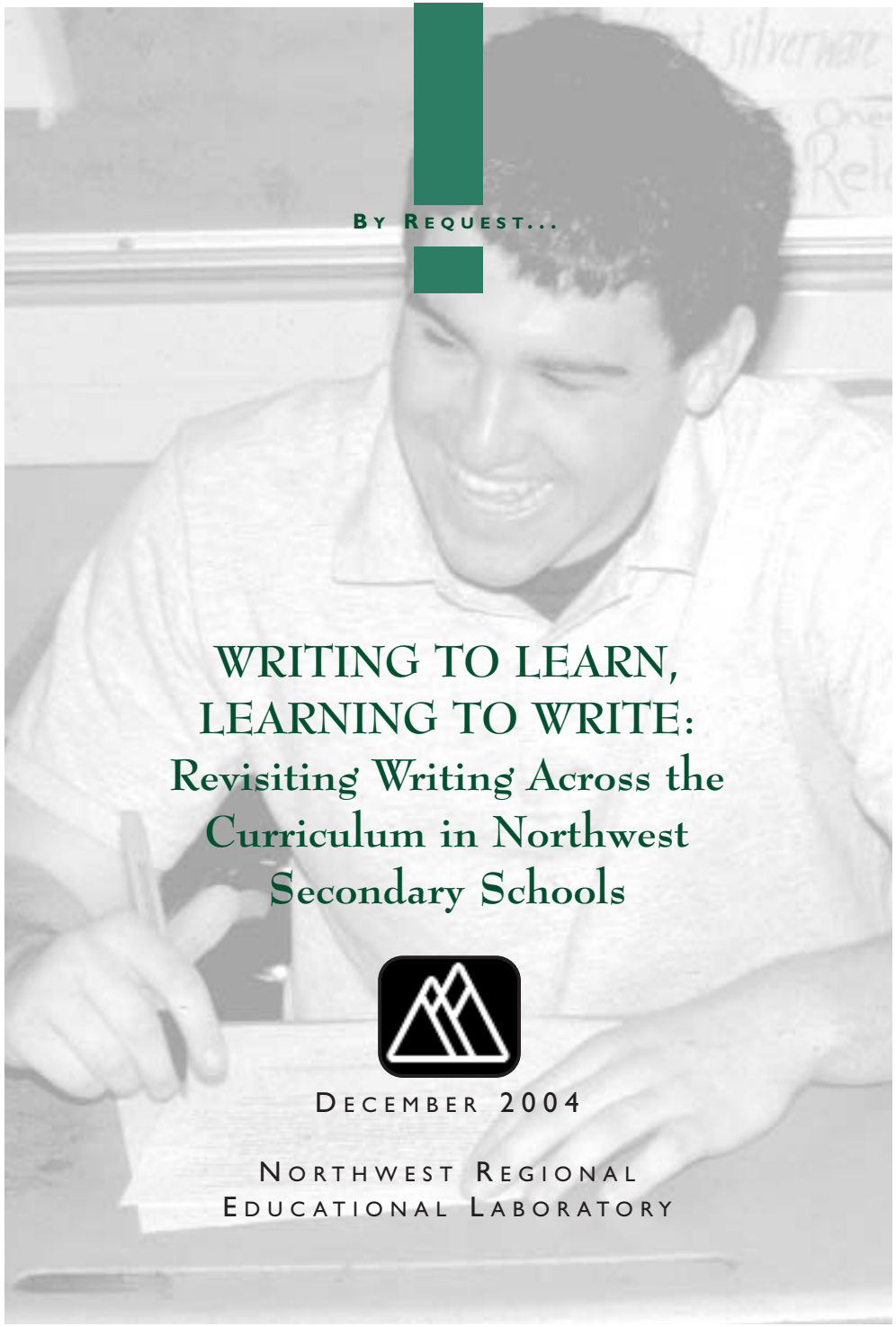

BY REQUEST...

WRITING TO LEARN, LEARNING TO WRITE: Revisiting Writing Across the Curriculum in Northwest Secondary Schools

DECEMBER 2004

NORTHWEST REGIONAL
EDUCATIONAL LABORATORY

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December 2004

Northwest Regional Educational Laboratory

PORTLAND, OREGON

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PREFACE

This booklet is one in a series of "hot topics" reports produced by the Northwest Regional Educational Laboratory. These reports briefly address current educational concerns and issues as indicated by requests for information that come to the Laboratory from the Northwest region and beyond. Each booklet contains a discussion of research and literature pertinent to the issue, how Northwest schools and programs are addressing the issue, selected resources, and contact information.

One objective of the series is to foster a sense of community and connection among educators. Another is to increase awareness of current education-related themes and concerns. Each booklet gives practitioners a glimpse of how fellow educators from around the Northwest are addressing issues, overcoming obstacles, and attaining success. The goal of the series is to give educators current, reliable, and useful information on topics that are important to them.

