In the trio of reading, 'riting, and 'rithmetic, most educators agree that writing is the “silent R” and that schools must commit to teaching students how to express themselves through the written word—a tool for success in school and beyond.

Principals can help by working with teachers and program developers to support effective writing programs and by focusing on writing across the curriculum. This Research Roundup describes some ways to help improve the teaching of writing.

Amie Goldberg and colleagues analyze studies comparing the results of students who wrote with computers and those who used pencil and paper.

Steve Graham and colleagues examine the connection between handwriting and learning to write for first graders.

David Booth and Jennifer Rowsell look at the principal’s role in supporting teachers in literacy initiatives.

The National Commission on Writing in America’s Schools and Colleges voices a battle cry for a writing revolution.

The National Writing Project and Carl Nagin offer strategies to help principals create effective writing programs across all grade levels.


Performing a meta-analysis on studies conducted between 1992 and 2002, Amie Goldberg and colleagues compared the results of K-12 students who wrote with computers versus those who used paper and pencil. The meta-analysis targeted measures of quantity and quality of writing, as well as the number of revisions.

Significant findings favoring computers were found for both quantity and quality of writing. While only six of the 26 studies met the criteria related to revision outcome, they demonstrated that students made more changes to their writing with word processors than with paper and pencil.

In addition to the studies included in the meta-analysis, the authors reviewed studies that did not meet their statistical criteria. In general, these results were consistent with the findings of the meta-analysis, showing students who used computers for writing were more engaged, interested, and independent. Some articles detailed the social interaction occurring between students as they wrote with computers, demonstrating a collaborative process that included more peer editing than occurred with students who used paper and pencil.

Other studies showed teacher-to-student communication—with the teacher as activity leader—dominated the paper-and-pencil classrooms, while student-to-student interaction—with the teacher as facilitator—was common in the computer classes. Another analysis revealed students writing with paper and pencil were more linear in their composition, while students using computers were able to integrate the process of creating and revising text.

For school leaders questioning the benefits of computer use in developing writing skills, the
authors conclude that students who composed on computers were more engaged and motivated, and produced work of higher quality and greater length.


While some beginning writing programs stress whole-language or process writing, this research on handwriting reveals that form—as well as content—is vital to sustain writing success. Students must first master the mechanics of handwriting before they can proceed to higher levels of content and critical thinking. The results of this study can help principals who are considering a writing curriculum for students in the early grades.

Steve Graham and fellow researchers examined how supplemental handwriting instruction affected the writing of first graders who experienced difficulties with handwriting and learning to write. When comparing the results of the handwriting group with a control group, the handwriting students showed greater gains in all measures of performance. Students with and without disabilities were tested, and both showed gains. They outperformed their control-group counterparts when naming and writing letters of the alphabet, and they formed letters and copied connected text more fluently. They also showed improved compositional fluency and greater skill at creating written sentences.

The students maintained these handwriting gains six months later, implying early mastery of such skills may affect the learning process over time. Contrary to the researchers’ expectations, however, supplemental handwriting instruction did not enhance the students’ quality of composition or attitudes toward writing.

The researchers concluded that additional handwriting instruction is an essential element of an effective writing program for beginning writers and may help prevent future writing difficulties. Although the research was limited to a single study, the results suggest the importance of creating a curriculum that addresses handwriting in the early years—particularly for struggling students—in order to build strong writers in the upper grades.


In this look at literacy initiatives, the authors contend reading and writing programs are most successful when principals encourage teachers to uphold literacy education. The principal’s role in supporting teachers and their needs becomes key to crafting literacy based school change.

The authors cover specific policies that principals can consider to help teachers successfully execute the writing process in their classrooms:

- Prepare ways for teachers to demonstrate writing to their students by sharing their own writing.
- Agree as a staff what parts of speech and syntax to stress each year at each grade level.
- Persuade teachers to follow up instructional activities with collaborative group writing, such as having students summarize a science experiment.
- Suggest student use of journals to record events, ideas, and books they have read.
- Write a letter to parents promoting involvement in their children’s writing and encouraging them to offer feedback and help with revisions.

Literacy efforts work best in a collaborative school culture. Principals should create a collegial environment that includes professional development for teachers, self-directed
learning for students, and partnerships with parents.

For example, in one of four vignettes that highlight effective literacy principals, a leader of an urban school recalls his collaboration with teachers at each grade level. He sat down with each teacher to discuss his or her literacy needs, then aligned those needs with school goals and district-wide demands.


Today’s students can write—they just cannot write well, according to data from the National Assessment of Educational Progress (NAEP). Findings show only about 25 percent of students at each grade level are at or above the Proficient level in writing. The National Commission on Writing in America’s Schools and Colleges seeks to change that result by launching a writing “revolution” to bring the requisite time and tools into the classroom.

The commission condemns the short shrift that writing receives in schools and proposes that each state have an agenda that includes a writing policy, writing across the curriculum at all grade levels, and a course in writing theory as a prerequisite to teacher licensing. States and the federal government should supply the appropriate funding to support this agenda.

Good writing requires time, yet NAEP data show elementary school students spend three hours a week or less on composition tasks. The commission suggests doubling this time and using out-of-school time for parents to review writing with their children.

The commission recommends that principals align standards and curriculum to ensure fair and authentic writing assessments. For example, instead of multiple-choice testing, writing should be assessed by allowing students to create actual prose. In addition, educators can take advantage of students’ interest in e-mail and instant messaging to integrate technology into the writing process.

The commission concludes with a call for an action agenda consisting of a five-year Writing Challenge. The challenge would provide progress reports and assist educators with writing assessment and technology use. By implementing such a program, the commission believes students will achieve the communication skills required to become proficient, self-possessed writers.


Recent analyses of writing instruction send a clear message: students must write more. The National Writing Project and Carl Nagin agree that improving writing in classrooms requires a shift from writing in isolation to writing across the curriculum. This strategy is one of several that can help principals create effective writing programs across all grade levels.

As instructional leaders, principals play a pivotal role in ensuring that writing is not regarded as a separate subject, but is fundamental to teaching all subjects. To support writing across the curriculum, principals should provide inservice training and encourage content-area teachers to use writing as a means for inquiry and learning. Such learning methods might include students keeping daily math, science, or social studies journals.

Principals can assess a school’s particular needs regarding a writing program by conducting a schoolwide writing survey. They should ask: How much and what kind of writing is done in the classroom? Do teachers model writing or write with students? How are students
evaluated in writing, and how well do they perform? Once data are secured, staff should evaluate the genres and types of writing from different subject areas to establish universal standards.

Finally, principals should take a long-term look at program planning. Successful writing initiatives in Maine, which produced the highest percentage of students at or above Proficient on NAEP assessments, took five to 11 years to build. Participating administrators cited a flexible curriculum, teamwork, low teacher turnover, and professional development as keys to the effectiveness of their writing programs.