

IEA COMPASS:
BRIEFS IN EDUCATIONHOW LARGE-SCALE ASSESSMENTS
HAVE INFORMED EDUCATION POLICY
IN IRELAND

SUMMARY

In recent decades, large-scale assessments in Ireland have revealed consistent trends, phases of change, and some surprises. This *Compass Brief* explores how data from large-scale assessments informed Ireland's *National Literacy and Numeracy Strategy 2011–2020*, particularly regarding priorities, target-setting, and monitoring. It also examines how related initiatives including curriculum redevelopment and standardized testing reform have reflected large-scale assessment findings. Looking ahead, we outline how large-scale assessments can inform Ireland's next *National Strategy to 2033*, which encompasses digital literacy along with literacy and numeracy. More broadly, using Ireland as an example, we identify important issues for policymakers in other countries to consider when using ILSA (international large-scale assessment) data within their own national contexts.

IMPLICATIONS

- ▶ ILSAs provide examples of what has worked well and has been proved achievable internationally, such as some of the examples from Ireland described in this brief. While it is rarely advisable to borrow policies directly from other contexts, these policy insights can inform the development of appropriate nationally-tailored policies elsewhere.
- ▶ The wealth of data gathered for large-scale assessments can provide nuanced information beyond the headline achievement scores, highlighting a wide range of issues that require the attention of policymakers and educators.
- ▶ This case study from Ireland illustrates how policymakers can draw on accumulated evidence from a variety of studies, which provides a more stable basis for policymaking than relying unduly on any single set of findings.

Authors

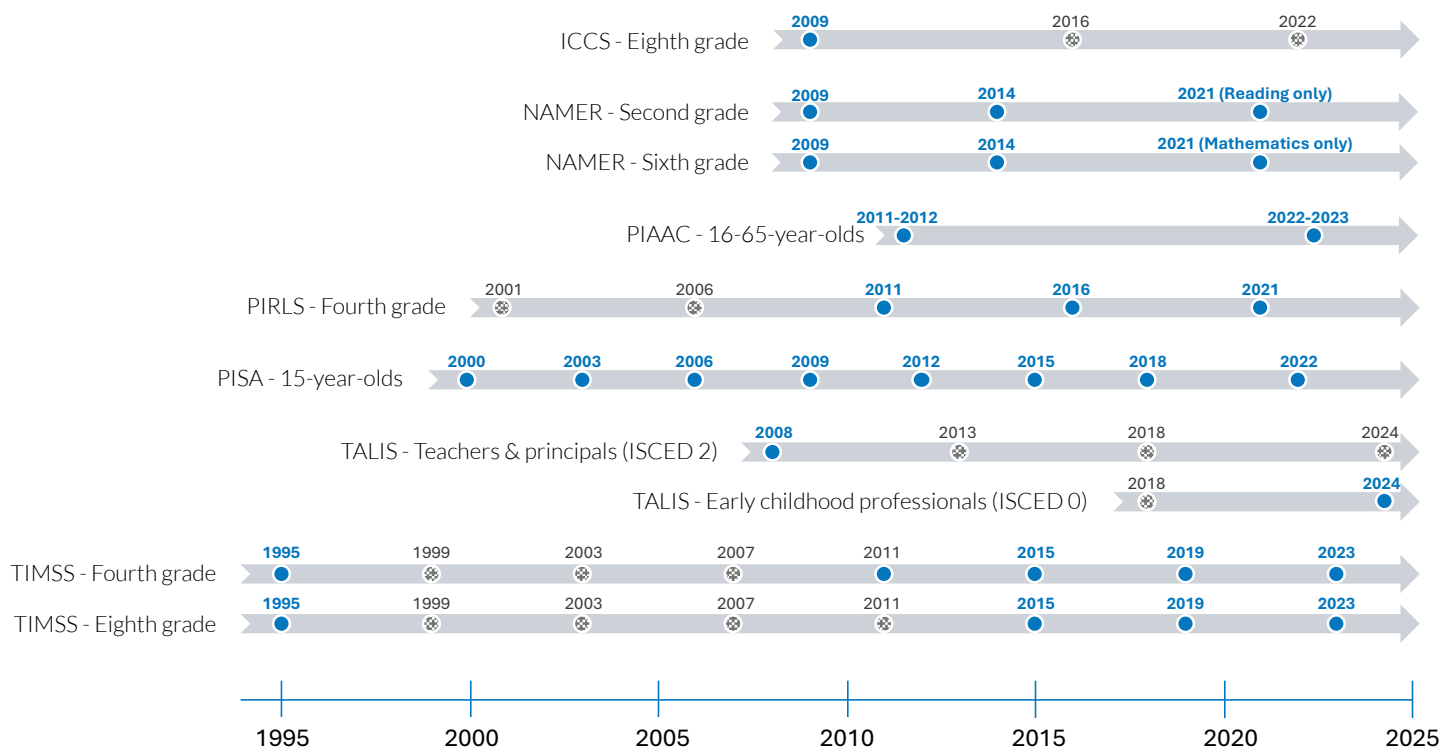
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INTRODUCTION

