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Revista Portuguesa de Educação, vol. 15, núm. 2, 2002, pp. 61-81,
Universidade do Minho
Portugal

Available in: http://www.redalyc.org/articulo.oa?id=37415204
Reflections on the performance of Ireland and Portugal in the OECD/PISA 2000 assessment of reading literacy

Gerry Shiel
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Abstract
In 2000, 15-year olds in 28 member countries of the Organisation for Economic Co-operation and Development (OECD) and four additional countries took part in the Programme for International Student Assessment (PISA). While PISA assessed three cognitive domains — reading literacy, mathematical literacy and scientific literacy — this paper focuses on reading literacy — the major assessment domain in 2000. The purpose of the paper is to reflect on the performance of students in two OECD countries — Ireland and Portugal. First, a context for considering the outcomes of PISA is provided by reviewing the outcomes of earlier international assessments of reading, in which Irish and Portuguese students performed at about the same levels. Second, the relatively strong performance of Ireland on the PISA reading literacy combined scale and subscales is contrasted with the relatively weaker performance of Portugal. Third, variables that are associated with performance on PISA, including school — and student-level socio-economic status, are considered. Fourth, links between the curriculum in English in Irish schools, the Irish Junior Certificate examination, and performance on PISA reading literacy are explored, and it is concluded similarities between these may account, in part, for the strong performance of Irish students on PISA. The paper concludes with a consideration of ways in which PISA can inform policy in relation to the improvement of reading literacy in both Ireland and Portugal.
Performance of Irish and Portuguese students in earlier international studies of reading literacy

Both Ireland and Portugal participated in international assessments of reading literacy in the decade prior to the PISA 2000 assessment. In 1991, the IEA reading literacy study (IEA/RLS) was carried out in 32 countries — 27 at 9-years of age and 31 at 14 years. Literacy was defined as ‘the ability to understand and use those written language forms that are required by society and/or valued by the individual’ (Elley, 1992). It was assessed using three types of text: narrative prose (continuous text, in which the writer’s main aim is to tell a story, whether fact or fiction), expository prose (continuous text designed to describe or explain factual information or opinion), and documents (structured information displays presented in the form of charts, tables, maps or notices). On an overall measure of reading literacy, Irish 9-year olds achieved a mean score that was not significantly different from the international and OECD country averages — Irish students finished 12th of 27 countries, and 10th of 19 OECD countries (Elley, 1992; OECD, 1995). Portuguese 9-year olds finished 23rd of 27 countries, achieving a mean score that was below the international average. Irish and Portuguese 9-year olds performed marginally less well on document texts than on narrative and expository texts.

At age 14 years, the performance of Irish 14-year olds was comparatively weaker than that of Irish 9-year olds — 20th of 31 countries, and 16th of 19 OECD countries (Martin & Morgan, 1994; OECD, 1993). Portugal’s 14-year olds ranked 15th of 31 countries, and 10th of 19 OECD countries. The overall mean scores of Irish and Portuguese 14-year olds were not statistically significantly different — indeed no significant differences were observed between the OECD countries ranked 8th to 17th (OECD, 1993). In both Ireland and Portugal, 14-year olds performed at about the same level on narrative, expository and document texts.

An examination of the distribution of the scores of 14-year olds indicated that Ireland had relatively more high achievers, and relatively more low achievers than other OECD countries (OECD, 1993; Table R1(B), p. 155). Among 18 OECD countries, Ireland had the second largest percentage (3.8) scoring two standard deviations or more below the overall country mean. At the other extreme, 2% of Irish 14-year olds had a score of two standard
deviations above the mean. Just 7 countries had higher percentages. Whereas 0.8% of Portuguese students achieved scores that were two standard deviations or more below the international mean, just 0.3% achieved scores that were two standard deviations above it.

In the IEA reading literacy study, Ireland had the third largest difference at age 14 between males and females on overall reading literacy. The size of the difference was one quarter of a standard deviation. The difference in the case of Portuguese boys and girls aged 14 was not statistically significant.

