



Sé Sí

Gender in Irish Education

RANNÓG STAITISTIC
STATISTICS SECTION



AN ROINN OIDEACHAIS
AGUS EOLAÍOCHTA | DEPARTMENT OF
EDUCATION AND SCIENCE

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Sé Sí – Gender in Irish Education

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Foreword

This year marks the fortieth anniversary of the introduction of free second-level education in 1967. The time-series analysis presented in this report reveals the immediate impact of that policy reform and the hunger for learning that this unlocked in the Irish population. The number of Leaving Certificate candidates quadrupled before the twenty-fifth anniversary of the initiative in 1982. This move together with our subsequent investment in higher education has resulted in a remarkable improvement in the educational profile of the Irish population over those forty years.



Sé Sí provides a very thorough evaluation of gender and education in Ireland. Boys are significantly more likely than girls to leave school early and to demonstrate low levels of attainment in education. Although our gender differences in examination performance would appear to be moderate in an international context, these gender differences are substantial and they have increased slowly but steadily over time. Females now outnumber males among students of higher education and this gap has increased steadily over the last decade. The rapidly improving educational profile of women in Ireland has added significantly to the pool of skills in the Irish labour market.

Gender is one of a range of factors that impact on educational attainment. The international data demonstrate that home background characteristics and community characteristics have the most significant impacts on the extent to which individuals derive benefit from education systems here and elsewhere. How we deal with diversity in our education system will be a critical determinant of our future success as a society. Maintaining and continuing to improve quality in the context of ever-increasing diversity is at the heart of our aspirations towards the universal provision of educational opportunities.

This points to the importance of innovation in teaching and learning and we are fortunate with the quality of our teachers and with the continuing high regard for teaching as a profession in Ireland. In an era when mass participation and world-class quality in education are pre-requisites for economic competitiveness, this report also highlights the effectiveness of education systems where all schools and educational institutions embrace the diversity of their community.

I would like to take this opportunity to pay tribute to the principals and staff of our schools and staff of our further and higher education institutions whose work in reporting data on an annual basis to the Department and other state agencies has made the analysis in this report possible. We look forward to your continued support in our efforts to further improve the quality and policy-relevance of our evidence-base in Irish education.

If there is a key message from the time-series analysis presented in this report, it is that significant challenges remain in the context of our educational ambitions as a country. By encouraging more young people to finish school and ensuring much greater second chance and further education opportunities for those who leave school early, we can continue to address these challenges.

It is my sincere hope that this report will be a catalyst for reflection, dialogue and research on key issues relating to education and to gender in Irish society.

Mary Hanafin T.D.
Minister for Education and Science
July 2007

Table of Contents

Introduction 1

- Background
- Aims of the report
- Layout of the report
- Principal findings
 - Remarkable improvement over time
 - Retention and school completion
 - Subject take-up in second-level education
 - The sciences
 - Elementary mathematics “for girls only”
 - Performance in state examinations at the second level
 - Higher education
 - Further education
 - Educational personnel

1 Primary-level education and special educational needs 13

- Participation and demographics
- Gender mix in primary schools
- Literacy: sample surveys
- Special educational needs and learning difficulties
- Special schools

2 Second-level education 23

- Overall participation in second-level education
- Participation in particular programmes at the second level
 - Junior Certificate School Programme (JCSP)
 - Transition Year
 - Leaving Certificate Vocational Programme (LCVP)
 - Leaving Certificate Applied (LCA)
 - Repeat Leaving Certificate
- Enrolment by school sector
- Gender mix in second-level schools
- Retention through second-level education
- Upper secondary completion in the international context

3 Junior Certificate examinations 41

Junior Certificate examination candidates
Subject take-up
Higher-level and ordinary-level examinations
Overall performance in the Junior Certificate examination
Summarised overview of performance by subject
Detailed overview of performance by subject

4 Literacy in international context 59

PISA – The Programme for International Student Assessment
Reading literacy
Reading profiles and learning strategies
Mathematical literacy
Scientific literacy
Key competences
Conclusions

5 Leaving Certificate examinations 73

Leaving Certificate examination candidates
Subject take-up
Higher-level and ordinary-level examinations
Overall performance in the Leaving Certificate examination
Summarised overview of performance by subject
Extended time-series analysis in core subjects
Detailed overview of performance by subject

6 Further education and training 99

Post-Leaving Certificate courses
The Vocational Training Opportunities Scheme
Youthreach
Senior Traveller Training Programme
Adult literacy
Back-to-Education Initiative
Apprenticeship
Overview of FETAC awards
Community education
Self-funded part-time adult education courses
Continuing vocational training of employees
Concluding remarks

7**Higher education****115**

- Participation in third-level education
- Analysis by level of qualification
- Retention and completion of third-level courses
- Analysis by field of study
- Performance in final university examinations
- Third-level educational attainment in the international context

8**Educational personnel****137**

- Primary teachers
- Second-level teachers
- Higher education
 - Institutes of technology
 - Universities
 - International data on academic personnel in higher education
- The administration of the education system in Ireland
 - Department of Education and Science
 - Board membership of agencies and advisory committees
 - Vocational educational committees
 - Personnel of selected agencies

