# Seeing to Learn: Connecting vision and learning in the context of evidence for school-based vision programs

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# Visuals of Learning

- UCLA researchers: “80% of learning is visual” (Vision to Learn, 2022)
- Students need to see the board, worksheets and books, classmates, teachers!
- Vision problems have negative impact on academic achievement through their effects on sensory perceptions, cognition, and school connectedness (Basch, 2011)

# Connecting Academics and Vision Access

- Overlap between those who are more likely to perform lower in academic achievement measures and those who are more likely to lack access to vision care

- **Academic Achievement**
  - On NAEP Reading 2024, 31% 4th graders, 30% of 8th graders proficient or higher (NAEP, 2025)
  - In MD 4th grade, 19% Black, 17% Hispanic/Latino, 16% Economically Disadvantaged, 4% English Learners scored proficient or higher (Sanderson, 2025)
- **Vision Care**
  - In Baltimore, 25-30% have uncorrected vision problems (Guo et al., 2021), but only 5-7% of school-aged children already had glasses (Slavin et al., 2018)

# School-Based Vision Programs (SBVPs) and Academic Outcomes

- SBVPs have increasingly been seen as an effective method of addressing student academic outcomes through addressing "out of school" factors

- Evidence points to a relationship between use of appropriate eyeglasses and achievement (Hark et al., 2020; Pavithra et al., 2014), particularly in reading (Hannum & Zhang, 2012) and math (Ma et al., 2021) in USA and China.

# Evidence of SBVP Impact on Academic Outcomes

- **Chicago**
  - Significant positive impact of **Vision for Chicago (V4C)** after one year on PARCC ELA (ES = +0.08, p < .05).
  - No differential impacts identified for any subgroups (Neitzel et al., 2021a)
  - Did not find sustained impacts after 2 years (Neitzel et al., 2025)

- **Baltimore**
  - Overall significant 1-year positive impact of **Vision for Baltimore (V4B)** on i-Ready reading (ES = +0.09, *p* = .02).
  - Positive impact seen for female students (ES, 0.15; *P* < .001), those in special education (ES, 0.25; *p* < .001), and students who performed in the lowest quartile at baseline (ES, 0.28; *p* < .001) on i-Ready reading
  - Did not find sustained impacts after 2 years (Neitzel et al., 2021b)

# Sustaining Impact on Learning

- Need to do more than show up and hand out eyeglasses to those who fail exam and get prescriptions
  - Dropoff trends seen in achievement and compliance (Storey, 2022)
  - Need sustained efforts to develop evidence related to monitoring and replacements, improving awareness and compliance

- Rationales for usage or non-compliance differ by age, gender, cultural background (Vongsachang et al., 2020)

- Future Research:
  - Different messages most effective in reaching different groups and stakeholders
  - Methods for encouraging compliance (e.g., Narayanan & Ramani, 2018)
  - Impact on additional educational outcomes

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