**Educational Research Centre**

**New Report on Reading and Maths in Primary Schools**

September 28, 2016

The Educational Research Centre today released *The 2014 National Assessments of English Reading and Mathematics, Volume II: Context Report.* The report is a follow-up to *Volume I*: *Performance Report*, published last year, which focused on the English reading and mathematics performance of representative samples of pupils in Second and Sixth class in primary schools in Ireland in the 2014 National Assessments.

In *Volume I*, it was reported that both English reading and mathematics performance had improved significantly since the last National Assessments in 2009. This was, in fact, the first time that average performance improved significantly in National Assessments at primary level since the early 1980s. The report also confirmed that targets for English reading and mathematics performance at primary level set out in the *National Strategy to Improve Literacy and Numeracy among Children and Young People 2011-2020* had been achieved by 2014, well ahead of the target date of 2020, though room for improvement was noted in areas such as problem-solving in mathematics. The need for continuing intensive support for pupils in DEIS schools was also highlighted.

*Volume II* focuses on findings from analyses of questionnaires administered to pupils, parents, teachers, and principals, as part of the 2014 National Assessments. Key findings and recommendations relating to a number of broad themes presented in *Volume II* are summarised below:

**Instructional Time**

* Average instructional time in English lessons has increased since the 2009 National Assessments, from 265 minutes per week to 294 minutes (i.e. by 29 minutes, to give 4 hours and 54 minutes per week), before taking into account any additional time allocated to teaching literacy across the curriculum. Fewer than 10% of Second class pupils were taught by teachers who deemed available instructional time for English to be insufficient.
* Instructional time in mathematics averaged 283 minutes per week in the 2014 National Assessments, compared with 260 minutes in 2009 (again, without accounting for additional time allocated to teaching numeracy across the curriculum). However, 25% of pupils in Sixth class were taught by teachers who deemed the time allocated to mathematics still to be insufficient. Time allocated to teaching mathematics in Ireland is still lower, on an annualised basis, than in several higher-performing countries in TIMSS 2011[[1]](#footnote-1).
* The report recommends that consideration should be given to adjusting the way in which time is allocated in mathematics classes. According to Dr Gerry Shiel, one of the authors, “While overall time allocated to mathematics is important, it is also important to ensure that mathematics lessons focus more strongly on higher-order processes and that instructional time is more evenly distributed across all mathematical content areas than in the past, where work on Number tended to be over-emphasised at the expense of areas such as Geometry and Measures, and there was an overly strong emphasis on procedural aspects of maths to the neglect of reasoning and problem solving.”

**Mathematical Problem Solving**

* There was a clear awareness among participants in the 2014 National Assessments that mathematical problem solving presented a particular difficulty. More pupils in Sixth class (52%) were taught by teachers who expressed a need for continuing professional development (CPD) in the area of problem solving/reasoning than in any other aspect of mathematics. Parents of pupils in Sixth class also identified problem solving as the area of greatest concern relating to their child’s mathematical performance.
* The report recommended that schools and teachers should be supported in implementing innovative approaches to teaching mathematical problem solving, with particular emphasis on modifying the learning environment. This should feature high levels of mathematical discourse (math talk), mathematical modelling, argumentation, reasoning, and collaborative work.

**Teacher Professional Development**

* Findings from the 2014 National Assessments point to increased involvement of teachers in CPD relating to English and mathematics. In the 2009 National Assessments, teachers of pupils in Second class had attended an average of 2.2 days of professional development on the teaching of English in the three years prior to the assessments, while in the 2014 Assessments, they had attended the equivalent of 5.6 days in the previous two years. A similar increase was observed in the amount of CPD in mathematics availed of by teachers of Sixth class pupils.
* Nonetheless, the report highlights the need for ongoing professional development opportunities for teachers. About a fifth of pupils at Second class in 2014 were taught by teachers who had not availed of any CPD in English in the two years prior to the assessments, and a similar proportion of Sixth class pupils were taught by teachers who had not availed of any CPD relating to mathematics over the same period.
* Despite increased engagement in CPD, almost all teachers at both Second and Sixth classes in the 2014 National Assessments ‘strongly agreed’ or ‘agreed’ that they would benefit from additional external CPD in English and mathematics, while between 75% and 80% agreed that they would benefit from online CPD. Crucially, two-thirds of pupils in Sixth class were taught by teachers who strongly agreed or agreed that they would benefit from a course to improve their understanding of the mathematics they teach, in the context of presenting it more effectively to pupils (i.e., mathematics knowledge for teaching).

**Parental Involvement and Monitoring**

* The findings of this study reinforce findings from previous national and international assessments that have demonstrated strong associations between pupils’ home and family lives and their reading and maths achievement.
* Pupils who reported spending the most time playing computer games, watching television, using the Internet, and playing with friends had the lowest mean scores in reading and mathematics, suggesting a role for parents in limiting the time that their children spend on these activities. Second and Sixth class pupils who had televisions in their bedrooms, and Second class pupils who had mobile phones, had significantly lower achievement than pupils who did not.
* Second class pupils whose parents strongly agreed that they set rules with their child for behaviour at home, and set rules about completing homework had significantly higher mean achievement scores than other pupils.
* Positive associations were found between pupil reading achievement and frequency of parents’ leisure reading, parents’ setting aside time for their children to read for pleasure, frequency with which the pupil reads books for pleasure, and membership of a public library. More frequent reading of magazines and comics by pupils was associated with lower reading achievement. This suggests that parents should have a role in monitoring the types of material their children are reading and, where possible, seeking to broaden this.
* Pupils from two-parent households, pupils from financially better-off families, and pupils whose parents had higher educational attainment had, on average, significantly higher English reading and mathematics achievement. However, another author of the report, Dr Lauren Kavanagh, said, “The findings of this study show that there are many ways in which parents from all backgrounds can successfully support their children’s reading and maths achievement. Schools may have an important role to play in empowering parents to do so.”
* The report recommended that schools should seek to raise awareness among parents about behaviours and practices that are supportive of children’s academic development (such as reading books at home for pleasure, involvement in their local library) and those that are not (unmonitored television access, large amounts of technology use).

**Notes for editors**

National assessments of educational achievement take place every five years in Ireland, with over 8000 Second class and Sixth class pupils from 150 primary schools participating in the 2014 round of the assessments.

*The 2014 National Assessments of English Reading and Mathematics, Volume II: Context Report,* by Lauren Kavanagh, Gerry Shiel and Lorraine Gilleece, is published by the Educational Research Centre, and is available for download from the ERC website ([www.erc.ie](http://www.erc.ie)).

For further information on the 2014 National Assessments, including the questionnaires administered to pupils, parents, teachers and principals, and *The 2014 National Assessments of English Reading and Mathematics, Volume I: Performance Report,* see [www.erc.ie/na2014](http://www.erc.ie/na2014)

**Contact Details:**

Lauren Kavanagh: 01 8065 205 [lauren.kavanagh@erc.ie](mailto:lauren.kavanagh@erc.ie)

Gerry Shiel: 01 8065 227 [gerry.shiel@erc.ie](mailto:gerry.shiel@erc.ie)

Educational Research Centre main number: 01 837 3789

1. TIMSS is the Trends in International Mathematics and Science Study, in which pupils in Fourth class in Ireland participated in 2011, and again in 2015. The results of TIMSS 2015, which also included Second year students in Ireland, will be published on November 29, 2016. In 2015, 50 countries at Fourth class and 38 at Second year (Eighth grade) took part. [↑](#footnote-ref-1)