9**Overview of the population****163**

- Changes over time in the educational profile of the population
- Educational attainment in international comparison
- The impact of initial educational attainment
 - Participation in the labour market
 - Returns to education
 - Future engagement with learning

Table of Appendices

1 Primary-level education and special educational needs 175

- 1.1 Enrolment in primary schools - 1980 to 2003
- 1.2 Births by sex - 1871 to 2003
- 1.3 Early Start pre-school programmes - 1995 to 2003
- 1.4 Gender mix in primary schools - 1975 to 2003
- 1.5 Reading standard of fifth class pupils - 1998
- 1.6 Pupils retained in the same standard - 1990 to 2003
- 1.7 Pupils with special needs in ordinary national schools - 1994 to 2003
- 1.8 Overview of grade repetition and special educational needs - 1994 to 2003
- 1.9 Profile of pupils with special educational needs in ordinary national schools - 2003
- 1.10 Pupils in special schools - 1980 - 2003
- 1.11 Pupils in special schools by age and sex - 2003
- 1.12 Profile of pupils in special schools - 2003

2 Second-level education 187

- 2.1 Enrolment in the junior cycle of second-level education - 1980 to 2003
- 2.2 Enrolment in the senior cycle of second-level education - 1980 to 2003
- 2.3 Junior Certificate Schools Programme (JCSP) - 1996 to 2003
- 2.4 Transition Year - 1980 to 2003
- 2.5 Leaving Certificate Vocational Programme (LCVP) - 1996 to 2003
- 2.6 Leaving Certificate Applied Programme (LCA) - 1996 to 2003
- 2.7 Repeat Leaving Certificate students in public institutions - 1990 to 2003
- 2.8 Overview of Leaving Certificate students by programme - 2002/03
- 2.9 Enrolment by school sector - 1981 to 2003
- 2.10 Gender mix in second-level schools - 1980 to 2003
- 2.11a Indicator of lower second-level attainment - 1932 to 2004
- 2.11b Indicator of upper second-level attainment - 1932 to 2004
- 2.12 School leavers by level of education - 1982 to 2002
- 2.13 Gender ratios of school leavers by level of education - 1982 to 2002
- 2.14 Detailed analysis of retention among the 1994 cohort of second-level pupils
- 2.15 International data on upper secondary graduation rates - 2002
- 2.16 Gender differences in upper secondary graduation rates - 2002
- 2.17 Gender differences in typical years of schooling - 2002

3 Junior Certificate examinations

203

- 3.1 Junior Certificate examination candidates – 1991 to 2003
- 3.2 Gender ratios within Junior Certificate subjects - 2003
- 3.3 Gender ratios within Junior Certificate subjects – 1993
- 3.4 Candidates taking higher level Junior Certificate Examination papers by subject – 2003
- 3.5 Candidates taking higher level Junior Certificate Examination papers by subject – 1993
- 3.6 Very high performance in the Junior Certificate – 1997 to 2003
- 3.7 Low performance in the Junior Certificate – 1997 to 2003
- 3.8 Overview of performance in the Junior Certificate 2003
- 3.9 Trends in the gender difference in Junior Certificate examination performance – 1992 to 2002
- 3.10 Overview of gender differences by subject – 1992 to 2002
- 3.11 Detailed overview of performance by subject – 1990 to 2002

4 Literacy in international context

235

- 4.1 Reading literacy – Mean scores from PISA 2000 and 2003
- 4.2 Gender differences in reading literacy from PISA 2000 and 2003
- 4.3 Reading difficulties – Performance at level 1 and below in PISA 2000 and 2003
- 4.4 Reading literacy performance by level - 2000
- 4.5 Mathematical literacy – Mean scores from PISA 2003 and 2000
- 4.6 Gender differences in mathematical literacy from PISA 2003 and 2000
- 4.7 Mathematical difficulties – Performance at level 1 and below in PISA 2003
- 4.8 Mathematical literacy performance by level - 2003
- 4.9 Scientific literacy – Mean scores from PISA 2003 and 2000
- 4.10 Gender differences in scientific literacy from PISA 2003 and 2000
- 4.11 Further analysis of performance in scientific literacy from PISA 2003

5 Leaving Certificate examinations

255

- 5.1 Leaving Certificate examination candidates – 1991 to 2003
- 5.2 Gender ratios within Leaving Certificate subjects - 2003
- 5.3 Gender ratios within Leaving Certificate subjects – 1993
- 5.4 Candidates taking higher level Leaving Certificate Examination papers by subject – 2003
- 5.5 Candidates taking higher level Leaving Certificate Examination papers by subject – 1993
- 5.6 High performance in the Leaving Certificate – 1991 to 2003
- 5.7 Low performance in the Leaving Certificate – 1991 to 2003
- 5.8 Overview of performance in the Leaving Certificate 2003
- 5.9 Leaving Certificate points by gender - 2005
- 5.10 Trends in the gender difference in Leaving Certificate examination performance – 1990 to 2002
- 5.11 Overview of gender differences by subject – 1990 to 2002
- 5.12 Extended historical analysis of performance in Irish, English and mathematics – 1932 to 1983
- 5.13 Detailed overview of performance by subject – 1990 to 2002