This product meets a need both nationally and regionally. Writing curriculum and instruction, especially at the secondary level, is a growing concern among educators, researchers, and policymakers. State assessment scores in many states show that students are writing below grade level—in Oregon, for example, only 34 percent of eighth-graders in 2004 achieved standards. However, because teachers have limited amounts of time to spend on writing, they are looking for ways to incorporate writing into their content areas that will enable students not only to improve their writing in various genres, but also to help them reflect on what they have learned and make connections across disciplines.

The goal of this issue of *By Request* is to offer educators, parents, and policymakers a brief introduction to writing across the curriculum (WAC) and the two approaches most commonly associated with it: writing in the disciplines (WID) and writing to learn (WTL). We provide a brief overview of the theories and research of how writing affects learning, describe common WAC strategies, and take a look at how middle and high schools in the United States are implementing them today. While there is a lack of gold-standard research that definitively points to specific curricula or practices that work absolutely, the existing research does provide some guidelines on practices that show promise. The Northwest Sampler section offers more detailed examples of how middle and high school educators in the region are working to promote writing across the curriculum.

The booklet was reviewed at the draft stage by internal and external reviewers. The external reviewers listed in the Acknowledgments section met criteria for technical, content, and practitioner reviewers. To obtain feedback on the booklet's effectiveness and utility, NWREL ask readers to complete a survey. If you wish to provide feedback, please visit our Web site at www.nwrel.org/request/response.html to log your comments.

INTRODUCTION

Much has changed in the more than 20 years since writing across the curriculum (WAC) was first introduced in schools across the country. In some districts, to be sure, WAC came and went with a former administrator or a small group of committed teachers. As Barr and Healy (1988) note, many early WAC programs fizzled out before they even got started. One-time workshops were not enough to significantly influence teaching practices or produce noticeable changes in student test scores, and many schools quickly returned to old ways or moved on to different approaches.

In other districts, however, WAC has taken strong hold, and has been shaping instruction and professional development across all grades and subject areas for more than two decades. Anticipating that they could improve both writing and learning, many middle and high school educators were quick to design WAC-based programs to fit the needs of their students and schools. Over time, changes in technology, student populations, and educational policy have led to continued adaptation and expansion of these efforts. WAC leaders at the secondary level have launched writing centers, developed cross-grade tutoring programs, and created cross-disciplinary service learning projects, among other things, often working in collaboration with other programs and schools.

Though the most successful WAC-based programs appear to have emerged from the grassroots efforts of interested teachers, much growth in WAC programs in recent years can also be traced to the standards movement. As Russell (2002) notes, "The most widespread and coordinated efforts have

come out of assessment initiatives, which drove change in every aspect of WAC in the 1990s" (p. 317). In response to federal-, state-, and district-level improvement mandates, many schools found new support for involving "subject area teachers in writing development in-service," as well as for writing WAC officially into larger reform plans (Russell, 2002, p. 318).

IN CONTEXT

Arguments for school reform are often framed in terms of crisis: declining standards, plummeting test scores, or the number of high school graduates lacking a certain skill widely perceived necessary for success in college, the workforce, or civic life. Early arguments for writing across the curriculum in the United States were no exception. On the heels of media reports such as *Newsweek's* 1975 article "Why Johnny Can't Write," WAC proponents found unprecedented support for writing reform as policymakers, parents, and school leaders sought answers to the nation's "literacy crisis" (Russell, 2002).

To be certain, the United States was no more becoming "a nation of illiterates" then than it is today. What had changed—and what continues to change—were our expectations of high school graduates and the level of attention paid to which students were and were not meeting them. As the National Commission on Writing (NCW) (2003) puts it, the issue has rarely been as simple as "students can't write," but rather that "most students cannot write with the skill expected of them today" (p. 16).

So why the call now for increased attention to writing in U.S. schools? Perhaps the best answer, as in decades past, is that the context has changed. Educational and economic landscapes have shifted, highlighting different priorities, exposing new gaps, and putting pressure on students and teachers to perform in new and different ways.

Some key examples:

- **Less time spent on writing**: As educators across the country face larger classes, fewer resources, and increasingly complex student needs, the amount of time devoted to teaching and responding to student writing in many schools is on the decline. According to the 2002 National Assessment of Educational Progress (NAEP) (cited in NCW, 2003), only 49 percent of high school seniors receive writing assignments of three pages or more, and then only once or twice a month. Thirty-nine percent report receiving such assignments "never" or "hardly ever" (NCW, 2003, p. 20). Given the increased emphasis on meeting the reading and math benchmarks in No Child Left Behind, writing instruction may have slipped to the back burner in some districts (Hurwitz & Hurwitz, 2004; NCW, 2003).

- **Low writing scores**: NAEP (2002) reports that only 24 percent of 12th-graders perform at or above the proficient level in writing. This is compared with 31 percent in eighth grade, and 28 percent in fourth grade. While most high school graduates can produce rudimentary prose, the study found, few can produce prose that is "precise, engaging, and coherent" (NAEP, 2002 cited in NCW, 2003, p. 16).