Another important international study in which both Ireland and Portugal participated was the International Adult Literacy Study (IALS). The study, which was carried out in 24 countries or regions between 1994 and 1998, aimed to measure levels of literacy (including reading literacy) in representative samples of 16 to 64 year-olds. Literacy was defined as ‘the ability to understand and employ information in daily activities, at home, at work and in the community — to achieve one’s goals, and to develop one’s knowledge and potential’ (OECD/Statistics Canada, 2000, p. x). This represents a more functional definition of literacy than that implied by the IEA/RLS definition, and reflects a need to assess ‘real-life’ literacy skills, as opposed to those typically assessed in school settings. IALS considered literacy to consist of three domains: prose literacy (which combines the narrative and expository domains in IEA/RLS), document literacy (as in IEA/RLS) and quantitative literacy. Within each domain, a range of skills was assessed. The assessment was administered to nationally representative samples of adults, usually in their own homes. Mean scores achieved by participants in IALS were reported for each country on the three scales. In addition, achievement was reported in terms of proficiency levels.

On the IALS prose scale, Ireland, with a mean of 266, ranked 14th of 22 countries/regions, while Portugal, with a mean of 227, ranked 21st (OECD/Statistics Canada, 2000). Twenty-three percent of Irish adults, and 48% of Portuguese adults achieved Level 1, the lowest proficiency level on the IALS prose scale. In contrast, just 12% of Irish adults and 3% of Portuguese adults achieved the highest proficiency level (Levels 4 and 5 combined). In both Ireland and Portugal, fewer adults in the 16-25 years age group scored at Level 1 than their counterparts in the 56-65 years age group, indicating stronger literacy skills among younger people in both countries.
The performance of Irish and Portuguese adults was also relatively poor on the IALS tests of document literacy and quantitative literacy. For example, Ireland ranked 17th of 22 countries/regions on document literacy, while Portugal ranked 21st.

In Ireland, at least, there were serious concerns about literacy levels following the IALS study. One newspaper described the Irish education system as one ‘that has failed successive generations of Irish people, resulting in an adult illiteracy rate of 23 per cent (Sunday Independent, August 13, 2000). Another claimed that ‘Ireland has the highest illiteracy rate in Europe’, which was described as ‘scandalous’ (Sunday Tribune, September 3, 2000). A third announced that ‘the illiteracy rate among school leavers is at Third World levels’ (Irish Times, April 25, 2000). Academics were also worried. Not alone had Ireland performed relatively poorly in the IEA/RLS and IALS, but successive national surveys of reading literacy involving students in fifth grade (age 11) had shown no improvement in achievement between 1980 and 1998 (Cosgrove et al., 2000).

Performance of Irish and Portuguese students on PISA

PISA defines reading literacy as ‘understanding, using and reflecting on written texts, in order to achieve one’s goals, to develop one’s knowledge and potential, and to participate in society’ (OECD, 1999, p. 20). In the PISA 2000 assessment of reading literacy, students’ understanding of two broad text types was assessed: continuous texts, including descriptions, narrations and essays, and non-continuous texts, including charts, diagrams, maps, forms and tables. Students were asked to respond to multiple-choice and constructed-response items. In multiple-choice items, students were required to select a correct response from among 4 or 5 alternatives, or to complete a series of ‘True/False’ items. The constructed-response items required students to write short or long responses to questions. In the international report on PISA (OECD, 2001), performance was reported with reference to an overall (combined reading) scale, and three subscales — Retrieving information (Retrieve) (based on 30% of items), Interpreting information (Interpret) (50%), and Reflecting on and evaluating the content and structure of texts (Reflect) (20%). Performance was reported in terms of mean scores and proficiency levels on the combined scale and on each of the three subscales. It is planned
to issue an additional report, dealing with performance on continuous and non-continuous texts, in autumn 2002.

Performance on combined reading literacy

The highest-scoring country on the PISA combined reading literacy scale was Finland, with a mean score of 547 (Table 1). Ireland achieved a mean score of 527. Portugal’s mean score was 470. Finland’s mean score was significantly higher than that of any other country, while both Finland’s and Ireland’s were significantly higher than the OECD country average. Portugal achieved a mean score that was significantly below the OECD country average, but significantly higher than Luxembourg, Mexico and Brazil.