6 Further education and training

301

- 6.1 Post-Leaving Certificate courses – 1991 to 2003
- 6.2 The Vocational Training Opportunities Scheme – 1995 to 2004
- 6.3 Youthreach - 2003
- 6.4 Senior Traveller Training Programme - 2003
- 6.5 Adult literacy education – 2000 to 2004
- 6.6 Back-to-Education Initiative - 2004
- 6.7 Apprenticeship - 2004
- 6.8 Overview of FETAC awards, 2005
- 6.9 Day-time adult education – 1995 to 2004
- 6.10 Night-time adult education – 1995 to 2004
- 6.11 Continuing vocational training of employees - 2000

7 Higher education

309

- 7.1 Full-time enrolment in universities – 1980 to 2003
- 7.2 Full-time enrolment in institutes of technology – 1980 to 2003
- 7.3 Full-time enrolment in all publicly-aided higher education institutions – 1980 to 2003
- 7.4 Full-time enrolment in private colleges – 1980 to 2003
- 7.5 Part-time enrolment in publicly-aided higher education institutions – 1995 to 2003
- 7.6 Higher education graduates by level of qualification - 1993
- 7.7 Higher education graduates by level of qualification – 2003
- 7.8 Non-completion in institutes of technology – entrants 1995
- 7.9 Non-completion in universities – entrants 1992
- 7.10 Gender ratios by field of study – graduates 1993
- 7.11 Gender ratios by field of study – graduates 2003
- 7.12 Gender ratios of graduates at NFQ levels 6&7 – certificate and diploma graduates 2003
- 7.13 Gender ratios of graduates at NFQ level 8 – undergraduates 2003
- 7.14 Gender ratios of graduates at NFQ level 9 – postgraduates 2003
- 7.15 Gender ratios of graduates at NFQ level 10 – PhD graduates 2003
- 7.16 Overview of performance in final university examinations – 2004
- 7.17 Gender differences in university undergraduate examinations - 2004
- 7.18 Gender differences in university postgraduate degree examinations – 2004
- 7.19 Higher educational attainment of Irish 25-34 year olds – 1999 to 2005
- 7.20 International data on higher educational attainment of 25-34 year olds – 2004
- 7.21 Gender differences in higher educational attainment among 25-34 year olds - 2004

8 Educational personnel

333

- 8.1 Primary teachers – 1930 to 2003
- 8.2 International data on the gender of primary teachers – 2003
- 8.3 Principals and posts of responsibility at primary level – 1990 to 2005
- 8.4 International data on female principals at primary level – 2003
- 8.5 Second-level teachers – 1985 to 2003
- 8.6 International data on the gender of second-level teachers – 2003
- 8.7 Principals and posts of responsibility at second level – 2005
- 8.8 International data on female principals at second level – 2003
- 8.9 Gender breakdown of all staff in institutes of technology – 1997 to 2003
- 8.10 Management and administration staff in institutes of technology – 1997 to 2003
- 8.11 Full-time academic staff in institutes of technology – 1998 to 2003
- 8.12 Full-time academic staff in universities – 1997 to 2004
- 8.13 International data on the gender of academic staff in higher education institutions – 2003
- 8.14 Department of Education and Science – 2005
- 8.15 Irish civil service – 2003
- 8.16 Department of Education and Science – 1995/96
- 8.17 Board membership of agencies and advisory committees – 2005
- 8.18 Vocational educational committees – 2006
- 8.19 Personnel of selected agencies – 2005

9 Overview of the population

355

- 9.1 Persons with less than upper secondary education by age group – 2004
- 9.2 Persons with higher education by age group – 2004
- 9.3 International data on upper secondary attainment by age group – 2003
- 9.4 International data on higher educational attainment by age group – 2003
- 9.5 Participation in the labour market by age group – 2005
- 9.6 Trends in employment rates by gender and educational attainment – 1991 to 2003
- 9.7 Unemployment among 25-29 year olds by educational attainment – 2003
- 9.8 Returns to education in Ireland – 2000
- 9.9 Participation in (further) education by level of initial educational attainment – 2003
- 9.10 Participation in lifelong learning in the European Union – 2004

10 Bibliography

363

Introduction

Background

Sé Sí has its origins in reflections and reviews of the quality and policy-relevance of administrative data within the Department of Education and Science. This became part of a broader review throughout the civil service initiated by the Central Statistics Office and the Department of the Taoiseach in 2002.¹ These reviews identified serious limitations in the quality of existing administrative data, which continue to undermine the development of evidence-informed policy, particularly in relation to what could be broadly termed social and equality statistics. While they recognised the need to improve the quality of administrative data throughout the civil service and public service, significant emphasis was also placed on the need to make better use of existing data.

Within the Department of Education and Science an internal audit of data needs and data sources carried out at that time identified the limitations of existing data but also revealed a lack of awareness about the extent of the information that was available from administrative sources. In the light of these findings the Statistics Section began to reflect on how we could better communicate statistical information to policy-makers. This led to a renewed emphasis on the clarity and policy-relevance of our work. Beginning with the simple idea of stringing all the department's Annual Statistical Reports together, the development of time-series statistics was identified as an important first step in improving the ease of use of our statistical reports. On hearing of the work on compiling time-series statistics, the Gender Equality Unit expressed a strong interest in developing a publication on gender statistics in education. This provided a focus for the work within the Statistics Section. Sé Sí is the product of an extensive data-harvesting exercise undertaken over five summers by the staff of the Statistics Section.

