to have realistic expectations for grades achieved in the terminal LC examination; to facilitate understanding of the grading and marking system used by examiners; to allow students to realise their level of achievement as they progress through senior cycle; and to help justify the grade using the marking system. The research also indicated that teacher practices were influenced by school management and by parents, which favoured the use of the LC grading bands. Concern was also expressed by some teachers that ‘students don’t really understand LC grading system’ (p. 26) and that the ‘LC grading system is in a state of flux at the moment’ (Boland and MacNeela, 2013, p. 29).

1.3 DEVELOPMENT OF A COMMON POINTS SYSTEM

The following section seeks to locate changes over time to grading bands, to the development of a common points system as a selection mechanism for entry to HE.

The period 1969–1991

The discourse surrounding the implementation of the grading bands in 1969 is strongly tied to the emergence of a points system. The period leading up to the implementation of the A–F grading bands in 1969 is portrayed as a time when certain selective courses in higher education institutes (HEIs) started to become over-subscribed. Such HEIs had initially adopted the practice of open entry as a selection mechanism, which restricted access on the basis of performance at the end of first year (Clancy, 2015). It is well documented that the points system as we know it originated at the Medical Faculty at University College Dublin (UCD) in 1968 and extended to other departments and faculties in the university, as demand began to exceed the number of places available (Clancy, 1981; 2015). The UCD points system combined LC results and scores on the matriculation examination. At

this time, students could combine the best results from two LCs, and a double score was awarded on Grades A–D on a higher paper in mathematics.

At this time (prior to the late 1960s), entry to HE was largely dependent on the possession of minimum entry requirements, but also the ability to pay course fees and expenses. The one exception was admission to the colleges of education, for which a quota or cap in the numbers was in place by the Department of Education. However, the admission process was competitive, based largely on results in the LC examination, as well as an interview (Clancy 2015, p. 88). At this time, applicants applied individually to HEIs, and many third-level institutions also required applicants to travel to a variety of colleges for interview and to present portfolios of work relevant to their chosen area of study (O'Donoghue, et al., 2017). It is documented that by 1970, the volume of applications resulted in considerable complexity for HEIs and applicants, given that individual candidates applied directly to multiple institutions. There were also calls for the introduction of the *numerus clausus* – to limit the number of students – particularly for certain professional courses.

Coolahan later reflected on the influence of the development of a points system for the LC examination, indicating that:

A further pressure was added to the Leaving Certificate examination and the universities matriculation examination in 1968, when universities began to operate a points system to select candidates for entry into some faculties where student numbers were restricted. The increased number of second-level students competing for limited occupational opportunities and university places has led to greatly increased competitiveness in the examinations (Coolahan, 1981, p. 199).

Furthermore, the advent of the points system coincided with a time when the third-level student grant scheme was introduced. As stated by Coolahan (1981):

Ironically the third-level student grant scheme introduced in 1968 tended to lessen the competitiveness which had existed for university scholarships, but the introduction of the points system in the same year reintroduced competitiveness. Many teachers and parents feel that the examinations and the entry requirements to third level have come to exercise a distorting influence on the whole process of second-level education.

This concern was also shared by additional stakeholders in education, when in 1978, the Irish Federation of University Teachers (IFUT) held a seminar on the topic of 'University entrance requirements and their effects on second-level curricula' (Moran and Cowley, 1978/79, p. 232).

This period also represents the foundation of the Central Applications Office (CAO). In the summer of 1975, agreement for the project was achieved between the university heads and the Higher Education Authority (HEA). In 1976, the CAO was established to facilitate application for first year admission to the five university colleges at that time and was implemented for the autumn 1977 intake. The new system radically changed the admission process, as applicants could now submit a single application for entry to HE courses. At this time, the CAO had limited functions – facilitating the allocation of places, as opposed to calculating scores for HEIs, which came later. However, the service has retained some of its key features since that time. For example, points continue to be calculated from the top six subjects (Coolahan, 1981) and applicants list courses in order of preference. That is, since that time, applicants are ranked based on their total point score in six subjects, and those with the highest points secure the most selective places. Prior to this time, in the absence of a common points system, alternative variations of a points or scoring scheme were applied across HEIs, resulting in considerable institutional variation, which is shown in Table 1.4.

TABLE 1.4 SCORING SCHEME FOR LEAVING CERTIFICATE PERFORMANCE, 1980

	Points awarded at higher level				Points awarded at ordinary level			
LC Grade	A 85–100%	B 70–84%	C 55–69%	D 40–54%	A 85–100%	B 70–84%	C 55–69%	D 40–54%
DIT	9	7	6	4	5	3	2	1
DCU	7	5	4	2	3	1	0	0
UL	14	11	8	5	6	3	1	0
St. Patricks, Maynooth	6	5	4	3	2	1	0	0
Thomond College, Limerick	30	25	20	15	20	15	10	5
TCD	55	45	30	10	10	8	6	4
UCC and UCD	5	4	3	2	2	1	0	0
UCG	10	8	6	3	4	3	2	1

Source: CAO college scoring systems pamphlet, direct communication with CAO July 2018.

As the points system gained momentum as a vehicle for HE selection, academic studies began to emerge in the 1970s that examined the predictive value of the LC for subsequent university performance (for example Nevin, 1974; Moran and Crowley, 1978/79). Around this time, academic requirements also had an impact on eligibility for the third-level grant scheme. According to Coolahan (1981):

In an effort to encourage students to present subjects at Leaving Certificate examinations, the white paper of 1980 announced that the third-level grant system scheme is to be amended so that a grade C on a higher or common paper in two of the following subjects will fulfil the academic requirements; mathematics, applied mathematics,

chemistry, physics, agricultural science, agricultural economics, and technical drawing (Coolahan, 1981, p. 212).

At the time, in order to be eligible for a grant, students must have achieved four grade Cs on higher or common papers in subjects accepted for matriculation.

Between 1970 and 1980, the HE system experienced considerable expansion, during which 12 new publicly funded third-level institutions were launched (White 2001; McCoy and Smyth, 2010), while the CAO continued to regulate admission to first-year undergraduate programmes. It was not until 1989 that the computerisation of LC examination procedures by the Department of Education came into play, followed by the construction of a computer network in 1995 connecting all of the CAO participant HEIs. This period also marked the emergence of a binary system of HE – in 1991, the regional technical colleges (subsequently renamed the institutes of technology) participated in the CAO (for further details see McCoy and Smyth, 2010).

The period 1992–2016

As indicated in Section 1.2, in 1992 a decision was taken to increase the number of grading bands used to award performance in the LC examination. The rationale for reform was pragmatic and driven by a concern from HEIs regarding the use of random selection for entry to HE. At this time, the colleges of education had joined the CAO and the functions of the CAO were expanded to include calculating scores on behalf of HEIs. Furthermore, around this time, the rights and responsibilities of third-level institutions for the admission of students became enshrined in legislation. While separate matriculation examinations were provided by both the colleges of the National University of Ireland (NUI) and Trinity College Dublin (TCD) to select for college entry as an alternative to the LC route, in 1992 the NUI matriculation examination was suspended.²

In 1992, with the new 14-point grading scale, came a new common points scheme (see Table 1.5). Three important changes occurred with the inception of the CPS. Firstly, the number of points awarded to each of the grading bands changed across all HEIs and was now harmonised. This represented a considerable departure from the points system previously outlined in Table 1.4. Secondly, at higher level, the highest achievers continued to receive the greatest number of points (100 points), with a 10 percentage-point grade now differentiating the A1 and A2 grades. The greatest number of points awarded on an ordinary-level paper for the highest level of achievement was set at 60 for an A1, while 50 points were awarded for an A2. This was against the recommendations of the commission, which later stated ‘there should be a gap of 5 points between grades A1 and A2 on Ordinary Level Papers’ (Government of Ireland, 1999, p. 68). Beyond A1 and A2 grades in higher- and ordinary-level papers, points were awarded in 5 percentage point bands. Finally,

² TCD continues to offer a matriculation examination in just two subjects – biblical studies and geology.

there were some interesting developments in terms of the value or equivalence of an ordinary paper relative to an honours paper. In terms of comparability, pre-1992, the number of points awarded to an 'A' grade on an ordinary-level paper varied but was typically located between a 'C' and a 'D' grade on a higher-level paper. In the new system adopted in 1992, the value of an 'A' grade was more clearly articulated, where an 'A1' on an ordinary paper was awarded the same number of points as a 'C3' on a higher-level paper, while an 'A2' was awarded the same number of points as a 'D2' on a higher-level paper.

TABLE 1.5 CHANGES TO GRADING STRUCTURE AND POINTS SCHEME FOR LEAVING CERTIFICATE

Higher level 1996–2016		Ordinary level 1996–2016		Higher level 2017		Ordinary level 2017		Point value
Grade	% Range	Grade	% Range	Grade	% Range	Grade	% Range	
A1	90–100			H1	90–100			100
A2	85–89							90
				H2	80–89			88
B1	80–84							85
B2	75–79							80
				H3	70–79			77
B3	70–74							75
C1	65–69							70
				H4	60–69			66
C2	60–64							65
C3	55–59	A1	90–100					60
				H5	50–59	O1	90–100	56
D1	50–54							55
D2	45–49	A2	85–89					50
				H6	40–49	O2	80–89	46
D3	40–44	B1	80–84					45
		B2	75–79					40
				H7	30–39	O3	70–79	37
		B3	70–74					35
		C1	60–69					30
						O4	60–69	28
		C2	60–64					25
		C3	55–59			O5	50–59	20
		D1	50–54					15
						O6	40–49	12
		D2	45–49					10
		D3	40–44					5
E	25–39	E	25–39	H8	0–29	O7	30–39	0
F	10–24	F	10–24			O8	0–29	0
NG	0–9	NG	0–9					0

Source: CAO reports, various years

By 1997, the system of selection for HE entry was under considerable scrutiny. The Commission on the Points System was established by the Minister for Education and Science, Micheál Martin, TD, on 15 October 1997, as recommended in the Action

Programme for the Millennium, which included the appointment of a ‘high-powered’ group to examine the system of selection for third-level entry. The commission was chaired by Áine Hyland and prepared an extensive background document (an account of the system at the time, discussion of contextual factors, summary of selection procedures in other countries) and commissioned research, invited submissions and held a number of public meetings. Recommendations pertaining to the points system and selection for HE centred around the harmonisation of basic or special subject entry requirements across institutions, and the discontinuation of the practice of awarding bonus points for any subject. The commission also recommended a modification of points allocated to grades, specifically, ‘that the number of points awarded to those with a higher level A1 should be reduced from 100 to 95’ and that ‘there should be a gap of 5 points between grades A1 and A2 on ordinary level papers ... and on balance suggests an increase in all ordinary level grades (other than the A1) by 5 points’ (Government of Ireland, 1999, p. 156). These recommendations lay amid proposals to broaden provision of non-standard entry routes, taking into account lifelong learning, mature students, part-time students, students from socio-economically disadvantaged areas, and students with disabilities. However, according to Clancy, these recommendations did not gain traction:

Its [the commission’s] proposals for changes in respect of entry to third level for school leavers were much less consequential and did not lead to fundamental change in the operation of the system. Thus, it was with no surprise that dissatisfaction with the points system resurfaced (Clancy, 2015, p. 94).

The reformed LC grading and common points system in 1992 was accompanied by other changes to assessment and examination during the period. Developments also sought to introduce greater transparency to the LC examinations, aspects that are common in many curriculum-based assessment systems internationally. This included the publication of marking schemes in 1998 and allowing candidates to view their graded manuscripts before making a decision to lodge an appeal. This now meant that teachers and students had access to examiners’ marking schemes by. While such moves at the time attracted some controversy, it is argued that improving transparency of examinations is a progressive assessment trend that can be observed in many countries over the past 30 years (Baird, 2014, p. 14). It was around this time that pre-vocational elements became more formalised within a restructured senior cycle (Transition Year (TY), Leaving Certificate Applied (LCA), Leaving Certificate Vocational Programme (LCVP)), while reform of senior cycle and ‘the towering presence’ and ‘high-stakes’ nature of assessment in senior cycle continued to attract attention (NCCA, 2002, p. 45, Looney, 2006, p. 349). The number of HEIs using the CAO continued to increase – Quality and Qualifications Ireland (QQI) courses delivered in private colleges joined in 1998/1999, and in 2001 nursing courses were included.

During this time, HEIs continued to make changes to their selection mechanism through matriculation requirements. A number of changes to the matriculation requirements, and to how HEIs award educational attainment in the LC, are noteworthy. First, in 2009, the Health Professions Admission Test (HPAT-Ireland) was introduced to contribute to entry and selection for medicine, alongside performance in the LC. Second, in 2012, and impacting many more students, under a four-year pilot scheme, the seven universities, Dublin Institute of Technology and the Royal College of Surgeons made a decision to allocate bonus points for a D3 grade or higher in higher-level mathematics,³ the rationale being that the type of students that are needed for the knowledge society would now ‘move up’ in the CAO queue. On this point, there is a long-standing practice of awarding additional marks or ‘bonus points’ to students sitting the LC examination through Irish. This dates back to the 1920s and was introduced as a mechanism to ‘strengthen the position of the Irish language in the education system, with the long-term objective of maintaining and reviving its use in every day life’ (Mac Aóghain, Millar and Kellaghan, 2010, p. 25). It is interesting that the practice of awarding bonus points in mathematics, and additional marks for students sitting their examinations through Irish, continues, despite the explicit recommendation from the Commission on the Points System that ‘institutions should not treat one element of the Leaving Certificate programme as more important than other elements’ (Government of Ireland, 1999, p. 64).

During this period, the common points system also attracted criticism from those working in the area of educational inequality. For example, it was argued that the points system upholds an ‘essentialist view of the individual in education’, explaining differences in school attainment in individual terms, rather than structural attributes (Lynch, 1987, p. 107; Drudy and Lynch, 1993). In 2003, variation in grading practices across LC subjects became the focus of research conducted by the Educational Research Centre (ERC). That is, at the time there had been perceptions relayed in ‘official documents’ and the media that it was easier/harder to obtain higher grades in some subjects of the LC than others (Kellaghan and Millar, 2003, p. vii). It was argued that variation in grading was having an impact on student decision-making when choosing subjects for examination in senior cycle. The minister for education at the time commissioned research from ERC to investigate the claims. The research concluded that there was some evidence to suggest that academic achievement in the LC was related to grading practices, given variation identified between subjects in the mean score awarded, as well as in the distribution of grades for each of the years under investigation (1996, 2000, 2001). In particular, it identified that students taking subjects that involved verbal and/or logico-mathematical reasoning had an advantage in grading, while those taking subjects that required sensorimotor, aesthetic or spatial relation skills were at a

³ In 2012, phase 1 of project mathematics was also applied to all schools and examined in the LC, with the introduction of two of the five curricular strands to the mathematics curriculum. Phase 2 took place in 2013, followed by phase 3 in 2014.

disadvantage. Recommendations were made to ‘improve grading practices with the objective of ensuring grading equivalence’ (Kellahan and Millar, 2003, p. 120). Furthermore, the SEC was established in 2003.

In 2011, the selection of school leavers for third level was once again under scrutiny, but this time within a broader context of the transition from second to third level. While a number of actions for the Transitions Reform Steering Group were outlined in a 2011 document (NCCA, HEA, 2011), three clear steps for reform dominated their work from 2013 onwards:

- a commitment to address any problematic predictability identified in an analysis of predictability in the LC examination;
- a commitment to reduce the number of grading bands used in the LC examination;
- a commitment to significantly reduce the number of programme offerings for a broader undergraduate entry to level-8 honours degree programmes in the universities and to review level-8 programme provision in the institutes of technology, to ensure a mixed portfolio of programmes with denominated and generic entry.

The rationale for reform centred on the negative ‘backwash’ effect of a terminal examination system on classroom teaching and learning, its effect on the student experience at senior cycle, the influence of the points system on subject choice for senior-cycle students, and concerns regarding ‘teaching to the test’. In general, there was a concern that both the examination system and the points system were undermining the overall aims of senior-cycle education (Government of Ireland, 1999; NCCA, 2002; Hyland 2011; Smyth, et al., 2011). The rationale also centred on concerns and public perception relating to constructs of fairness and predictability of the LC examination itself. Initial proposals surrounding the reduction of grading bands centred around problems with the LC, including issues pertaining to predictability, and backwash effects (NCCA, HEA, 2011). By 2013, reform of the grading bands was couched, by the Transitions Reform Steering Group (2013, p. 3,) in terms of the need to ‘de-pressurise the learning environment at second level and improve the quality of the student experience in school and higher education’.

As part of the work of the Transitions Reform Steering Group, research was commissioned by the SEC to investigate issues relating to the predictability of the LC (Baird et al., 2014). Reporting on the findings of the research, the Transitions Reform Steering Group (2015, p. 12) stated:

concerns about the predictability of the Leaving Certificate examination question content were not sustained by the findings of this research overall. None of the examinations was found to be very problematically predictable in these terms.

In the report, Baird et al. (2013, p. 20) noted ‘no subject was considered to be very problematically predictable overall by the subject specialists, the teachers or the students’. Rather, question formats were reviewed by external subject specialists as ‘helpfully predictable’, as they allowed students to prepare for the examination. In essence, the report recommended that the transparency of the examination process should be maintained.

In their findings, Baird et al. (2014) drew attention to a number of challenges for the assessment system, some of which are discussed below. First, in a review of the skills that are promoted in the subject syllabuses, it was reported that higher-order thinking skills were not credited in marking schemes, and that ‘questions did not always target the desired kinds of learning’ (p. 17). Yet, many teachers reported that higher-order skills were required to attain the highest scores. Teachers had also identified gaps between the syllabus and question papers. To this end, the review team deemed that some of the existing syllabuses were ‘old fashioned in terms of syllabus content, skills assessed, design of marking schemes and presentation of question paper resource materials’ (p. 17). A recommendation was made for regular revision and updating of syllabus and examination materials’ and that ‘syllabus revisions should consider how best to incorporate the requirement for more higher order skills and review other countries’ assessments as part of this process’ (p. 21). The team also suggested that small changes to the questions and marking schemes could be of use. Second, levels of student and teacher stress and the short timeframe required to deliver such a broad curriculum came to the attention of the researchers. The research team argued for ‘reducing the breadth and increasing the depth of study’ (p. 20), given that in the Irish context, students studied a large number of subjects at this level, relative to those in some other countries. Third, the research team recommended that the SEC introduce greater flexibility in the marking process. They argued that the marking schemes were not as transparent in Ireland as in other systems. To this end, they recommended adopting a post-marking standard setting process (as opposed to norm referencing), which ‘[might] make it more straightforward to assess higher order skills to a larger extent than [was] currently possible’ (p. 21). Finally, the nature of teaching and learning in a context of high-stakes assessment was addressed by the research team. They argued the need to discourage ‘strategic behaviours’ by teachers and students, but

more especially ‘the drilling of students with pre-prepared examination answers that they do not fully understand’ (p. 28). The reviewers outlined that while it was important for students to understand examination formats, they cautioned the education system, teachers and students against ‘taking this too far’ (p. 28).

By 2016, the CAO was servicing 41 HEIs and regulating admission to 934 courses for an all-time peak of 81,276 applicants (CAO, 2016). By 2016, 50,766 students sat the LC and 100,793 students were attending HE (DES 2015/16 Statistical report).

2017–the present

In line with recommendations from the Transitions Reform Steering Group, in 2017 new grading bands were applied (see Table 1.5). The group stated that:

very extensive and detailed modelling and testing has been conducted by the higher education institutions, with the assistance of both the CAO and other technical experts, to ensure that the revised scale is fair and equitable to all students.⁴

A number of changes occurred with the CPS which are notable and have implications for the construction of academic standards. First, while at higher level the highest achievers continued to receive the greatest number of points (100 points), the highest level of achievement on an ordinary paper has been reduced from 60 points to 56 points. Second, the points differential between the grading bands has changed and the points differential between grades is lower for ordinary papers than for higher-level papers. For example, there is a differential of 12 points between the H1 and H2, and ten between the O1 and O2, and so on. Third, a decision was made to reward points to an ‘H7’ grade, which represents the grading band of 30–39 per cent in order to ‘encourage the take-up of Higher Level subjects at Leaving Certificate ... and to reduce for a student the risk of taking Higher Level examinations’ (Transitions Reform Steering Group 2015, p. 16). The number of points awarded is 37, considerably lower than the number of points awarded to an O1 (56) and equivalent to an O3. This explicit measure to raise aspirations at the individual level and raise educational standards at the national level emerged in the later work of the Transitions Reform Steering Group. In terms of comparability, it is less easy to compare the 1992 system with the 2017 system. However, a student achieving an O1 receives the same number of points as a student receiving an H5. Finally, bonus points continue to be awarded to those who achieve an H5 or higher in mathematics, as are additional marks to students who sit the LC examination through Irish. There is no formal/publicly available evaluation of the bonus point scheme, even though the scheme was introduced on a four-year pilot basis in 2012.

The changes to the points system have also been accompanied by revised basic matriculation requirements by the universities and institutes of technology and are

⁴ http://www.transition.ie/images/2016/Transitions_FAQs_October%202016.pdf

set out in Table 1.6. A variety of basic attainment matriculation requirements exist, given that universities and institutes of technology each set out their own matriculation requirements. While applicants must obtain a pass in at least six subjects, HEIs also set basic matriculation requirements with regard to particular subjects, and often include passes in Irish, English, a third language or mathematics. Where mathematics is required for matriculation, increasingly a subject entry requirement of an H4 has been set, well above the H7 grade which seeks to encourage the take-up of higher-level subjects at LC.

TABLE 1.6 HIGHER EDUCATION MATRICULATION REQUIREMENTS, PRE- AND POST-2017

Institutions which apply	2017 matriculation requirements	Pre-2017 Leaving Certificate grades required
Institutions such as NUI	Two subjects at higher level (at least H5) and at least H7 or O6 in four subjects	Two subjects at higher level (at least grade C3) and at least grade D3 (ordinary or higher course) in four subjects
Institutions such as DIT	Five subjects at O6/H7 grades	Five subjects at ordinary level D3
Institutions such as Froebel	Three H5 grades and 3 O6/H7 grades.	Three higher-level C3 grades and 3 ordinary-level D3 grades

1.4 RESEARCH ON THE LEAVING CERTIFICATE

Research has repeatedly shown that the LC has strong implications for school leavers' post-school outcomes. That is, those who secure high levels of attainment in the LC have a greater probability of going directly into HE, while labour market participants are more likely to be found among those with the lowest LC grades, or those who had taken the LCA, even when controlling for a range of factors known to influence post-school pathways (McCoy et al., 2014). In the Irish context, HE is the dominant pathway taken by students at senior cycle and entry is largely dependent on the grades that students achieve. As indicated above, the subjects they take at senior cycle have implications for matriculation. Attainment in the LC also structures the type of HE to which students secure entry (McCoy and Smyth, 2010; Byrne and McCoy, 2017), with consequences for graduate wages and outcomes (Kelly, O'Connell and Smyth, 2010). Research also suggests that examination grades and subjects taken have direct effects on school leavers' employment outcomes in Ireland, independent of the number of points attained in the LC (Smyth 2008; Breen et al., 1995; Iannelli and Smyth, 2017).

