

# **READINGTON HANDWRITING STUDY PROPOSAL**

**School Name:** Readington Elementary School

**Curriculum Supervisor:** Stacey Brown, Ed.D.

**Name of University:** Penn State College of Education

**Lead Researcher:** Angelique Aitken, PhD, Assistant Professor of Education

**Research Collaborator:** Stacey Brown, Ed.D.

**Study Title:** Comparative Effectiveness of Handwriting Programs in Kindergarten and First Grade Students

**Research Objective:** The primary objective of this study is to evaluate the relative effectiveness of four different handwriting programs in improving the legibility and speed of handwriting among kindergarten and first-grade students.

**Study Design:**

**Participants:**

- **Classes involved:** The study will involve 11 kindergarten and first-grade classes, totaling 183 students.
- **Students:** All students in these classes will participate, with anonymity ensured through anonymized data collection. All students will participate one of the handwriting programs as part of Readington's handwriting instructional; however, student data will only be used for research purposes if consent from families is obtained.

**Interventions:** Each class will be randomly assigned to one of the four handwriting programs:

- Handwriting Without Tears
- Peterson Handwriting
- Handwriting Heroes
- Homegrown (Phonetic Order)

**Outcome Measures:** To investigate the impact of various handwriting interventions, pre- and post-intervention measures will focus on:

- **Letter Formation:** Consistent letter formation is critical for readability and efficiency, promoting automaticity and reducing cognitive effort.
- **Letter Placement on the Writing Line:** Evaluated to ensure legibility and contribute to the overall appearance and organization of written text.

**Rationale:**

- These components are reliably assessed and contribute significantly to both the legibility and speed of handwriting.
- Letter formation directly impacts the ease and fluidity of writing, while Letter placement on the writing line ensures a neat and organized appearance of text.

**Confidentiality and Ethical Considerations:**

- **Data Anonymization:** All student data, including handwriting samples and performance scores, will be anonymized to protect student identities.
- **Parental Consent:** Informed consent will be obtained from parents/guardians, detailing the purpose of the study, the anonymization of data, and the voluntary nature of participation.
- **IRB Approval:** The study will be approved by the Institutional Review Board (IRB) of Penn State University.

**Teacher Responsibilities and Time Commitment:**

- **Program Familiarization:** Teachers will familiarize themselves with the assigned handwriting program.
- **Fidelity in Implementation:** Teachers are expected to implement the program as designed to ensure the validity of study results.
- **Instructional Time:** Each program requires 5-30 minutes of instructional time to be incorporated into schedules. Most programs require daily instruction; however, formal instruction for the Homegrown Program occurs every three to four days and ends after four to six months of instruction, depending on the grade level.

**Integration with Occupational Therapy (OT):**

- **Consistency Across Settings:** Occupational therapists working with students will be encouraged to align their therapy with the classroom handwriting program.

- **Classroom-Based OT:** Ideally, OT sessions focusing on handwriting should occur within the classroom setting to maintain consistency with the taught program.

#### **Data Collection and Analysis:**

- **Individual Evaluations:** Each student will be individually evaluated.
- **Baseline and Post-Intervention Evaluations:**
  - **Baseline:** Initial evaluations will occur at the start of the study to establish each student's level in letter formation and placement.
  - **Post-Intervention:** After the intervention period, students will be reevaluated to measure improvements in their handwriting.
- **Data Analysis:** Changes from baseline to post-intervention will be analyzed, comparing results across the four programs.

#### **Timeline:**

- **Program Training:** September 4, 2024
- **Baseline Data Collection:** Week of September 9, 2024
- **Intervention Period:** September 2024–June 2025
- **Post-Intervention Data Collection:** June 2025
- **Analysis and Reporting:** August 2025

#### **Expected Impact:**

This study aims to identify which handwriting program yields the most significant improvements in handwriting skills, offering valuable insights for early childhood education practices.