HSRC

RESEARCH CONFERENCE

NEXT GENERATION INSIGHTS ON INTRACTABLE NATIONAL AND GLOBAL CHALLENGES

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INTERNET USAGE AND MATH ACHIEVEMENT

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Science and Innovation
REPUBLIC OF SOUTH AFRICA

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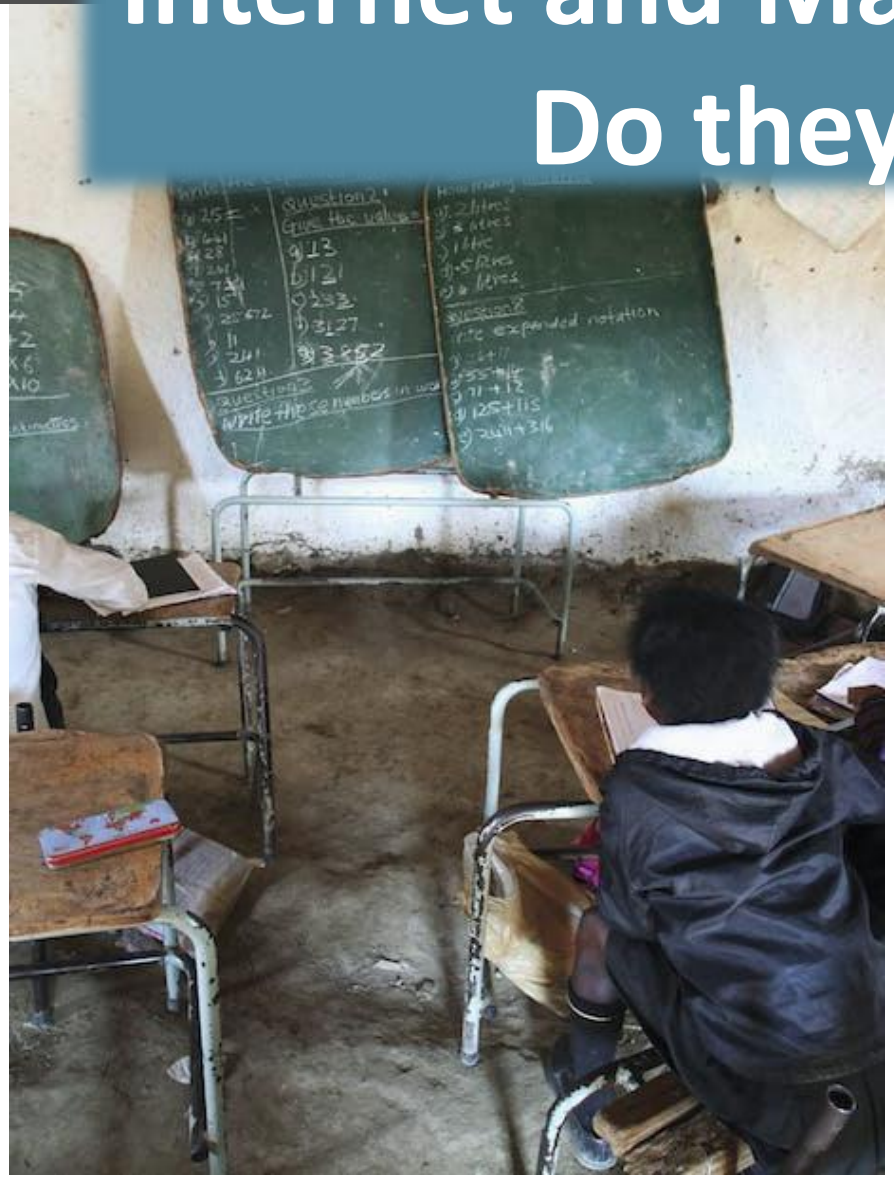
Internet and Math Achievement
Do they relate?



