



Consistency is Key: Handwriting Proficiency in Alabama 2023



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BACKGROUND

Handwriting is a skill that activates the language areas of the brain (James, 2017), strengthens brain systems involved in reading (Vinci-Booher & James, 2021), and supports students' ability to compose fluent and coherent texts (Graham et al., 2000). In Alabama, the 2016 Lexi Law mandated handwriting instruction in grades K-3, with guidelines for schools on evaluating handwriting and reporting proficiency to the state. The rubric contained eight key areas of handwriting: Letter Formation, Placement, Letter Sizing, Spacing of Letters, Legibility, Speed, Neatness, and Spacing of Words. Zaner-Bloser Handwriting's instructional and assessment system, Keys to Legibility, includes these success criteria and practice activities focusing on each key: Shape, Size, Spacing, and Slant. The Keys guide the program's consistent lesson structure within and across grades. This correlational study examines the relationship between Zaner-Bloser Handwriting program adoption during 2019-2022 and 2023 third grade handwriting proficiency rates in Alabama.

METHODS

Analytic Sample:

The proficiency data determined according to the Alabama state rubric from 674 elementary schools was matched with school-level sales account data to identify the 4,759 grade 3 students from 54 elementary schools with at least some product use. The proficiency data was then broken down into 3 groups of estimated product usage based on schools' adoption rates.

Analysis Plan:

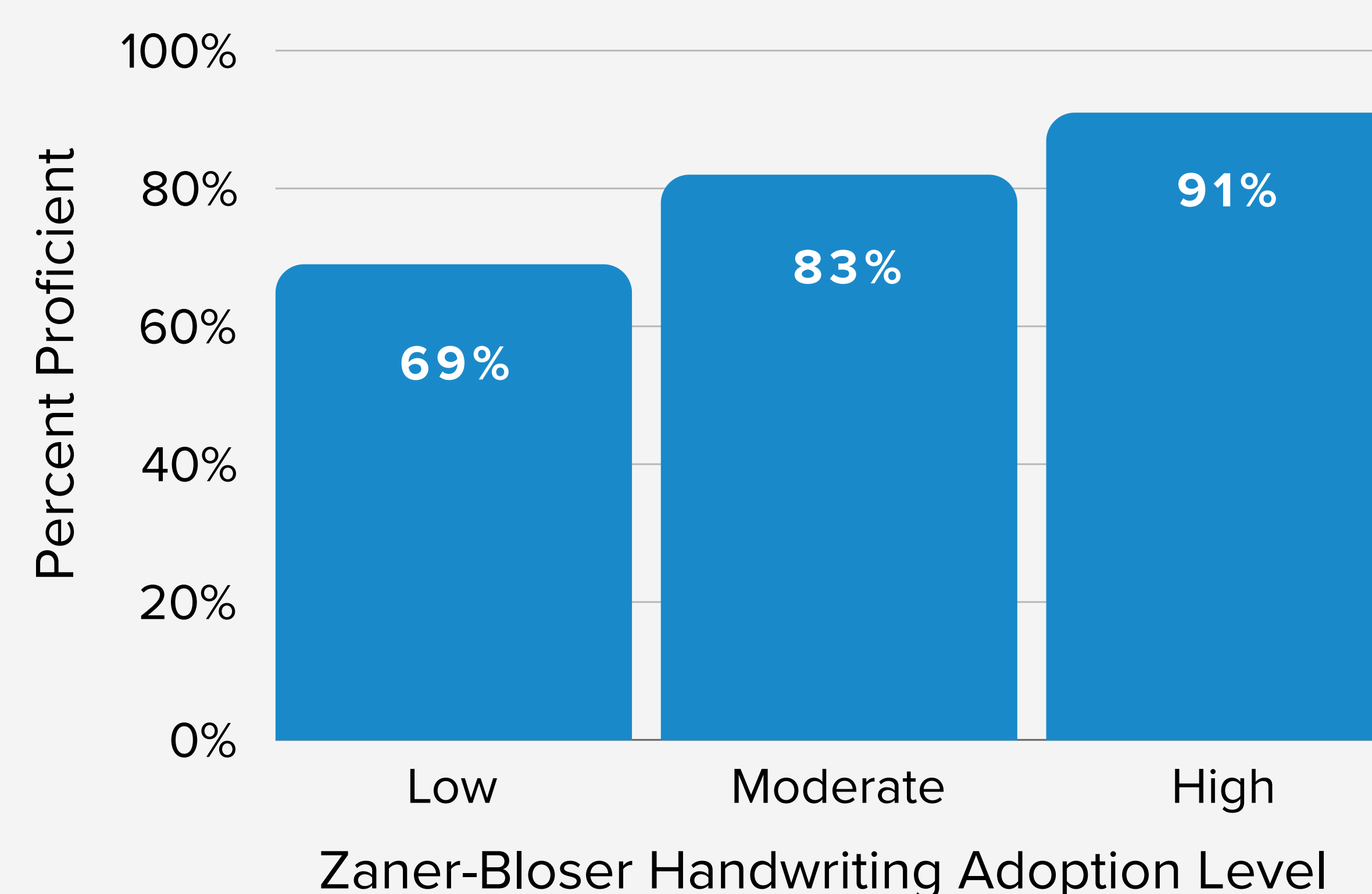
- Compare distribution of handwriting proficiency across 3 adoption rate bands
- Adoption Rate Bands:
 - Low: >\$1 and ≤\$5 student/year
 - Moderate: >\$5 and ≤\$10 student/year
 - High: >\$10 student/year