- **New standards for written communication across disciplines**: Alaska, Oregon, Idaho, Washington, and Montana, like many other states, identify writing in the content areas as a key learning target for students in middle and high school. The 1996 National Science Education Standards similarly emphasize students' ability to use writing to communicate subject area knowledge. Secondary students are expected to use writing in science classes, as in others, to "inform, explain, defend, debate, and persuade others of their understandings" (Yore, Hand, & Prain, 1999, p. 13).

- **Limited teacher preparation**: As the National Commission on Writing (2003) notes, most preservice teachers in the United States "receive little instruction in how to teach writing. Only a handful of states require courses in writing for certification" at this time (p. 23). This lack of training is particularly apparent when it comes to working with students whose home language and literacy practices differ markedly from teachers' own. Very few teachers, including those with language arts endorsements, receive adequate training in building inclusive curricula or working with students from diverse ethnic, linguistic, and socioeconomic backgrounds.

- **New tests for graduation and college admission**: Eighteen states now require students to pass a writing test to graduate from high school. Several others, including Alaska, Washington, and Idaho, will soon follow. Students planning to attend college also face new writing assessments for college admission. Beginning in 2005, both the SAT and ACT will include a writing section on their exams.

- **Inadequate preparation for college writing**: Fourteen percent of students pursuing postsecondary education in the United States place into precollege-level writing courses (Wirt et al., 2001). Of these students, a disproportionate number continue to be students of color, low-income students, and non-native speakers of English. Often such courses require additional fees, cannot be paid for with financial aid, and do not count toward graduation, creating additional obstacles to college success (Jennings & Hunn, 2002).

- **Changing workforce demands**: In a recent survey of 251 employers who hire students right out of high school,

> 73 percent reported that graduates' writing skills were "poor" or "fair" (Public Agenda, 2002). As more and more entry-level jobs are outsourced to other countries, the burden becomes even greater on high school graduates in the United States to develop a high level of skill, not just in math and technology, but also in writing.

Responding to these and other issues, several national educational organizations have put out a call for more time and attention to be paid to writing in U.S. schools, particularly at the secondary level (NCW, 2003; NWP & Nagin, 2003). As in the past, writing across the curriculum plays a central role in their recommendations. In their 2003 publication, *The Neglected 'R': The Need for a Writing Revolution*, for example, the National Commission on Writing urges educators both to prioritize training in writing instruction for all teachers and to double the amount of time students spend writing in school:

> *We strongly endorse writing across the curriculum. The concept of doubling writing time is feasible because of the near-total neglect of writing outside English departments. In history, foreign languages, mathematics, home economics, science, physical education, art, and social science, all students can be encouraged to write more—and to write more effectively. (NCW, 2003, p. 28)*

Still, the questions remain: What does writing across the curriculum mean in practice? What has been learned about it in the more than 20 years since it was first promoted? How, and for what reasons, are schools using it today?

WHAT IS WRITING ACROSS THE CURRICULUM?

More a commitment to a set of core principles than to a rigid set of practices, writing across the curriculum (WAC) may look quite different from one school to the next, even within the same district. Uniting all these different programs, however, is the belief that language is "integral to *learning* as well as to *communication* in all disciplines" (Farrell-Childers, Gere, & Young, 1994, p. 2). According to Robert Bangert-Drowns, faculty researcher at the University at Albany, SUNY who recently completed a meta-analysis on writing to learn:

> *WAC seeks three things: to increase the frequency of student writing, to integrate and elaborate writing strategies throughout the different content areas, and to promote the instrumental use of writing as a tool for other academic ends.... Seen in this way, WAC is more than just writing instruction, more than just making students write more, more than trying to get students to write better. It is the strategic integration of carefully designed writing tasks in any content area to serve the ends of learning, authentic communication, personal engagement, and reflective authorship.* (personal communication, 2004)

What this looks like in practice, of course, depends on student needs, faculty and administrator support, community resources, and specific program goals. In districts in which WAC forms a central piece of broader reform initiatives, full-time staff members may be hired to provide training and work with teachers on curriculum development. In other

districts, lead teachers from each department receive release time to plan and disseminate materials. WAC efforts may also be headed up by a small group of volunteer teachers, or reflected less formally in a school's approach to writing, learning, professional development, and assessment. The following sections provide a more detailed look at how middle and high schools today are implementing WAC at both the school and classroom level.

Two related movements that bear mentioning here are Language and Learning Across the Curriculum (LALAC) and Electronic Communication across the Curriculum (ECAC). Proponents of LALAC call attention to the important role played by all areas of language—reading, speaking, and listening, as well as writing—in learning and communication. Similar to WAC, LALAC is based on the notion that classrooms in which "students talk, read, and write frequently [are] places where they learn better and their learning lasts longer" (Blalock & Nagelhout, 1997). "No matter what the subject," asserts the LALAC Committee of the National Council of Teachers of English, "the people who read it, write it, and talk it are the ones who learn it best."