Table 1 - Country mean achievement scores and standard deviations on combined reading literacy (standard errors in parentheses)

<table>
<thead>
<tr>
<th>Country</th>
<th>Mean (SE)</th>
<th>SD (SE)</th>
<th>Country</th>
<th>Mean (SE)</th>
<th>SD (SE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finland</td>
<td>547 (2.6)</td>
<td>89 (2.6)</td>
<td>Switzerland</td>
<td>494 (4.3)</td>
<td>102 (2.0)</td>
</tr>
<tr>
<td>Canada</td>
<td>543 (1.6)</td>
<td>95 (1.1)</td>
<td>Spain</td>
<td>493 (2.7)</td>
<td>85 (1.2)</td>
</tr>
<tr>
<td>New Zealand</td>
<td>529 (2.8)</td>
<td>108 (2.0)</td>
<td>Czech Rep.</td>
<td>492 (2.4)</td>
<td>96 (1.9)</td>
</tr>
<tr>
<td>Australia</td>
<td>528 (3.5)</td>
<td>102 (1.6)</td>
<td>Italy</td>
<td>488 (2.9)</td>
<td>91 (2.7)</td>
</tr>
<tr>
<td>Ireland</td>
<td>527 (3.2)</td>
<td>94 (1.7)</td>
<td>Germany</td>
<td>484 (2.5)</td>
<td>111 (1.9)</td>
</tr>
<tr>
<td>Korea Rep. of</td>
<td>525 (2.4)</td>
<td>70 (1.6)</td>
<td>Liechtenstein</td>
<td>483 (4.1)</td>
<td>96 (3.9)</td>
</tr>
<tr>
<td>UK</td>
<td>523 (2.6)</td>
<td>100 (1.5)</td>
<td>Hungary</td>
<td>480 (4.0)</td>
<td>94 (2.1)</td>
</tr>
<tr>
<td>Japan</td>
<td>522 (5.2)</td>
<td>86 (3.0)</td>
<td>Poland</td>
<td>479 (4.5)</td>
<td>100 (3.1)</td>
</tr>
<tr>
<td>Sweden</td>
<td>516 (2.2)</td>
<td>92 (1.2)</td>
<td>Greece</td>
<td>474 (5.0)</td>
<td>97 (2.7)</td>
</tr>
<tr>
<td>Austria</td>
<td>507 (2.4)</td>
<td>93 (1.6)</td>
<td>Portugal</td>
<td>470 (4.5)</td>
<td>97 (1.8)</td>
</tr>
<tr>
<td>Belgium</td>
<td>507 (3.6)</td>
<td>107 (2.4)</td>
<td>Russian Fed.</td>
<td>462 (4.2)</td>
<td>92 (1.8)</td>
</tr>
<tr>
<td>Iceland</td>
<td>507 (1.0)</td>
<td>92 (1.4)</td>
<td>Latvia</td>
<td>458 (5.3)</td>
<td>102 (2.3)</td>
</tr>
<tr>
<td>Norway</td>
<td>505 (2.8)</td>
<td>104 (1.7)</td>
<td>Luxembourg</td>
<td>441 (1.6)</td>
<td>100 (1.5)</td>
</tr>
<tr>
<td>France</td>
<td>506 (2.7)</td>
<td>92 (1.7)</td>
<td>Mexico</td>
<td>422 (3.3)</td>
<td>86 (2.1)</td>
</tr>
<tr>
<td>USA</td>
<td>504 (7.0)</td>
<td>105 (2.7)</td>
<td>Brazil</td>
<td>396 (3.1)</td>
<td>86 (1.9)</td>
</tr>
<tr>
<td>Denmark</td>
<td>497 (2.4)</td>
<td>98 (1.8)</td>
<td>OECD</td>
<td>500.0 (0.60)</td>
<td>100.0 (0.40)</td>
</tr>
</tbody>
</table>

OECD Country Avg.

- Mean achievement significantly higher than OECD Country Average
- Mean achievement not significantly different from OECD Country Average
- Mean achievement significantly lower than OECD Country Average
Performance on the PISA reading literacy subscales

PISA also provided information on the performance of students on the three reading subscales — Retrieve, Interpret and Reflect. Finland achieved a significantly higher mean score than any other country on the Retrieve and Interpret scales. In each case, Ireland achieved a mean score that was significantly higher than the corresponding OECD country average. Canada achieved the highest mean score on the Reflect subscale. However, Canada’s mean score was not significantly different from those of 6 other countries, including Finland and Ireland. Portugal did somewhat better on the Reflect scale (M = 479) than on the Retrieve (M = 455) and Interpret (M = 473) scales. However, Portugal’s mean score on each of these subscales was significantly below the corresponding OECD country average.