Aims of the report

Sé Sí aims to provide a comprehensive overview of education statistics disaggregated by gender. The overriding emphasis of the work has been to compile and disseminate clear and accessible data on education in the interests of evidence-informed policy analysis. While much of the data have been previously published in the department's Annual Statistical Reports, many of the indicators presented in Sé Sí are new, in the sense that the data have now been developed into time-series statistics. The harvesting of data from a broad range of sources ensures that Sé Sí is comprehensive in scope, and the compiling of time-series statistics is intended to facilitate reflection and discussion on trends over time in Irish education and learning.

¹ Arising out of the Strategic Management Initiative (SMI), an inter-departmental initiative to improve the quality and policy-relevance of administrative data began in 2002. For more information see National Statistics Board, Strategy for Statistics, 2003–2008 (2003) at http://www.nsb.ie/pdf_docs/StrategyforStatistics2003-2008.pdf; also The [SGSES] Report of the Steering Group on Social and Equality Statistics (2003) at http://www.taoiseach.gov.ie/attached_files/Pdf%20files/SocialAndEqualityStatisticsReport.pdf, and The [SPAR] Report on the Statistical Potential of Administrative Records (2003) at http://www.cso.ie/releasespublications/documents/other_releases/spar.pdf.

Layout of the report

Sé Sí presents an overview of the issue of gender in Irish education in a lifelong – cradle to grave – perspective. The layout of the document is generally chronological from primary level through second and third-level education. Data on further education and educational personnel are also presented. Population data from the Central Statistics Office are used to summarise trends and the Irish experience is contextualised whenever possible using relevant international data.

Many of the time-series charts end in the 2002/03 academic year. Readers should note that, in almost all cases, the underlying data required for further updates are published in the annual statistical reports of the Department of Education and Science.

Principal findings

Given the considerable amount of research that has been done on the issue of gender in education, most of the individual findings and results are already widely known. Nevertheless, Sé Sí allows for the emergence of a comprehensive analysis of the issue of gender in education over time. A summary of the findings is not attempted in this introduction, because the entire document is intended to serve as a summary of available statistical data on gender and learning in Ireland. Nevertheless, a selection of the principal findings is presented below.

Remarkable improvement over time

It is very difficult for today's schoolchildren and even university graduates to appreciate the extent of the expansion of educational opportunities that has been achieved in Ireland over the last few generations. Among their grandparents' generation, half the school population finished their education at the primary level, and two-thirds were finished by the Junior Certificate. Only one in three got to the Leaving Certificate level, and roughly one in ten progressed to higher education. Higher education was simply not an option for 90 per cent of their grandparents.

The situation had improved substantially by the time their parents' generation attended school; but the education profile of the population of Ireland would have compared extremely poorly with its Continental counterparts at that time. The decision of the Irish state to make second-level education freely available to all citizens was relatively late in the context of western European social policy. In neighbouring countries the introduction of free second-level education was a post-war initiative; in Ireland the introduction of free second-level education was announced by the Minister for Education, Donogh O'Malley, in 1967. The very immediate impact of that decision, and the public appetite for learning that it uncovered, can be seen in chapter 2 of this report, where the total number of Leaving Certificate candidates in effect quadrupled over the following twenty-five years.²

Today we have universal primary education, 82 per cent completion of upper second-level education, 55 per cent³ entry to higher education, and a significant range of further-education opportunities. Internationally, Ireland is among the countries that have made most progress over time in improving the education profile of the population. However, important challenges remain as education and learning assume increasing importance in the pursuit of individual, community and national well-being. School completion and retention to the Leaving Certificate level has been and remains a central issue in Irish education policy.

Retention and school completion

The attainment of upper second-level qualifications has acquired growing importance in all EU and OECD countries, against the background of steadily rising skill demands in the labour market. Completion of upper second-level education has become the main gateway to continuing engagement with learning. In this regard, retention to the completion of second-level education is widely recognised as a central objective of education policy that has direct implications for participation in further and higher education and for broader policies relating to economic competitiveness and social inclusion.

At present the total proportion of second-level pupils who take the Leaving Certificate is approximately 82 per cent. Since the expansion of second-level participation in the late 1960s, girls have demonstrated consistently higher rates of school completion. Boys account for almost two-thirds of the pupils who leave second-level education before the Leaving Certificate and two-thirds of those who leave without any qualifications at all.⁴

Every year in Ireland since official records began in 1864, slightly more boys are born than girls, with the result that today, for example, there are approximately 1,800 more 17-year old boys than 17-year old girls. A similar difference exists among 16-year-olds, 15-year-olds, etc.⁵ Despite this demographic backdrop, over the last ten years girls have outnumbered boys by between 2,400 and 3,300 among candidates for the Leaving Certificate each year.

Comparing the number of school-based Leaving Certificate candidates with the numbers in the population at 17 to 18 years of age we see that approximately 6,900 boys did not sit the Leaving Certificate in 2005, compared with approximately 3,000 girls. In the same year the number of boys not sitting the Junior Certificate was approximately 1,350, compared with approximately 350 girls.⁶

³ This 2004 entry rate to higher education is calculated as the total number of new entrants to higher education (including mature students), divided by the total numbers in the population at typical age of entry (17-18 year olds).