Ireland has participated in many ILSAs over the years, providing valuable insights into student performance in different domains. At primary level, fourth-grade students have engaged in TIMSS (Trends in International Mathematics and Science Study) and PIRLS (Progress in International Reading Literacy Study). At post-primary level, eighth-grade students have participated in TIMSS, and 15-year-olds in PISA (Programme for International Student Assessment) (Figure 1). NAMER (National Assessments of Mathematics and English Reading), reflecting Ireland's primary curriculum, complement these international tests approximately every five years. Except for PISA 2009, discussed further below, findings from ILSAs have generally shown that Irish students

excel in reading literacy and demonstrate above-average skills in mathematics and science compared to their peers internationally. Some recurring challenges have been identified. These include the comparatively low proportion of students in Ireland reaching the highest achievement levels—in contrast to relatively strong performance among lower-achieving students compared to other countries with similar levels of average achievement—and consistent areas of relative weakness, such as geometry/shape and space in mathematics. This *Compass Brief* uses the example of Ireland to illustrate how data from large-scale assessments can inform national policymaking.

Figure 1: Large-scale assessment/survey cycles in which Ireland has participated



Cycle in which Ireland participated

Cycle in which Ireland did not participate

► **Notes:** In 2009, the grade levels targeted by NAMER were changed and the scale metrics were re-set. Therefore, earlier NAMER cycles are not presented in Figure 1.

NATIONAL LITERACY AND NUMERACY STRATEGY (2011-2020)

The results of PISA 2009 caused considerable concern in Ireland, with substantial declines in reading and mathematics performance reported (Perkins et al., 2010) compared to previous cycles (see *Figure 3*). This “PISA shock” prompted extensive media coverage and contributed to the introduction of the *National Literacy and Numeracy Strategy (2011–2020)*. The *Strategy* aimed to address these declines and broader educational concerns, emphasizing six areas: parental and community involvement, teacher professional practice, school leadership capacity, curricula, resources for children with additional needs, and assessment practices. High-profile actions under the *Strategy* related to increased weekly instructional time allocated to literacy (+60 minutes) and mathematics (+70 minutes), the introduction of mandatory standardized testing at three primary grade levels, and teacher professional development related to literacy and numeracy.

The *Strategy* mandated ongoing participation in studies like PIRLS, TIMSS, and PISA to provide international benchmarking of student achievement, and schools were explicitly requested by the Department of Education to cooperate if sampled for such studies. Targets were set to increase the proportion of students achieving higher proficiency levels by five percentage points between 2009 and 2020, based on NEMER and PISA data. Similarly, targets were set to reduce the proportion at lower proficiency levels by five (primary) and eight to ten (post primary) percentage points.

Despite the troubling PISA 2009 results, subsequent ILSAs provided some reassurance. Findings from PIRLS and TIMSS 2011, and PISA 2012 were broadly positive (Eivers & Clerkin, 2012; Perkins et al., 2013), and research suggested that the earlier declines had been exaggerated by student engagement issues and methodological factors affecting measurement accuracy (Cossgrave & Cartwright, 2014). By mid-decade, Ireland had met all the *Strategy*’s primary-level targets ahead of schedule, with significant progress in reading and mathematics evidenced by NEMER 2014, TIMSS 2015, and PIRLS 2016 (see *Figure 2*; Clerkin et al., 2016;

Eivers et al., 2017; Shiel et al., 2014). At post-primary level, targets for increased proportions of high achievers were met in both domains, although the targets for reduced proportions of low achievers were not met (Shiel et al., 2016). Data provided by TIMSS and PISA for science underlined the value of ILSAs for policymaking in the absence of a national assessment or standardized testing for science in Ireland.