Performance on PISA reading proficiency levels

As indicated earlier, achievement on PISA reading literacy was reported with reference to reading proficiency levels. Figure 1 compares the percentages of Irish and Portuguese students at each proficiency level on the combined reading scale, with the corresponding OECD country averages. As might be expected on the basis of their respective mean scores, more Irish than Portuguese students achieved Levels 4 and 5, while more Portuguese than Irish students achieved Levels 1, 2 and 3, and Below Level 1. The proportions of Portuguese students achieving Levels 4 and 5 were also lower than the corresponding OECD averages, while the proportions achieving Levels 1-3, and Below Level 1, were higher.
Finally, the relatively poor performance of Portuguese students on the Retrieve scale in comparison with the Interpret and Reflect scales is evident again when one looks at the proportions of students scoring at different proficiency levels on these subscales. Whereas 32% of Portuguese students achieved at Level 1 or below on the Retrieve scale, 24.7% achieved at these levels on the Interpret scale, and 24.1% on the Reflect scale (OECD, 2001, Table 2.1b, c and d).

Section summary

The performances of Irish and Portuguese 14-year olds in the 1991 IEA Reading Literacy Study were quite similar, with both countries achieving mean scores not significantly different from the OECD country average. However, in PISA 2000, the situation was quite different. Here, Ireland did remarkably well, with a rank of 5th on combined reading literacy. Indeed, only one country, Finland, achieved a significantly higher mean achievement score than Ireland on combined reading literacy. Portugal, on the other hand, did relatively poorly on PISA, with a mean achievement score that was significantly below the OECD country average. Indeed, only two OECD countries, Luxembourg and
Mexico, achieved lower mean scores than Portugal. In the next section, some variables associated with performance on the PISA assessment of reading literacy are examined.

**Variables associated with achievement on PISA**

The first international report on the outcomes of PISA 2000 points to a range of variables associated with performance on the assessment of reading literacy. In this section, such variables as student gender, student and school socio-economic status, student family wealth, student attitude to reading and student engagement in leisure reading are considered in terms of how they relate to students’ performance on combined reading literacy in Ireland and Portugal.

**Student gender**

Male students performed significantly less well than females students on combined reading literacy in all countries involved in PISA 2000. The OECD average difference was -32 points (minus one-third of a standard deviation). Significant differences were also observed in most countries on the three PISA subscales. The OECD average differences were -24 on the Retrieve scale, -29 on the Interpret scale, and -45 on the Reflect scale. In Ireland, the difference between male and female students on combined reading literacy (-32 points) was at the OECD average. The difference in Portugal was lower than, but not significantly different from the OECD average. On the Retrieve scale, the difference between Irish male and female students was -22 points, which was close to the OECD average of -24. The corresponding difference for Portugal was -16 points. On the Reflect scale, the differences for Ireland and Portugal were -37 and -36 respectively. Neither of differences was statistically significantly different from the OECD average of -45 points. Clearly, in both countries, girls outperform boys to an even greater extent on the Reflect scale than on the Retrieve or Interpret scales, or on the combined scale.

In Ireland, more male students (42.4%) than female students (22.5%) reported that they did not read for enjoyment at all. The corresponding figures for male and female students in Portugal were 29.4% and 8.3% respectively.
Student and school socio-economic status

PISA looked at students’ socio-economic status in terms of their parents’ occupational status, using the International Socio-economic Index of Occupational Status (ISEI). This index rates parents’ employment along a scale ranging from 0 to 90. The OECD average on this scale was 48.9 points, while the averages for Ireland and Portugal were 48.4 and 43.9 respectively (OECD, 2001, Table 6.1a, p. 283). The mean score of students in the bottom quarter of the index in Ireland (491) was significantly higher than the mean of students in the same quarter in Portugal (431). The mean scores for students in Ireland and Portugal in the top quarters of the index in their countries were 570 and 527 respectively.

In a multi-level analysis of the performance of Irish students on combined reading literacy, both student-level socio-economic status and school-level disadvantaged status had significant effects on achievement. In the case of student-level socio-economic status, for example, the effect for students classified as having high SES was 26 points (one quarter of a standard deviation) (Shiel et al., 2001). The average effect for schools designated as disadvantaged (i.e., serving a large proportion of low-SES students) was -22.28 points, or minus one fifth of a standard deviation. Using a slightly different measure of SES (the PISA Index of Economic, Social and Cultural Status), similar results were reported for Ireland and Portugal in the international report on PISA (OECD, 2001, Table 8.4, p. 311). In the case of Portugal, an effect of 32 points (one-third of a standard deviation) was reported for school-level SES, and an effect of 11 points for student-level SES.