ECAC, on the other hand, focuses special attention on ways in which e-mail, Internet, word processing, and other new technologies are changing the way writers write. As Abdullah (2003) notes, "the malleable nature of electronic text has made the physical process of composing more 'elastic' in that writers are quicker to commit thought to writing and to reorganize content...." At the same time, the Internet offers students and teachers a "new rhetorical space" in which to communicate with audiences beyond the school building. Not only does the Web provide more opportunities for collaboration and publication of student writing, it also opens up new ways to organize and sift through information. ECAC emphasizes the importance of teaching students to read, analyze, and produce a broad range of texts, including the kinds of documents commonly found on the Web. Teachers may encourage students to integrate sound, images, and links to others' documents into their writing, for instance, or ask them to produce a series of interactive Web pages related to course material.

IS WRITING ACROSS THE CURRICULUM EFFECTIVE?

Though there appears to be no shortage of anecdotal evidence of program successes—from improving writing scores to helping students make richer connections across subject areas—few high-quality quantitative studies of writing across the curriculum currently exist. The enormous variety among programs, not to mention the number of variables likely to affect student writing and learning, present serious obstacles to designing valid, large-scale studies of WAC's effects. As Harris and Schaible (1997) note in their review of the research on college WAC programs, "Investigators ... are often unable to randomly assign students to control and study groups. They are not able to completely eliminate non-writing variability in instruction. Nor can they assure that all instructors are equally skilled at the evaluation of writing assignments" (p. 31). Changes in school policy, funding, and staff also make long-term studies of program effectiveness difficult to carry out.

Lilyanne van Allen's (1992) study of 10 Texas middle schools is one of the few studies that attempt to sort through these variables. Comparing writing score data collected from five middle schools with WAC programs to data from five comparable schools without, van Allen concluded that schoolwide writing across the curriculum efforts do appear to produce significant improvements in student writing ability. Over a five-year period, "the five WAC schools increased the percentage of their passing composition scores by thirteen percent while the five non-WAC campuses increased their percentage only eight percent. Teachers in all five [WAC] schools said that students improved in fluency and organization and wrote for more purposes and audiences" (van Allen, 1992, p. vii).

Based on her visits to schools and interviews with teachers, van Allen also concluded that "a first and major effect of a WAC program is a change in attitudes toward writing" among teachers and administrators as well as students (p. 116): "Through writing, every student does have an opportunity to respond, to participate, to learn actively rather than passively, and to think independently.... A WAC program, founded on a process approach to writing instruction, also provides every teacher an opportunity to take a fresh look at writing" as more than just a product to be graded for punctuation and other surface-level errors (p. 116).

Given the difficulty of accurately assessing relationships between student learning and schoolwide programs, many researchers have focused instead on the effectiveness of particular writing activities employed by individual teachers. Bangert-Drowns, Hurley, and Wilkinson (2004) conducted a meta-analysis of 48 such studies, elementary through college, that examined relationships between classroom writing-to-learn activities and student achievement. Only studies with quasi-experimental, control group designs were included. Based on their analysis, the researchers concluded that writing-to-learn activities "can have a small, positive impact on conventional measures of academic achievement" (p. 29). The use of metacognitive prompts in which students could "reflect on their current knowledge, confusions, and learning processes proved particularly effective" (p. 50). It also appeared that the longer the period of time over which writing activities were spread and repeated, the greater their effect on student learning. The use of writing-to-learn strate-

gies in grades 6–8 and lengthy writing assignments, however, appeared to predict reduced effects. The researchers speculated that this negative effect of writing-to-learn in the middle grades may be related to developmental issues, or to the changing demands placed on middle school students new to discipline-specific classes and genres of writing. It may also simply have been an anomaly, as other studies of middle school students do link particular writing-to-learn practices to student achievement (see Cantrell, Fusaro, & Dougherty, 2000, for example).

Coming at the issue from another direction, the National Writing Project (NWP), which strongly endorses a process approach to writing across the curriculum, has commissioned a number of studies that link their professional development model to improvements in student writing scores. One study, conducted by the Academy for Educational Development (AED), assessed the writing achievement of third- and fourth-grade students whose teachers had participated in NWP summer institutes. Results indicated that students in these classrooms "showed significant improvement in writing achievement.... In response to timed writing assignments, 89 percent of third-graders and 81 percent of fourth-graders reached adequate or strong achievement for effectiveness in persuasive writing on their follow up assessment in spring 2001" (NWP, 2002).

To be certain, readers searching for "gold standard," experimentally designed studies of writing across the curriculum will find many limitations to the existing body of research, as well as a number of important questions that remain to be addressed. As Ackerman (1993) notes, for example, connections between students' home literacy practices and the

effectiveness of activities often associated with writing across the curriculum demand greater attention: "all writing practices carry cultural values, and instruction consisting of informal, expressive, and exploratory writing practices may be an affront to some writers as much as an invitation to personal discovery learning.... Writing to learn is a literate practice that assumes cultural norms" (pp. 350–351). How students from different ethnic, linguistic, educational, and socioeconomic backgrounds benefit from particular writing strategies has not been studied in nearly enough depth.