Post-Covid Online Education

- Rapid online education shift
- Digital divide highlights disparities
- Unequal internet access persists
- Technology dependency grows
- Call for equitable digital solutions

Internet Access and Math Results

- Issue: SA Grade 9 internet access
- Importance: Persistent issue of the digital divide
- Argument: Internet access/usage has impact on achievement
- Literature: Mixed findings on access and relationship

Methodology and Framing

TIMSS 2019

Learner-level (n= 20,829)

- Internet access
- Learning games
- Collaboration
- Assignments
- Communicate
- Find information

Quantitative

Multi-levels

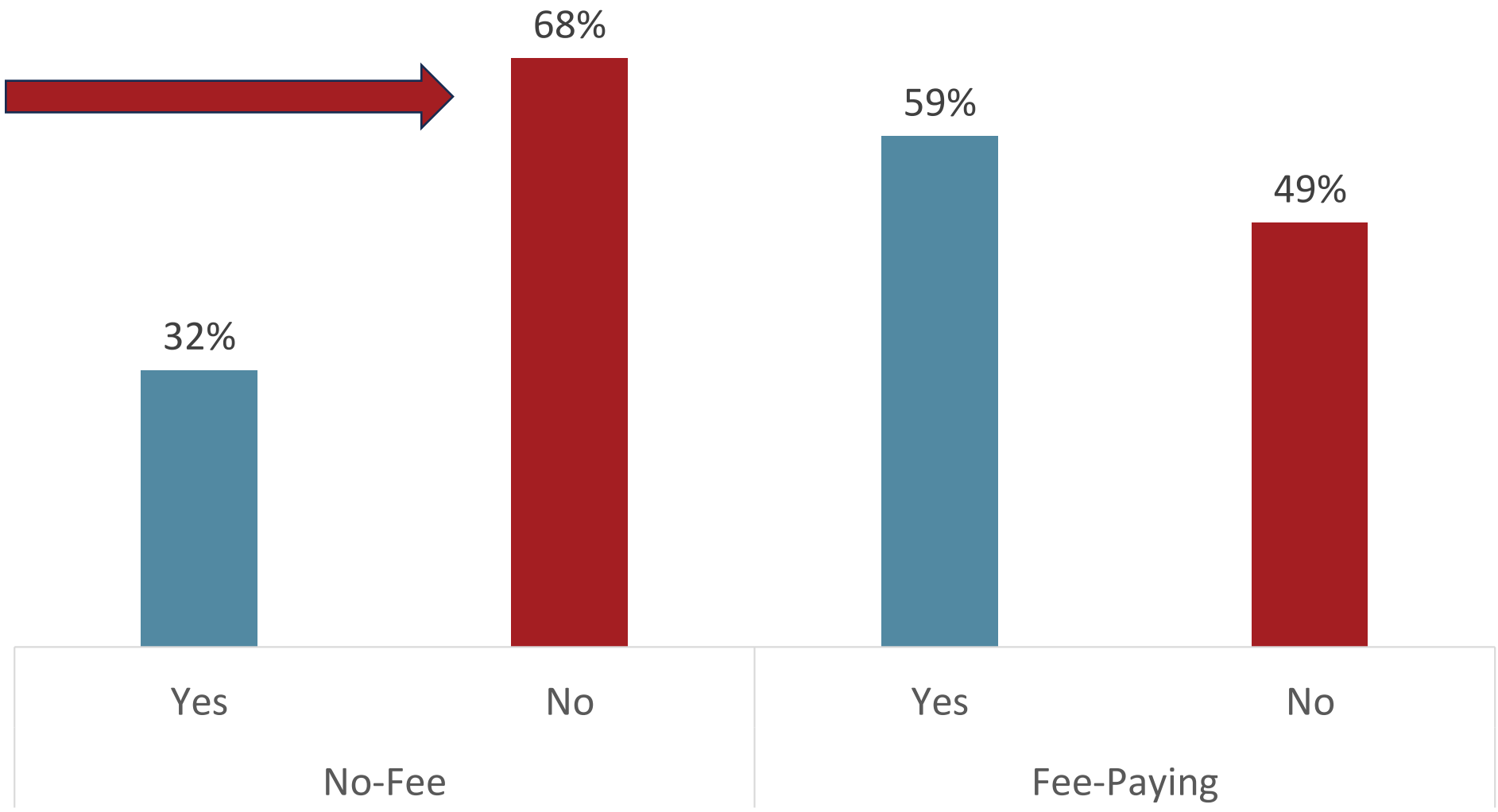
South Africa

School-level (n=519)