Another measure of socio-economic status, parent educational attainment, was obtained in respect of most students who participated in PISA, using the International Standard Classification of Education (ISCED) system. Across all OECD countries, 32% of students had mothers whose highest level of educational attainment was primary or lower secondary education (OECD, 2001, Table 6.7, p. 291). The corresponding percentages for Ireland and Portugal were 40.7% and 72.3% respectively. The mean achievement scores on combined reading literacy of students in Ireland and Portugal whose mothers had this level of education were 511 and 460 respectively. The corresponding OECD average score was 467.
Taken together, these results indicate the strong association between socio-economic status (at both student and school levels) and performance on combined reading literacy.

**Student family wealth**

In PISA, a measure of student family wealth was obtained by combining student responses to questions about: (i) the availability, in their home, of a dishwasher, a room of their own, educational software, and a link to the internet; and (ii) the number of cellular phones, television sets, computers, motor cars and bathrooms at home. The resultant weighted likelihood estimate was set to an international mean of zero and a standard deviation of 1. Ireland’s mean score on this measure, 0.03, was close to the OECD average (OECD, 2001, Table 6.2, p. 286). Portugal’s average of -0.13 was significantly lower. The mean combined reading literacy score of students in the bottom quarter of the index in Portugal was 432. Among other OECD countries, only Mexico (392) and Luxembourg (405) had lower scores.

**Student attitude to reading**

PISA also included a measure of student attitude to reading. On the Student Questionnaire, students were asked to indicate their level of agreement with statements such as ‘I read only if I have to’, ‘I like talking about books to other people’, ‘I enjoy going to a bookstore or library’ and ‘I read only to get the information I need’. An index (a weighted likelihood estimate), based on students’ scores across 9 such statements, and taking into account whether statements were positively or negatively worded, was constructed. The average score of Irish students on the index (-0.07) was just below the OECD average of 0.0. The average score for Portuguese students (0.31) was significantly above the OECD average. Irish students in the bottom quarter of the index had a mean score on combined reading literacy of 483. The corresponding score for Portuguese students was 436. The OECD average was 470. In Ireland, the correlation between attitude to reading and performance on the PISA combined reading literacy scale was .426 (p. < .001).

While Portuguese students indicated a more positive attitude to reading than students in other countries, it is clear that the relationship between
attitude and achievement is not straightforward, and may be moderated by other variables, including, for example, student- and school-level SES.

**Time spent reading for enjoyment**

Finally, there is an association between the amount of time spent by students reading for leisure and their performance on the combined reading literacy scale. Figure 2 shows that proportionately more students in Ireland (33.4%) than in Portugal (18.4%) indicated that did not read for enjoyment on a typical day. Further, a greater proportion of students in Portugal (65.6%) than in Ireland (51.3%) reported reading for at least for one hour per day. In general, the engagement of Portuguese students in leisure reading on a daily basis was higher than the OECD average.

**Figure 2 - Proportions of students in Ireland and Portugal reading for enjoyment every day, and associated OECD country averages**

Source: OECD, 2001, Table 4.4, p. 268.

Across countries in general, students who reported spending moderate amounts of time (up to one hour per day) engaged in reading for enjoyment tended to achieve higher mean scores than students who spent no time, or more than one hour per day engaged in such reading. Figure 3 shows the
mean combined reading literacy scores of students in Ireland and Portugal who engaged in leisure reading for varying amounts of time, along with the corresponding OECD average scores. It is interesting to observe, however, that despite the fact that Portuguese students engaged in more leisure reading than their counterparts in several countries, particularly for periods up to one hour per day, their performance on combined reading literacy was noticeably lower. In considering this and other outcomes, it should be acknowledged that students in many countries (including Ireland) may do most of their reading in the context of studying school subjects, doing homework, or preparing for examinations. Thus, while such students may not engage frequently in leisure reading, they may, in fact, do a lot of reading, particularly where informational texts are concerned. Unfortunately, PISA did not generate a measure of overall engagement in reading.