It also remains unclear, as Bangert-Drowns, Hurley, and Wilkinson (2004) note, "how student ability is related to the impact of writing to learn" (p. 53). While some writing activities may indeed be a good match for more print-oriented students who already have strong reading and writing skills for their grade level, it's possible that these same activities could limit subject-area learning for students who perform better in other ways. Writing activities that are poorly designed or that ask students to do more than they are developmentally ready for may also have a negative impact on learning.

In the following sections, we draw largely from practitioner literature to provide examples of current practices and programs. Teaching strategies supported by a wide body of evidence are noted whenever possible. In many cases, however, too little experimental research has been done to offer clear evidence that a particular approach will lead to a particular outcome for students or schools.

SCHOOLWIDE APPROACHES TO WRITING ACROSS THE CUURICULUM: ADAPTATIONS AND OUTGROWTHS

No longer simply synonymous with "writing in the content areas," WAC has come to represent a wide range of approaches in middle and high schools during the past five to 10 years. Changes in student populations, educational policy, funding, and technology have fueled a wave of innovations in secondary WAC programs, as well as new partnerships with other schools and programs. A few of the more common adaptations and outgrowths are described below.

Writing centers

Although still few and far between, writing centers have been a key feature of writing across the curriculum efforts in some schools for more than a decade. Staffed variously by full-time teachers, paraprofessionals, community volunteers, preservice teachers, and student tutors, most writing centers offer one-on-one tutoring to students working on assignments for classes across the curriculum.

In addition to working individually with students, staff in some middle and high school centers also lead workshops, create course-specific writing resources, consult with teachers on assignment design, and lend a hand in grading student work. At one Nebraska middle school, writing lab became a required class, replacing study hall on all seventh- and eighth-graders' schedules. For 12 weeks of the school year, students spent a full period every day on writing projects and assignments developed by lab staff (Graham, 1989).

The latest addition to some centers is online tutoring. Modeled after online writing labs (OWLs) offered by two- and four-year colleges, some high school centers use e-mail or Internet discussion forums to dialogue with students about drafts, providing a way for students to receive feedback across campus or after hours. In eastern Washington, students from rural middle and high schools submit their work to the online lab at Washington State University, where they receive feedback from college students majoring in education.

School-university partnerships

Another outgrowth of WAC efforts at some middle and high schools are collaborative partnerships with local colleges. While some partnerships aim to ease students' transition from high school to college writing, others are designed to promote discussion about writing instruction and better articulation of writing goals. Still others, like the Bridges program profiled at the end of this booklet, seek to increase the number of minority, first-generation, and low-income students enrolling and succeeding in college.

One example of a multifaceted partnership is the collaboration between Tidewater Community College in Virginia and several area high schools. The program, funded through a federal Fund for the Improvement of Postsecondary Education (FIPSE) grant, aimed to reduce the number of recent high school graduates placing into precollege-level writing classes. As part of the collaboration, the community college sponsored one high school's writing center in its first year, providing writing resources for the center and training student

tutors. High school students also exchanged letters with college students about what to expect in college classes. The central piece of the partnership, however, were workshops and regular team meetings in which participating teachers discussed writing instruction and developed alternate methods of assessing student work (Jennings & Hunn, 2002).

Service learning

Service learning projects designed in conjunction with writing across the curriculum efforts aim "to help students understand the connection of learning to life, to stimulate students' social consciences, and to help establish writing as social action" (McLeod & Miraglia, 2001, p. 9). As McLeod and Miraglia write, several factors make WAC and service learning "natural partners," including the emphasis on cross-disciplinary collaboration. Additionally, "both programs provide students with meaningful writing tasks—real projects for real audiences" and "both programs link writing to a particular social context and knowledge base, demonstrating the importance of contextual issues in learning how to write" (p. 10).

The Montana Heritage Project, profiled at the end of this booklet, is one example of a statewide WAC/service learning program that helps students develop writing skills while collecting oral histories and doing archival research on their communities. A similar project developed by an interdisciplinary team of eighth-grade teachers in Alaska asked students to apply skills learned in each of their classes to write a book about their community. The completed publication, *Away from Almost Everything Else: An Interdisciplinary Study of Nikiski*, "featured oral histories from social studies, poetry from language arts, field reports and research papers from science, and statistical projects from math" (Christian, 2002, p. 60).

Peer tutoring

Peer and cross-age tutoring, long used to support learning in all subject areas, have become important features of some secondary WAC programs. Based on the notion that "students can learn from each other as well as from teachers and books" (McLeod & Miraglia, 2001, p. 15), peer tutoring is often seen as an inexpensive means of providing students more one-on-one feedback on their work. In some schools, peer tutoring happens within a writing center, while in others, time is set aside for tutors and tutees to meet during the school day.