KEY FINDINGS

Schools with higher adoption rates had higher proficiency rates, with High at 91% (four schools, N=186), Moderate at 83% (eight schools, N=844), and Low at 69% (41 schools, N=3729). Each group's proficiency rates were statistically significantly different from chance (Low: $\chi^2(1) = 547.61, p < .001$; Moderate: $\chi^2(1) = 355.81, p < .001$; High: $\chi^2(1) = 127.51, p < .001$). The distribution of proficiency rates also differed by adoption level ($\chi^2(2) = 95.9, p < .001$), and each adoption level was different from the others (Low vs. High: $\chi^2(1) = 41.9, p < .001$; Low vs. Moderate: $\chi^2(1) = 59.9, p < .001$; Moderate vs. High: $\chi^2(1) = 9.09, p < .01$).

Adoption Level	Per Student Per Year Investment	Number of Schools	Number of Students
Low	>\$1 and ≤ \$5	41	3729
Moderate	>\$5 and ≤ \$10	9	844
High	>\$10	4	186

Handwriting Proficiency in Spring 2023 by School Adoption Level



Schools with high adoption of Zaner-Bloser Handwriting had an additional 22% of students meet handwriting proficiency.

PROGRAM DESCRIPTION

Explicit instruction and multicomponent practice are important for overall writing mastery (López-Escribano et al., 2022). Zaner-Bloser Handwriting promotes student engagement through interactive learning opportunities, teaches students to write efficiently through explicit, direct, and sequenced instruction, and helps students learn to write legibly by providing success criteria through the Keys to Legibility. The Keys allow students to self-correct, support each other's work, and access specific and targeted feedback. Zaner-Bloser Handwriting also supports students in forming letters with automaticity by providing cognitive-science-based strategies for practice, including spaced practice and interleaving, which improve retention better than other methods. For more about Zaner-Bloser Handwriting, visit <https://www.zaner-bloser.com/>.

CONCLUSION

The findings suggest that greater adoption of Zaner-Bloser Handwriting correlates with more students meeting proficiency standards in handwriting, suggesting the program is effective at supporting key skills involved in proficiency. The results support alignment to Zaner-Bloser Handwriting's goal for students: by writing efficiently, legibly, and automatically as young learners, students will be better equipped to express their ideas, opinions, and stories, increasing access to building community, curiosity, and confidence in learning.

ESSA EVIDENCE: PROMISING

- Well-designed and implemented correlational study, statistically controls for selection bias
- Compares groups of students with each other, but not to a comparison group
- Statistically significant, positive correlational results, even after accounting for statistical controls



REFERENCES

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