

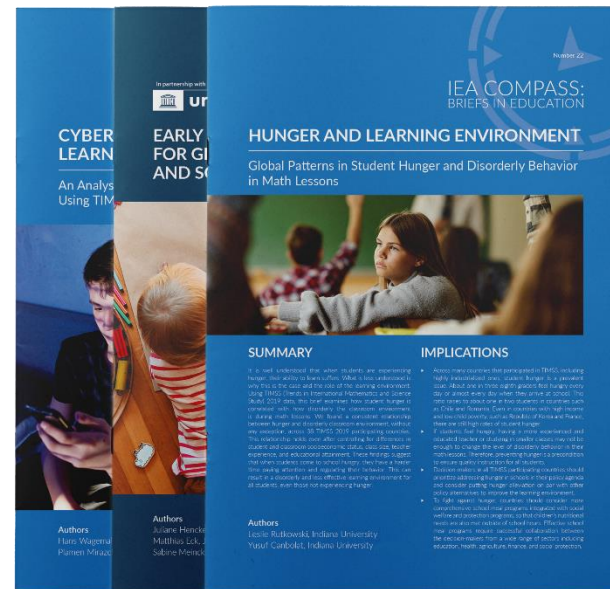
IEA Compass: Briefs in Education

65th IEA General Assembly Meeting, Tbilisi, Georgia

Laura Cheeseman

What are IEA Compass: Briefs in Education?

- Short-format publications that speak to a diverse audience
- Connect findings from IEA studies to educational policy debates
- Used at both the national and international levels to support debates and policymaking in education
- Equip readers with the power to make informed decisions
- Written by leaders in the field of education and ILSAs



Compass Briefs released in 2024

3

Number 23 | Special Issue



IEA COMPASS:
BRIEFS IN EDUCATION

TEACHING QUALITY, LIMITATIONS TO TEACHING, AND THEIR LINKS TO STUDENT ACHIEVEMENT:

Insights from Nordic Primary Schools

SUMMARY

Classrooms with higher teaching quality were associated with higher learning outcomes in mathematics and science. Classrooms where teachers reported high degrees of limitations to teaching in the classroom—including disruptive students or students with language barriers—were associated with lower learning outcomes. There are two of the important findings of the Northern Lights book project examining the current state and trends in mathematics and science performance in Nordic primary schools using TIMSS (Trends in International Mathematics and Science Study) data from 2011, 2015, and 2019. The study also identified a worrying trend: a decline in aspects of teaching quality and increased limitations to teaching between 2011 and 2019. These negative changes were associated with decreased achievement over time. Fewer students perceived the teaching as supportive and clear, while teachers increasingly reported challenges in their teaching and learning, including students' lack of prior knowledge and absenteeism.

IMPLICATIONS

- Teacher support for students' learning and instructional clarity, as well as cognitive activation are related to mathematics and science achievement in Nordic countries. Highlighting the importance of incorporating these three aspects into teaching practice and teacher education to enhance student learning outcomes.
- Teaching quality, especially teacher support and instructional clarity has decreased over time in Nordic countries. The results imply that enhancing teaching quality through ongoing teacher education and training could improve student achievement over time.
- Nordic teachers struggle with increased classroom diversity, which may have contributed to decreased or stagnated student achievement since 2011. Implementing strategies to address these challenges may prevent the continued widening gap between advantaged and disadvantaged students. Such strategies may include additional teacher education and professional development toward more inclusive teaching strategies for diverse student populations.

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Number 24

IEA COMPASS:
BRIEFS IN EDUCATION

PROCESS DATA IN LARGE-SCALE ASSESSMENTS

with an eTIMSS Problem Solving and Inquiry Item



IMPLICATIONS

- Process data from large-scale assessments can provide valuable insights into students' cognitive processes and problem-solving strategies. This information can be used to identify areas where students struggle and to tailor instruction accordingly.
- Process data can be used to assess students' understanding of mathematical concepts and their ability to apply these concepts to solve problems. This information can be used to identify areas where students need additional support and to tailor instruction accordingly.
- Process data can be used to assess students' engagement and motivation during assessments. This information can be used to identify areas where students are disengaged and to tailor instruction accordingly.