Figure 3 - Mean scores on PISA combined reading literacy of students in Ireland and Portugal, by frequency of reading for enjoyment every day, and associated OECD country average scores

Source: OECD, 2001, Table 4.4, p. 268
Section summary
Clearly, there are many variables associated with performance on PISA. Most of the variables examined in this section were associated with the performance of students in both Ireland and Portugal. Portugal, in particular, rates low on measures of socio-economic status, including parent occupations, parent educational attainment and family wealth. On the other hand, Portuguese students indicated engaging more frequently in leisure reading than their Irish counterparts, and having a more positive attitude to reading. Clearly, these are areas that can be built upon as the outcomes of PISA are considered.

It is also clear that school-level variables as well as individual variables affect performance on PISA reading literacy. For example, it was shown above that school socio-economic status had an important effect on achievement. Another factor to consider is the variation in achievement between schools in a country. The PISA international report (OECD, 2001) reported on the total variation between schools in each country as a percentage of the total variation in achievement within the country (i.e., the intra-class correlation or rho). In Ireland the rho for combined reading literacy was estimated to be 17.8%, while in Portugal it was estimated to be 36.8% (Table 2.4, p. 257). This points to larger differences between schools in reading literacy in Portugal, compared with Ireland, and could be interpreted as indicating that efforts should be made to reduce between-school differences in achievement by, for example, examining factors associated with admission to second-level schools.

Links between school curricula and the PISA assessment of reading literacy
Countries that participated in PISA may also have wondered about links between their own curricula and the framework and test items underpinning the PISA assessment of reading literacy. In Ireland, attempts were made to examine this issue by seeking to establish links between the syllabus for Irish 15-year olds (the Junior Cycle syllabus), the examination they took at the end of Grade nine (the Junior Certificate Examination) and their performance on PISA. In addition, the scores obtained by 15-year olds on PISA were correlated with their Junior Certificate examination grades in English.
The curriculum rating project in Ireland

The aim of the curriculum rating project conducted in Ireland was to develop rating scales which were reliable, valid and capable of capturing the extent and type of similarities and differences between PISA items and the types of questions students are asked in Grade 9 as they engage with the English syllabus and take the Junior Certificate examination (i.e., the intended curriculum as defined at the system level and outlined in official documents). There are three levels of the syllabus and Junior Certificate examination which students may take: The Foundation level (which is usually taken by weaker students), the Ordinary level (which is taken by students in the average range), and the Higher level (which is taken by the strongest students).

Three persons with extensive experience in teaching and assessing the curriculum in English carried out the curriculum rating exercise using pre-developed scales. The rating project addressed three dimensions of the items that appeared on the PISA assessment of reading literacy:

— Students’ expected familiarity with the process(es) underlying each PISA item
— Students’ expected familiarity with the application of the specific reading process(es) underlying each item in the type of context suggested by the item (i.e., the genre, length, density, and complexity of the text)
— Students’ expected familiarity with the application of the reading process(es) underlying an item in the type of format suggested by the item and stimulus text.

Separate ratings were obtained for each of three syllabus/Junior Certificate Examination levels: Foundation, Ordinary and Higher. Each PISA item were rated for each dimension at each level as being ‘Not Familiar’, ‘Somewhat Familiar’ and ‘Very Familiar’. The results are outlined in Table 2.

At Ordinary and Higher levels, the processes underlying the PISA items were rated as ‘somewhat familiar’ or ‘very familiar’ in 90% of cases. This figure dropped to 75% for Foundation level, as students at that level would be less likely to encounter some of the multi-stage inferences required by the more difficult PISA items.
The familiarity of the context/application ratings tended to drop as one moved from Higher to Ordinary to Foundation levels. Since ratings on context/application were based on linguistic context (i.e., genre, text length, density), this pattern is not surprising and suggests that some of the texts used in the PISA are more complex than those with which Irish students taking the Foundation level are expected to work. Some items that were rated as being ‘not familiar’ at all levels tended to be associated with more complex, non-continuous texts.