Stuckey (2002) describes an eight-year tutoring program, the South Carolina Cross-Age Tutoring project, which trained struggling students to tutor younger students in both reading and writing. After each session, the tutors reflected on their tutoring experiences by writing letters to program coordinators, who then wrote students back. "Although students in the past had been asked, and often failed, to write in school settings," Stuckey asserts, "they succeeded in this writing because of the real audience of peers and interested educators who were listening and responding to their ideas" (p. 222).

Learning communities

In learning communities, the same group of students takes one or more content-area courses together, often linked with a writing course. In many cases, writing assignments sup-

port the subject-area learning students are doing in the other classes, giving them multiple opportunities to draw connections between the material covered in each class. Although writing across the curriculum is not a central piece of all learning community projects, it is a driving force behind many recent efforts.

To be certain, this is but a small sample of ways in which WAC programs and principles have been adapted to meet the needs of different schools, students, and communities. The Northwest Sampler at the end of this booklet offers a more indepth look at WAC-based approaches that area middle and high schools are using today.

AT THE CLASSROOM LEVEL: WRITING IN THE DISCIPLINES AND WRITING TO LEARN

With or without a schoolwide writing across the curriculum program, many middle and high school teachers regularly use writing in their classrooms to initiate discussions, reinforce content, and model methods of inquiry common to a particular field. Publications on WAC-based practices tend to break these classroom uses of writing into two categories: writing in the disciplines and writing to learn.

- **Writing in the Disciplines (WID)**: Writing in the disciplines is premised on the idea that students become better readers, thinkers, and learners in a discipline by working with the forms and conventions specific to it. A biology teacher might ask students to write lab reports, for example, while an art teacher might assign artists' statements or gallery reviews. Journalistic articles, business plans, memos, and oral histories are additional examples of genres common to particular fields.

- **Writing to Learn (WTL)**: Rejecting the notion that writing serves primarily to translate what is known onto the page, advocates of writing to learn suggest teachers use writing to help students discover new knowledge—to sort through previous understandings, draw connections, and uncover new ideas as they write (NWP & Nagin, 2003). WTL activities may also be used to encourage reflection on learning strategies and improve students' metacognitive skills. Examples, described further below, include journals, learning logs, and entrance/exit slips.

Clearly, many writing activities serve overlapping purposes: writing a field report for an earth science class may help students better understand subject matter at the same time it engages them in valuable science writing practice. The key to using activities like these effectively, researchers assert, lies in matching the activity with the learning situation. Different kinds and lengths of assignments may be more valuable than others in different contexts (Bangert-Drowns, Hurley, & Wilkinson, 2004; Cantrell, Fusaro, & Dougherty, 2000). As with any other type of assignment, teachers should think carefully about how well a task lines up with learning objectives, with students' needs and abilities, and with the way students will be assessed on the material later on (Barr & Healy, 1988).

A few classroom activities commonly associated with writing across the curriculum efforts are described below.

Short in-class writings

Entrance and exit slips: Entrance slips, often taking only a couple of minutes at the beginning of class, ask students to make a list of questions or write a few sentences describing what they already know about the day's topic. They may be collected and read anonymously as a way to begin class. Exit slips, done at the end of class, ask students to summarize what was discussed that day or reflect on strategies they used to learn new material (Gere, 1985). Ideally, these short writings serve two purposes: they give teachers a quick means of assessing what students know about a topic, and they give students an opportunity to process new ideas, identify trouble spots, and review, which may also help activate long-term memory.

Written conversations: By asking students to write for five minutes about a topic to be discussed in class that day, teachers give students time to explore what they think about a topic before being called on to contribute to the discussion. In some cases, teachers ask students to share their initial ideas with a partner, and then write a collaborative response to the question before moving into a whole-class conversation (see Daniels, 1994, for example). Other teachers use these five-minute writing prompts to model prewriting for students, helping them get started on papers by writing in short increments about related topics.

Self-assessments: Often taking no more than a few minutes, students write short assessments of a project they are currently working on or are about to turn in: What was the most difficult part of this assignment? Why? What part are you most satisfied with? What will this project show me that you have learned? The purpose of self-assessments may be teacher-based, student-based, or both. Teachers may use them primarily to gauge students' understanding of a topic, or to help students monitor their learning themselves.

Ongoing projects

Journals and learning logs: Probably the best-known of the WTL strategies, journals and learning logs ask students to explore course content in writing. An ongoing collection of writing that can be designed to achieve multiple purposes, journals are often used to summarize newly-learned information, dialogue with peers or teacher about areas of confusion, and generate questions for further investigation. A common use of learning logs in math and science classrooms is to have students explain problem-solving processes in writing.

Double entry journals: A variation on learning logs, double entry journals are typically used to help students better understand course readings. On one side of the page, students copy or summarize important passages from the text. In an adjacent column, they may explain the significance of the passage, draw connections to other readings or experiences, or discuss how the idea might be applied in real life (see Bruce & Mansfield, 1994).