However, the LC also operates as a key factor in how school leavers think about their post-school pathways into HE and other destinations (McCoy et al., 2010a; McCoy and Smyth, 2011; McCoy et al., 2014b). Research has consistently found that school leavers' post-school decision-making is strongly framed by performance in the LC (Smyth and McCoy, 2009), as well as the social mix of the school they attend (McCoy

et al., 2014a; McCoy et al., 2014b). The LC and the points value associated with grades shape how post-school pathways are perceived by young people and society more generally. In the *Leaving School in Ireland Study*, McCoy et al. (2014b) empirically demonstrate how ‘grades play an important role for young people in accessing a valued pathway’, all else being equal (p. 104). They also shape the experience of young people with their parents, outside school. In their interviews with school leavers, the researchers report how academic performance is monitored by parents. Some young people are ‘grounded’ by their parents when grades are not achieved, and grind-taking is seen as a solution to ‘bad grades’.

In the past, the LC has been described by politicians and by the teacher unions as ‘brutal, but fair’. However, research has consistently shown that the idea of rewarding those who perform best, a concept underpinned by meritocratic ideals, is flawed. It is well established that the opportunity structure in education is unequal. Research consistently shows that ‘school effects’, to include school organisation and process, among other factors, play a considerable role in the educational opportunity structure (McCoy et al., 2014b). For example, research shows how school organisation and process shape access to the curriculum and the take-up of higher-level subjects in both junior cycle and senior cycle. The same is true of early school leaving and experiences of school (Smyth 1999; Byrne and Smyth 2010; Byrne and McCoy 2017; Smyth, 2018). That is, aspects such as the gender mix of the school, the social class mix of the school, and in particular ability grouping practices adopted in the school each exert independent effects on access to the curriculum. These aspects of school organisation and process also shape attainment in the LC and clear school effects have been identified in transition probabilities to HE and post-school outcomes (Smyth and Hannan, 2007; Byrne 2008; Smyth et al., 2011; McCoy et al., 2014b). Furthermore, the influence of educational attainment extends beyond the economic domain of people’s lives, representing longer-term high stakes for young people. Such studies point to how those without a LC are more likely to have poor physical and mental health outcomes (Smyth and McCoy, 2009).

Importantly, a considerable body of research has pointed to the way in which the LC shapes the nature of teaching and learning. In the Irish context, the student experience of the LC has received considerable research attention. The high-stakes nature of the examination contributes to instrumentality in the way in which young people approach examination preparation and leads to high levels of stress, especially among female students (Hannan et al., 1996; McCoy et al., 2014b; Banks and Smyth, 2015). Such a high-stakes environment has led to enhanced use of teacher-centred pedagogical approaches – such as the teacher writing notes on the board for students to copy, or the teacher reading from the textbook – and a strong focus on practising past examination papers (Smyth et al., 2011; McCoy et al., 2014b). Ironically, because of the high stakes associated with the examination, students typically find such limited pedagogical approaches helpful. However, students also value clear explanation from teachers and a willingness on the part of

teachers to recap on material they do not understand (McCoy et al., 2014b). The nature of learning promoted by the LC examination papers has also been examined (Cullinane and Liston, 2016; Burns et al., 2018). Each of these studies has reached the conclusion that the nature of assessment used in the LC is found to reward lower-order skills, especially memory recall. These findings are supported by a survey of school leavers conducted by McCoy et al. (2014b), where the majority (70 per cent) felt there was too much to remember. To this end, the examination itself has been described by a majority of students as ‘requiring too much writing’ and over half (52 per cent) found that the examination schedule is too demanding (McCoy et al., 2014b).

Accounts of student stress and pressure have been consistently reported in relation to the demands of the LC, with students being positioned as objects of the assessment process (Smyth and Banks, 2012). While students are likely to indicate that it is in fact themselves ‘putting pressure on myself’, schools and parents have also been articulated by students as drivers of pressure (McCoy et al., 2014b; Banks and Smyth, 2015). Specific aspects of schooling that contribute to student stress include the quality of student-teacher interaction and peer relations within the school (Banks and Smyth, 2015). Furthermore, stress levels reported midway through sixth year have been found to be strongly predictive of stress levels three to four years after leaving school (McCoy et al., 2014b), contributing to the construction of ‘learning’ as a high-stress activity.

1.5 STRUCTURE OF THE REPORT

The report takes the following structure. Chapter 2 details the methodology adopted, including the research ethics process undertaken at the outset of the study. Chapter 3 analyses the SEC LC examination results for the period 2015 to 2017, focusing in particular on changes in the take-up of subject levels and grades over the period. Chapter 4 moves to the evidence from the ten case-study schools, examining the views of students, school personnel and parents on the impact of changes in the grading scheme in 2017. Chapter 5 considers a number of broader issues relating to the transition to senior cycle, again from the case-study schools, including student preparedness for senior cycle, the role of grinds, the nature of guidance, information and advice available to students and preparedness for life after school. Chapter 6 provides a summary of the results and identifies some implications for policy, particularly regarding the ongoing senior-cycle review.

CHAPTER 2

Research methodology

2.1 INTRODUCTION

This study builds on a large body of work, undertaken at the ESRI and elsewhere, on student experiences of second-level education. Increasingly, mixed-method research designs are seen as the gold standard for examining complex interventions applied in heterogeneous environments, with this becoming a highly valued research approach in the Irish context over the last ten years. Most recently, mixed-method research has examined the role and impact of digital technologies in teaching and learning across second-level schools (McCoy et al., 2016). The *Leaving School in Ireland* study similarly took a mixed-method approach to examining how school experiences shaped the post-school decision-making and pathways of young people (McCoy et al., 2014b). The study has two main elements: analysis of individual-level examination data and case-study research in ten schools. Chapter 3 draws on State Examinations Commission (SEC) Leaving Certificate (LC) examination results for the period 2015 to 2017. Comparing the take-up of subject levels and grades in 2016 and 2017 allows us to assess the extent to which the change in the grading structure resulted in any initial changes in student behaviour. Including information on 2015 allows us to examine whether changes were already underway in level take-up and examination performance even before the grading structure changed. The analyses presented are confined to mainstream second-level schools and therefore exclude information from external examination candidates, special schools and non-school settings. Chapters 4 and 5 provide evidence from the case-study research, details of which are provided below.

2.2 RESEARCH DESIGN

The study began with a desk-based research phase. This involved a review of Irish and international literature on the types of grading schemes used internationally and the impact of different grading schemes. The review also outlines key policy changes in the Irish context and research on the nature and impact of the LC examination in Ireland. The empirical analysis involves two main components: analyses of individual-level examination data to look at changes in behaviour at the school and student levels, and in-depth case-study research in ten schools.

2.2.1 Analysis of State Examinations Commission data

Analysis of LC examination data, provided by the SEC, provides an important first step for the study. The timely provision of micro-data by the SEC is noted and much appreciated. Comparing the take-up of subject levels and grades in 2016 and 2017 allows us to assess the extent to which the change in the grading structure was

associated with any initial changes in student behaviour. It does not definitively establish whether any such changes are due solely to the amended grading structure rather than other factors (such as trends in student motivation or level of preparation for the examination). However, including information on 2015 allows us to examine whether changes were already underway in level take-up and examination performance even before the grading structure changed. The relative stability in the distribution of grades year on year means that patterns in 2015 can be taken as broadly reflective of patterns in previous years.

The analyses presented in this chapter are confined to mainstream second-level schools and therefore exclude information from external examination candidates, special schools and non-school settings. In addition, the small number of students (1.4 per cent of the total) who took five or fewer LC subjects are excluded from analysis. Analyses are therefore based on 153,156 students in 697 schools. Firstly, descriptive analyses are presented of patterns of take-up of higher-level subjects over the period 2015 to 2017, looking at English, Irish and mathematics as well as the total number of higher-level subjects taken. The analysis considers whether the take-up of higher-level subjects changed between 2016 and 2017, as achieving an H7 grade became less 'risky' in terms of achieving points for higher education (HE) entry purposes. To take account of the fact that students attending the same school will resemble each other in their experiences and outcomes, multilevel modelling techniques are used for this clustering. Multilevel models are used in Chapter 3 to compare like with like in looking at shifts in take-up of higher level between 2016 and 2017. They can also indicate whether changes have been evident for some students or some types of schools rather than others. The models presented in Chapter 3 consider the gender of candidates and whether they had an examination fee waiver, which is taken as an indicator of socio-economic disadvantage. At the school level, the analyses consider school type (sector), DEIS (Delivering Equality of Opportunity in Schools) status, fee-paying status, whether or not the school is Irish medium, and school size.

Secondly, the analysis explores changes in the distribution of grades and whether some students were more likely to achieve lower grades in higher-level subjects after the grading change. We also examine whether the pattern changed more for girls than boys, or more for those in non-DEIS schools than in DEIS schools, fee-paying schools, Irish-medium schools, and schools of different type and size. Much of the focus is on patterns in relation to English, Irish and mathematics, which are taken by (almost) all students. In looking at optional subjects, it would be harder to separate out the effects of the grading structure from year-on-year trends in subject take-up. Therefore, the analyses also consider the total points achieved across core and optional subjects.

It should be noted that the SEC data do not cover all factors that are likely to influence subject take-up and performance. In particular, the examination fee waiver is a relatively crude measure of socio-economic background, and so the analyses cannot take into account variation between candidates in their social class background, levels of parental education and/or household income. The absence of detailed information on individual socio-economic background means that the 'effect' of attending particular types of school (such as fee-paying or Irish-medium schools) is overestimated. Similarly, the prior achievement profile of students in particular kinds of schools cannot be taken into account using the SEC data.

2.2.2 Case-study research

The research team carried out qualitative research in ten case-study schools in March and April 2018. Data from the Department of Education and Skills (DES) was used to identify ten mainstream second-level schools for in-depth analysis. Research conducted for the post-primary longitudinal study (McCoy et al., 2014b) revealed that it was possible to capture a good deal of variation using ten schools and that findings matched those using a representative national survey (conducted for an evaluation of the post-leaving certificate (PLC) programme). The ten case-study schools were selected to represent important dimensions of variation in school composition and organisation. The schools were selected on the basis of two key dimensions: social mix and gender mix. Previous research (McCoy et al., 2010b) has shown that the take-up of higher-level subjects varies significantly by school social mix (DEIS or non-DEIS), as do examination grades. The behavioural response to grading changes would therefore be expected to differ by school social mix. Secondly, previous research has shown that girls tend to hold higher aspirations and are more likely to take higher-level subjects than boys (Smyth, 2016). At the same time, they have less confidence about themselves as learners than boys, so may avoid 'risks' regarding subject-level take-up. The schools selected therefore encompass single-sex and coeducational settings. Over and above these two dimensions, schools were selected to capture a variety in terms of school size (which is known to have an impact on ability grouping), sector and location. As shown in Table 2.1, the final sample included four DEIS schools; voluntary secondary, vocational and community schools; and schools of differing size (one small, three medium and six large schools). No Irish-medium schools or fee-paying schools were included in the case-study research.

TABLE 2.1 **DETAILS ON THE CASE-STUDY SCHOOLS**

Pseudonym	Type	Size	DEIS Status
Nore	Girls' Secondary	Medium	DEIS
Slaney	Vocational	Large	
Bann	Girls' Secondary	Large	
Corrib	Boys' Secondary	Medium	
Deel	Girls' Secondary	Medium	DEIS
Tolka	Vocational	Small	DEIS
Dodder	Community	Large	
Lee	Vocational	Large	DEIS
Bandon	Girls' Secondary	Large	
Finn	Boys' Secondary	Large	

Students

A key focus of the research is on students' own experience and perceptions of the grading structure. In each school, two focus group interviews were conducted with groups of typically six sixth-year students, one group taking higher-level mathematics, the other taking ordinary-level mathematics. In selecting mathematics level, it was intended that a diverse group of higher- and lower-achieving students would be included in the case-study research. The students were randomly selected by the school principal from each of a higher and ordinary mathematics class and written consent from their parents was then sought (and provided before they could join the focus group). These interviews focused on:

- decision-making regarding subject-level take-up; sources of information and advice used; perceived 'risk' in level take-up;
- exam preparation within and outside class; perception of mock exams; perceived readiness for the LC exams;
- awareness of grading structure and implications for Central Applications Office (CAO) points;
- perceived preparedness for further/HE and the world of work.

Quotes from the focus groups are labelled as either FGO (ordinary-level mathematics group) or FG (higher-level mathematics group).

Principals and guidance counsellors

Interviews with school principals and guidance counsellors in the ten schools explored school policy and practice across a range of areas. Specifically, the interviews explored a range of issues including:

- school policy and practice regarding ability grouping (including the use of setting);
- timing at which subject levels are selected;
- formal and informal guidance given on subject-level choice.

Teachers

Interviews with three teachers in each of the ten schools were conducted. These included English and mathematics teachers, as these subjects are commonly taught in set groups in senior cycle, and the teacher of an 'optional' subject where higher and ordinary level are taught in the same class. These optional subjects varied widely across the ten schools. These interviews focused on:

- how ability grouping is handled between and within classes;
- informal guidance on subject-level take-up; relative role of teacher and student in the decision;
- teaching methods and examination preparation;
- perceptions of the change in grading structures.

Parents

Telephone interviews were undertaken with a small number of parents across the schools, to provide information on their awareness and perceptions of the change in the grading structure.

All interviews were recorded, by consent, and transcribed verbatim. Members of the ESRI research team conducted all interviews in the case-study schools, including the focus group interviews and in-depth interviews with key personnel. The qualitative data were analysed across a range of key themes, seen as directly and indirectly related to school, teacher and student experiences regarding the grading changes. Additional information was sought from higher education institutions (HEIs) regarding the provision of supplementary and foundation-level courses, particularly in mathematics. Registrars in a number of HEIs provided useful insights into their perceptions of changes in the level of provision of, and participation in, such supports over time, and following the changes in the LC grading scheme.

2.3 RESEARCH ETHICS

A detailed research plan was submitted to the ESRI Research Ethics Committee, to ensure that the highest standards were maintained throughout the study. The Ethics Committee comprises leading ESRI researchers and an external expert, and is chaired by Professor James Williams, Principal Investigator for the *Growing Up in Ireland* study – a study that has been at the forefront of the development of ethical research practices in Ireland. The committee signed off on the approach to interviewing young people and on how information is stored. Because many of the participants are under 18, all focus group interviews were conducted by two researchers. Informed consent of participants and their parents was secured using plain English language information leaflets. Parents and young people were assured, in a clear and comprehensible manner, that all of the information gathered would be confidential and would not be released to anyone in such a way to allow individual participants to be identified. Confidentiality was similarly assured for school personnel. Pseudonyms are used for the purposes of identifying the ten schools.

The research team adhered to best practice around sensitivity when interviewing young people, with special consideration given to vulnerable groups such as young people from the Traveller Community and young people from disadvantaged backgrounds. Each researcher has been subject to vetting by An Garda Síochána for this specific research project. They worked in pairs and, therefore, a situation where one researcher was alone with a young person never arose. All interviews were conducted in the school. Given that the research is focused on a prominent issue for young people, namely their experiences of the LC examination, the interviews were not likely to cause upset to participants or to lead to the disclosure of abuse or risky behaviour. However, strict protocols were prepared in advance of the fieldwork, in the event that a disclosure might arise. Risks included abuse, in addition to risky behaviour such as drug-taking, anti-social behaviour, and underage sexual behaviour. The information leaflet and consent/assent forms, and introduction at the start of each focus group interview, clearly noted that if a researcher was worried for the safety of the young person, or another vulnerable person, they might have to inform someone who could help. The researchers made sure that participation in the research was entirely voluntary and that the young people could refuse to answer any of the questions or withdraw at any point. The researchers also left their contact details with each participant, should they wish to query any aspects of the research or withdraw their consent at a later date. All focus group interviews were recorded with a digital voice recorder, transcribed verbatim, and transcripts stored separately from the school contact details. The project team have exclusive control over the qualitative data. Finally, the anonymised examination data are stored on a secure server accessible only to members of the research team. At the end of the study, the sound files will be deleted.

2.4 SUMMARY

The report draws on mixed method quantitative analysis and in-depth qualitative interviews to examine the initial effects of the changes in the grading structure on individual behaviour and experiences of senior-cycle education. It highlights the implications for policy development and provides benchmark information as a basis for further research.

CHAPTER 3

Analysis of Leaving Certificate examination data

3.1 INTRODUCTION

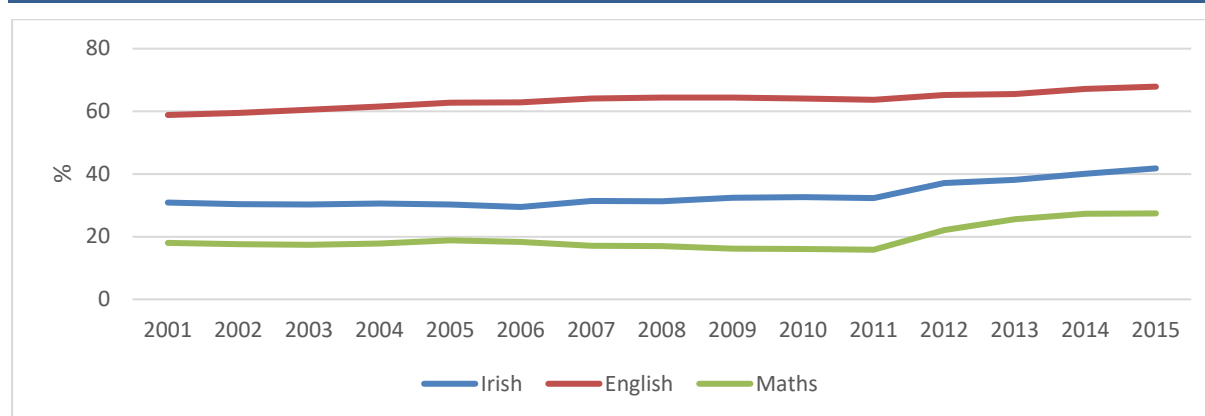
This chapter draws on State Examinations Commission (SEC) Leaving Certificate (LC) examination results for the period 2015 to 2017. Comparing the take-up of subject levels and grades in 2016 and 2017 allows us to assess the extent to which the change in the grading structure was associated with any initial changes in student behaviour. Including information on 2015 allows us to examine whether changes were already underway in level take-up and examination performance even before the grading structure changed. As indicated in Chapter 2, the analyses presented in this chapter are confined to mainstream second-level schools and exclude the small number of examination candidates who took five or fewer LC subjects. The second section of the chapter considers changes in the take-up of subjects at higher level, while section three examines changes in the performance within subject levels.

3.2 TAKE-UP OF HIGHER-LEVEL SUBJECTS

3.2.1 Descriptive analyses

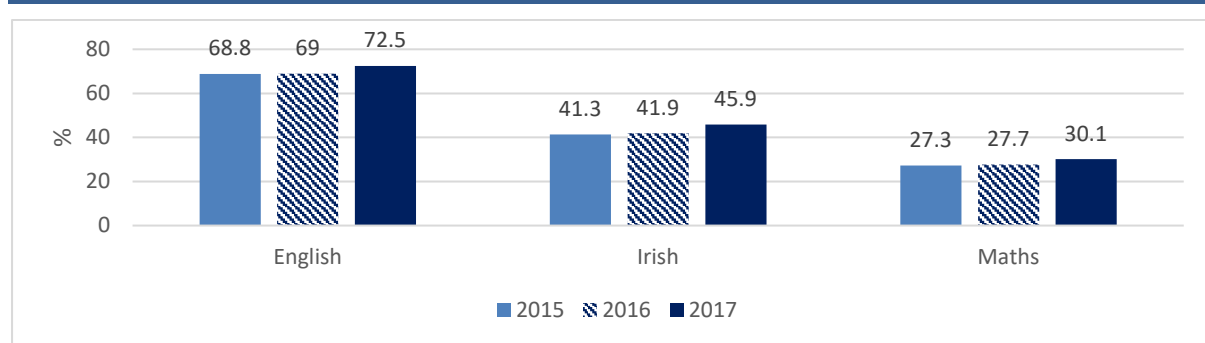
Before looking at potential patterns in the wake of changes in the LC grading structure, it is worth examining longer-term trends in the take-up of higher-level subjects. Figure 3.1 shows higher-level take-up of English, Irish and mathematics over the period 2001 to 2015.⁵ The period as a whole saw a significant growth in take-up of higher-level subjects, with take-up of higher-level English increasing by 15 per cent and, from a lower base, take-up of higher-level Irish increasing by 35 per cent. At the beginning of the period (2001), the rate of take-up of higher-level mathematics, at 18 per cent, was much lower than for English or Irish. However, take-up levels grew substantially, by 52 per cent over the period, especially from 2012 onwards, reflecting the impact of the introduction of bonus Central Applications Office (CAO) points for higher-level mathematics, as well as a change in the mathematics curriculum at junior- and senior-cycle level.

⁵ These figures are based on published results, so the take-up levels for 2015 are slightly different from those reported in the remainder of the chapter. This reflects the fact that the more detailed analyses exclude non-school candidates and those taking fewer than five LC subjects.

FIGURE 3.1 TAKE-UP OF HIGHER-LEVEL ENGLISH, IRISH AND MATHEMATICS 2001–2015

Source: State Examinations Commission website.

Figure 3.2 shows the proportion of examination candidates taking English, Irish and mathematics at higher level over the period 2015 to 2017. Prior to the introduction of the changed grading structure (that is, between 2015 and 2016), there was only a very small increase in the proportion taking higher level in the three subjects (ranging from 0.2 per cent to 0.6 per cent). However, after the change that applied to the 2017 cohort, there was a modest but significant increase in higher-level take-up for all three subjects. The net increase was largest for Irish at 4 per cent, compared with 3.5 per cent for English and 2.4 per cent for mathematics. Taking the increase relative to the base in 2016, take-up of higher-level Irish increased by 9.5 per cent,⁶ compared with 8.7 per cent for mathematics and 5.1 per cent for English. The extent to which these patterns hold when we take account of the characteristics of students and schools is explored below.