In 2017, the *Strategy* underwent an interim review which celebrated successes to date—particularly in reading literacy—and identified areas requiring further attention, like numeracy and digital literacy. Despite some successes in maintaining a relatively high level of equity in educational outcomes internationally, tackling educational disadvantage at the school level was a continued priority, while a new priority involved enabling high achievers to reach their full potential. This followed indications from recent TIMSS and PISA data that an increasingly apparent challenge was the relative underperformance of Ireland’s higher-achieving students compared to their counterparts in other countries with similar overall achievement levels. This pattern was found for mathematics more so than reading—and for science more than either, although the latter was not targeted by the *Strategy* (Clerkin et al., 2016; Shiel et al., 2016).

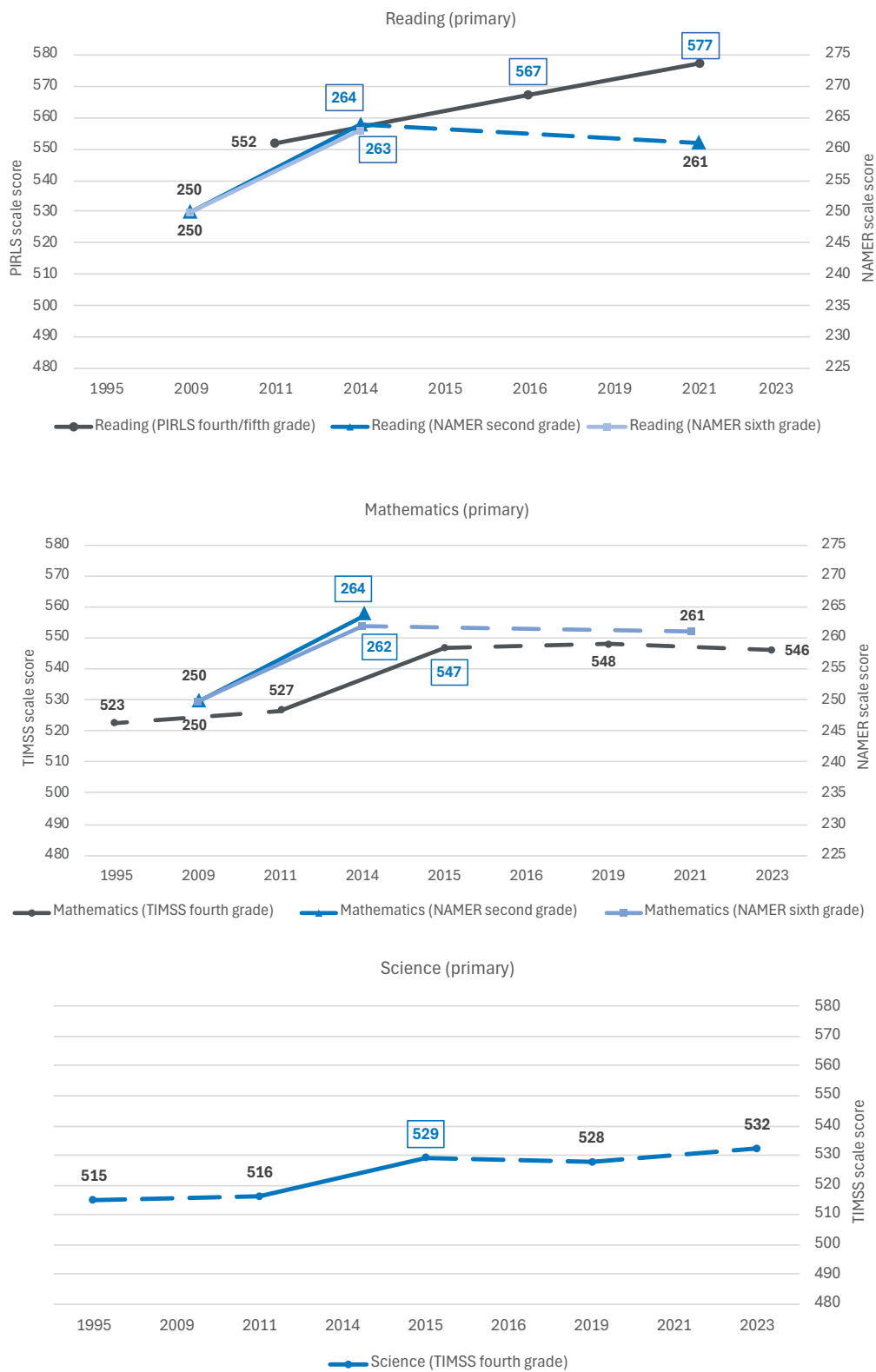
As part of the interim review, revised targets to 2020 were established. These included substantially more ambitious versions of original targets already achieved, reiterations of original targets not yet achieved, and new targets specific to the most disadvantaged schools. Additionally, some contextual variables relating to students’ educational engagement were identified as important indicators. For example, increases were sought in the proportions of students engaged in daily reading for pleasure and regular conversations with parents about school progress. This ongoing commitment to using large-scale assessment data beyond the headline achievement scores demonstrates how accumulated evidence can inform responsive educational policymaking.