Scrapbooks: Scrapbooks are another low-tech twist on learning logs that can be done either individually or collaboratively. In addition to their own writing about course material, students weave in pictures, excerpts from fellow students' writing, teacher and peer feedback, and other "artifacts" of the learning process. Like class portfolios, they provide multiple opportunities for review, reflection, and revision, ostensibly helping students to monitor learning strategies and develop stronger metacognitive skills.

"Blogs," chats, and online discussion forums: While some educators hesitate to use live online journals ("blogs") and discussion forums for their classes due to the difficulty of intercepting inappropriate posts, others have found ways to use these formats successfully. Depending on available software, students may use Web-based learning platforms to post comments to online discussions, brainstorm ideas for group projects, generate and exchange review questions for tests, or provide one another with written feedback on drafts of assignments.

Pen pals: Long a staple of elementary classrooms, pen pals have found a place in many secondary classrooms as well. Whether students exchange letters or e-mail with students in other classes or other countries, a major advantage of these assignments lies in providing an authentic context for communication. Again, assignments can be designed for a number of purposes. Two Wisconsin middle school teachers, for example, used a letter-writing exchange between students from different towns both to improve writing skills and to promote discussion about racism in their communities (VanDerPloeg & Steffen, 2002). Other teachers have used e-mail exchanges between high school and college students to teach revising and editing skills at the same time students are learning about college admissions and expectations (Jennings & Hunn, 2002; Stuckey, 2002; Washington State K–20 Network, n.d.).

TEACHING WRITING IN MIDDLE AND HIGH SCHOOL: GUIDING PRINCIPLES

Even with a handful of strategies like the ones described in the previous section, classroom teachers who have received little training in writing may feel they are grasping for straws when asked to incorporate more writing into their teaching. High-quality professional development that addresses writing issues in the context of teachers' content areas is indispensable. In an effort to provide readers with at least a general framework for getting started, we offer a brief introduction to current theories of writing instruction below.

1. Writing develops through meaningful practice: In order to improve, students need meaningful opportunities to put developing skills to use (Shanahan, 2004). Research indicates that the "development of student writing from approximate forms to conventional forms is best achieved through substantial time devoted to writing, multiple opportunities to write across the school day and focused instruction that builds from the writers' efforts" (Egawa, 1998). Assignments should allow students to write for real audiences and purposes, and to make connections between home, community, and school.

2. Writing is a situated and recursive process: "Most research today supports the view that writing is recursive, that it does not proceed linearly but instead cycles and recycles through subprocesses" that include planning, drafting, evaluating, and revising (NWP & Nagin, 2003, p. 25). Though many textbooks present students with a prescribed version of "the writing process"—first brainstorm, then outline, then draft, and so on—compositionists stress that there are in fact many writing processes that vary from student to student and task to task.

3. Writing and reading are interrelated: According to Tierney and Shanahan (1991), "numerous studies have shown that writing led to improved reading achievement, reading led to better writing, and combined instruction led to improvement in both reading and writing" (p. 258). Because reading and writing skills support each other, struggling students in particular should be encouraged to focus on both simultaneously, not wait for one to improve before working on the other.

4. Different writing situations impose different demands: Writing is not an isolated skill that, once mastered, can simply be called up and put into the service of new writing tasks. Students who write effectively in genres and subject areas they know well may encounter enormous difficulty with others. Strong writing programs provide students practice in many genres and emphasize strategies for identifying different conventions and constraints.

Implications for practice

- Create assignments that allow students to build on their strengths and experiences at the same time they are working to develop proficiency in school-based literacies (NWP & Nagin, 2003). Take the time to learn more about students whose home literacies differ significantly from those traditionally prized by schools: talk with parents, visit with families at home or at community events, and invite them to participate in your classroom. All students

should see that their home cultures, including their language practices, are valued in school.

- Be aware of the cultural values and assumptions reflected in different kinds of writing activities. Personal narratives that require students to divulge a great deal of information about themselves and their families, for example, assume a level of trust between student and public institution that may be unwarranted. The privileging of individual authorship itself reflects a cultural value. Depending on how the activities are orchestrated, opportunities for collaborative writing, peer review, and publication may better reflect some students' home cultures and experiences than others.

- Be sure that the directions and purposes of writing assignments are clear, both to you and your students (Shanahan, 2004). As Morgan (1987) notes, the effectiveness of writing-to-learn activities for students with certain types of learning disabilities may lie in how well assignments are presented: "Since [some] learning disabled students have difficulties with sequencing, organization, and task completion, it is doubly important that instructions be well-designed" (p. 62). Using similar types of activities repeatedly may also help. With too much variation, students may have a hard time mastering specific strategies or using them effectively on their own (Bangert-Drowns, personal communication, 2004).