⁴ See figs. and tables 2.11b, 2.12, 2.13, and 2.14.

⁵ Central Statistics Office, Census 2002: Principal Demographic Results (2003), table 10, p. 56. The figure of 1,800 was derived by rounding the average difference in the number of boys and girls aged 15 to 17 years.

⁶ The sources for these estimates are Central Statistics Office, Census 2002: Principal Demographic Results (2003), table 10, p. 56, and Department of Education and Science, Annual Statistical Report, 2004/05 (forthcoming), table 5.1. The estimates were derived by comparing the numbers of school-based candidates in the 2005 Junior Certificate and Leaving Certificate examinations (excluding repeats) with the relevant age cohorts in the 2002 census (minus 3 years). In percentage terms, approximately 22 per cent of boys did not sit the Leaving Certificate examination, compared with 10 per cent of girls, and 4.6 per cent of boys did not sit the Junior Certificate examination, compared with 1.3 per cent of girls.

Subject take-up in second-level education

Much of the debate on gender issues in Irish education has focused on the issue of subject take-up at second level and beyond. The overview of subject take-up patterns provided in Sé Sí reveals substantial gender differences that have remained largely unchanged over time. From early second level onwards, pupils conform closely to the traditional gender stereotypes in terms of the subjects they study. Boys far outnumber girls in the take-up of “practical subjects,” such as engineering, technical drawing, and construction studies and girls far outnumber boys in home economics, music, art and European languages.

In general, there are notable similarities between the subject take-up patterns in early second-level education and the subject take-up by gender in further and higher education. It is difficult to assess the extent to which this reflects innate dispositions towards different subject areas and the extent to which it arises as a consequence of socialisation and social conditioning. In any event, these trends in subject take-up patterns highlight the long-term reverberations of subject take-up at the beginning of second-level education. Regrettably, due to time pressures, the range of interesting issues relating to choice and the provision of subjects across second-level schools remains unexplored in this report.

In assessing subject take up by gender in Irish education, it is worth remembering that approximately 36 per cent of second-level pupils in Ireland today attend single-sex schools. In a majority of European countries, there are no single sex schools and only a very small minority of pupils attend single sex education in the remaining countries. Unfortunately, internationally comparable data on gender differences in subject take-up at second level do not yet exist. It would be interesting to develop international data in this area because of Ireland’s distinctiveness among European countries in having such a significant proportion of single-sex schools.

The sciences

Public debate on gender in Irish education over recent years has conveyed a particular interest in the take-up of science and engineering subjects. Within the second-level curriculum, science is taught and assessed as a unified subject at the lower second level before pupils beginning the upper second level are offered distinct courses in biology, physics, and chemistry. Biology, which is by far the most popular of the Leaving Certificate science subjects, is dominated by girls, who outnumber boys by 2 to 1 (68 per cent to 32 per cent). Girls also outnumber boys among Leaving Certificate examination candidates in chemistry (54 per cent to 46 per cent). Physics, on the other hand, is dominated by boys, who outnumber girls by 3 to 1 (75 per cent to 25 per cent).

Taking all the Leaving Certificate science subjects together, the gender ratio is in favour of girls (55 per cent girls, 45 per cent boys). This is a reversal of the ratio observed in Junior Certificate science, where boys outnumber girls (53 per cent to 47 per cent). However, despite the overall ratio in favour of girls in the sciences at the upper second level, there is considerable public concern about the low take-up of physics among girls. It is believed that this is one factor that contributes to the subsequent low take-up of engineering among women in higher education. Interestingly, physics is the subject in which girls most outperform boys in recent Leaving Certificate examinations.

Elementary mathematics “for girls only”

The story of mathematics that emerges from the analysis undertaken for Sé Sí is particularly interesting. Mathematics was traditionally a subject in which boys consistently outperformed girls in terms of the proportions of pupils obtaining higher-level honours in second-level examinations. However, the analysis of performance in mathematics over time is complicated somewhat by a history of inequity in the provision of higher-level mathematics to girls. In 1932 (when only a small fraction of the population remained in school until the Leaving Certificate), 21 per cent of male candidates opted for the higher-level mathematics paper, compared with only 3 per cent of girls. The proportion of female Leaving Certificate candidates taking the higher-level paper was particularly low during the middle of the twentieth century, dropping below 2 per cent between the mid-1940s and mid-1960s. For example, in the 1952 mathematics examination fewer than 1 per cent of girls sat the higher-level paper, compared with 26 per cent of boys.

In Annual Statistical Reports between the 1930s and 1968, “arithmetic—girls only” and later “elementary mathematics (for girls only)” were recorded as separate Intermediate Certificate subjects, crucially distinct from higher-level mathematics. The clear implication from statistical reports of that era is that elementary mathematics was for girls, who, it was assumed, were unsuitable for higher-level mathematics. For most female pupils in the junior and senior cycle at that time, higher-level mathematics was simply not an option that they were offered at school.

When the number of female Leaving Certificate mathematics candidates is compared with the numbers sitting the English examination, it is clear that a significant minority of girls (approximately 15–20 per cent) did not sit a mathematics paper at all in the Leaving Certificate examination between the early 1930s and mid-1970s. Of the girls who did sit a mathematics paper, very few sat the higher-level paper. This imbalance in the proportions taking higher-level mathematics has persisted over time.

