



## Executive Summary

# 21st-Century Readers

DEVELOPING LITERACY SKILLS IN A DIGITAL WORLD



P r o g r a m m e f o r I n t e r n a t i o n a l S t u d e n t A s s e s s m e n t

# Executive Summary

Digital technologies revolutionised the written word in the 21st century. In the past, mass production of printed books made information widely available and incentivised people to develop reading skills. Still, the production of books remained in the hands of the few, not the many. With digital technologies, all that has changed. Everyone can become a journalist or a publisher. People now find millions of answers to their questions on the Internet at the click of a button. But what they have lost is the certainty of what is right or wrong, true or not true. Literacy in the 21st century is about constructing and validating knowledge. The more information there is, the more readers have to know how to navigate through ambiguity, and triangulate and validate viewpoints.

Reading in a digital world is even more challenging given the increasing production and consumption of media content. Sometimes, it seems that the speed of information dissemination comes before the quality of the information itself. This contributes to “fake news”, misinformation and a “post-truth” climate. Social media algorithms are designed to channel the flow of likeminded people towards each other. This creates “echo chambers”, which reinforce our thoughts and opinions rather than challenge them, fuelling people’s confirmation bias. The digital divide exacerbates these challenges for the most disadvantaged. Many students do not have access to the Internet at home and must rely on schools to learn and practice their digital skills. With the Covid-19 pandemic and school closures, students have had to do their schooling at home and on their own. This crisis makes plain that it is urgent to develop autonomous and advanced reading skills to prepare young people for an increasingly volatile, uncertain, and ambiguous world.

Reading was the main subject assessed in PISA 2018, and the reading framework was devised to include essential reading skills in a digital world. This report provides important insights into how 15-year-old students are developing reading skills to navigate the technology-rich 21st century.

## **DEVELOPING READING SKILLS IN A DIGITAL WORLD: MAIN FINDINGS**

### **Digital divide**

- On average across OECD countries, some 88% of students had both a connection to the Internet at home and a computer they could use for schoolwork in PISA 2018 (OECD average-31: 89%) – 28 percentage points more than in PISA 2003 (OECD average-31).
- Half or less of students had access to both a connection to the Internet at home and a computer they could use for schoolwork in the Dominican Republic, Indonesia, Malaysia, Mexico, Morocco, Peru, the Philippines, Thailand, and Viet Nam. This percentage was lower than 20% in rural areas of Indonesia, Mexico, Morocco and the Philippines.
- Four in five disadvantaged students in Malaysia, Mexico, Morocco, Peru, the Philippines and Viet Nam do not have access to the Internet at home but at school only.

### **Opportunity to learn**

- On average across OECD countries, some 54% of students reported being trained at school on how to recognise whether information is biased.
- Students were asked to click on the link of an e-mail from a well-known mobile operator and fill out a form with their data to win a smartphone, also known as phishing e-mails. Approximately 40% of students on average across OECD countries responded that clicking on the link was somewhat appropriate or very appropriate.
- Education systems with a higher proportion of students who were taught how detect biased information in school and who have digital access at home were more likely to distinguish fact from opinion in the PISA reading assessment, even after accounting for country per capita GDP.

### **Navigating digital environments**

- More than half of the students in B-S-J-Z (China), Hong Kong (China), Korea, Singapore and Chinese Taipei followed instructions in the PISA reading assessment by carefully selecting pages relevant to the tasks, limiting visits to irrelevant pages (strictly focused navigation), and actively navigating both single- and multiple-source items (actively explorative navigation). These navigation behaviours were strongly correlated with knowledge of effective reading strategies and reading performance.

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- On average across OECD countries, the index of knowledge of effective reading strategies for assessing the credibility of sources is the most strongly associated with reading performance after accounting for students' and schools' socio-economic status. The other two reading strategies (i.e. the indices of student knowledge of reading strategies for understanding and memorising a text and summarising information) are also associated with reading performance.

### Strategies to tackle inequality and gender gaps

- Disadvantaged students perceived the PISA reading assessment as more difficult than advantaged students even after accounting for students' reading scores in 70 countries and economies that participated in PISA 2018.
- Boys reported they felt the PISA reading test was easier than girls did even though boys scored 25 points lower than girls in reading after accounting for students' socio-economic backgrounds.
- Almost two-thirds of the association between gender and reading performance can be accounted for by the difference between boys' and girls' knowledge of effective reading strategies. Almost 30% of the association between socio-economic background and reading performance can be accounted for by the difference between socio-economically advantaged and disadvantaged students' reported self-perception of reading competence.

### Print reading in a digital world

- Students who reported reading books more often in paper than digital format perform better in reading and spend more time reading for enjoyment in all participating countries/economies in PISA 2018.
- Compared to students who rarely or never read books, digital-book readers across OECD countries read for enjoyment about 3 hours more a week, print-book readers about 4, and those who balance both formats about 5 hours or more a week after accounting for students' and schools' socio-economic background and gender.

### Teachers' practices

- Disadvantaged students and boys – who typically have a lower reading performance – perceived less stimulating reading activities from their teachers in the 49 countries/economies participating in PISA 2018.
- Reading fiction and long texts for school more frequently was positively associated with reading performance in most countries/economies after accounting for students' and schools' socio-economic profiles.
- The relationship between reading performance and time spent using digital devices for schoolwork was negative in 36 countries and economies after accounting for students' and schools' socio-economic status. However, this relationship was positive in Australia, Denmark, Korea, New Zealand, and the United States.

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