CASE STUDY

# Rethinking Paper Brightness

MILLCRAFT | EDUCATION

## Paper Brightness & Visual Comfort in Education Settings

### Guidance for School District Procurement and Curriculum Leaders

Emerging research suggests that extremely bright white paper may contribute to visual discomfort, glare, and reading fatigue in certain populations. This document summarizes relevant findings and provides practical recommendations for paper selection in educational environments.

### KEY RESEARCH FINDINGS

- High brightness paper (96–100 GE) increases reflected light and glare, which may contribute to eye strain.
- Studies have shown that readers can experience discomfort, visual distortion, and fatigue when reading on very white backgrounds.
- Visual stress is estimated to affect 5–12% of the population, particularly impacting students.
- Softer white or lightly tinted paper can reduce glare and improve reading comfort.

### IMPLICATIONS FOR SCHOOLS

- Extended reading (textbooks, worksheets) may increase fatigue when printed on ultra-bright paper.
- Younger students and those with dyslexia or visual sensitivity may benefit from softer backgrounds.
- Classroom lighting (LED/fluorescent) can amplify glare from bright paper.

### RECOMMENDED PAPER SPECIFICATIONS

- **General Use:** 92–96 brightness (balanced performance)
- **High Volume Reading Materials:** Soft white or cream
- **Special Education / Accessibility:** Light pastel tinted papers (blue, green, cream)
- Finish: Matte or low-gloss to reduce reflectivity

### CONCLUSION

While bright white paper offers strong contrast, excessive brightness may contribute to visual discomfort in some educational settings. A balanced approach, by selecting moderate brightness or softer tones, can improve student comfort without compromising readability.

***Supporting Research:*** *Wilkins, A. J. (2003). Reading through colour. | Evans, B. J. W., & Allen, P. M. (2016). A systematic review of controlled trials on visual stress. | Journal of Vision and ergonomics studies on glare and reading performance. | Educational and clinical observations on dyslexia and colored overlays.*

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