Table 2 - Percentages of ratings assigned to reading literacy items by scale and syllabus level (N items = 141)

<table>
<thead>
<tr>
<th></th>
<th>Not Familiar</th>
<th>Somewhat Familiar</th>
<th>Very Familiar</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Process</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Higher</td>
<td>3.7</td>
<td>14.7</td>
<td>81.6</td>
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<tr>
<td>Ordinary</td>
<td>9.6</td>
<td>36.8</td>
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<td>Foundation</td>
<td>25.0</td>
<td>47.1</td>
<td>27.9</td>
</tr>
<tr>
<td><strong>Context/Application</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Higher</td>
<td>13.2</td>
<td>25.7</td>
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<td>54.5</td>
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<td>Foundation</td>
<td>50.7</td>
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<tr>
<td><strong>Format</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Higher</td>
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<tr>
<td>Ordinary</td>
<td>52.2</td>
<td>23.5</td>
<td>24.3</td>
</tr>
<tr>
<td>Foundation</td>
<td>72.1</td>
<td>22.8</td>
<td>5.1</td>
</tr>
</tbody>
</table>

At all syllabus levels, 50% or more of items were rated as ‘not familiar’ on format. These mostly comprised multiple-choice and complex multiple-choice items. Students studying for the Junior Certificate examination would be more accustomed to question formats requiring a short written answer or a longer, essay-type response.

The curriculum ratings were linked to the performance of Irish students on PISA in the following manner. First, the mean of the curriculum ratings for each reading literacy cluster was calculated. Next, the mean of each cluster mean was calculated for each of the 9 PISA test booklets, for each scale and
for each Junior Certificate level. Each student was then assigned one rating for each scale, based on the PISA test booklet s/he attempted and the level at which s/he studied English for the Junior Certificate examination. Table 3 shows the correlations between the three rating scales and performance on PISA reading literacy. The three reading scales are moderately strongly correlated with performance on PISA reading literacy ($r = .46$ to $0.55$).

**Table 3 - Correlations between curriculum rating scales and performance on combined reading literacy**

<table>
<thead>
<tr>
<th>Scale</th>
<th>Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process Scale</td>
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</tr>
<tr>
<td>Context Scale</td>
<td>0.544</td>
</tr>
<tr>
<td>Format Scale</td>
<td>0.458</td>
</tr>
</tbody>
</table>

(All correlation coefficients significant; $p < .001$)

**Correlations between the JC English examination and PISA**

A separate analysis sought to establish the correlation between performance on PISA Reading Literacy and on the Junior Certificate Examination for students who had taken the examination in either 1999 or 2000 (94% of the PISA cohort in Ireland). Students’ letter grades on the JC English examination were first converted to scale scores on a 12-point scale (for example, a grade A at higher level was worth 12 points, while a grade D at higher level was worth 9 — the same as a grade A at Ordinary level). The correlation between students’ scores on PISA and on the Junior Certificate English examination was 0.742 ($p < .001$). This is surprisingly strong, given that PISA was designed to measure the skills that students need for adult life, while the Junior Certificate Examination is designed to measure how well students have learned what has been taught in school.

**Section summary**

There are some clear similarities between the PISA assessment of reading literacy, the Junior Cycle English syllabus, and the Junior Certificate
English examination, which most Irish students take at about age 15 (at the end of Grade 9). These similarities, evidenced by the strong correlation between performance on the Junior Certificate English examination and the PISA assessment of reading literacy, may go some way towards explaining the relatively strong performance of Irish students on PISA.

Conclusions

Clearly, since the IEA reading literacy study in 1991, and indeed the International Adult Literacy Study in 1994, reading standards in Ireland appear to have improved, while, in Portugal, they appear to have declined. However, there are several factors that could account for the relatively strong performance of Irish students, and the comparatively weaker performance of Portuguese students.

First, gross domestic product (GDP) is considerably stronger in Ireland than in Portugal. The GDP for Ireland in 1999 was US$25,200, while, for Portugal, it was US$16,500. This, undoubtedly, is related to achievement on PISA reading literacy, though it may be mediated by variables such as student socio-economic status and family wealth.

There are, however, other variables which benefited Ireland in relation to the PISA 2000 assessment of reading literacy. These included the relatively strong associations between the reading processes taught in Ireland’s Junior Cycle English syllabus, and assessed in the Junior Certificate Examination, and the processes underpinning the items on PISA. In particular, these include higher level processes such as analysing the style and structure of texts. Related to this is the fact that Irish students are required to answer questions on the Junior Certificate examination using short- and long-constructed responses. In many respects, PISA, with its focus on reading multiple genres and responding to constructed-response items may have favoured Irish students to a greater extent than their Portuguese counterparts.