FIGURE 3.2 TAKE-UP OF HIGHER-LEVEL ENGLISH, IRISH AND MATHEMATICS 2015–2017

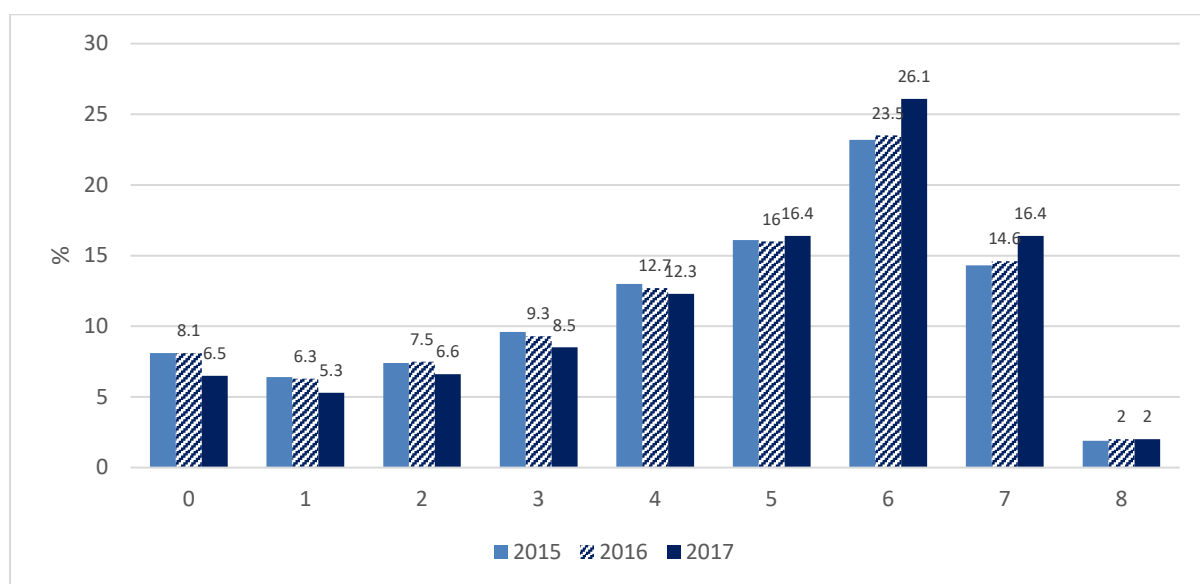
Source: State Examinations Commission.

Figure 3.3 shows the total number of higher-level subjects taken over the period 2015 to 2017. The average (mean) increased from 4.39 in 2016 to 4.62 in 2017; the mean for 2015 was very similar to that for 2016 at 4.37. The figure shows slight reductions in the proportions taking three or fewer higher-level subjects, with the

⁶ For example, the net change in take-up for Irish was 4 per cent (45.9 – 41.9); expressing 4 per cent as a proportion of the base value (41.9) means that take-up increased by 9.5 per cent.

proportion taking no subjects at higher level dropping from 8.1 per cent to 6.5 per cent. At the other end of the distribution, there was an increase in the proportion of students taking six or seven higher-level subjects (from 23.5 per cent to 26.1 per cent and from 14.6 to 16.4 per cent respectively).

FIGURE 3.3 TOTAL NUMBER OF HIGHER-LEVEL SUBJECTS TAKEN 2015–2017



Source: State Examinations Commission.

3.2.2 Multilevel analysis

The figures shown above do not allow us to examine whether changes over time may reflect the characteristics of students and/or schools rather than the impact of the grading changes. Multilevel modelling techniques can be used to compare like with like in looking at shifts between 2016 and 2017. They can also indicate whether changes have been evident for some students or some types of schools rather than others. The models presented in Table 3.2 and in the remainder of the chapter take account of candidate gender and whether the candidate has an examination fee waiver, which is taken as an indicator of socio-economic disadvantage. At the school level, the analyses consider school type (sector), DEIS (Delivering Equality of Opportunity in Schools) status, fee-paying status, whether the school is Irish medium or not, and school size. Because of the large size of the student population, model coefficients can be statistically significant without being of substantive value. Therefore, the analyses report only effects that are significant at the level of $p < .05$ or higher and refer to the relative size of the effects found.

In interpreting the findings on school sector, it is important to note that the different school types differ in terms of their student profile. Table 3.1 shows that female candidates make up a significantly greater proportion of candidates in the voluntary secondary sector than in Educational Training Board (ETB) or community/comprehensive schools. Voluntary secondary schools also have a more advantaged profile, that is, fewer candidates entitled to an examination fee waiver.

Both gender and disadvantage are expected to influence higher-level take-up and grades (Smyth, 2016). Therefore, the analyses presented here assess the relative difference between school sectors, taking account of this variation in student profile.

TABLE 3.1 CANDIDATE PROFILE BY SCHOOL SECTOR

	Voluntary secondary	ETB	Community/comprehensive
Percentage female	53.1	45.5	47.5
Percentage with an examination fee waiver	32.7	46.6	42.8

Source: State Examinations Commission.

Table 3.2 considers the factors associated with taking higher-level English, based on multilevel logistic regression models. In order to test the robustness of the findings to different specifications of the model, linear probability models are presented in Appendix 1 (Table A3.1). The model coefficients in Table 3.2 are reported in terms of odds ratios; ratios greater than one mean that this characteristic is associated with a greater likelihood of taking higher-level English, while ratios less than one indicate lower chances. Female students are more than twice as likely as male students to take higher-level English, while those from lower-income families (i.e. those with an examination fee waiver because of medical card entitlement) are less than half as likely as other students to do so. Take-up of higher-level English is lower in DEIS schools, ETB and community/comprehensive schools, and smaller (<300 students) schools, and higher in Irish-medium and fee-paying schools.⁷ This pattern does not necessarily reflect the ‘effect’ of attending these schools, since different types of second-level schools have been found to vary significantly in the social background and prior achievement levels of their intake (see Williams et al., 2018). The analyses presented control for differences in gender and receipt of a medical card (examination fee waiver) but the data do not contain detailed information on social class background, parental education or prior achievement. It should be noted that, even taking account of individual school characteristics, significant variation is found between schools in the take-up of higher-level English, so other factors such as ability grouping, school climate and so on are likely to play an important role in shaping take-up.

⁷ The main effects of individual and school characteristics are similar in the linear probability model in Table A3.1.

TABLE 3.2 **MULTILEVEL LOGISTIC REGRESSION MODEL OF LIKELIHOOD OF TAKING HIGHER-LEVEL ENGLISH**

	Model 1 Odds ratios	Model 2 Odds ratios
Constant	1.554	1.725
Year:		
2015	0.991	1.091
2017	1.194***	1.169**
(Reference: 2016)		
Female	2.138***	2.237***
Exam fee waiver	0.477***	0.480***
DEIS status	0.534***	0.532***
Fee-paying	2.581***	2.361***
School type:		
ETB	0.776***	0.759***
Community/comprehensive	0.765***	0.766***
(Reference: voluntary secondary)		
Irish-medium school	2.599***	2.787***
School size:		
300–499	1.292***	1.292**
500–699	1.659***	1.692***
700+	1.820***	1.855***
(Reference: <300)		
Female*2015		0.922**
Female*2017		0.947
Exam fee waiver*2015		0.988
Exam fee waiver*2017		0.991
DEIS*2015		0.990
DEIS*2017		1.021
Fee-paying*2015		1.274**
Fee-paying*2017		1.031
ETB*2015		1.010
ETB*2017		1.068
Community/comprehensive*2015		0.951
Community/comprehensive*2017		1.049
Irish-medium*2015		0.957
Irish-medium*2017		0.852
300–499*2015		0.994
500–699*2015		0.937
700+*2015		0.914
300–499*2017		1.010
500–699*2017		1.007
700+*2017		1.038
Between-school variation	0.330***	0.350***
Schools	697	697
Students	153,156	153,156

Source: State Examinations Commission.

Note: *** p<.001, ** p<.01, * p<.05.

Even taking account of individual and school characteristics, there is a clear (but modest) increase in the take-up of higher-level English between 2016 and 2017. Thus, in 2017 candidates were 1.19 times more likely to take higher-level English than in 2016, comparing like with like (Table 3.2, Model 1). Model 2 considers the extent to which this change was evident among different groups of students or schools. Model 2 indicates that the slight increase in take-up between 2016 and 2017 was evident for both boys and girls and by level of disadvantage. Furthermore, the trend did not affect different types of schools differently. The sensitivity of the results to the model specification was tested using linear probability models (see Table A3.1). As with the logistic regression model, the results showed a significant increase in the take-up of higher-level English between 2016 and 2017 and the effects of individual and school characteristics remained similar. The linear probability models suggest a slight narrowing of the gender gap from 2015 to 2017 and a slight improvement in the take-up among ETB schools relative to voluntary secondary schools. However, these differences are very small in scale so suggest a relative stability in take-up patterns across individual and school characteristics.

Table 3.3 presents a similar analysis for the take-up of higher-level Irish. Take-up is higher among female candidates and lower among those with an examination fee waiver. Take-up of higher-level Irish is lower in DEIS schools and smaller schools and is, not surprisingly, much higher in Irish-medium schools. In contrast to the pattern for English, there is no difference between fee-paying and non-fee-paying schools in the take-up of higher-level Irish. Levels of higher-level take-up for Irish are broadly similar across school types (voluntary secondary, ETB and community/comprehensive). After the introduction of changes in the grade structure, candidates were 1.19 times more likely to take higher-level Irish, all else being equal (Model 1, Table 3.3). The increase applied equally for those with and without an examination fee waiver and for boys and girls. Both sets of models (Tables 3.3 and A3.1) indicate a slight improvement in rates of take-up in ETB schools between 2016 and 2017 and a slight decline in the levels for community/comprehensive schools (but in the latter case, this appears to reflect a longer-term trend). As with English, the take-up of higher-level Irish varies significantly across individual schools.⁸ The linear probability model (Table A3.1) also indicates a significant increase in take-up of higher-level Irish between 2016 and 2017 and shows similar patterns regarding a narrowing of the gap between ETB and voluntary secondary schools and a slight decline between 2015 and 2017 in community/comprehensive schools.

⁸ For multilevel logistic regression models, the individual-level variance is constrained to one so is not reported here.

TABLE 3.3 MULTILEVEL LOGISTIC REGRESSION MODEL OF LIKELIHOOD OF TAKING HIGHER-LEVEL IRISH

	Model 1 Odds ratios	Model 2 Odds ratios
Constant	0.412	0.393
Year:		
2015	0.963*	1.075
2017	1.185***	1.220**
(Reference: 2016)		
Female	2.576***	2.612***
Exam fee waiver	0.420***	0.426***
DEIS status	0.494***	0.511***
Fee-paying	1.125	1.142
School type:		
ETB	1.112	1.107
Community/comprehensive	0.942	1.009
(Reference: voluntary secondary)		
Irish-medium school	75.944***	60.521***
School size:		
300–499	1.364***	1.403***
500–699	1.420***	1.448***
700+	1.487***	1.516***
(Reference: <300)		
Female*2015		1.008
Female*2017		0.956
Exam fee waiver*2015		0.950
Exam fee waiver*2017		1.007
DEIS*2015		0.913
DEIS*2017		0.978
Fee-paying*2015		1.015
Fee-paying*2017		0.940
ETB*2015		0.923*
ETB*2017		1.094*
Community/comprehensive*2015		0.889**
Community/comprehensive*2017		0.919*
Irish-medium*2015		1.624*
Irish-medium*2017		1.262
300–499*2015		0.963
500–699*2015		0.942
700+*2015		0.934
300–499*2017		0.953
500–699*2017		0.994
700+*2017		1.005
Between-school variation	0.488***	0.493***

Source: State Examinations Commission.

Note: *** p<.001, ** p<.01, * p<.05.

TABLE 3.4 MULTILEVEL LOGISTIC REGRESSION MODEL OF LIKELIHOOD OF TAKING HIGHER-LEVEL MATHEMATICS

	Model 1 Odds ratios	Model 2 Odds ratios
Constant	0.445	0.465
Year:		
2015	0.980	0.892
2017	1.124***	1.079
(Reference: 2016)		
Female	0.820***	0.815***
Exam fee waiver	0.434***	0.430***
DEIS status	0.501***	0.516***
Fee-paying	1.994***	2.138***
School type:		
ETB	0.784***	0.752***
Community/comprehensive	0.865***	0.829**
(Reference: voluntary secondary)		
Irish-medium school	1.674***	1.694***
School size:		
300–499	1.219***	1.126
500–699	1.374***	1.331***
700+	1.441***	1.406***
(Reference: <300)		
Female*2015		1.004
Female*2017		1.014
Exam fee waiver*2015		1.018
Exam fee waiver*2017		1.011
DEIS*2015		0.970
DEIS*2017		0.943
Fee-paying*2015		0.928
Fee-paying*2017		0.873**
ETB*2015		1.063
ETB*2017		1.067
Community/comprehensive*2015		1.037
Community/comprehensive*2017		1.109*
Irish-medium*2015		0.995
Irish-medium*2017		0.969
300–499*2015		1.172*
500–699*2015		1.100
700+*2015		1.051
300–499*2017		1.081
500–699*2017		1.005
700+*2017		1.022
Between-school variation	0.197***	0.197***

Source: State Examinations Commission.

Note: *** p<.001, ** p<.01, * p<.05, ± p<.10.

In relation to take-up of higher-level mathematics, female candidates and those with examination fee waivers had lower rates of take-up. At school level, take-up rates were higher in non-DEIS, voluntary secondary, Irish-medium, fee-paying and larger schools (Model 1, Table 3.4). Taking account of these factors, candidates were 1.12 times more likely to take higher-level mathematics in 2017 than in 2016. This increase applied equally by gender and examination fee status. The trend did not vary significantly by size or language medium of the school. However, both sets of models suggest a significant but small narrowing of the gap in higher-level mathematics take-up between fee-paying and non-fee-paying schools between 2016 and 2017 (Table A3.1). The findings regarding DEIS status and school type are inconsistent, with some evidence of a relative improvement for community/comprehensive schools relative to voluntary secondary schools.

Table 3.5 considers the factors associated with the number of higher-level subjects taken, across all subjects. The models therefore take account of ‘optional’ subjects as well as ‘core’ subjects such as English, Irish and mathematics. Optional subjects are not analysed separately, because of difficulties in disentangling different levels of take-up of specific subjects over time from changes in higher-level take-up. Hypothetically, an increase in the take-up of higher-level German between 2016 and 2017 could reflect a decline in the proportion of lower-achieving students choosing the subject rather than the impact of the grading reform per se. In order to test for potential non-linearity in effects, this model was also calculated using a series of binary logistic regression models (see Appendix 1, Table A3.2).

The average number of higher-level subjects taken across all schools is 4.2 (the constant term), though this average varies significantly across individual schools (the between-school variation term). Female candidates take an average of 0.4 more higher-level subjects than males while the gap between those with and without examination fee waivers is an average of one subject. Those in non-DEIS schools, Irish-medium schools, fee-paying and larger schools (500+ students) take more higher-level subjects on average. Overall, students in voluntary secondary schools take more higher-level subjects than those in community/comprehensive schools but roughly the same number (controlling for gender and social background) as ETB schools. On closer inspection (see Table A3.2), the main difference by school sector relates to the greater tendency of candidates in voluntary secondary schools to take seven or eight higher-level subjects than those in ETB or community/comprehensive schools.

TABLE 3.5 MULTILEVEL OLS REGRESSION MODEL OF NUMBER OF HIGHER-LEVEL SUBJECTS TAKEN

	Model 1	Model 2
Constant	4.225	4.227
Year:		
2015	-0.013	0.068
2017	0.218***	0.129**
(Reference: 2016)		
Female	0.407***	0.421***
Exam fee waiver	-1.028***	-1.042***
DEIS status	-0.979***	-0.947***
Fee-paying status	1.047***	1.076***
School type:		
ETB	-0.070	-0.122*
Community/comprehensive	-0.149*	-0.175*
(Reference: voluntary secondary)		
Irish-medium school	1.184***	1.181***
School size:		
300–499	0.258**	0.263**
500–699	0.494***	0.504***
700+	0.504***	0.511***
(Reference: <300)		
Female*2015		-0.019
Female*2017		-0.025
Exam fee waiver*2015		-0.009
Exam fee waiver*2017		0.052*
DEIS*2015		-0.053
DEIS*2017		-0.043
Fee-paying*2015		0.003
Fee-paying*2017		-0.090
ETB*2015		0.013
ETB*2017		0.145***
Community/comprehensive*2015		0.004
Community/comprehensive*2017		0.070*
Irish-medium*2015		0.049
Irish-medium*2017		-0.032
300–499*2015		-0.025
500–699*2015		-0.067
700+*2015		-0.102*
300–499*2017		0.015
500–699*2017		0.039
700+*2017		0.085
Between-school variation	0.355***	0.356***
Between-student variation	3.630***	3.628***

Source: State Examinations Commission.

Note: *** p<.001, ** p<.01, * p<.05, ± p<.10.

After the introduction of the new grading scheme, candidates took an average of 0.2 more higher-level subjects than similar candidates in the previous year (Model 1, Table 3.5). Model 2 considers whether this increase applied across all students and schools. Both male and female candidates benefited from the increase. Those from low-income families benefited from the increase to a slightly greater extent than others but the size of the difference (0.06) was very small and related to an increase in the proportion taking three or four higher-level subjects (Table A3.2). Those in ETB schools had a greater increase in the number of higher-level subjects taken than those in voluntary secondary schools and this applied across all levels of take-up (see Table A3.2). There was a slight, but smaller, tendency towards a narrowing of the gap between community/comprehensive and voluntary secondary schools. The total number of higher-level subjects taken varies significantly across schools but within-school variation accounts for most (91 per cent) of the total variation found.

A further issue relates to the extent to which the grading structure changes made more difference to students or schools at different points in the distribution. The nature of the data means that we cannot take account of the prior achievement levels of students before and after the reform. However, we can assess the extent to which changes took place in schools with different levels of average points. LC points were calculated (see Section 3.3) for all students in 2016 and the results averaged to individual school level. On this basis, schools were divided into three groups of high, medium and low categories. The models presented in Table 3.5 were then calculated separately for each of the three groups. The picture becomes more complex when we look at these three groups (see Table 3.6). It is evident that there was an increase in the number of higher-level subjects taken in low- and medium-points schools but a slight decrease in high-points schools but for smaller schools only. The gender and income gaps in take-up remained similar to those in the overall model and did not vary across school points levels. For low- and medium-points groups, DEIS schools experienced much less of an increase in higher-level take-up than non-DEIS schools. Using customised predictions (at the mean of the other factors), the model indicates that for low-points groups, the predicted number of higher-level subjects taken for non-DEIS schools increased from 3.41 to 3.91, while the number increased from 2.8 to 3.07 in DEIS schools. The direction of the effect was similar in high-points schools but was not statistically significant.⁹ In terms of school type, the greatest gain was among low-points schools in the ETB sector. There was little consistent variation by language medium but Irish-medium schools in the high-points group did not experience the decline in take-up of their English-medium equivalents. There was some evidence of a greater gain for larger schools in the high-points group.

⁹ This most likely reflected the smaller number of DEIS schools in the high-points group.

TABLE 3.6 **MULTILEVEL OLS REGRESSION MODELS OF NUMBER OF HIGHER-LEVEL SUBJECTS TAKEN ACROSS DIFFERENT GROUPS OF SCHOOLS (2016 AND 2017)**

	Low points	Medium points	High points
Year: 2017	0.321***	0.295***	-0.186*
Female*2017	0.058	-0.018	-0.007
Exam fee waiver*2017	-0.008	0.024	0.046
DEIS*2017	-0.238***	-0.162*	-0.117
ETB*2017	0.241***	0.020	0.069
Community/comprehensive*2017	0.051	0.067	-0.012
Irish medium*2017	0.583±	-0.147	0.174*
300–499*2017	0.041	-0.122	0.180*
500–699*2017	0.035	-0.061	0.244**
700+*2017	0.084	-0.011	0.321***

Source: State Examinations Commission.

Note: *** p<.001, ** p<.01, * p<.05. The main effects for the student and school characteristics were included in the models but for clarity are not presented here.

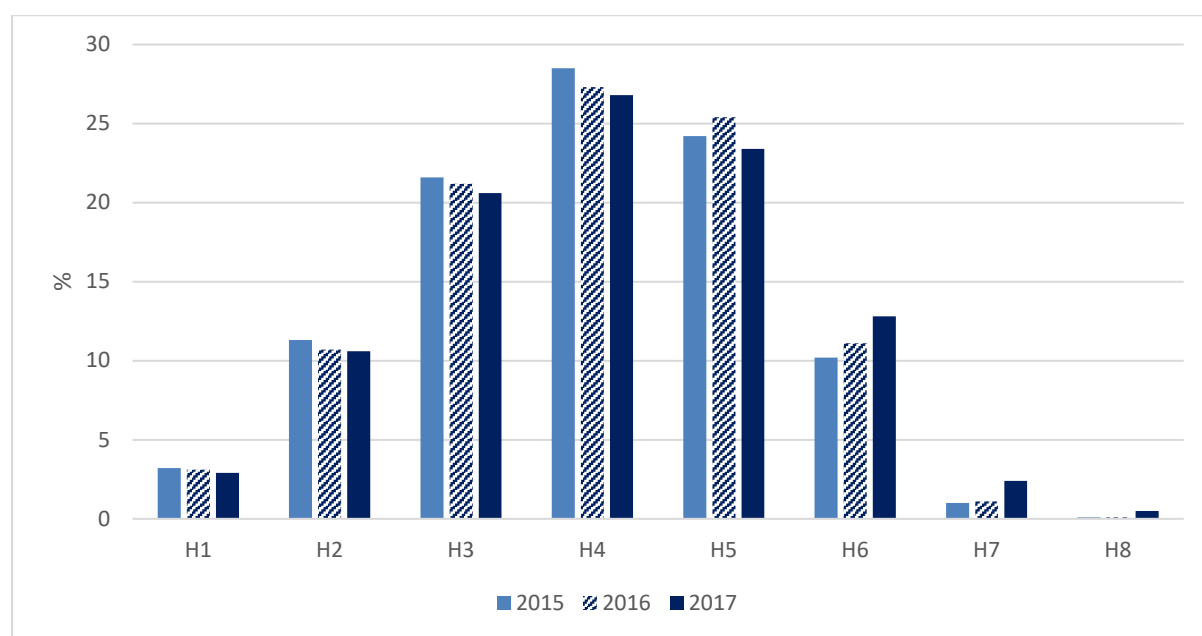
3.3 EXAMINATION GRADES ACHIEVED

The previous section examined changes in the take-up of higher-level subjects after the reform of the grading structure. This section considers whether the increased take-up discussed above had implications for the grades obtained by candidates at any given subject level. It might be expected that the slight increases in higher-level take-up shown above would result in students who might have been otherwise at the top of the ordinary-level grade distribution shifting towards the lower end of the higher-level grade distribution. Thus, the effect of increased higher-level take-up would mean a decline in average grades at both higher and ordinary levels. As with section 3.2, the section begins by looking at patterns in English, Irish and mathematics, and then considers total points over all subjects. Table 3.7 shows the grade equivalents before and after the policy change as well as the related CAO points according to the common points scale (CPS).