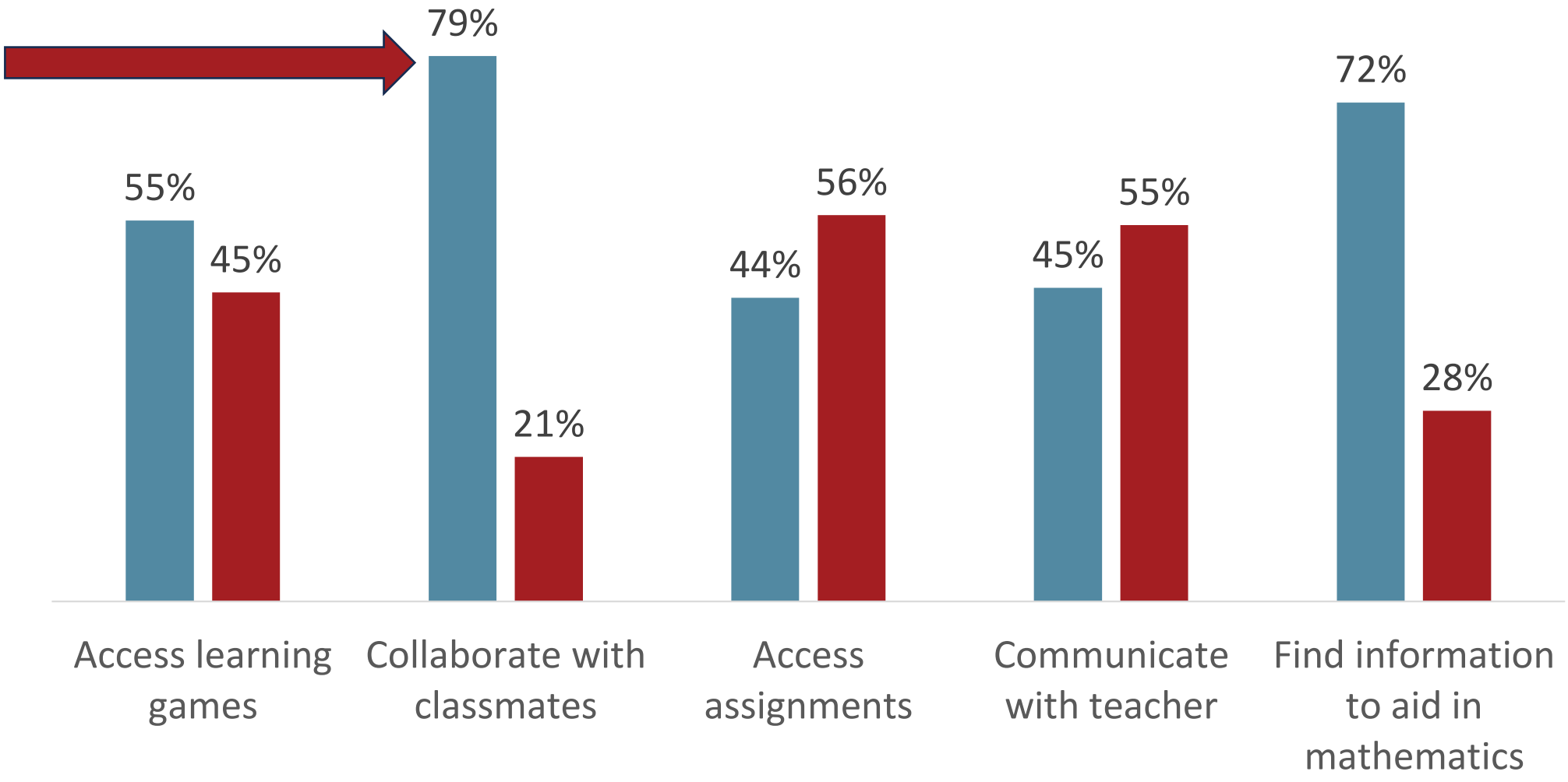
- Fee-paying
- No Fee

Grade 9 mathematics results

Internet Access at Home



Different Uses of the Internet



School and Learner-level Predictors

- Fee-paying learners **outperform** no-fee peers
- Internet access **improves** math scores
- Searching information/tutorials **increases** math results
- Online textbook, assignments, and communication **decreases** math achievement

Discussion

- Policy implications: **expand**ing **internet access**, and allocating resources equitably
- Shape education policies: digital **inclusion** and equity
- Researchers: **equitable** and **effective** technology integration in education

Summary

"While many South African Grade 9 learners lack home internet, those who access it for academic activities show varied math performances. Not all online activity benefits learning equally. Unpacking the digital divide in SA's educational landscape. #EdTechSA #MathInDigitalAge"

Quotes

The Internet is becoming the town square for the global village of tomorrow.

~ By Bill Gates