CURRICULUM REDEVELOPMENT

Curriculum redevelopment has historically been infrequent in Ireland. When the 2011 *Strategy* was introduced, primary curricula dated from 1999. In recognition of the need for updates, an integrated *Primary Language Curriculum* for English and Irish

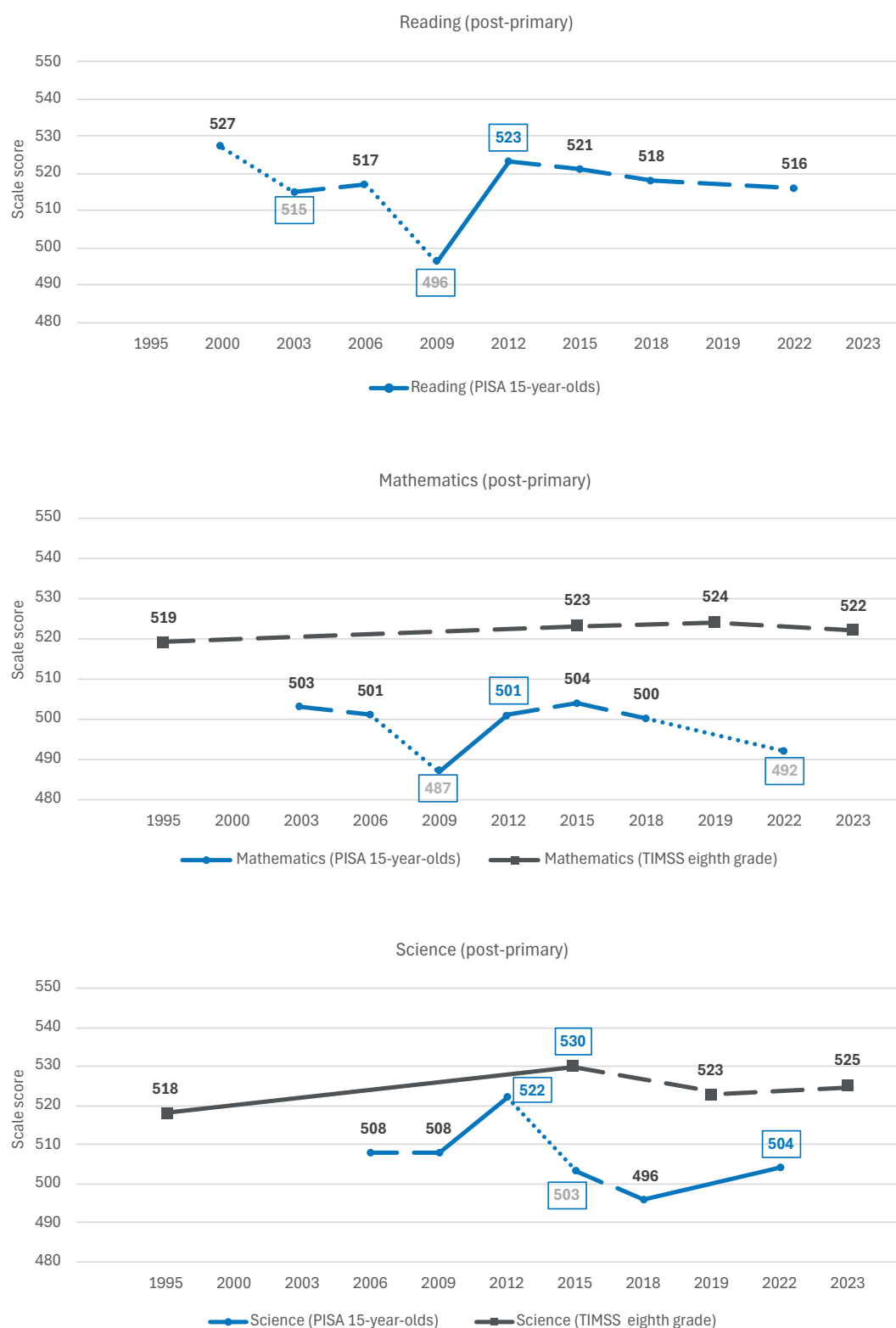
commenced for junior classes in 2015 and for all primary grades in 2019. A new *Primary Mathematics Curriculum*, introduced in 2023, is currently at the embedding stage.