TABLE 3.7 GRADE EQUIVALENTS AND POINTS ACCORDING TO THE CAO COMMON POINTS SCALE

Grades 2015 and 2016	Grades 2017	CAO points
A1	H1	100
A2, B1	H2	88
B2, B3	H3	77
C1, C2	H4	66
C3, D1	H5	56
D2, D3	H6	46
E	H7	37
F, NG	H8	0
A1	O1	56
A2, B1	O2	46
B2, B3	O3	37
C1, C2	O4	28
C3, D1	O5	20
D2, D3	O6	12
E	O7	0
F, NG	O8	0

3.3.1 Examination grades in English, mathematics and Irish

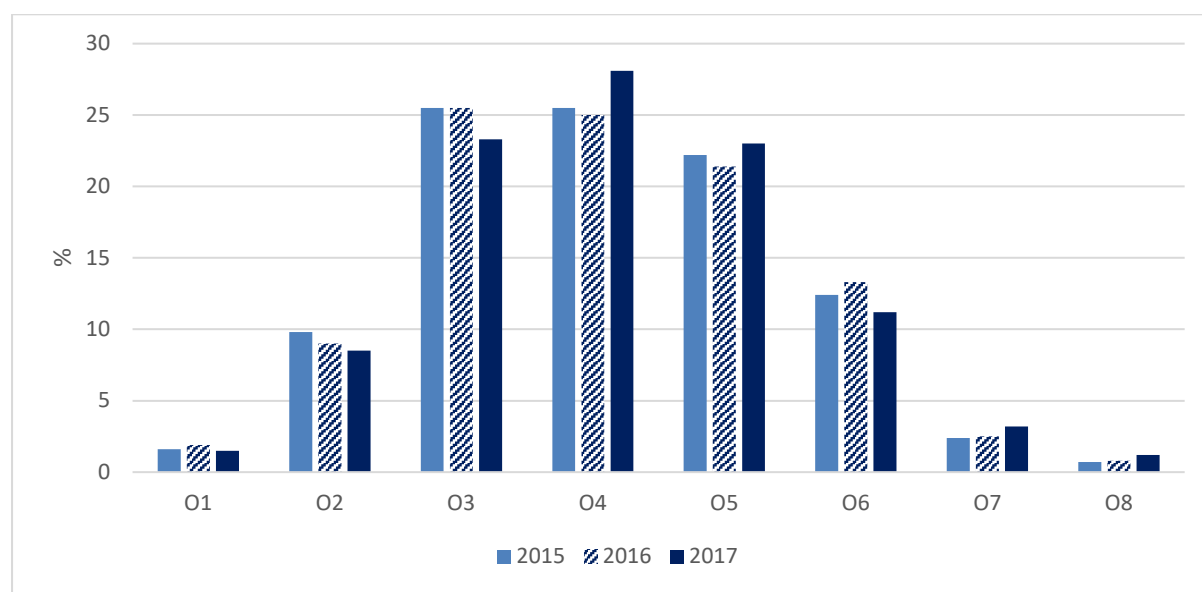
FIGURE 3.3A GRADES IN HIGHER-LEVEL ENGLISH 2015–2017

Source: State Examinations Commission.

Figure 3.3a shows only a very slight decrease in the proportion receiving higher grades in higher-level English post-reform. The 2015 figures reveal that a slight decrease in higher grades was also evident between 2015 and 2016. However, at the other end of the spectrum, there was an increase in the proportions receiving lower grades, with the percentages receiving an H6 to H8 increasing from 12.3 to 15.7 per cent and those receiving an H7 or H8 increasing from 1.2 to 2.9 per cent. At ordinary level, there was a decline in the proportion receiving an O3 or higher

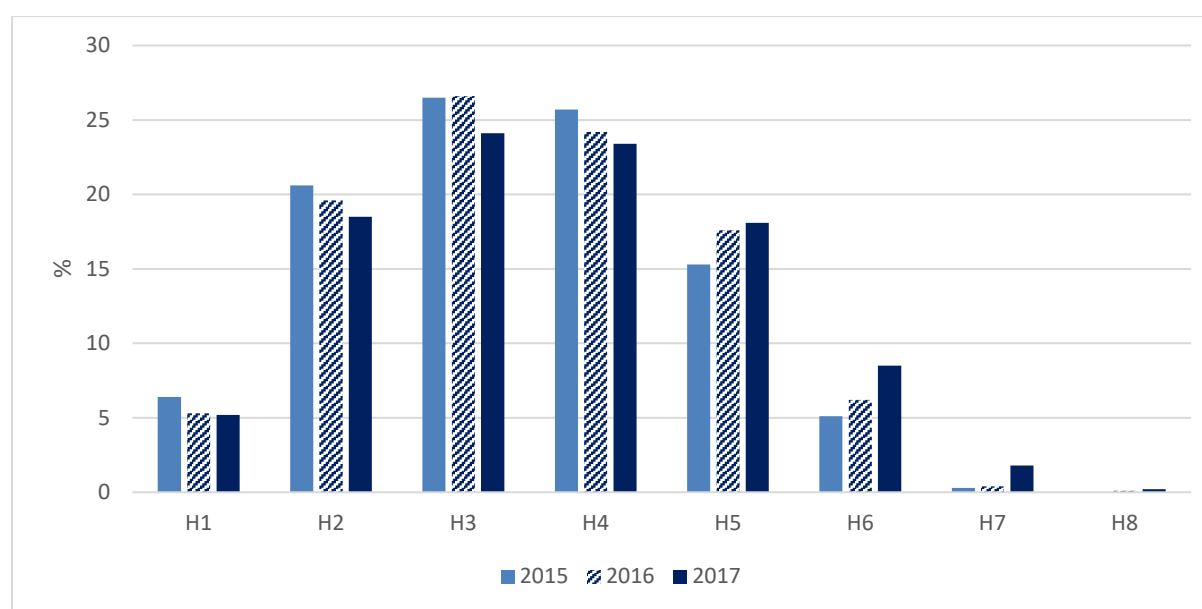
from 36.4 per cent in 2016 to 33.3 per cent in 2017 (Figure 3.3b). The proportion receiving an O7 or O8 increased slightly from 3.3 to 4.4 per cent over the same period.

FIGURE 3.3B GRADES IN ORDINARY-LEVEL ENGLISH 2015–2017



Source: State Examinations Commission.

FIGURE 3.4A GRADES IN HIGHER-LEVEL IRISH 2015–2017

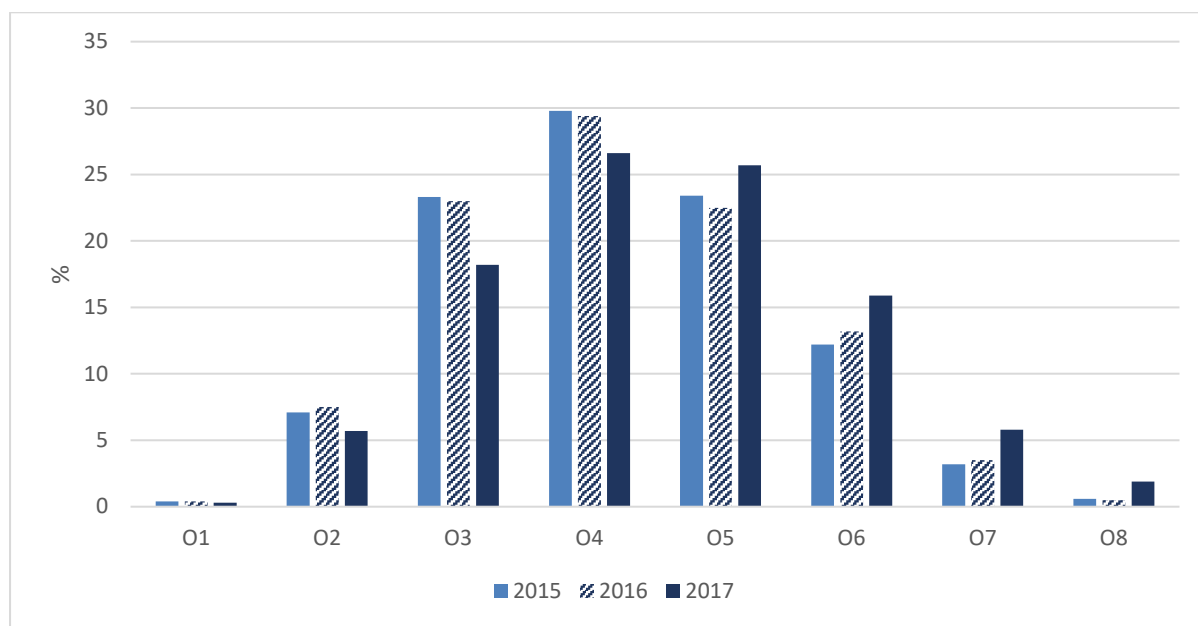


Source: State Examinations Commission.

For higher-level Irish, between 2016 and 2017 there was a decline in the proportion receiving higher grades (H1 to H3) from 51.5 to 47.8 per cent and an increase in those on lower grades (H6 to H8) from 6.7 to 10.5 per cent (Figure 3.4a). At ordinary level, there was a fairly sizable decline in the top grades from 30.9 to 24.2 per cent (grades O1 to O3) and a corresponding increase in the lower grades from 17.2 to

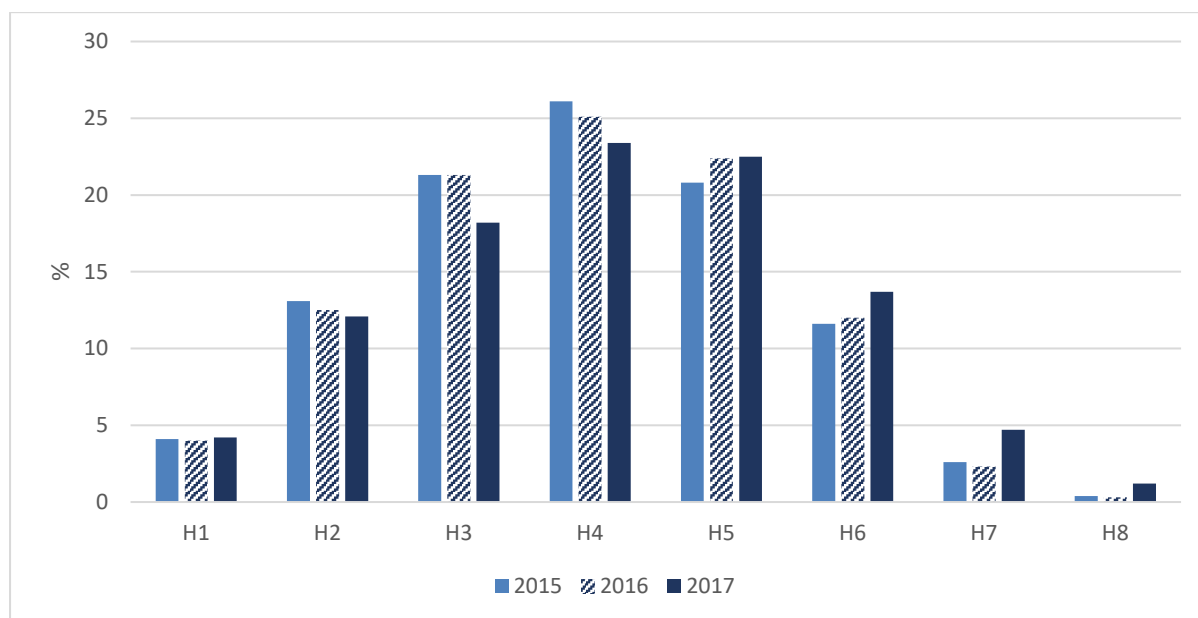
23.6 per cent (grades O6 to O8). There was almost a doubling (from 4 to 7.7 per cent) in the proportion obtaining an O7 or O8 grade (Figure 3.4b).

FIGURE 3.4B GRADES IN ORDINARY-LEVEL IRISH 2015–2017



Source: State Examinations Commission.

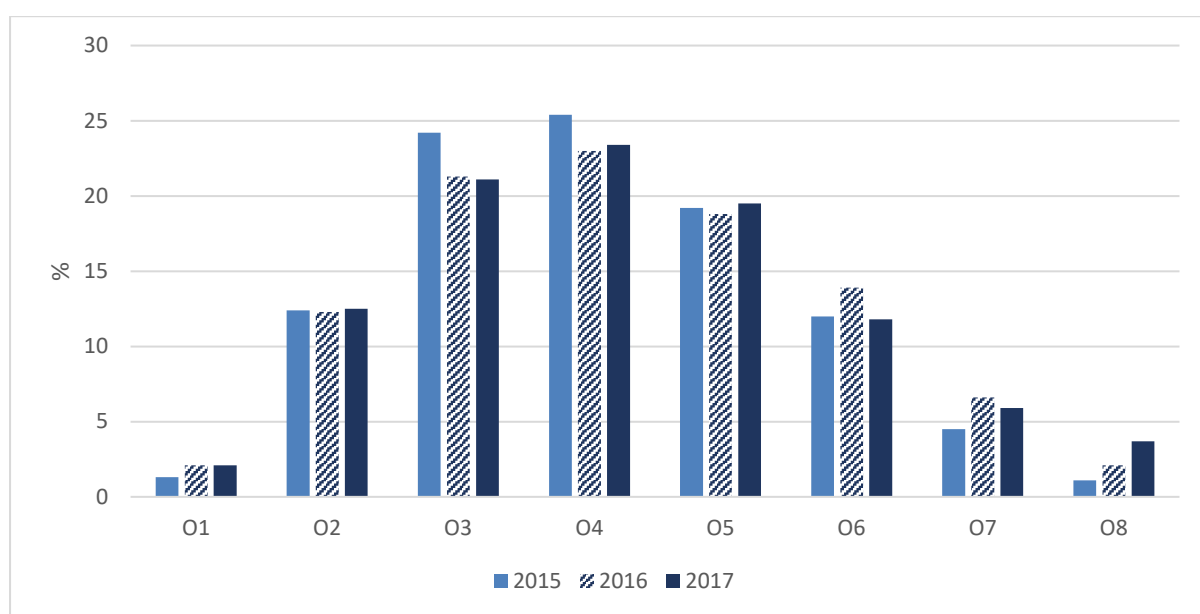
FIGURE 3.5A GRADES IN HIGHER-LEVEL MATHEMATICS 2015–2017



Source: State Examinations Commission.

There was a noticeable decline post-reform in higher grades for higher-level mathematics from 37.8 to 34.5 per cent (grades H1 to H3) and a fairly sizeable increase in those obtaining an H6 or lower (from 14.6 to 19.6 per cent). The proportion receiving an H7 or H8 grade more than doubled (from 2.6 to 5.9 per cent). Overall, the proportion of candidates who received bonus CAO points for achieving an H6 or higher declined from 97 per cent in 2015 to 94.1 per cent in 2017. In contrast, there was very little change in ordinary-level mathematics grades between 2016 and 2017, though there was a slight increase in those at O7 or O8 (but this was under 1 per cent).

FIGURE 3.5B GRADES IN ORDINARY-LEVEL MATHEMATICS 2015–2017



Source: State Examinations Commission.

As with the analysis of higher-level take-up, multilevel models were used to estimate the extent to which there was a change in performance after the introduction of the grade changes. For ease of interpretation, the values have been recoded so that higher values indicate better grades (i.e. an H1 is counted as 8). Looking at the time trend without taking account of individual and school characteristics (not shown here), there is a slight decline in grades in English at both higher and ordinary levels between 2015 and 2016, and again between 2016 and 2017. Thus, the change in grade structure did not appear to change average grades. There was, however, some variation in the pattern for particular subgroups after the grading change (Table 3.8). At higher level, English grades slightly worsened among those from more disadvantaged backgrounds and those in ETB and community/comprehensive schools, compared with their peers between 2016 and 2017. In contrast, they slightly improved in Irish-medium schools. There were no consistent trends for any specific groups at ordinary level, though there was a slight narrowing of the gap between fee-paying and non-fee-paying schools, which appeared to be related to a longer-term trend, and some evidence of a longer-term increase in ordinary-level grades in ETB schools. Taking account of individual and

school characteristics, significant variation between schools, and among students within schools, remains.

Between 2016 and 2017, there was a significant decline in average grades in higher-level mathematics but no change at ordinary level (Table 3.9). The decline was evident for both genders and across schools of different sizes. It was also evident in both fee-paying and non-fee-paying schools. The decline in higher-level mathematics grades was greater for some groups than others, namely those from disadvantaged backgrounds and those attending DEIS schools (Table 3.8). The decline was not evident in Irish-medium schools and was less marked in community/comprehensive schools (though this latter pattern appeared to reflect a longer-term trend). At ordinary level, there was a slight relative improvement in grades in ETB and community/comprehensive schools and in fee-paying schools between 2016 and 2017.

TABLE 3.8 **MULTILEVEL OLS REGRESSION MODEL OF EXAMINATION GRADES IN ENGLISH**

	Higher level	Ordinary level
Constant	4.693	4.913
Year:		
2015	0.207***	-0.116*
2017	0.126**	-0.077
(Reference: 2016)		
Female	0.239***	0.408***
Exam fee waiver	-0.364***	-0.213***
DEIS status	-0.251***	-0.261***
Fee-paying status	0.360***	0.505***
School type:		
ETB	-0.090*	-0.242***
Community/comprehensive	-0.043	-0.149**
(Reference: voluntary secondary)		
Irish-medium school	0.203**	0.293**
School size:		
300–499	0.225***	0.058
500–699	0.336***	0.147**
700+	0.364***	0.173**
(Reference: <300)		
Female*2015	0.010	-0.028
Female*2017	-0.006	0.022
Exam fee waiver*2015	-0.002	-0.009
Exam fee waiver*2017	-0.088***	-0.014
DEIS*2015	-0.045	0.023
DEIS*2017	0.004	-0.095*
Fee-paying*2015	-0.073*	-0.326***
Fee-paying*2017	-0.040	-0.221*
ETB*2015	-0.039	0.123**
ETB*2017	-0.079**	0.175***
Community/comprehensive*2015	0.018	-0.018
Community/comprehensive*2017	-0.161***	0.025
Irish-medium*2015	0.077	0.188
Irish-medium*2017	0.205***	0.039
300–499*2015	-0.154***	0.273***
500–699*2015	-0.180***	0.155**
700+*2015	-0.147***	0.045
300–499*2017	-0.192***	0.060
500–699*2017	-0.155***	-0.055
700+*2017	-0.122**	-0.021
Between-school variation	0.084***	0.136***
Between-student variation	1.618***	1.618***

Source: State Examinations Commission.

Note: *** p<.001, ** p<.01, * p<.05.

TABLE 3.9 MULTILEVEL OLS REGRESSION MODEL OF EXAMINATION GRADES IN MATHEMATICS

	Higher level	Ordinary level
Constant	4.906	4.925
Year:		
2015	-0.006	0.171***
2017	-0.252***	-0.065
(Reference: 2016)		
Female	0.033	0.082***
Exam fee waiver	-0.308***	-0.467***
DEIS status	-0.317***	-0.458***
Fee-paying status	0.548***	0.234**
School type:		
ETB	-0.104*	-0.048
Community/comprehensive	-0.169**	-0.153**
(Reference: voluntary secondary)		
Irish-medium school	0.996***	0.272**
School size:		
300–499	0.034	0.087
500–699	0.136*	0.092
700+	0.147*	0.109
(Reference: <300)		
Female*2015	0.048	-0.038
Female*2017	0.027	0.043
Exam fee waiver*2015	-0.028	0.050*
Exam fee waiver*2017	-0.107***	-0.008
DEIS*2015	-0.019	-0.020
DEIS*2017	-0.112*	-0.021
Fee-paying*2015	-0.103*	0.138**
Fee-paying*2017	0.000	0.106*
ETB*2015	-0.011	0.012
ETB*2017	0.021	0.063*
Community/comprehensive*2015	0.079*	0.047
Community/comprehensive*2017	0.108**	0.077*
Irish-medium*2015	0.151**	-0.016
Irish-medium*2017	0.266***	0.095
300–499*2015	0.002	-0.078
500–699*2015	-0.023	-0.036
700+*2015	0.006	-0.046
300–499*2017	0.068	-0.017
500–699*2017	0.111*	0.070
700+*2017	0.051	-0.027
Between-school variation	0.160***	0.157***
Between-student variation	1.904***	2.149***

Source: State Examinations Commission.

Note: *** p<.001, ** p<.01, * p<.05.

TABLE 3.10 MULTILEVEL OLS REGRESSION MODEL OF EXAMINATION GRADES IN IRISH

	Higher level	Ordinary level
Constant	5.384	4.782
Year:		
2015	-0.033	-0.052
2017	-0.294***	-0.338***
(Reference: 2016)		
Female	0.275***	0.533***
Exam fee waiver	-0.379***	-0.310***
DEIS status	-0.466***	-0.406***
Fee-paying status	0.313***	0.254***
School type:		
ETB	-0.216***	-0.130**
Community/comprehensive	-0.157*	-0.123*
(Reference: voluntary secondary)		
Irish-medium school	1.252***	0.861***
School size:		
300–499	-0.132*	-0.031
500–699	0.043	0.051
700+	-0.012	-0.015
(Reference: <300)		
Female*2015	0.013	-0.016
Female*2017	0.068**	0.071**
Exam fee waiver*2015	-0.011	0.004
Exam fee waiver*2017	-0.084**	-0.025
DEIS*2015	0.030	-0.085**
DEIS*2017	-0.051	-0.064*
Fee-paying*2015	-0.012	0.047
Fee-paying*2017	0.080	-0.072
ETB*2015	0.035	0.075*
ETB*2017	0.000	0.019
Community/comprehensive*2015	0.019	0.058
Community/comprehensive*2017	0.054	0.005
Irish medium*2015	0.126*	0.185
Irish medium*2017	0.278***	0.423
300–499*2015	0.141**	0.082
500–699*2015	0.024	0.047
700+*2015	0.113*	0.070
300–499*2017	0.134**	0.087
500–699*2017	0.089	0.042
700+*2017	0.153**	0.043
Between-school variation	0.203***	0.177***
Between-student variation	1.420***	1.383***

Source: State Examinations Commission.