In 1991 boys were still twice as likely as girls to sit the higher-level paper (16.1 per cent versus 8.2 per cent). However, girls have managed to considerably narrow the gap in performance by taking higher-level mathematics in far greater numbers over recent years. It is worth noting that among those who do take higher-level papers, girls have outperformed boys consistently since 1996. However, because more boys continue to take the higher-level paper, the total proportion of boys obtaining honours in higher-level mathematics continues to be higher than the equivalent proportion of girls.

At the lower second level, girls have obtained more higher-level honours in mathematics since 1993. Girls are now more likely to take the Junior Certificate mathematics examination at the higher level, and they are more likely to obtain honours than their male counterparts. Although the gender differences in mathematical performance are small when compared with other subject areas, it is interesting that Irish boys perform better than girls in the PISA assessments (of 15-year olds) and worse than girls in the Junior Certificate mathematics examination. These differences between the national and international assessments may arise from the strong emphasis on the real-life approach to mathematics in PISA, which contrasts to a certain extent with the Irish emphasis on procedures, abstract concepts, and proofs.

In summary, boys have consistently outperformed girls in Leaving Certificate mathematics since the early 1930s and beforehand. However, girls moved slightly ahead of boys in Junior Certificate mathematics from the early 1990s onwards and have managed to considerably narrow the gap in Leaving Certificate performance over recent years. The generally very good performance of girls who do take higher-level mathematics for the Leaving Certificate suggests that further increases in the number of girls opting to take higher-level mathematics would boost the 'mathematical capital' of the country. Much depends on our ability to perform on the international stage in mathematics, in the sciences, and, most particularly, in inventiveness. The central importance of these disciplines to our national economic strategy is reflected in the Strategy for Science, Technology and Innovation (2006) and in the National Development Plan (2007-2013).

Performance in state examinations at the second level

The analysis of performance in state examinations accounted for the greater part of the time invested in the preparation of Sé Sí. Chapters 3 and 5 provide a detailed analysis of the Junior Certificate and Leaving Certificate examinations with regard to overall performance over time. As people with a general interest in education tend to have a special grá for a particular subject or two, these chapters conclude with an overview of performance by subject between 1992 and 2002.

From a statistical point of view, the administrative data generated by the Junior Certificate examination provide the truest analysis of performance by gender. Statistics, as a discipline, is based on using sample groups to infer information about a fuller population of interest. Much of the subsequent debate in the social and scientific literature revolves around the extent to which differences observed in research on sample groups are reflective of real differences in the fuller population of interest. The beauty of the Junior Certificate results is that they provide data on almost all of the population of interest. With between 95 and 97 per cent of Irish teenagers sitting the Junior Certificate examination each year, the results provide an insight into the heart of the issue of examination performance by gender. Differences observed in Junior Certificate performance reflect genuine, and arguably innate, gender differences in the skills and intelligences that we are assessing. The Leaving Certificate also benefits from very substantial coverage of the population and provides further insight into examination performance in the later teens.

The analysis of performance over time in both the Junior Certificate and Leaving Certificate examinations demonstrates that girls have consistently outperformed boys in overall performance in the examinations. Ireland is by no means exceptional in this regard, and in fact the available data suggest that gender differences here are comparatively modest. Nevertheless, the gender gap in performance in the Junior Certificate and Leaving Certificate examinations is substantial, and the time-series analysis shows that it has widened steadily over recent years.

Girls outperform boys in more than 80 per cent of Leaving Certificate subjects; and coincidentally, in 80 per cent of subjects the difference in favour of girls has increased since the early 1990s. There are considerable gender differences in favour of girls in a wide range of subjects, including English, Irish, physics, chemistry, art, and modern European languages. The very few Leaving Certificate subjects in which boys continue to outperform girls include engineering and construction studies. At the beginning of the present decade boys also slightly outperformed girls in mathematics and accountancy. However, by 2005 girls were outperforming boys in accountancy and had reduced the difference in favour of boys in mathematics to 1.5 percentage points. If the trends observed over recent decades continue, girls will eclipse boys in Leaving Certificate mathematics in the very near future.

From the extended historical analysis of performance in Irish and English, it is clear that there is nothing particularly new about girls outperforming boys. In Irish, girls have consistently outperformed boys since the mid-1930s and in English; girls have consistently outperformed boys since the early 1960s and frequently outperformed boys in earlier years. However, the extent of the gender differences observed in these subjects since the mid-1990s is unprecedented in historical context. While gender differences of the order of 4 to 5 percentage points in English and 8 to 9 percentage points in Irish were common between the 1930s and the 1980s, the gender differences in favour of girls reached 14 percentage points in both English and Irish in 2002. Examining trends in overall Leaving Certificate performance, the gender gap in favour of females widened from 4.1 percentage points in 1990 to 9.0 percentage points in 2002.⁷ This gap was 10.3 percentage points in the 2005 Leaving Certificate.