Figure 2: Trends in achievement in Ireland at primary level (1995–2023)



► **Notes:** PIRLS 2021 was administered near the beginning of the fifth grade and comparisons to previous PIRLS cycles (end of the fourth grade) should be interpreted cautiously. Scale axes span one Standard Deviation for each study (100 score points for PIRLS/TIMSS; 50 score points for NAMER). **Solid trend lines** indicate statistically significant improvements between cycles (blue font in box). **Dashed trend lines** indicate no significant change between cycles.

Figure 3: Trends in achievement in Ireland at post-primary level (1995–2023)



► **Notes:** Solid trend lines indicate statistically significant improvements between cycles (blue font in box). Dotted trend lines indicate significant declines between cycles (grey font in box). Dashed trend lines indicate no significant change between cycles.

Research reports that informed these redevelopments referred to ILSA frameworks and findings. For literacy, Kennedy et al. (2012) noted that ILSA definitions emphasize the active construction of meaning, the facilitation of critical reflection and empathy, and the importance of a community of readers and positive dispositions toward reading. These approaches are consistent with the *Primary Language Curriculum*, which includes learning outcomes concerning

engagement, motivation, choice, and social awareness, as well as foregrounding critical literacy and plurilingual/pluricultural understanding. Regarding mathematics, the prominence of *Number* in the Irish curriculum was contextualized via its prominence in TIMSS, while TIMSS findings indicating Irish students' relative strength on *Number* and relative weakness on *Geometry* were flagged (Delaney, 2020; Nic Mhuirí, 2020).

STANDARDIZED TESTS

From 2012, the introduction of mandatory standardized testing in reading and mathematics at second, fourth, and sixth grades marked a significant shift from schools' previous ad hoc usage of tests. This was accompanied by a requirement to report aggregated results to the Department of Education. However, unlike in some jurisdictions, school-level results are not released publicly and cannot be used to create league tables. Results have been used internally by the Department, for example, to inform the allocation of resources such as Special Education Teachers to schools.

Analysis of standardized test data from 2012 and 2013 showed that students were already significantly outperforming existing national norms (dating from at least six to seven years earlier, with the date of standardization varying across two test providers). These differences were unexpectedly large; while 16% of the reference (norm) groups had achieved "above average" scores, 25% in reading and 29% in mathematics achieved such scores by 2013 (DES, 2016).

Among the possible contributing factors for this drift in score distributions were that more widespread use of tests had increased familiarity with their content, and there was a heightened perception of pressure to achieve good results (O'Leary et al., 2019). This seemed likely to result in an acceleration of the phenomenon whereby tests that are not fully secure become easier over time (Salvia & Ysseldyke, 2001).

Around the same time, evidence emerging from NAMER 2014, TIMSS 2015, and PIRLS 2016 confirmed real improvements in student performance in Ireland, suggesting that the skewed standardized test results from 2012 and 2013 may have reflected a combination of outdated and over-used tests on one hand, and true population-level changes on the other. This highlighted the need for updated testing instruments and a systematic approach to test redevelopment. Consequently, new tests were released by the authors' institution in 2019, and a rolling redevelopment program is planned. Large-scale assessments are a crucial tool that can help determine when and how to update tests to accurately reflect shifts in student achievement.

AFTERMATH OF THE STRATEGY

TIMSS 2019 showed no significant changes in Ireland's mathematics or science performance since 2015 (Perkins & Clerkin, 2020). Following COVID-19—which led to extended school closures in 2020 and 2021—few revised targets were met in NAMER 2021 or PISA 2022; however, NAMER and PIRLS 2021 indicated stable primary-level reading and mathematics achievement since the mid-2010s (Delaney et al., 2023; Donohue et al., 2023; Kiniry et al., 2023; Nelis & Gilleece, 2023). These patterns may obscure other trends, such as pre-COVID gains followed by declines—although, for mathematics, TIMSS 2019 supports the stability hypothesis. At post-primary level, PISA 2022 showed stable reading achievement since 2018 but a significant decline in mathematics

(albeit smaller than on average internationally). Most recently, TIMSS 2023 data indicate continued stability in performance at both primary and post-primary levels over the years of the pandemic, as seen in *Figures 2 and 3* (McHugh, Denner et al., 2024).