Note: *** p<.001, ** p<.01, * p<.05, ± p<.10.

There was a significant decline in grades in Irish at both higher and ordinary levels (Table 3.10). The decline was slightly greater for males than females at both levels and slightly greater for those from disadvantaged backgrounds at higher level. The change did not vary by type of school (sector, DEIS status or fee-paying status). However, Irish-medium schools did not experience a decline of higher-level grades over the period 2016 to 2017 and very large schools seemed to have a longer-term relative improvement in grades.

3.3.2 Total points achieved

The change in the LC grade structure involved the allocation for the first time of points for an H7 grade, which is now treated in points terms as equivalent to an O3 grade. The less differentiated grade structure also had implications for the way points were awarded. To what extent did this result in a shift in the level and distribution of points? For the purposes of this analysis, candidates are allocated the equivalent CAO points according to the CPS for their 'best' six examination subjects; awarded the relevant points for the link modules taken as part of the Leaving Certificate Vocational Programme (LCVP);¹⁰ and allocated bonus points for higher-level mathematics, where appropriate. It should be noted that the use of the CPS means that 2016 candidates are not awarded the same points as under the 2016 scale. For example, an A2 and B1 are allocated the same points levels. Average (mean) points had decreased from 344.5 in 2015 to 342.5 in 2016, with a subsequent increase to 346 in 2017. Thus, there was a slight increase in total points relative to the pre-reform period but some volatility in average points from year to year.

¹⁰ Take-up of the Leaving Certificate Vocational Programme (LCVP) reached a peak in take-up of 37 per cent (among non-Leaving Certificate Applied (LCA) candidates) in 2010 but declined to 31.5 per cent in 2016, with a further decline to 28.9 per cent in 2017.

TABLE 3.11 MULTILEVEL OLS REGRESSION MODEL OF TOTAL POINTS ACHIEVED

	Model 1	Model 2
Constant	334.102	333.580
Year:		
2015	2.275**	5.090
2017	2.842***	1.410
(Reference: 2016)		
Female	29.500***	30.126***
Exam fee waiver	-68.393***	-67.002***
DEIS status	-60.779***	-58.638***
Fee-paying status	72.881***	75.292***
School type:		
ETB	-7.167	-9.869*
Community/comprehensive	-11.009*	-12.725**
(Reference: voluntary secondary)		
Irish-medium school	89.030***	83.536***
School size:		
300–499	13.924***	13.971**
500–699	28.574***	28.867***
700+	28.712***	29.194***
(Reference: <300)		
Female*2015		-1.326
Female*2017		-0.613
Exam fee waiver*2015		-1.341
Exam fee waiver*2017		-2.818
DEIS*2015		-2.998
DEIS*2017		-3.298
Fee-paying*2015		-1.287
Fee-paying*2017		-5.920*
ETB*2015		2.389
ETB*2017		5.719**
Community/comprehensive*2015		2.327
Community/comprehensive*2017		2.720
Irish-medium*2015		8.870*
Irish-medium*2017		7.594
300–499*2015		-0.364
500–699*2015		-2.652
700+*2015		-3.680
300–499*2017		0.392
500–699*2017		1.897
700+*2017		2.332
Between-school variation	1482.840***	1483.182***
Between-student variation	13963.22***	13959.800***

Source: State Examinations Commission.

Note: *** p<.001, ** p<.01, * p<.05.

Without taking account of individual or school characteristics, the average CAO points achieved in the LC dropped by 2.2 between 2015 and 2016 and then increased by 2.8 points between 2016 and 2017 (Model 1, Table 3.11). The trend does not vary across different groups (Model 2, Table 3.11), except for a slight increase in points in ETB schools relative to voluntary secondary schools and a slight decrease in the gap between fee-paying and non-fee-paying schools between 2016 and 2017.

TABLE 3.12 MULTILEVEL OLS REGRESSION MODELS OF TOTAL POINTS ACHIEVED ACROSS DIFFERENT GROUPS OF SCHOOLS (2016 AND 2017)

	Low points	Medium points	High points
Year: 2017	11.472*	11.191*	-18.510***
Female*2017	3.405	-0.643	0.712
Exam fee waiver*2017	-3.707	-5.015*	-3.711
DEIS*2017	-14.659***	-7.758±	-14.157
ETB*2017	11.727**	-1.053	2.562
Community/comprehensive*2017	3.094	2.200	-0.180
Irish medium*2017	46.945*	-10.393	20.366***
300–499*2017	1.210	-7.757	11.561*
500–699*2017	0.037	-5.436	17.334**
700+*2017	0.352	-3.039	17.644***

Source: State Examinations Commission.

Note: *** p<.001, ** p<.01, * p<.05. The main effects for the student and school characteristics were included in the models but for clarity are not presented here.

Table 3.12 shows the trends between 2016 and 2017 broken down by the points level of schools in 2016. Average points increased in low- and medium-points schools but dropped in high points; as with number of higher-level subjects, the latter pattern only applied to smaller schools. Trends did not differ by gender for any of the performance groups. However, the gap in points between young people attending disadvantaged schools and their peers widened somewhat, though this difference was only statistically significant for the medium-points schools. Similarly, the gap between DEIS and non-DEIS schools widened, with the difference being significant in low-points and, to some extent, medium-points schools. Among low-points schools, students in ETB schools increased their points relative to those in voluntary secondary schools but there were no other differences by school sector. Irish-medium schools in the low-points group increased their average grades between 2016 and 2017 and Irish-medium high-points schools did not experience the same drop in points as other schools. Among high-points schools, the pattern varied by school size, with a drop in points in small (<300 students) schools, a slight drop in schools with 300 to 499 students and no change in larger (500+) schools.

3.4 SUMMARY

There has been a long-term growth in take-up rates for higher-level English, Irish and mathematics, with a marked increase for mathematics after 2012, reflecting the introduction of bonus CAO points and curriculum reform. This chapter assesses the extent to which further increases took place in the wake of the changes in LC grading structures in 2017. In this first year of the change in grading structure, a significant increase is found in the number of higher-level subjects taken and in the likelihood of taking higher-level mathematics, English and Irish, even taking account of (selected) student and school characteristics. These trends are found to vary across different kinds of schools. The increase in the number of higher-level subjects taken has been marginally greater in Educational Training Board (ETB) and community/comprehensive schools, and for those from disadvantaged backgrounds (in receipt of a medical card), though these differences are relatively small and not sufficient to close the gap in take-up of higher level.

Changes in take-up between 2016 and 2017 may not be due solely to changes in the grading structure but the analyses indicate change that is statistically significant and larger between 2016 and 2017 than between 2015 and 2016, suggesting an impact of the restructuring. It should also be acknowledged that the scale of change in take-up is modest. For mathematics, take-up increased by 7 per cent between 2016 and 2017, compared with an increase in take-up of 39 per cent between 2011 and 2012, with the introduction of bonus points.

Trends differed according to the prior achievement level of the school, with higher-level take-up increasing for low- and medium-points schools and declining slightly in high-points schools (except for Irish-medium schools). This pattern is not surprising, as there will be more scope for expansion of take-up levels in low- and medium-points schools, while at least some high-points schools will have reached near-saturation in higher-level take-up rates. ETB schools in the low-points category have a somewhat greater increase in higher-level take-up than other schools. Looking at all schools, there is no overall difference between DEIS and non-DEIS schools in rates of change between 2016 and 2017. However, the pattern alters when prior achievement levels are taken into account. The gap in higher-level take-up is found to widen between DEIS and non-DEIS schools in the low- and medium-points groups. The pattern is similar but not statistically significant in the high-points group, though the lack of statistical significance may reflect the smaller number of DEIS schools in this category. These patterns are likely to reflect the extent to which lower take-up of higher-level subjects at junior cycle in DEIS schools constrains the extent to which students are eligible to take higher-level subjects at senior cycle. Previous research has found that more rigid ability grouping in DEIS schools, coupled with lower teacher and student expectations, channels young people into ordinary and foundation levels for the Junior Certificate (JC) (Smyth, 2018).

The analyses presented in this chapter help unpack the extent to which there is a trade-off between higher-level take-up and grades received. It would be expected that an increase in higher-level take-up would be drawn from among those at the higher end of the grade distribution in ordinary level. Therefore, the impact of change would mean a reduction in the grades at both higher and ordinary levels, as students at the higher end of ordinary grades moved to the lower end of higher-level grades. This pattern is borne out by the analysis. Descriptive analysis of examination grades in Irish, English and mathematics indicates an increase in the proportion receiving lower grades at higher level, with a decline in the proportion with top grades at ordinary level in Irish and English. The models confirm that the drop in average grades is significant, all else being equal, for mathematics and Irish at higher level and for Irish at ordinary level. The pattern varied somewhat by student and school characteristics. Young women had less of a decline in grades in Irish than young men. Across Irish, English and mathematics, there was a slight widening of the gap in performance between disadvantaged and other young people. A widening gap between DEIS and non-DEIS schools was evident for mathematics but not for English and Irish, suggesting important school context effects, as shown in earlier research (McCoy et al., 2012; McCoy et al., 2014a).

Looking at examination grades across subjects, little shift was found between 2016 and 2017 in the distribution of points by individual and school characteristics, though ETB schools had a relative increase in points, compared to other sectors. However, trends differed according to the prior achievement level of the school. The gap between disadvantaged and non-disadvantaged students widened but this difference was significant only in medium-points schools. Similarly, the gap between DEIS and non-DEIS schools widened and, to a significant extent, this was true for low- and medium-points schools.

CHAPTER 4

Student, teacher and parental perceptions of changes in the grading system

This chapter explores student, staff and parent's views and experiences of the new Leaving Certificate (LC) grading system. The chapter considers the impact of several dimensions, including perceptions of the new grading scheme, the perceived divergence between higher- and ordinary-level subjects and 'points' under the new system and the allocation of Central Applications Office (CAO) points for students achieving 30 to 40 per cent at higher level. The views of key personnel and students on instrumentality in relation to the LC is also considered, as the research suggests that student decision-making has become more instrumental over time, although it is not possible to say if this is a consequence of changes in the grading system. The chapter also examines views on the receipt of bonus points for higher-level mathematics, as many students link the bonus points with the reduction in perceived risk in taking higher level. Finally, the chapter examines figures on the numbers of students impacted by random selection in the awarding of higher education (HE) places, before and after the grading reforms.

4.1 FRAMING STUDENT DECISION-MAKING

4.1.1 Higher-level subject access

Any examination of student experiences of LC subject levels and grades needs to be placed in the context of the options open to them earlier in their second-level education, namely junior cycle. Although subject level is ultimately the student's decision, in many cases student subject level is framed by schools. In most schools, students are streamed and placed in class groupings based on their Junior Certificate (JC) results. This proved to be a source of considerable commentary among students in the focus groups. Students spoke about not having a choice regarding subject level at senior cycle, based on JC results:

If you did higher level for your Junior Cer.t you were just put in the class and the people drop down throughout then if they find it too hard (Nore, FG).

We didn't really get to make our own choices for that, like we were put straight in. Say if we were in from Junior Cert. we were put straight into it and then like that's the subject you take unless you were struggling and then you decided to drop down. But you couldn't go up or choose to do higher level from day one (Slaney, FG).

Students referred to timetable restrictions in school as being an influencing factor over subject choice:

I would have done something else, but I just didn't have the option to take it (Corrib, FG).

I would have chosen differently I think. Well I'm doing a subject outside of school, so I would have rather done that in school than outside (Bann, FG).

Some students reported feeling supported by their teacher in making their subject-level decisions but ultimately students make the decisions:

It's just kind of like you do, you can do year one but then if you're not up to higher level you can just kind of drop put ... They don't tell you to drop down (Corrib, FG).

Similarly, staff reported providing students with information, although ultimately the students decide on subject choice and subject level:

They make the decision, it's ultimately, I suppose, their decision you know what they choose to do, along with their parents, I suppose. But if they are changing levels we would have to get permission ... They'd [the parents would] have to sign down we're okay with them changing from higher to ordinary or ordinary to foundation (Nore, Teacher).

At the end of the day it is themselves ... The only person who will insist on you having to take ordinary level is you ... A teacher may make a recommendation with students ... And then you will have parents who will decide they're doing higher level, even if it's going to end in disaster (Nore, FG).

Staff reported that students are required to obtain permission from parents and teachers prior to changing subject levels:

We have a system in the school whereby if there is a change of level required for senior cycle it has to be okayed with the teacher, they have to have a conversation with their guidance counsellor, they have to bring home a form to be signed by parents. So, it's very much a multi-stranded conversation before they would change level (Deel, FG).

Once the end of September comes, the classes are set. So if you're in higher level you can do higher level, but you're not allowed to move class ... It's too difficult for the teachers (Dodder, Teacher).

Some students explained that if their parents were not made aware of the new grading system changes, there could be an impact on their level choice:

If you have a family at home that aren't, say, well-educated with the new system and you have a teacher saying, you know, "I'm worried she'll fail", or whatever, then your parents are thinking, "Oh maybe she should drop back". But you know yourself, no, if I work a bit harder. So, I think a lot of it has to do with the teacher, the way that's addressed like, the situation (Deel, FG).

4.1.2 Changes to the grading system

Overall, students varied in their views of the grading changes. While some students reported indifference to the changes, as it was the only system they had ever experienced, others expressed a difficulty in getting used to the new scheme:

Is it not just the old one just worded differently? (Corrib, FGO).

It's kind of hard to say. Don't know what the old one was like (Finn, FGO).

I don't think it's really affected me that much. I think it's like a fine system. I just don't really know why it was changed. I don't really understand (Bann, FGO).

It's been kind of hard to get used to, I think. We're still saying, "Did I get an A? Did I get a B?" (Nore, FGO).

Staff members – principals, teachers and guidance counsellors – also varied in their opinions: some viewed the changes in a positive light, particularly in terms of the reduced risk of sitting higher-level exams:

I think overall, I think it's positive in that I do get a sense, even from students, that the non-failure aspect of the grading gives them a confidence for themselves that, you know, this fear of failing was massive and even, you know, in situations whereas most students will actually say they, you know, they achieved much more than they thought they would ever achieve (Nore, GC).

I think there's less pressure for every single little piece of information (Slaney, Teacher)

In contrast, some teachers felt that they struggled to see the value in the changes at present. They reported being unconvinced of the merit of changing the old system. An important thread throughout the comments reflects the fact that the research took place in the early days following the introduction of the new system, so it is difficult for teachers to firm up their judgements at this early stage:

I'm not convinced of the value of it, so I would give it five or six years and then ... review it again. I think there was a lot to be said for the old system, I'm not sure how necessary it was to change it (Slaney, GC).

It's not until another couple of years that you're actually going to see any kind of, we'll say, a cultural change towards it ... They look at the new system a bit more negatively than they do the old system but that will change with time (Corrib, Principal).

Some staff admitted that they found it difficult to adapt to the changed system, considering many teachers have studied and worked within the old system:

I suppose I'm teaching whatever 20-something years, I'm still thinking in As and Bs; that will take a while to go anyway but I'm trying to transfer (Nore, Teacher).

I have to be very honest with you, in an academic way, it took me a very long time to even get, my head still isn't around it ... It'll take me a little while to get more into it (Bandon, Principal).

I think it'll take time until we're accustomed to it ... I think it's very different from the previous, the A1, A2, B1, B2, B3 and I think it'll take time to settle in. I think eventually we will get used to it (Slaney, Teacher).

Some staff members reported that students had taken the new changes in their stride:

The kids have adapted completely though, so they're much better than we are (Bann, GC).

They seem, funny about kids isn't it, they just take it on ... They don't analyse or over analyse (Bandon, Principal).

Some say they don't find the system confusing because it's the only world that they know (Slaney, Teacher).

In contrast, students gave mixed opinions as to whether or not they would prefer to go back to the old system:

Yeah, I would definitely, I'd rather the old system (Slaney, FG).

I don't really like the 10 brackets percentage, like I feel it's so unfair if you get, if someone gets 70 per cent and then someone else gets 79 per cent they get the exact same points (Nore, FG).

Some teachers reported that students and parents have not yet begun thinking in terms of the new grading system:

The kids are still talking A, B. I said to a kid, "What do you want: an H1 or H2 or H3? What are you thinking?" And she said, "Oh I want a B or a C", and parents are the same too. We need to just repeat again and again, reinforce it, you know ... The kids still aren't getting used to it (Slaney, Teacher).

Some teachers felt that the complexity of three different grading schemes was to blame for the confusion among students and staff:

We then had a grading system for fifth and sixth years and then a grading system, a separate grading system for first, second and third years. So, to me that was a bit silly. And now even three grading systems within the new Junior Cert. (Bann, Teacher).

I don't know how the students are grasping it ... I teach LCVP as well, that's a completely different thing as well, it's so confusing, so many different grading systems – it's crazy (Tolka, Teacher).

The main thing is that you know the difference between Leaving Cert. and Junior Cert. Having two separate grading systems is, I think, quite bizarre (Bann, Teacher).

The awareness among parents regarding the grading scheme changes seemed to be influenced by the information provision by schools or having another child who went through the new system:

There is a key to it at the end of the monthly school report, it's there. They are providing the information, if I probably had looked down I would be able to see the exact bands and I know it's there. I have looked at it but if you asked me now what an H1 or an H2 is: I haven't a clue (Parent).

I'm aware of the new grading ... My son did it last year (Parent).

Oh, I would be familiar yeah, they're H1, H2, H3, yeah (Parent)

The teachers would tot up automatically the points ... And you don't really have to work them out because it's kind of there (Parent)

4.1.2 Some students benefit more than others

Students felt that the widening of grade bands benefits some students more than others:

It suits some people. Like, it wouldn't suit everyone like (Corrib, FG).

It's kind of annoying if you're really high in one bracket and like near to one, because it's like 10 per cent; it's such a big percentage difference (Bann, FG).

The general consensus among students across case-study schools was that the wide bands favoured those students at the lower end of the grades:

It'd suit people like at the lower level of like the bands, because if you had that like a big difference between getting like 80 per cent and 89 per cent, so I think it's fairly harsh that people who are like obviously getting very different scores and different abilities are getting essentially the same points (Corrib, FG).

Yeah, like there's such a big difference between 70 and 79, and like 80 and 89 and it's the same points. Like there's a huge difference in 10 per cent (Bann, FG).

Students spoke about the unfairness of awarding the same grade to students who score at the top and bottom of the grade band:

I'd say it's annoying for people who were just below the next grade up to everything because B1s and B3s, weren't they different – I think they were different points ... So obviously then everyone got what they deserved for their amount of effort rather than like someone that's getting 71 they're really happy with that then that they're getting the 77 points but someone – it's just a bit unfair for those people who achieve just a little bit under (Bann, FG).

Teachers also felt that the wider grade bands enable lower-attaining students to achieve higher grades, while inhibiting the success of higher-achieving students:

I think it's definitely, it's making it easier for mid-range students to perform better and perhaps gain more points as a result. I think it's doing a bit of a disservice to the really, really good students who I would, in my mind, categorise as A students. There are fewer top grades being awarded to top students (Deel, Teacher).

It appeared as if it was very difficult to get what was the equivalent of the old A1 and they feel ... that the H1 is very difficult to get and that has come from quite a few students and I agree with them (Slaney, GC).

I think it's a bit unfair on the higher achievers ... I think there's a massive difference in English for someone who's achieving an 89 and I think it's a bit unfair on those because they will never get the 90, they're just not there they just don't have the flair or whatever. But they're way better than somebody who is achieving the 80, so, that's I think that grade bracket is a bit unfair on the higher achievers (Bann, Teacher).

Students also believe that the grading system changes have made it more difficult to get the top grades:

It's so hard to get an H1 ... it doesn't really favour students who are aiming for like the higher grade ... Like it's really hard to scrape over that like 90 per cent range, you're kind of stuck in the 80s (Bann, FG).

Like, even like the jump from H2 and H1 is like massive ... Like, one mark could be difference between 11 points ... And 90 per cent is like massive, like that's tough to get (Corrib, FG).

Even with the A's: if you got 85 you got an A but now it's 90 ... The 85 per cent was good (Bann, FG).

When asked what it would take to move between grades under the new grading system, students were not so sure:

Depends on the subject, I think. It's not that clear. I don't know. Even like the H2, H3 line is pretty blurry and the H2, H1 line is pretty blurry as well (Bann, FG).

When asked if they would prefer to go back to the old system, students had mixed opinions:

I don't really like it, but I think it's like – I mean, I don't not like it I just think it's made a huge difference. It's making it really harder to do really well (Bann, FG).

It seems like the new one suits people at the top and bottom, rather than the people in the middle. (Corrib, FG).

Yeah, I would definitely – I'd rather the old system (Slaney, FG).

Students felt that the new grading system is unfair for those who have lower academic attainments:

Like it is good to be pushed to do higher but also people – some people just can't do higher level and that isn't fair to pressurise them to do it (Tolka, FG).

4.2 DIFFERENCE BETWEEN HIGHER- AND ORDINARY-LEVEL POINTS

An emerging theme throughout the case studies, conveyed by both students and staff, was the demoralisation of lower-attaining students. In many cases, it appears that this has become a significant concern among students under the new grading system and has not featured as a significant issue in earlier research, such as the post-primary longitudinal study (McCoy et al., 2014b). This may reflect the rise in higher-level take-up following the grading changes, perhaps leaving students taking ordinary level as (being perceived as) more marginalised. The large discrepancy between higher- and ordinary-level points was seen as impacting the academic self-image of students taking ordinary-level subjects. Students expressed the view that the low points for ordinary-level subjects do not fairly reflect the workload and effort involved:

O1 is like, I think, ridiculously low because that's the same as H5 in higher (Corrib, FG).

I struggle with my ordinary subjects probably more than I would with most of my higher subjects and the fact that you still don't even get the points that you deserve for them (Slaney, FG).

Other people don't understand, like, how much work we've put in, just because we're ordinary then we get so much less (Deel, FG).

Students spoke about the pressure to take higher-level subjects in order to achieve points for further education courses, with many students now aiming for 30 per cent at higher level, given the awarding of points for this achievement:

If it was even just to get the 30 per cent, it's the same as getting more like an O3, an O3, which I probably wouldn't be getting in ordinary level, like it's the same difference. So, I would have definitely like kept on all higher subjects (Slaney, FG).

I could get in between 70 and 80 in ordinary level, which would still kind of be like hard in some subjects and then I could fail higher level and get the exact same points (Slaney, FG).