This is not to say that the Irish educational system is without problems. In the Irish national report on PISA, it was noted that such variables as school type (whether a school was categorised as secondary, community/comprehensive or vocational) and school disadvantaged status had large effects on achievement. Indeed, one of the challenges facing Irish education
at this time is the need to improve the achievement and life-chances of economically-disadvantaged students. Students living in single-parent families, and students at-risk of dropping out of school also performed less well on PISA. Thus, while the relatively strong performance of Irish students on PISA is welcome, particularly in light of the outcomes of the International Adult Literacy Study, it is recognised that there is still much to be achieved.

Turning to Portugal, it is clear that the outcomes of the PISA assessment of reading literacy will be a matter of some concern. While, on the one hand, standards may be expected to increase if the country’s economy strengthens, and issues such as differences in achievement between schools are addressed, reading educators will also want to look at ways in which the teaching of reading might be enhanced. There are some promising signs. The performance of Portuguese students on reading tasks designed to assess higher-order thinking, including the ability of students to evaluate the content and structure of texts, was somewhat better than their performance on tasks designed to assess ability to retrieve information and interpret texts. Thus, it seems that, among other things, there may be a need to examine why performance on lower-level reading tasks is unsatisfactory. It may be the case, for example, that students do not get enough practice in retrieving information from both continuous and non-continuous texts. In this context, the positive attitude of Portuguese students towards reading, and their regular engagement in leisure reading, provide a good basis for making progress.

Finally, in interpreting the outcomes of PISA, it is useful to reflect on the difficulties that may arise when texts are translated from one language (e.g., English or French) to another (e.g., Portuguese). Indeed, as far back as 1973, Thorndike noted that ‘... the preparation of genuinely equivalent tests in reading, where the essence of the task very intimately involves the language of a particular country, would seem to present very serious difficulties’ (p. 14).

Notes
1 The Standard Error of Sampling (SE) provides an estimate of the degree to which a statistic (such as a country mean score) may be expected to vary about the true (but unknown) population mean.
2 These are the effects of one half of a student-level standard deviation increase in the PISA Index of economic, social and cultural status on achievement on combined reading literacy.

3 This variable is referred to as ‘Engagement in Reading’ in the international report on PISA 2000 (OECD, 2001, p. 223).

4 There were 9 clusters, spread over 9 booklets, with some duplication, to facilitate scaling.

References


REFLEXÕES SOBRE O DESEMPENHO DA IRLANDA E PORTUGAL NA AVALIAÇÃO DA LITERACIA EM LEITURA NO OCDE/PISA 2000

Resumo

Em 2000, os estudantes, de 15 anos, de 28 países membros da Organização para a Cooperação e o Desenvolvimento Económico (OCDE) e mais quatro outros países, fizeram parte do Programme for International Student Assessment (PISA). Embora o PISA tenha avaliado três domínios cognitivos no âmbito da literacia — leitura, matemática e ciências —, este texto centra-se no primeiro — a literacia em leitura —, o domínio mais privilegiado em 2000. Visa-se, aqui, reflectir sobre o desempenho dos estudantes de dois países — Irlanda e Portugal. Em primeiro lugar, contextualizam-se os resultados do PISA, revendo-se os dados de anteriores avaliações internacionais de leitura, nas quais os estudantes irlandeses e portugueses tiveram desempenhos mais ou menos semelhantes. Num segundo momento, contrasta-se o relativamente forte desempenho da Irlanda, nas escalas e sub-escalas combinadas da literacia em leitura do PISA, com o relativamente fraco desempenho de Portugal. Continua-se com a discussão das variáveis associadas ao desempenho, entre as quais o nível sócio-económico das escolas e dos estudantes. Num quarto ponto, exploram-se as relações de semelhança entre o currículo de Inglês nas escolas irlandesas, o exame Irish Junior Certificate e o desempenho na leitura, no PISA, o que pode explicar, em parte, a posição dos estudantes irlandeses nesta avaliação. O texto conclui considerando os modos pelos quais o PISA pode informar políticas educativas no âmbito da promoção da literacia em leitura, tanto na Irlanda como em Portugal.
RÉFLEXIONS SUR LA PERFORMANCE DE LA IRLANDE E DU PORTUGAL QUAND DE L’ÉVALUATION DE LA LITTÉRATIE EN LECTURE DE LA OCDE/PISA 2000

Résumé