Overall, findings suggest that while the revised targets may have been overly ambitious—at least given the pandemic's impact—the improved literacy and numeracy levels seen midway through the *Strategy's* implementation have generally been maintained (*Figures 2 and 3*). In an international context, Ireland's performance remains strong, particularly in literacy.

NEXT STEPS: NEW NATIONAL LITERACY, NUMERACY, AND DIGITAL LITERACY STRATEGY (2024–2033)

A new strategy to guide literacy, numeracy, and digital literacy education in Ireland for the next decade was published in 2024. The *National Strategy (2024–2033)* emphasizes areas of progress during the lifetime of the previous National Strategy, but also areas where less progress has been made. Identification of these priorities has been substantially informed by the findings of large-scale assessments.

National reporting over the last decade has repeatedly highlighted that performance among lower-achieving students in Ireland is relatively strong, but that fewer students in Ireland reach the highest levels of achievement. In response, the new *National Strategy (2024–2033)* places a more explicit focus on supporting high-achieving students in reaching their potential. Similarly, the relative weakness in Ireland in geometry, which has been identified over several assessment cycles (McHugh, Clerkin et al., 2024), is noted as a particular focus within a broader effort to improve mathematics outcomes. For example, the implementation plan for the first five years of the new *Strategy* provides specific actions such as creating more opportunities for active learning in schools in measurement and geometry, and continued provision of professional learning for teachers in these areas. A need to

enhance motivation for leisure reading and promote positive attitudes toward mathematics, drawing on findings from ILSAs, is also noted. This will include the commissioning of focused research to inform future policy decisions aimed at promoting reading for pleasure (especially for boys) and strengthening confidence in mathematics (especially for girls). The new *Strategy* aims to reduce gender disparities which, although smaller in Ireland than in many countries, have remained persistent in reading assessments and are sometimes found in mathematics assessments.

A notable addition to the new *Strategy* is the increased importance accorded to digital literacy. Although Ireland has participated in several ILSAs in digital format and standardized tests are available to schools both online and on paper (Delaney et al., 2024), Ireland has not previously participated in ICILS (International Computer and Information Literacy Study). However, in the absence of a national assessment assessing digital literacy skills, participation in ICILS 2028 could be considered to gather robust data in this rapidly-developing area. Potential advantages of ICILS are also noted in Ireland's separate *Digital Strategy for Schools*, with efforts ongoing to enhance the embedding of digital technologies in teaching and learning (Donohue et al., 2024).

CONCLUSIONS

While ILSAs do not capture many important aspects of a holistic education, they offer valuable data that provide deep insights if utilized effectively. In Ireland, as well as overall achievement trends, these assessments have highlighted issues such as educational inequalities, variations in early learning and attitudes, instructional strategies, factors affecting learning, and specific curricular areas where students excel or struggle (Clerkin, 2013; Clerkin & Gilligan, 2018; Delaney et al., 2022; Duggan et al., 2023; McHugh, Clerkin et al., 2024; Nonte et al., 2022). Furthermore, they can reveal unintended policy consequences. For example, in Ireland, a notable reduction in science instructional time was observed following the introduction of the *Strategy (2011–2020)*, presumably due to increased time allocated to literacy and numeracy (Clerkin et al., 2017).

Education policy should be informed by a range of high-quality evidence, not overly reliant on any single study. Ireland's long-term engagement with ILSAs like TIMSS, PIRLS, and PISA, complemented by national assessments, has influenced policy development and educational practice by enriching the information available. As Ireland embarks on the new *National Strategy (2024–2033)*, continued participation will ensure a comprehensive evidence-base for future policy formation. This approach could be enhanced by integrating insights from other assessments like ICCS (International Civic and Citizenship Education Study) and ICILS, providing a more rounded view of educational needs. However, the administrative load of participating in additional assessments needs careful consideration, especially given Ireland's size and the impact on school communities.

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IEA COMPASS: BRIEFS IN EDUCATION

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