Students suggested that the large discrepancies in points for higher- and ordinary-level subjects is unfair for lower-attaining students:

It kind of affects the people who are, like, only able for ordinary level ... It's hard on them that they're not getting half as many points as what a higher-level person getting an H6 would get if they were getting an O1 or an O2 (Deel, FG).

I would [have] thought that ordinary would be so much easier but it's really not. So that's why the points are so unfair, because it's not a representation of how much easier it is, because it's not that much easier, a lot of it (Slaney, FG).

They're getting an O1 and an O2 and it's really good for them but compared, on the points system it doesn't look anything (Deel, FG).

Students explained how the lower points for ordinary-level subjects are impacting on the academic self-image of lower-achieving students:

It makes you feel weak and it's like you're not good enough ... It's like we're not working because we're only getting so many points (Deel, FG).

Ordinary level can be just as hard as higher. Especially if you're going into ordinary level, it's, because you find higher level hard so you're going to find ordinary hard and that can be an absolute nightmare and you're getting what: 20 points? (Lee, FG).

It's still a high standard for getting such little points and getting an A in ordinary-level maths like, it's not something to be laughed at (Bandon, FG).

Worryingly, some students explained that the points for ordinary level compared to higher level are so low that it impacts student motivation to study and, in some cases, even sit the examination:

You don't put in the effort ... Yeah it's literally like ... some of my friends ... said to me there's no point [in] even sitting it [the examination] (Slaney, FG).

If you're doing ordinary you might as well drop it ... If you're doing mostly higher, then ordinary level just doesn't pay (Lee, FG).

You know you're not going to count it and you just make sure you pass it and nothing more ... It's just not worth your time (Lee, FG).

You don't plan. The points are too low to count (Finn, FG).

Staff also expressed concern that the system focuses mainly on higher-achieving students:

I think it's too focused on higher level, not enough attention goes to ordinary level ... The media put too much emphasis, the parents put too much emphasis on doing higher level. Higher level for what reason? For extra stress (Tolka, Teacher).

I know the students themselves would feel like they're not being rewarded for ordinary level. They're still working really hard but they're not being rewarded for what, for the work they're putting in. The points are quite low (Tolka, Teacher).

4.3 REWARDING PERCEIVED FAILURE

Staff members expressed concern around rewarding students for grades below 40 per cent. Some staff members felt that this gives students a warped view of passing a subject:

I think it's actually brought in an element of a lax attitude ... in order to make everybody feel included and make everybody feel happy, we're actually excluding those that achieve (Corrib, Teacher).

I really have an issue with the H7. My issue to me is it's still a fail, to me it's a fail (Nore, Teacher).

"We can fail and we can pass". I was like, can you hear yourself? It doesn't make any sense (Bann, Teacher).

Staff felt that students scoring below 40 per cent at higher level are not engaging with the majority of the course and should be in the ordinary-level classes:

Now we're saying with the Leaving Cert. we reward you for failing. We reward you for knowing 30, spending two years knowing 30 per cent and I think it's ridiculous ... I don't know what exam you could sit and get 30 per cent and get a pass for it (Slaney, Teacher).

They're leaving with maybe 60 per cent of the course that they don't grasp, they don't have an understanding of, they don't get. And that's what they're moving into third level with, you know? (Bandon, Teacher).

If you're teaching a subject at higher level and you're rewarding somebody for getting what is a failing grade it makes it so difficult because you want this person to achieve as well as they can. It makes it really difficult when somebody thinks that a success is getting 33 per cent, you know? And we shouldn't promote that, I don't think we should reward that (Dodder, Teacher).

Staff felt that scoring below 40 per cent and being awarded points in school is problematic, as students do not understand the impact of this on accessing third-level courses:

The students don't understand that below 40 is a fail ... But what they are not taking into consideration is, if you go onto the Qualifax site, or any of the third-level requirements, an H7 will not be accepted for a huge number of courses ... So therefore, they're kind of fooling themselves a little bit by staying in the higher level (Corrib, Principal).

The students are very conflicted on what is classified as a pass grade: they're very conflicted on what colleges are going to require now and if they hang on and get this H7, are they actually still going to be able to get their course? (Corrib, Teacher).

Some students still regarded grades below 40 per cent as being a fail, perhaps reflecting the attitude of teachers in their schools:

I think if I was getting even 30s to 40s consistently, then that would be a factor to drop [level] ... I just don't think you'd feel kind of, good about it if you landed in that kind of, bracket (Nore, FG).

I think above 40 is a pass and then anything below that is a fail, but you still get points between 30 and 40 (Nore, FG).

Everyone wants to clear 40 per cent or there's no point like (Bann, FG).

Other students reported that getting points for scoring below 40 per cent encouraged students to attempt the higher-level examination, as it removed the risk of failing one's LC:

It makes it more worth taking the risk probably, the risk that you might get 40. That you won't fail the Leaving Cert. if you don't get 40 (Bann, FG).

Like, it's not really worth risking it if you're only getting 37 points, but at that same time it pushes you on. Like, if it's just a little bit of something to fall back on, like, that you don't actually fail it (Finn, FG).

It's encouraging more people to do honours I think, rather than just sitting at your O1 or O2, I'd say (Finn, FG).

It's a good incentive for people to keep it on, if they're thinking of dropping out (Finn, FG).

4.4 INSTRUMENTALITY AND THE POINTS RACE

The evidence from the case-study research suggests that instrumentality has become a stronger feature of student decision-making, as compared with earlier research studies (Smyth et al., 2011), although it is not possible to say if this is a consequence of the change in the grading system. Staff expressed the concern that students are 'obsessed' with achieving maximum points, overly focused on the 'points' race' and engaging less with learning, in an attempt to win that 'points race':

The way the system is at the moment I do think that it's limiting ... Because it's just exam, exam, exam, exam. And they become so stressed they can't, they don't have time for experimenting (Deel, Teacher).

That's [points] always on their minds, you know. Even when you're going through exam papers they're on about marks: accumulating marks ... Where will I lose, where can I gain marks? (Finn, Teacher).

One teacher spoke about students' sense of identity becoming enmeshed with the points they receive in their LC, in that they gain more social capital the more highly they score:

My view is they are judged by the number they achieve and that's all anyone tells you. You know, "I got 500 points in my Leaving Cert", or "I got 625". And that's the Holy Grail, "Oh my God, you got 625, you're fantastic" (Nore, Teacher).

One principal felt that the media frenzy around the LC coverage and subsequent league table coverage only intensifies this phenomenon:

League tables are good, and I would have parents of incoming first years coming into me, carrying, bringing they copy of the [newspaper name] with the league table and showing me where my school is on it ... I think it should be banned, totally banned ... It's a big, big problem. It's totally media-driven (Corrib, Principal).

This suggestion was supported by students, who felt that the LC is an important mechanism by which to get points:

I think as well, in this country, it's just viewed as like a massive kind of like milestone to overcome and do, yeah, and do well (Nore, FG).

People always say, like our year head is always going, "The points you get in your Leaving Cert. don't define you". But the colleges don't care, you don't get the points and you don't get your life choices (Slaney, FG).

Staff members expressed concern about the student obsession around marking schemes. As noted in Chapter 1, the publication of marking schemes began in 1998 and both students and teachers spoke about the focus on these as a means to maximising points:

They know the marking schemes they know what's expected, what's the best way to write it down for an exam just to make sure you get those optimum marks (Bann, Teacher).

They'd expect their teachers to know your marking schemes ... if you don't, they will anyway ... So, they'd know, "Oh, no in 2007 that was worth five marks, in here it was worth eight, why?" And they'd ask, and we'd have to know the answer (Bann, Teacher).

Staff spoke about the fixation on marking schemes as a deterrent to engaging with education. Some staff members felt that students only learn the information that they know will get them marks and are uninterested in anything outside that:

They want the marking scheme ... Because they just want a quick answer. Marking schemes have been wonderful but then they're [the students] kind of gotten a slave to the marking scheme, they're only interested in that little bit (Bandon, Teacher).

It's very much spoon feeding and you're trying to promote independence. There is a battle with that, "Yeah, but why don't you just give me the perfect notes and I'll get on with it?". That is a battle that you have to fight ... they know it's working for them, so they are demanding what they want (Dodder, Principal).

According to students, becoming familiar with subject marking schemes is crucial to answering questions correctly:

To see how things are marked, in case you write one thing, but you think you mean another thing, but you don't get the marks because it's not exactly what was on the marking scheme. You'd be more comfortable knowing how to answer it (Bann, FG).

Students reported that the rote learning of subject marking schemes is the most effective way to maximise points:

Learn the marking scheme not the book ... Or even use both but, like, the marking scheme even more because if you want your points and you want your grade, give them what they want (Bann, FG).

You look at the marking scheme, you see what you get, you see what you need to do, and you just keep doing it over and over again ... They're [marking schemes] crucial to study (Lee, FG).

This idea of rote learning only the information useful in exams was supported by student accounts:

It doesn't really matter for me what subjects I study, it's my points ... Like I'm not interested in most of the subjects I am studying, it's just my points that I have to keep up (Slaney, FG).

We spent like half of fifth year doing poetry and then it might only have been one class that you use in an exam. That's sort of annoying, when you put so much effort into something and you only get X amount of points (Lee, FG).

Students identified the large amount of course material as the reason for finding ways to game the system, suggesting it discourages actual learning:

You have to pick subjects that you're good at to get easy points in ... that you're good at, and then you can get easy points to get the courses like (Slaney, FG).

It's kind of your ability to cram more than your ability to actually learn stuff (Finn, FG).

With the Leaving Cert., it's always like you can't put 100 per cent into anything, you can only put 80 per cent into everything ... You have to play to your strengths (Lee, FG).

4.5 BONUS POINTS FOR HIGHER-LEVEL MATHEMATICS

Chapter 3 highlighted both the steady increase in the take-up of higher-level mathematics over time and a more dramatic increase in 2017, following the introduction of the new grading scheme. The STEM Education Review Group (2016) highlighted the particularly strong rise in higher-level mathematics take-up following the introduction in 2012 of 25 bonus points for achieving at least 40 per cent in this subject. While 16 per cent of students took higher-level mathematics in 2011, this increased to 28 per cent in 2016. The review group attributed much of this increase to the incentive of additional points, alongside the introduction of project mathematics.

The issue of bonus points proved to be a strong priority in the student focus groups, and many students automatically connected the changes in the grading bands with the bonus points topic. The awarding of points for achieving 30 to 40 per cent at higher level was often linked with the particular incentives that arose in the case of mathematics, in the event that were successful in achieving over 40 per cent. Some students expressed the opinion that it is unfair to solely incentivise mathematics:

Like, if you're not gifted in maths, like, that's it's not fair. It's not really your fault if you're not good at maths (Bandon, FG).

Why is it only maths? Like, why is the emphasis on that? I just don't, I was really disgusted by that to be honest (Bandon, FG).

Some students felt that solely incentivising mathematics immediately places a large cohort of students at a disadvantage:

I'm not too sure about the 25 points for the maths, because like surely there'd be a better way to influence people to do it, because like it obviously is like influencing people to do it but it's just kind of giving people that aren't doing it disadvantage (Corrib, FG).

I don't think it's fair on people who physically can't do higher level and are working really hard to do ordinary level and yet we come out with barely any points, even that's the best they can do (Tolka, FG).

In contrast, some students felt that incentivising higher-level mathematics is fair, as mathematics involves a lot of work, compared to other subjects:

I think it's fair because there is a lot of work in higher ... it is so much work (Tolka, FG).

If you want to do higher-level maths you have to really work at it. Even if you are naturally logically minded and even if you're really good at that sort of stuff, you could still fail higher-level maths. You have to really work at it.

Staff members also reported conflicting opinions around incentivising higher-level mathematics. Some staff members were of the opinion that allocating extra points for mathematics is fair with regard to the workload associated with the subject:

The amount of work that's in it ... If they didn't have the bonus points you'd have to really kind of think is it worth my while putting so much effort into one subject ... I think the bonus points are a good idea, yeah (Finn, Teacher).

It's an option to take now, whereas I don't think it was an option before. You were, you know, the honours or the ordinary candidate and that was it ... I'm a bit of a fan of it really (Bann, Teacher).

Some staff felt that incentivising mathematics alone is unfair to those students who have difficulties with the subject:

Why should maths be held above anything else? ... It's unfair then as well on students who just naturally aren't mathematical, they have no opportunity to get bonus points for something they're good at (Corrib, Teacher).

The shift towards higher-level mathematics has also seen an increase in the proportions achieving less than 40 per cent – the numbers failing higher-level mathematics each year more than doubled from 2.3 per cent in 2012 to 5.2 per cent in 2015 (SEC). In this context, the STEM Education Review Group (2016) raise concerns about the mathematical under-preparedness of students entering HE and about the lack of basic skills of some students sitting the higher-level paper (p. 8). They suggest that the mathematics qualifications of second-level teachers play a role in this. Concerns about the mathematics competencies of HE entrants have also led to the development of Mathematics Learner Support (MLS) provisions and the establishment of Mathematics Learning Centres that help students to make the transition to HE (O'Sullivan et al., 2014).

Both staff members and students reported a pressure among students to remain in higher level, especially mathematics, as a result of the bonus points. Staff reported a concern for those students remaining in higher level who struggle with the work:

It's difficult to persuade a student that they might not be able to do the higher level because they see the 30 per cent as a pass. They'll make the 30 per cent but actually are they higher-level standard? Are they putting so much time into the maths to get that 30 that their other subjects are losing out? (Bann, Principal).

Because of the extra 25 points you have a lot of students who are in the class who are not able, perhaps, for the level that they're at. Because that's the carrot for them, gaining the extra 25 points despite the fact that they mightn't be able (Slaney, Teacher).

Many students identified the bonus points for mathematics as the *only* incentive to remain in higher level:

It's all down to the points race at the end of the day. Twenty-five points, it's the difference between course or no course (Lee, FG).

If it wasn't for them [the points], I wouldn't be doing higher maths (Finn, FG).

Like maths, if you do really badly, you still get extra 25 points, so you end up getting, let's say, the C-level in another subject if you even get that. So, you get like whatever 40 per cent in maths and you're still getting the equivalent of an H4 (Bann, FG).

4.6 RANDOM SELECTION

As noted in Chapter 1, in 2017 a new LC grading scheme was introduced, whereby bands were widened and there was a reduction from 14 grading bands to seven, followed by a new common points system. One of the aims of the grading changes was to reduce the incidence of random selection for third-level entry. The changes were designed to reduce the likelihood of students achieving the same overall points score and subsequently entering a lottery for random selection.

Data provided by the Irish Universities Association (IUA) and CAO shows the extent of change in the incidence of random allocation between 2016 and 2017 (Table 4.1). The results show a positive impact in terms of both the number of courses and the number of applicants impacted. In terms of the number of courses, including some level of random allocation, this declined from 55 to 29 courses for Level 8, Round 1 offers and from 66 to 36 for Level 8, Round 2 offers. Similarly, the number of applicants not being awarded places on the basis of such random allocation fell. However, when we consider the total number of applicants to the CAO in 2016 and

2017, the percentage of students impacted was extremely small. In the case of Level-8 applicants, the percentage impacted fell from less than .5 per cent to .2 per cent.

TABLE 4.1 NUMBER OF COURSES WITH RANDOM ALLOCATION AND NUMBER OF APPLICANTS NOT OFFERED PLACES ON BASIS OF RANDOM ALLOCATION

	Level 8, Round 1	Level 8, Round 2	Level 7/6, Round 1	Level 7/6, Round 2
Courses with random allocation				
2017	29	36	2	0
2016	55	66	2	0
Applicants not offered places on basis of random allocation				
2017	109	189	3	0
2016	281	323	6	6
Total Number of applicants				
2017	65,294		34,345	
2016	65,030		34,885	

Source: Central Applications Office/Irish Universities Association.

Notes: To ensure consistent comparison between 2016 and 2017, Mature Nursing Courses and Graduate Entry to Medicine Courses have been excluded from the figures above, as there is no Leaving Certificate/common points scale component. (Mature Nursing Courses had separate codes in 2016 but not in 2017.) Courses have been included in the Round 2 figures, where random selection occurred in Round 1 and where the course had no offers in Round 2 (i.e. applicants remained unselected on the basis of random selection).

Staff were asked about the effectiveness of the grading system changes in reducing the incidence of random selection. The perception among guidance counsellors and principals involved in case-study interviews was that random selection had reduced as a consequence of the grading changes. Although staff were not aware of the specific figures, they believed that incidences had reduced:

The other aspect then would be the random selection is less, reduced somewhat and I think that's really positive (Nore, GC).

I understand the purpose of it, like to have more spread and less random selection. So, if that's working on that side of things ... Anything that's going to avoid random selection I suppose is a good thing (Corrib, Teacher).

One guidance counsellor spoke about the unfairness of the previous system, in that students would lose out on course offerings due to random selection:

They say there wasn't as much random selection so that would be a good thing because you'd like people to get their course on merit, rather than lose out on random selection. That's a real sickener: to get it and then lose out on a lottery (Deel, GC).

4.7 SUMMARY

This chapter explored the impact of the LC grading changes on both staff and students. Section 4.1 provided insight into the mechanisms through which students make decisions regarding subject levels for LC. In most cases, students' level choice is predetermined by their JC results, which impacts on higher-level take-up in some schools, highlighting the fact that changes in the grading scheme will take time to have an impact. This section also considered the opinions of staff and students regarding the grading changes. Staff reported feeling uncertain as to the necessity of the changes but felt that a longer period would be required to truly examine the impact. Students, on the whole, took the changes in their stride, as the new system is the only one they know. However, it was reported that the seamless transition to the new points system was often based on the school providing information to students and parents. Section 4.2 explored new information regarding differences between higher- and ordinary-level points, which proved to be a prominent issue among students, when discussing the grading system. During the focus-group interviews, students spoke about the demoralising effect of studying subjects at ordinary level and the negative impact it has on their academic self-image. They felt that the low points awarded do not accurately reflect the level of work required for ordinary level. In Section 4.3, staff members expressed concern regarding the lowering of the pass rate, with many feeling that it lowers the standards of exams. Staff felt that this feature rewards students for not engaging with the majority of the coursework. Staff also reported concern over the mismatch between failure rates at second level, compared to third level.

The instrumentality of the LC exams was explored in Section 4.4, where evidence suggests that this has become an even more prominent issue for students in recent years. However, it is not possible to say if this is in any way related to the change in the grading scheme. Students reported basing choices on subjects perceived to be the 'easiest' for scoring high marks, rather than on interest in the subject. They also reported that the coursework is too vast, making it impossible to engage in learning: instead, they are forced into 'gaming' behaviours to maximise points. Staff and students spoke about the student 'obsession' with studying marking schemes, rather than course material, and staff expressed a concern at the subsequent lack of engagement with course material. Section 4.5 explored the impact of introducing bonus points for higher-level mathematics take-up. Case-study interviews with both staff and students supported the STEM Education Review Group (2016) findings that

increases in higher-level mathematics take-up is a result of the incentive effect of bonus points. The final section explored views of staff on the impact of the new grading changes on random selection. Principals and guidance counsellors felt that random selection had in fact reduced due to the changes, and this reflected the data showing a decrease in the numbers of students offered courses due to random selection. However, the proportions of students impacted by random selection are small, both before and after the reforms.

CHAPTER 5

Broader issues in relation to the Leaving Certificate

While Chapter 4 assessed the more direct experiences of students in relation to the changes in the grading scheme and associated points system, this chapter reflects on some of the broader issues students and school personnel reflected on during the case-study research. While not relating to the grading changes per se, these issues raise important points concerning the senior-cycle review, which is currently underway, and the experiences of students and teachers in relation to second-level education, in particular the Leaving Certificate (LC) examination. Students were highly reflective of their experiences during their preparations for the LC examination, and raised issues that they considered as important for understanding how the LC (grading system) impacts on them. The chapter considers four main themes that emerged from the case-study interviews: student preparedness for senior cycle; the role of grinds; preparedness for life after school; and student stress levels in the LC year.

5.1 STUDENT PREPAREDNESS FOR SENIOR CYCLE

A prevalent issue for both students and teachers related to a perceived gap between junior- and senior-cycle education. Some students felt that the Junior Certificate (JC) does not provide adequate preparation for the requirements of the LC:

It's kind of like, you think you're prepared for it, like, you do higher-level Junior Cert. Irish and you think, like, going into fifth year, "I'll be well able for higher-level Irish", but the difference in the amount that is expected of you is huge (Deel, FG).

Further concerns were expressed around the revised junior cycle, which students felt will leave them less prepared for the demands of the LC examination. Some students, even though they had not experienced the new junior cycle themselves, felt that teachers are not yet fully prepared for implementing the new JC:

What they're trying now with the junior cycle it's awful. It's the worst thing ever ... I think it was implemented too quickly ... It doesn't prepare you for the Leaving Cert., which is still the same, and I don't think the teachers are equipped for it yet (Bann, FG).

Coming from Junior Cert. to Leaving Cert. is going to be a lot more difficult now; it [Leaving Cert.] also has to change. Because it's the Junior Cert., like it's meant to be a stepping stone for the Leaving Cert. Now it's just going to be a big culture shock (Bann, FG).

Similar concerns were raised among principals, guidance counsellors and teachers. While staff were in some cases positive about the revised junior cycle, many felt that the gap between junior and senior cycle was now greater, and that this gap would have significant implications for the next few cohorts of students coming through junior cycle.

Getting an A in Junior Cert. has very little correlation with the standard in fifth year ... Whereas girls who would have been getting As and they go into fifth year and they can be really, really feeling overwhelmed (Nore, GC).

I'm quite involved in the Junior Cert., the new programme, but my question is what happens when they come out of Junior Cert., with the new Junior Cert., and go straight into the old system for Leaving Cert? That's a huge concern of mine and I think of colleagues, of teachers, as well (Slaney, GC).

For many, the gap was seen to relate to the changing teaching and learning methodologies in junior cycle:

The methodologies that we are using, in order to deliver that curriculum, are not in line with the methodologies for senior cycle. And my biggest worry is that my cohort of Transition Year students this year, going into fifth year in September, will get the shock of their lives ... It's a massive jump now ... They are not being tested in those skills in a way that they can transfer into senior cycle (Slaney, Teacher).

Across many of the case-study schools, staff felt that students will be ill-prepared for senior cycle following the reformed junior cycle, highlighting the importance of the current senior-cycle review and reforms to follow subsequently. Staff felt that the jump from junior to senior cycle is already a difficult one for students and expressed concern that the changes to junior cycle do not match with the demands of senior cycle, as it currently stands:

It was always a jump, now it is a leap over a chasm of doom, is what it is ... Because the new junior-cycle curriculum is so broad; ... they're aspirational goals, I think that's great, but the Leaving Cert. doesn't match that at all, you know? You have to do Shakespeare for the Leaving Cert; you cannot expect a 15- or 16-year-old who has never experienced Shakespeare to suddenly take it on board (Dodder, Teacher).