Higher education

Given the higher performance of girls in the Leaving Certificate examination, it is not surprising to find that women outnumber men in higher education. In fact, given the consistently higher Leaving Certificate performance of girls over recent decades, what is most surprising is that women did not begin to outnumber men in higher education until the mid-1990s. Looking at the gender ratio among all full-time students in higher education we see that men outnumbered women between 1980 and 1994/95. Over subsequent years the participation rate of women has risen at a much faster pace than the participation rate among men, and a gender gap in favour of women has now emerged. In 2002/03 the ratio among full-time students was 46 per cent male to 54 per cent female. The rise in female participation at the third level is particularly notable in the university sector, where women outnumbered men by 12,500 full-time students in 2003 (42 per cent male to 58 per cent female).

⁷ See fig. and table 5.10.

A comparison of graduates in 1993 with 2003 reveals remarkable changes in the gender composition in higher education over the 1990s. Among 2003 graduates, women outnumbered men at all levels of qualification, from certificate and diploma to PhD level. The proportion of women increases as the level of qualification increases through NFQ levels 6 to 9 (certificates up to masters' degrees). However, there were less marked differences at level 10 (PhD level), where we find broadly equivalent numbers of male and female graduates in 2003.

In addition to the analysis of participation, chapter 7 also presents an overview of the examination performance of university graduates in 2004. In general, the performance of males and females in Irish universities appears to be broadly similar and the rather stark gender differences that were observed in state examinations at second level are not apparent among university graduates. At NFQ level 8 (undergraduate level), males were awarded more first class honours degrees. However, the overall performance of females is better in terms of achieving honours degrees and this is reflected across all fields of study at undergraduate level. At NFQ level 9 (postgraduate level), where we had 3,943 male graduates and 6,416 female graduates in 2004, males were slightly ahead of females in terms of examination performance.

The gender balance among higher-education graduates varies considerably between the different fields of study, with women outnumbering men in 70 per cent of the various disciplines. The areas in which women most outnumber men are the social sciences, health sciences, and teacher training. The two largest categories of graduates in the general field of study referred to as the health sciences or health and welfare are nursing (92 per cent female) and medicine (58 per cent female).⁸ Women also constitute a majority of graduates in a broad range of other areas, including veterinary medicine, arts and humanities, business, law, the life sciences, and the physical sciences. With the exception of the physical sciences, the gap in favour of women increased between 1993 and 2003 in all these disciplines. Men outnumbered women most among engineering and architecture graduates and also in mathematics, computing, and agriculture.

These remarkable shifts in higher education graduation patterns are already observable in the CSO population statistics where the educational profile of females has improved at a faster pace than for males over recent years. By 2005, 44 per cent of females aged between 25 and 34 had higher education qualifications compared to 35 per cent of males.⁹ Taking stock of the emerging trends in enrolment and graduation, it is certain that the gender gap in higher educational attainment in Ireland will continue to increase into the near future, at least.

⁸ The proportions of women reported in parentheses here are derived from data provided by the HEA Statistics Section on 2006 graduates.

⁹ See fig. and table 7.19.

Further education

Lifelong learning has been a core principle of EU education policy since the Irish presidency in 1996. However, there is considerable variation in the extent to which member-states have succeeded in achieving participation in lifelong learning. The Scandinavian countries have achieved the highest participation rates, and in Sweden it is estimated that more than a third of all adults were engaged in education or training in 2004. Britain, Slovenia, the Netherlands and, to a lesser extent, Austria have also achieved relatively high levels of participation in lifelong learning. In all other EU member-states the participation rate of adults in lifelong learning was below 10 per cent in 2004. The participation rate among Irish adults was 7.2 per cent, which was below the EU average of 9.9 per cent.¹⁰

Given the broad and diverse range of post-secondary learning activities and the patchiness of administrative data in this area, it was difficult to provide a summary of further education and training in Ireland. Women substantially outnumber men in post-Leaving Certificate courses and in the full range of other further and adult education courses provided through the Department of Education and Science (and the VECs). However, the FETAC awards provide a more gender-balanced picture of certified further education and training, because they also include training organised by other agencies, such as FÁS and Teagasc. Within the full range of FETAC awards in 2005 the gender ratio was 53 per cent female to 47 per cent male.

There are clear gender differences in the take-up of courses, and at a general level the types of further-education qualification pursued correspond closely to the classic gender stereotypes. This is especially true of men, who largely confine their engagement in further education to vocationally oriented and especially construction-related training. Apprenticeship, specific skills training and Teagasc agricultural training courses are almost exclusively male. Women tend to engage more broadly with further education, from training in business, office skills and caring to arts, craft and continuing education courses.

With regard to lifelong learning, Irish women display a much greater and more sustained appetite for education than men over the life cycle. This is well illustrated in their higher levels of participation in further and adult education courses. Women's greater lifelong enthusiasm for education is also evident in the central role they have played at the local level in initiating community education work in disadvantaged communities since the 1980s.

In contrast, men's participation in education and training appears to diminish rapidly over the life cycle. When it is examined in a lifelong perspective, it is important to note that the male-dominated further education programmes are generally post-school courses that could legitimately be considered the end of initial education and training rather than as continuing or adult education. The great majority of apprentices are aged between their late teens and early twenties, and most participants in specific skills training are under twenty-five.

¹⁰ See fig. and table 9.10.