IEA Education National and Global Journal (ENJ)
and IEA Education National and Global Journal (ENJ)

Number 25 | Special Issue



IEA COMPASS:
BRIEFS IN EDUCATION

BOYS MAY NEED MORE SUPPORT IN IMPROVING THEIR READING MOTIVATION, CONFIDENCE, AND ENGAGEMENT

SUMMARY

Using data from the 2016 and 2021 cycles of PIRLS (Progress in International Reading Literacy Study), this brief examines gender disparities of fourth-grade students in reading enjoyment, confidence, and engagement. It explores how parents' reading habits influence their children's reading performance. Our findings indicate that girls in general enjoy reading more than boys and display greater confidence in their reading abilities. Both enjoyment and confidence in reading show positive correlations with academic achievement in reading, although it is difficult to determine the direction of the relationship. Additionally, girls tend to read more frequently outside of school than boys. We also observe that parents' enjoyment of reading positively relates to their children's reading success, with female caregivers typically enjoying reading more than male caregivers. This means boys are less likely to have a male reading role model in the home. The majority of reading teachers are female, suggesting that boys are likely to lack male reading mentors in their school. This brief concludes by discussing the potential implications of these findings, proposing measures to enhance reading skills among boys, and identifying areas for further investigation.

IMPLICATIONS

- Enhancing boys' motivation, confidence, and engagement in reading is essential and should be emphasized in educational policy to foster their reading development.
- Pre-service and in-service teacher training needs to make teachers aware of the specific challenges that boys face and how gender norms affect their reading practices.
- Addressing boys' underachievement in reading at an early stage, starts with comprehensive support in early childhood education. Both teachers and parents/caregivers play pivotal roles in this effort.
- Providing boys with access to male role models and mentors can help break down prevailing stereotypes, boosting their interest in reading.

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Read all briefs
in the series



Teaching quality, limitations to teaching, links to student achievement

- Authored by Nani Teig, Trude Nilsen, and Kajsa Yang Hansen
- Uses data from TIMSS 2015 and TIMSS 2019 from Denmark, Finland, Norway, and Sweden
- Findings from Volume 14 in the *Research for Education* series
- Highlights the importance of supporting teachers to improve student learning outcomes



Using process data in large-scale assessments

- Authored by Franck Salles and Aurélie La Croix
- Based on process data taken from the eTIMSS 2019 PSI mathematics assessment
- Introduces process data to a wider audience and highlights its importance in understanding student problem-solving strategies

IEA COMPASS: BRIEFS IN EDUCATION

What is Process Data?

Data collected from digital tests potentially opens new horizons when it comes to analyzing and informing stakeholders of response processes. Digital assessments enable us to log and time students' interactions with the testing environment



Using process data in large-scale assessments

- Authored in collaboration with UNESCO
- Matthias Eck, Juliane Hencke, Alec Kennedy, Sabine Meinck, and Justine Sass
- Highlights the differences between reading achievement among boys and girls found using data from PIRLS 2021
- Introduces measures to enhance reading skills, and build motivation among boys



What's upcoming in 2025?

- How large-scale assessments have informed education policy in Ireland
 - Aidan Clerkin and Emer Delaney
 - How TIMSS and PIRLS data was used to inform Ireland's National Literacy and Numeracy Strategy 2011–2020
- ICCS (topic forthcoming)
 - Christian Christrup Kjeldsen and Jörg Fischer
 - ICCS 2022
- Highlighting environmental education across the globe
 - IEA Research and Analysis Unit and Greenpeace
 - TIMSS data
- Digital natives: Fact or fiction?
 - Julian Fraillon
 - ICILS 2023 data

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