Some of the difficulties seemed to relate to the fact that the new junior cycle was introduced recently and is still in the roll-out process. There was also a fear that the new programme would place greater demands on teachers:

I wouldn't have very positive things to say about it [the new junior cycle] at the moment at all ... We would all agree the onus is going more so on the teacher ... I don't think anyone in this school anyway, would speak in any way positively about the new Junior Certificate side of the curriculum ... It's very vague. It's very unrealistic. It's so demanding ... like if I compare the old Junior Certificate with the current new one ... There's now nearly double the amount of content to be covered and delivered. (Finn, Teacher)

The transition to senior cycle was seen as smoother and generally less abrupt for students who had the opportunity to engage in a Transition Year (TY) programme. Some students described a very positive experience of TY, in which they had the chance to develop themselves personally:

I liked the work experience that we did was good. I thought it was really beneficial, like (Slaney, FG).

Just not any stress, no stress whatsoever. We did, they tried to kind of like steer us in the right direction in TY (Slaney, FG)

I loved TY for the confidence it gave me with other aspects, like especially music. I was never like, I was terrified of singing before TY and then after TY, I loved singing (Slaney, FG).

However, other students felt that the relaxed attitude to academic coursework in TY negatively impacts on the transition into senior cycle:

I think Transition Year promotes your personal growth but then you go into fifth year and it's all about academics and you don't really have space for personal growth, so you kind of have to abandon all of that and focus on the exam that you're going to have to take (Slaney, FG).

It also did have a negative effect, you become lazy. So, you do nothing in TY to be honest (Tolka, FG).

Similarly, school personnel spoke about the role of TY in student preparedness and decision-making. They saw clear benefits for students in terms of being allowed to develop new skills, to mature and to experience different types of learning, away from the examination focus in JC and LC years.

Decision-making, subject choices and also – it's a general term, but "maturity" [is better among those who took TY]. As our teachers say,

within two weeks of class, without anybody telling them, they will pick out the TY students ... Yeah, and I would say, if you look at our people who did TY and the transition to college, they are all in courses that they like in college, they're getting on well in college. They've chosen well. (Dodder, Principal)

I definitely think, you know, when they've done fourth year I think that's definitely a positive ... You know, it gives them that extra – you completely see it, you know, with students that do that year and have that time, they kind of – they get an opportunity to experience different things and then they seem to be focused when they're going into Leaving Cert. (Tolka, Teacher).

Where TY was optional, some felt that there is a strong case for making the programme compulsory, particularly in light of the changes in junior cycle:

I believe that, especially with the new Junior Cert. and until the Leaving Cert. is reviewed, I think there is a strong argument for making TY compulsory in our school. I really do because it's so hard on them, you know, you go from Junior Cert ... To this wave of information [that] comes at you and then there's this wave of expectation. You know, you're now in Leaving Cert. and this is bandied about in fifth year, you know, you're in Leaving Cert. now, it's all about the Leaving Cert. and that's coming from home and that's coming from us and it's coming from society (Nore, Teacher).

In terms of preparation for the LC examination, across many of the case-study schools students felt that there is not enough time to revise material, as the course content is so vast. This was also acknowledged by teachers, who believed that for some subjects the course is so large that completing everything in advance of the exams is a challenge, leaving little time for revision:

So, you've no revision, like I think if you had some sort of time where you can be like, "Okay, this is just revision, I need to know nothing more"... That's why I feel like all of us are, kind of, grinds are the only option really (Nore, FG).

You're never prepared. Even if I had another year, I wouldn't be prepared, there's so many subjects, way too many. (Deel, FG).

Some students felt that grinds are necessary to revise parts of the course, as the teacher has to move so fast to cover the content, an issue that we examine in the next section:

I feel like all of us are, kind of, grinds are the only option really and kind of, stuff that you miss in the chapter because you have to go so fast that you kind of, miss things (Nore, FG).

5.2 THE ROLE OF GRINDS

Increasingly, second-level students in Ireland are engaging in privately paid tuition, colloquially known as ‘grinds’, provided either formally through ‘grind schools’ or informally on an individual basis. The most recent estimates suggest that almost half of LC students engage in grinds at some point during their LC year (McGinnity, 2012). Engaging in supplementary learning/grinds is a growing international practice, in many systems referred to as ‘shadow education’ or tutoring (Dongre and Tewary, 2015; Cole, 2017; Zhan and Bray, 2017; Entrich, 2018). As noted by Byun and Baker (2015, p. 4):

Since considerable participation in formal education and academic success is a taken-for-granted and dominant part of social and occupational status attainment, shadow education becomes more prevalent as an accepted and expected cultural aspect of education, now practiced even up to higher education.

Research on the effectiveness of grinds/tutoring has delivered inconclusive and even contradictory findings. Part of the reason for this lies in definitions and foci of the research, since private supplementary tutoring may have different formats, delivery mechanisms and intensities (Bray, 2014). Such tutoring services come in many forms (for example, one-on-one academic tutoring, cram schools, correspondence courses and internet tutoring services) – yet almost all studies so far have focused only on the effects of participation versus non-participation (Byun and Baker, 2015). Most recently, Byun and Baker suggest, ‘the few studies that have used innovative methods to address these selection issues suggest that shadow education have some positive effects on academic achievement’ (2015, p. 6).

There was no variation across schools regarding grinds, with students from all participating schools reporting that they accessed grinds. This does not mean that students in all schools have the same number of grinds or the same intensity or type of grinds (one-to-one versus group grinds, for example), but overall grinds are a normal part of life for senior-cycle students in Irish schools:

I do an hour a week, but I've also done weekly courses, like three or four times (Slaney, FG).

I got a few Irish [grinds] just to, like, with the orals and stuff going on, so I'm going, I'm just really practising talking with someone, because

it's hard in a class, like, setting, to be having a lot of conversation and stuff, so that's just to, like, make me more comfortable (Bandon, FG).

Students spoke about the need to have additional one-on-one support, particularly for mathematics, given the demands of the course:

The thing about maths, is like you can't go to the book and find the answer, because every single question is so different. So, you actually need a teacher to show you every different question (Slaney, FG).

Like, if you didn't fully understand things in school, whereas the teacher didn't have time to go to you individually (Bann, FG).

The teacher can do their best in maths, but you're ... more than likely you're not going to grasp everything, because you're working with the whole class, but once ... it takes a much shorter time for me to, in grinds, to actually fully grasp it (Corrib, FG).

In general, there was a consensus among many students that grinds teachers are better placed than class teachers to 'predict' examination content and provide notes:

Like loads of grinds you can just predict what's coming up ... It's kind of easy to predict what's coming up (Bann, FG).

It's just like getting, like, the notes ... They're better. They're more like to the point kind of thing ... Make it easier to understand (Dodder FG).

She gives us her own notes, like. They're way easier (Deel, FG).

Students also identified the slower pace and the valuable opportunity to revise material as a key reason for accessing grinds:

We need to do them twice, else you're doing revisional stuff from fifth year as well [as] your stuff in class, which is your sixth-year course. You're kind of constantly revising if not (Bann, FG).

[It] helps you understand it more, like, when you're doing it in school sometimes you're, like, you have to move fast, so you don't get to look at everything in detail but then in grinds, like, they go back over stuff maybe you didn't understand when you did it first (Finn, FG).

There was consensus among most students that grinds are a necessity for doing well in certain subjects, mainly higher-level mathematics:

Like, I can feel like I'm somewhat improving, because like maths isn't my strongest subject, so I definitely needed grinds to kind of boost myself back up again (Corrib, FG).

I would say everybody takes at least one [grind]. Every student in our year would take at least one (Bann, FG).

Some students even felt that grinds are actually a 'requirement' to maximise points in mathematics:

I think you kind of nearly need grinds if you're doing higher-level maths ... Except the rare few (Bandon, FG).

The average Joe, like myself, you know, you need them in sixth year if you want to get, like, a bit of a higher grade (Bandon, FG).

Students felt that grinds allow another way of looking at material/concepts, which helped them to understand and engage with material more readily:

You get, like, the reasoning behind what you're trying to get at instead of just looking at numbers and different things there (Finn, FG).

You find, like, different ways of doing things. So, like the teacher might do it one way and then your grind teaches you a different way and like you can choose which one suits you better (Bann, FG).

Like, if you're revising, you're kind of going over the stuff you thought you knew, but you actually didn't know precisely what it was (Deel, FG).

Some students felt that the grinds culture results in inequality among those who cannot afford private tuition and makes for an uneven playing field:

As soon as you have to get grinds for it, you are automatically isolating a group of the Irish population who can't afford grinds. Grinds aren't cheap and it's not fair (Lee, FG).

We shouldn't have to get grinds, though. Like, I don't get them, because I wouldn't have the money to pay for grinds all the time (Deel, FG).

However, teachers spoke about the distrust of teachers in favour of grinds teachers and felt that the culture of grinds negatively impacts student engagement within the classroom setting:

There's a culture of grinds as well, you see. It's, "Oh, I'll get them a grind" ... And I think unfortunately at higher-level maths everyone seems to feel they need to get a grind ... I don't think it's good. You should learn what you need to learn in class and, you know, if you can perform at that level. They're pushing the standard up for themselves. They don't seem to realise (Nore, Teacher).

5.3 PREPAREDNESS FOR LIFE AFTER SCHOOL

A number of recent studies highlight challenges for Ireland in preparing second-level students for life beyond the school gates. McCoy et al. (2014) emphasise the need to better prepare young people – both academically and socially – to meet the demands of post-school education. Young people in this study repeatedly stressed the greater independence they gained in post-school education and the requirement for self-directed learning and taking responsibility for their learning, which they found challenging (p. 131). In terms of preparation for the world of work and adult life more generally, a sizeable share of school leavers felt that school was of no help (44 per cent in the case of preparation for the world of work and 36 per cent in the case of adult life). Interestingly, young people who participated in the Leaving Certificate Applied (LCA) programme were far more positive about the extent to which their schooling had adequately prepared them for the workplace and adult life in general. More recently, in their research with first-year undergraduate students, O'Leary and Scully (2018) similarly found that the LC was viewed as a poor preparation for higher education (HE). This was seen as stemming from the tendency to promote rote learning as opposed to more sophisticated cognitive processes, its structured and prescribed nature, and its emphasis on final written examinations, which detracts from the development of certain transferable skills (p. 17).

In the case-study schools, many students reported feeling that the LC does not prepare them with the necessary academic skills for college. Students identified a mismatch between the teaching and learning styles in second level, compared to third level:

It's like the education systems don't link up to each other. You've got one for primary, one for secondary, one for college and none of them actually matter to each other except the college which is actually the one you need (Slaney, FG).

Students identified the lack of independent learning in school as a challenge for the transition into third level:

You're just told what to do. There isn't much independent learning and then you hear that it's all independent learning in college and, you know, making presentations and stuff and we definitely don't have a lot of experience of that (Bandon, FG).

I think in college it seems like you're kind of left up to yourself to do it, whereas in school it seems you're kind of spoon-fed everything. I think that's going to be a big change going into college (Finn, FG).

Staff identified that the modes of teaching and learning in school do not adequately prepare students for the type of work they will encounter in third level:

We do so much for them, you know. Okay, in Transition Year they get an opportunity to do a little bit of self-directed learning and project work, and independent stuff. And then they come back into sixth year, or fifth year, you know – the teacher, you know, controls everything. And then suddenly they find themselves in UCD or Trinity, or DIT or wherever they are, and they find themselves involved in group work, and in negotiation ... and they do struggle hugely with that (Corrib, Principal).

Students also felt that school does not equip students with basic life skills:

I think that's what scares me the most is when I finish school I'm not going to know what to do, like I don't know. Like I just won't be able. It's like they focus on school, they focus on get yourself into college and that's it. Or even small things like interviews or anything, there's never any preparation (Slaney, FG).

Because even like if someone asks you to like change a plug or like could you build, could you put a shelf on a wall like? A lot of people couldn't like (Corrib, FG).

Students spoke about the way in which being 'babied' in school does not prepare them for the independence of life after school. Some students reported feeling anxious about how they will navigate life after school:

You're not really taught many like, practical things, you're kind of babied sometimes. We're going to be independent when we go to

college, or whatever but yet like we're still asking permission to go to the toilet. I think it's just mental (Deel, FG).

Just like real life things like taxes and, like interview skills, forms and things like, say even registering to vote ... Just those little things that you're going to need in life that are just not that hard to pass on, it's just never really thought of (Bandon, FG).

Staff also expressed concern regarding the lack of life skills among some students and felt that schools should do more to prepare them with the practical skills for navigating life after school:

We do a specific module after Easter with our Leaving Certs, on budgeting, healthy eating. They have no awareness ... that kind of work is absolutely vital if we are going to send our students out into the world, prepared ... Even now, around signing leases and landlords, we do all of that with them ... If you're signing for a lease it's 12 months, you're going to be stuck with it for the summer. What are you going to do then? But that's just my personal bugbear, because I just think that third-level students are not at all prepared for the real world, when it comes to that kind of thing (Lee, GC).

Some staff members felt that the over-involvement of parents in their children's education is also having a negative impact on student resilience and preparedness for life after school:

One of the things that I would worry about is resilience of students ... Parents are not allowing them to fall and get up ... so, you know if anything ... is not going smoothly, the parent will be in straight away to kind of smooth the [situation] (Bann, Principal).

I think ... helicopter parenting isn't helping it, at all ... The parents are jumping in and helping out ... Some of them are going to be 20, and they actually can't do any independent elements themselves ... We're putting them in a blanket, and then expecting them to go off and be independent once they go into college (Corrib, Teacher).

I find, I now go to parent-teacher meetings to be told how the student is getting on, rather than actually explaining how I feel the student is getting on. That's a massive thing at the moment (Corrib, Teacher).

5.4 STUDENT STRESS LEVELS IN THE LEAVING CERTIFICATE YEAR

The issue of student stress was a strong feature of staff, student and parent interviews. The views of students and staff across the case-study schools suggest that student stress remains a significant challenge for schools. There is no way of assessing whether the changes in the grading system have impacted on student stress levels, but the findings certainly highlight the prominence of this issue for students today, particularly in the period preceding the LC examination. Staff and parents reported concerns over student stress levels. One principal expressed concern over the increasing prevalence of stress and anxiety amongst students in her school:

There's no doubt [that] the stress and anxiety levels are increasing, year on year. And we have more and more students who are suffering from, from severe anxiety and stress, in advance of the Leaving Certificate. But we also would have students therefore, who become physically and mentally ill as a result. And you know, that is something that we have definitely seen an escalation in, in the last number of years, hugely (Corrib, Principal).

A lot more students than previous years ... are presenting with anxiety, yeah. Worried, and they're at both ends, boys worried at the top and boys worried at the bottom. I always believe that they are worried, you know nobody likes to fail ... I do think it's stressful for them, very stressful for them (Finn, Principal).

One principal spoke about a huge increase in the number of students applying to the Disability Access Route to Education (DARE) scheme, reflecting an increase in emotional, psychological and mental health difficulties:

Much more than I've ever heard about or seen in a school, you know? Depression, eating disorders they're on the up for sure. Stress, stress levels in students ... I think we had something like 30 applications for DARE ... It's unprecedented, we've never had that number before (Bann, Principal).

Staff felt that student stress is coming from peers and parents around the expectation to perform well within the LC exams:

The thoughts of failure, the thoughts of not making it the way my parents have made it or the way I perceive the people in my community have made it, that is the fear ... Pushing themselves and pushing themselves. There's a reason we've 30 DARE applications and of those [number], very few are specific learning difficulties. Many of

them are mental health ... It really is a self-imposed pressure
(Bann, GC).

The large volume of information covered by students within subjects, along with the number of subjects, was identified as a precursor to the high stress levels:

I think the fact that students have to do six, seven, eight subjects is crazy, you know, it's just too much. In two years, at the level that they have to do them, you know, it's just crazy ... With the exception of students who would be academically weak, a handful of students who are academically weak in this school, every single student is doing seven, eight or even nine subjects in the Leaving Cert.
(Corrib, Principal).

Staff spoke about students not attending school due to stress, and the fact that stress may manifest differently for boys and girls:

There is three or four in here that are, you know, some days can't come to school they're so stressed ... A lot of it is coming from parents, a lot of it's coming from their peers, a lot of it's coming from themselves ... There is huge expectation here on them to do well (Bann, Teacher).

I would have five, six meetings a week with parents who are concerned about the anxiety (Corrib, Principal).

I think, in particular, girls may get very, very nervous but boys completely disengage (Deel, Principal).

Some students reported feeling overwhelmed by the workload and intensity of examination focus in sixth year:

I thought the stress would be a lot more obvious. It's kind of just constant but it's subconscious, so then I'll just start crying for no reason (Bann, FG).

I think I, kind of, get a bit overwhelmed. I think the stress is a bit too much, and I stop myself from performing better in exams (Deel, FG).

It's tough ... I think it's at this point of the year or has it been tough, kind of, all year long – since the start of sixth year? It's kind of – this point is kind of worst, I feel, like (Nore, FG).

Students spoke about experiencing a constant level of stress and pressure to perform throughout sixth year:

That's what it's like for me, like you don't think about it and you just break down, if someone asks you if you're okay, you just break down (Lee, FG).

It's always on your mind, no matter what – if you're doing sport, you're out or what, you're always thinking about the Leaving Cert., you're not thinking about what you're doing, you're always thinking about it (Lee, FG).

5.6 SUMMARY

This chapter considered a number of broader issues relating to the transition to senior cycle and the preparation for the LC examination. While these issues do not directly relate to the changes in the LC grading scheme, they do reflect what matters for students when asked about the examination and their experiences in preparing for the examination. Section 5.1 considered the extent to which students felt the junior cycle prepared them for senior-cycle education. While many aspects of junior cycle have changed since this cohort of students experienced it, the views of students highlight some important issues for the senior-cycle review, which is ongoing. Section 5.2 explored the grinds culture among second-level students. The most recent estimates (2012) suggest that almost half of LC students have grinds at some point during their LC year. However, the figure may have increased since then, as take-up of grinds was prevalent among the students in the case-study focus groups. Interestingly, grinds are now perceived as a requirement to do well in the exams, especially in mathematics. Section 5.3 explored student preparedness for life after school. Many students reported feeling ill-equipped for the teaching and learning styles associated with third-level education. Both staff and students expressed concern regarding the lack of independent learning in school. Similarly, staff and students felt that school did not equip students with basic skills for life after school. Students reported feeling anxious about how they would manage life after school after, having been 'babied' in second level. Finally, the last section of this chapter focused on student stress. Staff reported a large increase in the numbers of students experiencing mental health issues, such as anxiety. Staff felt that this stress arose from a number of sources: the student, peers and family, as well as the volume of information they have to cover. Students also spoke about feeling overwhelmed and anxious about the workload and intensity of examination focus in senior cycle.

CHAPTER 6

Summary of key findings and policy implications

6.1 INTRODUCTION

This report examines the early effects of a change in the grading structure for the Leaving Certificate (LC) examination on student perceptions and behaviour. Potential change in LC outcomes is an important policy issue, given the crucial role played by upper secondary grades in access to higher education (HE) and to (higher quality) employment in Ireland. Across different countries, educational outcomes are found to serve as important signals to employers of the 'quality' of job applicants (Thurow, 1976) and, in many countries, they influence access to further education and HE. However, the kinds of educational outcomes that are deemed relevant vary across countries (Eurydice, 2009). In some systems, such as Germany, the type of qualification, whether academic or vocational, is the most important determinant of post-school pathways (Müller and Gangl, 2003). In other systems, young people taking the same type of qualification take different subjects and/or receive different grades. Research indicates that while the type of subject taken is of significance for HE entry and access to employment in Scotland, grades are a much more important influence in Ireland (Iannelli et al., 2016; Iannelli, Smyth, 2017). Given the role of the LC as a gateway to education, training and employment, any change in the way in which assessment results are reported is likely to have substantial implications for young people.

This study builds on a large body of work, undertaken at the ESRI and elsewhere, on students' experiences of second-level education in general and their perceptions of the LC examination in particular. Research has shown the strong backwash effect of the LC examination, with a narrowing of the range of student learning experiences and a focus among both teachers and students on 'covering the course' (Smyth et al., 2011). As they approach the examination, many students, especially highly ambitious young people from middle-class backgrounds, become more instrumental in their focus, equating good teaching with teaching to the test and valuing the role of private tuition (grinds) in examination preparation (Smyth and Banks, 2012). Young people report curtailing sports and social activities in sixth year, spending long hours on homework and study, resulting, especially for many girls, in high levels of reported stress prior to the examination (Hannan et al., 1996; Banks and Smyth, 2015). Analysis of examination papers indicates that the nature of assessment currently overemphasises lower-order skills, especially recall and memory (Burns et al., 2018). Students and parents alike suggest that the current curriculum and assessment system constrains the extent to which young people are adequately prepared for the world of work and for life after school more generally (Byrne, Smyth, 2010; McCoy et al., 2014b). In addition, young people report difficulties in adjusting to the more self-directed learning characteristic of further

education and HE after their experience of the examination-focused senior cycle (McCoy et al., 2014b). In sum, the terminal, *largely* written examination-based nature of LC assessment,¹¹ coupled with its high-stakes character, has been found to profoundly influence the nature of learning and skills development experienced by young people. This report assesses whether an adjustment in the grading system used has any impact on student perceptions and behaviour in their final year of school, at least during the early period following the grading changes.

6.2 CONTEXT OF THE STUDY

Much of the research on the LC examination has focused on achievement in the examination and the associated points awarded, as a mechanism for entry into HE and other post-school education and training pathways (McCoy et al., 2010; McCoy and Smyth, 2011; McCoy et al., 2014b). Little attention has been paid to how grading bands have changed over time, and what this means for academic standards more generally. In reviewing changes in the grading bands and associated Central Applications Office (CAO) points over time, Chapter 1 set out the key policy changes and processes underpinning these changes. Prior to the early 1960s, LC papers were graded on an individual mark, across honours and pass levels. In 1969 a new higher and ordinary distinction emerged, with subjects graded from A to F. In 1992, in an attempt to reduce the incidence of random allocation for selection to HE, a decision was taken to increase the number of grading bands to 14 at higher and ordinary level. Following the work of the Commission on the Points System in the late 1990s, there were calls to reduce the number of grade bands, with the aim of improving relative reliability levels.