The other major recurring issue for males in Irish education is successful completion. This is well documented at second level but approximately 25 per cent of young men in Ireland now pursue further education and training by enrolling in apprenticeship programmes.¹¹ A quick comparison of entrants and graduates in Apprenticeship suggests that more than 40 per cent of trainees drop out prior to successful completion. On this evidence, retention appears to be a serious issue for males in further education as well as in second-level education. In higher education also, males are less likely than females to successfully complete their course of study. This gives rise to a peculiar situation at NFQ levels 6 and 7 (certificate and diploma) where males outnumber females among overall enrolments but not among graduates.

Educational personnel

In chapter 8 the focus of the analysis shifts from students and learners to an examination of the personnel responsible for the provision and administration of education in Ireland. It is widely known that nowadays women far outnumber men among primary teachers. The time-series analysis presented in Sé Sí demonstrates that women have continually outnumbered men among primary teachers over the last seventy years at least. The proportion of female primary teachers increased steadily from 58 per cent in 1930 to 83 per cent in 2005. While the total number of teachers at the primary level has more than doubled over those years, the actual number of male primary teachers has not changed much over time.

The gender ratio of second-level teachers is now approaching 60-40 in favour of women. In higher education, women accounted for 32 per cent of academic staff in institutes of technology and 40 per cent of academic staff in universities by 2003. In Ireland and in other OECD countries there is a noticeable pattern whereby the proportion of women declines as one moves from primary through secondary to higher education. Internationally, women account for 82 per cent of teaching personnel at the primary level, 60 per cent at the second level, and 36 per cent at the third level. The ratios in Ireland are remarkably similar to these international averages at each of the three levels.

Clearly there are issues concerning the representation of women in positions of seniority in educational institutions. This is evident at the primary and second levels, where women are seriously under-represented at the school principal level. Women account for 83 per cent of all staff members at the primary level but only 53 per cent of school principals. At the second level, where women now account for 60 per cent of staff members, men outnumber women by 2 to 1 among school principals.

Notwithstanding the significant increase in female academic staff over the last decade, the most striking gender differences are found in higher-education institutions. In universities women now outnumber men at the lower academic levels of assistant lecturer and “other” teaching staff. However, as we move up through the academic hierarchy the proportion of women declines steadily. In institutes of technology and the universities a clear pattern is observable whereby the proportion of men increases with the seniority of the academic position. At the time of going to print, women accounted for 3 of the 14 directors of institutes of technology and none of the 7 university presidents.

The under-representation of women among university academic staff members is most severe at the highest levels of professor and associate professor. In 2003/04 women accounted for 8 per cent of professor posts and 12 per cent of associate professor posts. Similar patterns of imbalance are also found at the highest levels of academic staff in the institutes of technology. However, there are approximately twice as many women at the most senior academic levels in the institutes of technology as there are in the universities; therefore the extent of gender imbalance among senior academics is most severe in the university sector.

A broadly similar picture emerges from the analysis of administrative personnel. Although women account for two-thirds of all staff members in the civil service, they are over-represented at the lower grades and quite severely under-represented at the higher end of the seniority spectrum. In fact the ratio of women declines steadily as the seniority of the grade rises. The visual representation of gender by grade in the civil service depicts what could be referred to as the classic staircase of gender inequality. Women account for 80 per cent of staff members at the clerical officer and staff officer levels and almost two-thirds at the executive officer grade. Although they account for more than half of all administrative officer posts they comprise fewer than half the higher executive officers, one-third of assistant principal officers, one-fifth of principal officers, one-tenth of assistant secretaries-general, and an even smaller share of secretary-general posts.

Although the overall patterns of gender imbalance were similar within the Department of Education and Science, women account for a larger proportion of staff members at the higher executive officer and principal officer level in this department than is typical in the civil service generally. Looking back over the last decade we see steady and substantial increases in the ratios of women in the middle to higher grades in the department. However, the proportion of women in positions of seniority remains low, and women continue to be under-represented at the highest levels relative to their total numbers. Chapter 8 concludes with an overview of the gender ratios of staff members and board members in a selection of important education agencies.

Finally

Sé Sí includes data on special educational needs, where boys outnumber girls by 2 to 1, and on a range of other issues including programme take-up within the second-level curriculum and the performance of Irish students in the PISA international literacy assessments. The extensive use of international data throughout the report demonstrates that gender differences in educational participation and performance are issues that present challenges to almost all developed countries.

In the fuller analysis of the international data, gender is one of a range of background characteristics that appear to affect pupils' achievement in the literacy assessments. While gender appears to be a significant factor, particularly on the performance of pupils in reading, the most significant factors affecting performance are the socio-economic status and home background characteristics of pupils.

Moving beyond individual pupils' characteristics to the structure and organisation of school systems, countries that achieve the highest standards of literacy tend to have school systems with little active selection and segregation, where schools embrace and accommodate the diversity of their local communities. One of the most interesting findings to emerge from the continuing PISA assessments is that many of the highest-performing countries have successfully combined high overall performance with high levels of equity in educational outcomes. On the other hand, characteristics of education systems that have high levels of inequity (often accompanied by low levels of overall performance) include early selection and streaming, stratification between school types, and the clustering of disadvantage in specific schools and geographical areas. These general findings show that "equity and excellence are not mutually exclusive in education. In fact, it is clear that these two educational policy objectives can be entirely complementary."¹²

In publishing this report, the Department of Education and Science hopes to contribute to informed public debate and to stimulate reflection, discussion and further research on educational and gender issues.