Following recommendations from the Transitions Reform Steering Group, new grading bands were introduced, and these were applied for the first time in June 2017. The changes saw a return to an eight-point scale at higher and ordinary levels, with the aim of supporting ‘greater reliability and validity of the examination grades’ (NCCA, HEA, 2011, p. 115). For the first time, the reform also explicitly included the level of achievement in the name of the grade (‘H1’, ‘O1’ etc. instead of ‘A1’, ‘A2’ at higher level and ordinary level, etc.). The changes also saw some important amendments in the allocation of CAO points, for the purposes of entry to HE. The maximum number of points achievable at higher level was maintained at 100 points, but the highest points at ordinary level was reduced from 60 to 56 points. With a view to encouraging the take-up of higher-level subjects, those achieving 30-39 per cent (‘H7’) are now awarded points (37 points, equivalent to 70-79 per cent on an ordinary-level paper). The change in the points system was also accompanied by changes to matriculation requirements in the universities and institutes of technology. The points awarded for students taking the Leaving Certificate Vocational Programme (LCVP) modules were somewhat altered, whereby they

¹¹ It should be noted that over 20 of the subjects at LC-level now have either a practical or project-based second assessment component.

could attain a distinction with 66 points (relative to 70 in 2016), a merit with 46 points (compared to 50 in 2016) and a pass with 28 points (compared to 30 points in 2016). The awarding of bonus points for students achieving at least 40 per cent in higher-level mathematics has been maintained. Finally, students who answer their exams in Irish continue to receive bonus marks of up to 10 per cent. For most subjects, the bonus is 10 per cent of the marks for a candidate who obtains less than 75 per cent of the total marks; above 75 per cent the bonus is subject to a uniform reduction.

The historical overview also revealed that higher education institutes (HEIs) have had considerable voice in shaping assessment for senior-cycle education since the late 1960s in Ireland, and this has remained the case more recently, albeit with more input from a wider range of agencies involved in the Transitions Reform Steering Committee. Prior to the 1970s, entry to HE was largely dependent on a student's possession of minimum entry requirements and their ability to pay course fees and expenses. As the volume of applications resulted in considerable complexity for HEIs and applicants, given that individual candidates applied directly to multiple institutions, there were calls in the late 1960s for the introduction of the *numerus clausus* – to limit the number of students. This led to considerably greater competitiveness in the LC and matriculation examinations and to a 'distorting influence on the whole process of second-level education' (Coolahan, 1981). These challenges have remained, despite adjustments, largely in terms of HEIs making changes to their selection mechanism through matriculation requirements. Repeatedly, research has highlighted the impact of the LC being the core of the system of selection by the HEIs, in particular, the negative backwash effect of a terminal examination system on classroom teaching and learning, its effect on the student experience at senior cycle, the influence of the points system on subject choice for senior-cycle students, as well as concerns regarding 'teaching to the test' (Government of Ireland, 1999; NCCA, 2002; Hyland, 2011; Smyth, et al., 2011).

In sum, the rationale for the reform of the grading bands was to:

- fairly reward scholastic achievement;
- minimise the use of random selection to allocate HE places;
- preserve the relative value of ordinary and higher level in the current points scale;
- encourage the take-up of higher-level subjects, by awarding points for the new H7 (30–39-per cent) grade.

6.3 METHODOLOGY

This study is an early impact exploratory study examining the experiences of students and schools following the implementation of the revised grading scheme

in June 2017. The study is mixed-method, with two main elements: analysis of individual-level examination data, and case-study research in ten schools. Increasingly, mixed-methods research designs are seen as the gold standard for examining complex interventions applied in heterogeneous environments, and this has become a highly valued research approach in the Irish context over the last ten years. Chapter 3 drew on the State Examinations Commission (SEC's) LC examination results for the period 2015 to 2017. Comparing the take-up of subject levels and grades in 2016 and 2017, the data allowed us to assess the extent to which the change in the grading structure resulted in any initial changes in student behaviour. Including information on 2015 allowed us to examine whether changes were already underway in level take-up and examination performance even before the grading structure changed.

Chapters 4 and 5 provided evidence from the case-study research in ten case-study schools in March and April 2018. Data from the Department of Education and Skills (DES) was used to identify ten mainstream second-level schools for in-depth analysis. The schools were selected on the basis of two key dimensions: social mix and gender mix. Over and above these two dimensions, schools were selected to capture a variety in terms of school size (which is known to have an impact on ability grouping), sector and location. Within each case-study school, focus group interviews were undertaken with sixth-year students from higher- and ordinary-level mathematics classes. In-depth interviews with school principals, guidance counsellors, and three teachers (English, mathematics and one optional subject) were also undertaken. A small number of parents across the schools were also interviewed by telephone. All interviews were recorded, with consent, and transcribed verbatim. Finally, registrars in a number of HE institutions were also interviewed – providing valuable insights into their perceptions of the impact of the changes in the LC grading scheme. In advance of the research, a detailed research plan was submitted to the ESRI Research Ethics Committee, to ensure that the highest standards were maintained throughout the study.

6.4 MAIN FINDINGS

For the most part, students adopted the new grading scheme without much difficulty, although a smooth transition to this scheme was often based on schools providing information to students and their parents early, ideally early in fifth year. While students had mostly taken the new changes in their stride, some were unsure of the rationale for the changes. Teachers and guidance counsellors generally adjusted more slowly, and many were still familiarising themselves with the new scheme a year on. More generally, the complexity of the three different grading schemes (LC, JC old and new) was seen to create confusion for staff and students alike.

Analyses of the anonymised examination data show a growing proportion of students sitting higher-level papers, particularly for Irish, English and mathematics.

These changes reflect a longer-term trend towards greater numbers taking higher level, particularly for mathematics, following the introduction of bonus points in 2012. After the grading changes in 2017, there was a further and statistically significant increase in the take-up of higher-level Irish, English and mathematics, results which hold, taking account of student and school characteristics. On the basis of this early analysis, the evidence suggests that the grading changes, and the awarding of points for 30–39 per cent on higher-level papers, achieved the stated aim of promoting the take-up of higher-level subjects. It is interesting that the trends varied somewhat across schools, with higher-level take-up increasing for low- and medium-points schools (where presumably there is greater room for expansion of take-up levels). DEIS (Delivering Equality of Opportunity in Schools) schools in the low- and medium-points bands lost out somewhat, with a widening gap between DEIS and non-DEIS schools, although low-points schools in the ETB sector appear to reduce the gap with other schools. The results also highlight the constraints posed by small school size in terms of higher-level subject provision, with a clear gradient between school size bands and higher-level subject take-up.

While the risks associated with higher-level take-up were reduced, the case-study research revealed what this meant for schools and their students. A number of schools reported increasing the number of higher-level classes, particularly for mathematics, with consequent implications for teacher supply and allocation. Students spoke about the incentives offered for persevering with higher-level courses, particularly for mathematics (with the availability of bonus points), as well as the challenges this created in terms of workload and stress. They were also conscious of the dilemma in staying with a level for which they felt ill-equipped, but in a system where 30 per cent is considered a ‘pass’. More generally, the bonus points for mathematics were seen as a considerable incentive for students to attempt the higher-level paper, which some felt was fair, given the considerable demands of the higher-level mathematics course. However, many in the case-study schools spoke about the challenges for students in choosing the best level. This involves building an environment that is both encouraging to students who are likely to achieve at higher level, and who need to undertake the additional work required, and caring about those who are unlikely to do well. Teachers and guidance counsellors highlighted difficulties in addressing unrealistic expectations among students and an unwillingness among students/their parents to follow their advice. However, it is clear that resistance to dropping to ordinary level is also influenced by the incentive structure and what is widely regarded as low points for ordinary-level grades.

The grading changes were found to impact on student performance levels, perhaps not surprising, given the shift in higher-level uptake; i.e. the findings are a consequence of the best-performing students at ordinary level moving to the lower end of the distribution at higher level. Students and teachers alike felt that some students benefited more than others. Students felt that it is now more difficult to attain the top grades, at both higher and ordinary level, and that the wider bands in

particular benefited students at the lower end of the grades. Analysis of the LC examination data highlighted a significant drop in grades, all else being equal, for mathematics and Irish at higher level and Irish at ordinary level. Young women experience less of a decline in grades in Irish than young men, but students from low-income families fared less well across all three subjects (Irish, English and mathematics). The results also show growing inequality between DEIS and non-DEIS schools, in terms of performance levels. The effects of school size also emerge, with students attending larger schools faring better in terms of English and (higher-level) mathematics performance and overall points achieved.

The results highlight an important debate about whether it is better to promote exposure to higher-level thinking and concepts or to maximise mastery of less-challenging subject content and knowledge. The evidence on the impact of the specific bonus point incentive for higher-level mathematics is perhaps useful, given that most students inter-linked the awarding of points for 30-40 per cent at higher level and potential for achieving 25 extra points should they attain 40 per cent or higher in mathematics. Research on the introduction of bonus points for mathematics suggested that while the initiative saw a substantial increase in higher-level take-up (from 16 per cent in 2011 to 28 per cent in 2016), there have also been concerns over the ‘mathematical under-preparedness’ of students entering third level and about the lack of basic skills of some students sitting the higher-level paper (The STEM Education Review Group, 2016). However, the authors also suggest that the difficulties may reflect questions over the mathematics qualifications and competencies of teachers and that these issues should be the focus of policy reform.

While the grading changes have the stated objective ‘to preserve the relative value of ordinary and higher level in the current points scale’, the issue was the subject of considerable debate among students, and teachers, across all of the case-study schools. Both higher- and lower-performing students felt that the gap between the points awarded for higher and ordinary papers is too wide and that ordinary-level points do not fairly reflect the workload and effort involved. While the equivalence of the two sets of scales was preserved under the grading changes, the maximum points awarded for ordinary-level papers was reduced, and the points awarded for LCVP was also reduced. Students spoke about the impact of the perceived low points for achieving at ordinary level, in terms of their motivation, engagement and academic self-image. Quite a few students argued that the system is geared towards higher-level students, leaving them as ‘outsiders’.

Finally, Chapter 4 assessed whether the changes in the grading scheme impacted on the incidence of random allocation in HE selection, one of the four stated objectives of the reform. The results showed a considerable reduction in the numbers of courses and applicants with random allocation in HE entry. However, expressed as a proportion of the cohort applying for places, very few students were impacted either before or after the reform.

More generally, the research highlights a range of broader issues relating to the LC examination and senior-cycle education, which students clearly saw as relevant to any discussion on the LC examination. Many spoke with concern over the extent to which students progressing through the new junior cycle, with new teaching and learning methodologies and subject content, will be adequately prepared for senior-cycle education, and the LC, as it currently stands. The perceived breadth and challenge of the higher-level mathematics course was observed by students and teachers alike, for some a justification for the receipt of bonus points for those succeeding at higher level. The use of grinds was also reflective of the emphasis on rote learning and teaching to the test, grind tutors being seen as more effective in meeting these objectives. The high-stakes nature of the LC examination, the breadth and demands inherent in taking a large number of subjects (by international standards) and the prominence of gaming behaviours with a view to maximising points all contributed to high stress levels among students. Staff and students also spoke of the lack of independent learning at school and the broader lack of preparedness for life beyond school. While these are key objectives under the new junior cycle, it is clear that senior-cycle reform will be important in ensuring that such skills are fostered throughout second-level education.

The negative self-image of lower-performing students is further reinforced by the dominance of the 'points race' and the perceived excessive emphasis on maximising achievement in the exams. Media coverage around the time of the exams and the results was seen as symptomatic of the national obsession with performance, at any cost. The backwash effect of the exams on student learning was noted repeatedly by teachers, principals and guidance counsellors. The normalisation of grinds was further reflective of the emphasis on points, with the use of this system being prevalent across all case-study schools (although it is not clear if the frequency, intensity, or indeed quality of grinds varies, particularly in terms of financial ability to pay). There was a consensus among many students that grinds teachers can predict examination content and provide more focused notes than their class teachers. Staff spoke about the fixation of students on marking schemes and the value of rote learning in maximising their performance.

6.5 POLICY IMPLICATIONS

The report highlights a number of implications for policy development and provides benchmark information as a basis for further research. Our examination of changes to the grading bands and the common points scale (CPS) comes at a time when there is considerable change occurring in schools. For example, a review of senior cycle is underway, and a new junior cycle is being progressively rolled out across cohorts. At senior cycle, new programmes and courses are being developed and implemented into the curriculum to help support subject choice, and a wider range of assessment methods/components are also being introduced. The LC is located within a highly regulated assessment system. Assessment is summative and centralised in terms of standard setting, meaning that the LC defines academic

achievement in relation to an external standard and not relative to other students in the classroom or in the school. Junior-cycle reform has placed considerable attention on assessment methodologies, balancing a focus on examination-based summative assessment with classroom-based formative assessment. However, the reform process has been complex, with at times a lack of consensus, particularly on the preferred balance between examinations and classroom-based assessment and the role of teachers in both. While the vision for senior cycle, as set out in *Towards learning* (NCCA, 2009), is positive, given its model of ‘bottom-up’ engagement, the vision for senior-cycle assessment is limited. The senior-cycle review process presents a real opportunity to improve the pedagogical goals of senior-cycle education, and address many of the structural constraints highlighted in this study.

Proposals for the new grading bands came at a time of increasing government concern with academic standards, motivated by poor performance in the Programme for International Student Assessment (PISA), resulting in a renewed focus on literacy and numeracy in 2011 (DES, 2017). Since this time, the official educational policy discourse has increasingly been concerned with our relative international position, and the need to raise achievement and get beyond ‘performing inadequately’. For example, the interim report on the literacy and numeracy strategy highlights how the DES is keeping ‘a close eye’ on how Ireland is faring in international assessments (PIRLS, TIMSS, PIAAC).¹² As a result, specific targets have now been set regarding PISA, for DEIS and non-DEIS schools, but also for the take-up of higher-level mathematics, which increased from 16 per cent in 2011 to 28 per cent by 2016, with a target to reach an uptake of 30 per cent by 2020. While the official discourse surrounding academic standards and raising achievement is accompanied by a more progressive shift in assessment ideologies among practitioners, which seek to promote student agency in assessment matters, it is not clear that schools are adequately supported in this endeavour.

Findings from this study highlight the need for additional policy focus on the LC grading and associated points schemes. While the reforms have achieved a number of objectives, namely reducing the prevalence of random selection in HE entry and promoting the take-up of higher-level subjects, it is not clear that this latter outcome is a positive one for all students, particularly if they struggle to meet the requirements of the higher-level courses. The key dilemma related to whether exposure to higher-order thinking and content is preferable to mastery of ordinary-level material is one for further discussion. We do not have enough evidence for the implied equivalence of higher and ordinary grades in the current system,

¹² Progress in International Reading Literacy Study (PIRLS) assesses the reading achievement of fourth-class students; Trends in International Mathematics and Science Study (TIMSS) is a series of international assessments of the mathematics and science of students, mostly during the second-level years; the Programme for the International Assessment of Adult Competencies (PIAAC) survey measures adults’ proficiency in key information-processing skills – literacy, numeracy and problem-solving in technology-rich environments – and gathers information and data on how adults use their skills at home, at work and in the wider community.

highlighting that equating and/or standard-setting studies should be carried out to provide robust validity evidence for what is being done.

The patterns of take-up of higher-level subjects showed important variation across school contexts. In particular, the patterns are likely to reflect the way in which lower take-up of higher-level subjects at junior cycle in DEIS schools constrains the extent to which students are eligible to take higher-level subjects at senior cycle. This highlights the crucial importance of ensuring that students across all contexts are encouraged and supported in accessing higher-level subjects from the outset in second-level. The barriers faced by smaller schools in subject-level offerings (as well as subject range) also raise important issues for policy – clustering schools might be one way of addressing this. The additional supports crucial for student decision-making, particularly relating to guidance counselling, must be available to students across all school contexts. The ongoing career guidance review will be important in this regard. The perceived downgrading of ordinary-level papers (and associated CAO points) and the demoralisation among students studying subjects at ordinary level (and even the language ‘higher’ and ‘ordinary’) suggest the need for a re-examination of the rationale for separate subject levels, particularly in the context of a steady increase in the take-up of higher-level subjects over time.

The broader reforms, planned and already underway, are intended to alleviate the ‘points pressure’ on students in the latter stages of second level, enhance the learning experience and student preparedness for post-school education, and improve choice and decision-making processes. Challenges relating to the LC grading scheme should be seen in the context of these broader reforms, which will hopefully go some way to addressing the more significant structural constraints impacting on student learning and wellbeing, which this study has highlighted.

APPENDIX

SENSITIVITY ANALYSES

TABLE A3.1 MULTILEVEL LINEAR PROBABILITY MODELS OF TAKING HIGHER-LEVEL ENGLISH, IRISH AND MATHEMATICS

	Higher English	Higher Irish	Higher mathematics
Constant	0.601	0.323	0.324
Year:			
2015	0.018	0.016	-0.019
2017	0.031**	0.042***	0.020*
(Reference: 2016)			
Female	0.162***	0.200***	-0.035***
Exam fee waiver	-0.152***	-0.180***	-0.144***
DEIS status	-0.147***	-0.112***	-0.088***
Fee-paying	0.132***	0.030	0.182***
School type:			
ETB	-0.059	0.006	-0.048**
Community/comprehensive	-0.052	0.005	-0.038***
(Reference: voluntary secondary)			
Irish-medium school	0.181***	0.591***	0.091***
School size:			
300–499	0.053***	0.035*	0.015
500–699	0.102***	0.052**	0.045***
700+	0.126***	0.062***	0.053***
(Reference: <300)			
Female*2015	-0.015**	-0.003	0.001
Female*2017	-0.018**	-0.006	0.001
Exam fee waiver*2015	-0.004	-0.007	0.003
Exam fee waiver*2017	0.006	-0.004	-0.008
DEIS*2015	-0.004	-0.012	0.003
DEIS*2017	0.008	-0.010	-0.008
Fee-paying*2015	0.024*	0.005	-0.019
Fee-paying*2017	-0.006	-0.014	-0.032**
ETB*2015	0.002	-0.017	0.011
ETB*2017	0.015*	0.017*	0.010
Community/comprehensive*2015	-0.012	-0.024**	0.007
Community/comprehensive*2017	0.011	-0.018*	0.014
Irish-medium*2015	-0.005	0.023	-0.001
Irish-medium*2017	-0.031*	-0.033	-0.002
300–499*2015	0.000	-0.008	0.025
500–699*2015	-0.013	-0.013	0.015
700+*2015	-0.017	-0.014	0.006
300–499*2017	0.003	-0.006	0.013
500–699*2017	0.000	0.001	0.001
700+*2017	0.004	0.005	0.006
Between-school variation	0.013**	0.013**	0.006***

Source: State Examinations Commission.

Note: *** p<.001, ** p<.01, * p<.05.

The use of interaction terms in logistic regression models has been the subject of some debate in the research literature (see, for example, Ai and Norton, 2003), with some commentators suggesting the use of linear probability models instead (though these are themselves prone to difficulty in providing out-of-range predictions).¹³ To test the robustness of the models presented in Tables 3.2 to 3.4, we estimated linear probability models for the take-up of higher-level English, Irish and mathematics. The main effects were consistent across both sets of models and both specifications indicated statistically significant but comparatively modest increases in higher-level take-up between 2016 and 2017. Neither set of models showed marked variation in the extent to which changes over time differed across individual and school characteristics. Some slight differences were evident between specifications, but these findings related only to very small effects.

Because the number of higher-level subjects did not have a normal distribution, additional analyses were conducted to explore potential non-linearity in the effects. Table A3.2, shows a series of multilevel binary logistic models,¹⁴ in which the likelihood of taking three or four, five or six, and seven or eight higher-level subjects is contrasted against taking two or fewer higher-level subjects. Overall, there is a remarkable degree of consistency between the two model specifications. The discussion in the chapter draws on Table A3.2 in interpreting the patterns found.

¹³ An alternative approach is to look at average marginal effects. However, multilevel models would not converge using Stata due to the size of the population.

¹⁴ Multilevel multinomial logistic regression models would not converge.

TABLE A3.2 SERIES OF MULTILEVEL LOGISTIC REGRESSION MODELS OF NUMBER OF HIGHER-LEVEL SUBJECTS TAKEN (BASE CATEGORY: 0, 1 OR 2 HIGHER-LEVEL SUBJECTS)

	3–4 higher level	5–6 higher level	7–8 higher level
Constant	0.601	0.323	0.324
Year:			
2015	0.018	0.016	-0.019
2017	0.031**	0.042***	0.020*
(Reference: 2016)			
Female	0.162***	0.200***	-0.035***
Exam fee waiver	-0.152***	-0.180***	-0.144***
DEIS status	-0.147***	-0.112***	-0.088***
Fee-paying	0.132***	0.030	0.182***
School type:			
ETB	-0.059***	0.006	-0.048***
Community/comprehensive	-0.052***	0.005	-0.038***
(Reference: voluntary secondary)			
Irish-medium school	0.181***	0.591***	0.091***
School size:			
300–499	0.053***	0.035*	0.015
500–699	0.102***	0.052**	0.045***
700+	0.126***	0.062***	0.053***
(Reference: <300)			
Female*2015	-0.015**	-0.003	0.001
Female*2017	-0.018**	-0.006	0.001
Exam fee waiver*2015	-0.004	-0.007	0.003
Exam fee waiver*2017	0.006	-0.004	-0.008
DEIS*2015	-0.004	-0.012	-0.004
DEIS*2017	0.008	-0.010	-0.017*
Fee-paying*2015	0.024*	0.005	-0.019*
Fee-paying*2017	-0.006	-0.014	-0.032**
ETB*2015	0.002	-0.017*	0.011
ETB*2017	0.015*	0.017*	0.010
Community/comprehensive*2015	-0.012	-0.024**	0.007
Community/comprehensive*2017	0.011	-0.018*	0.014
Irish-medium*2015	-0.005	0.023	-0.001
Irish-medium*2017	-0.031*	-0.033*	-0.002
300–499*2015	0.000	-0.008	0.025*
500–699*2015	-0.013	-0.013	0.015
700+*2015	-0.017	-0.014	0.006
300–499*2017	0.003	-0.006	0.013
500–699*2017	0.000	0.00	0.001
700+*2017	0.004	0.005	0.006
Between-school variation	0.013**	0.013**	0.006***

Source: State Examinations Commission.

Note: *** p<.001, ** p<.01, * p<.05.

Tables 3.8 to 3.10 estimate grades for English, mathematics and Irish using a multilevel ordinary least squares (OLS) regression model. Alternative specifications using multilevel ordered logit models would not converge. The residuals at both individual and school levels for all of the models are found to be normally distributed, meaning that the OLS model findings are robust.

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