- Give students multiple opportunities to revise, receive feedback, and continue to work on both content and style (Yore, Hand, & Prain, 1999). "Because revision is about refining one's thinking, it has a role to play in any disciplinary learning. Here, revision may include both highly

formal and elaborate approaches to making changes in a manuscript, or it can involve much less formal discussions of the ideas that were included in the students' papers without actual rewriting" (Shanahan, 2004, p. 68).

- As much as possible, provide students authentic contexts for writing that go beyond simply writing to the teacher for a grade. Design assignments in which students can write for a wider audience who will "value, question, and provide supportive criticism" (Yore, Hand, & Prain, 1999, p. 9). For example, a class at Ronan High School researched contemporary cultural life on the Flathead Reservation for a project with the Montana Heritage Project, and presented their research to a professional audience at the Library of Congress in Washington, D.C.

- Leave ample time for all students to meet the objectives of the assignment. English language learners and students with language-related learning disabilities need not lose out on the benefit of the assignment because other students can compose more quickly. If possible, provide students who write more slowly access to a computer, or plan lessons to allow for varying response times.

- Finally, pursue opportunities to network with other teachers, collaborate on cross-curricular projects, and engage in professional development. The National Writing Project, based on a teachers-training-teachers development model, offers summer institutes for K–college teachers at multiple sites in all five Northwest states. Other opportunities for networking and professional development can be found by visiting professional educational organizations' Web sites, such as the National Council of Teachers of English, www.ncte.org.

IMPLEMENTING AND SUSTAINING WRITING ACROSS THE CURRICULUM: STRATEGIES FOR SUCCESS

"While there is no formula for implementing and sustaining a WAC program in every conceivable context," write Farrell-Childers, Gere, and Young (1994) in their introduction to *Programs and Practices: Writing Across the Secondary School Curriculum*, "there are patterns that emerge from a review of successful programs..." (p. 5). Although, again, what "success" means varies from school to school, profiles of individual programs such as the ones provided in *Programs and Practices* and in the Northwest Sampler section of this booklet do provide some insight into launching strong programs and keeping them on their feet.

1. Begin with a needs assessment. What are the particular needs and abilities of students in your school? Of teachers? What beliefs do teachers hold about writing and learning? How much writing do content-area teachers assign on a regular basis? How much time do students spend writing in and outside school? Solicit input from teachers who already use a great deal of writing in their classrooms as well as those who don't.

2. Involve students' families. Find out how students and their families use writing outside school. Talk with parents and other significant adults in students' lives about how they currently support students' writing at home, and what kinds of writing they anticipate students will do once they graduate. What needs do they perceive? Strengths? What goals would they set for a WAC program? As you plan, identify ways in which your program will build on, and support, the diversity of literacy practices in your community.

3. Generate teacher support. Most successful programs emerge from the ground up rather than the top down (Sorenson, 1991; van Allen, 1992). Thaiss (1988) and others highly recommend that "some faculty development, primarily voluntary, should precede legislated or decreed changes in curriculum" (p. 94).

4. Support quality professional development. Professional development should be reflective, collaborative, and ongoing. Lilyanne van Allen (1992) suggests that "generous staff development [be] provided before beginning the program and continued through the first and second years of the program" (p. 114)—a recommendation that is echoed throughout the WAC literature (Barr & Healy, 1988; Sorenson, 1991). Following a five-year inservice program for secondary science teachers, Yore, Hand, & Prain (1999) identified teachers' views of writing as a significant hurdle to implementing a writing-to-learn approach: "Teachers view writing in science primarily as an assessment technique since they have not experienced non-traditional types of writing. Therefore, teachers limit the use of writing to recalling knowledge ... rather than as a means of constructing knowledge" (p. 17). A few workshops are unlikely to lead to significant change among teachers unaccustomed to using writing in a variety of ways.

5. Encourage teacher leadership. Lilyanne van Allen's (1992) study of WAC efforts in five Texas school districts found that a key component of lasting and successful

programs was "dedicated teachers assuming the leadership of the program" (p. 114). For this to happen, however, teachers must be given ample time to plan, attend trainings, and collaborate. Potential conflicts with teachers' contracts should be identified and worked out well in advance.

6. Establish a shared system for assessing writing. Reinforce common goals for student writing, and develop a shared framework for evaluation. "Teachers and school administrators can build common performance expectations by convening regular workshops on what constitutes good writing, particularly at the middle and high school levels where each student has several teachers" (NCW, 2003, p. 34).

7. Leave enough time to plan. Less experienced faculty in particular need time to network, experiment with cross-curricular themes, attend workshops, and visit programs at other schools (NWP & Nagin, 2003). "Administrators can also encourage teachers in diverse subject areas to discuss how to use writing as a tool for inquiry, critical thinking, and active learning" (NWP & Nagin, 2003, p. 97).

8. Make time for teaching and assessing writing. As the NCW (2003) asserts, "writing will not be improved on the cheap or by hectoring teachers. At all levels, writers face problems, and teachers are needed to support their growth" (p. 35). Although using writing to learn and writing in the disciplines need not displace content, it may mean doing less in more depth, or substituting portfolio assessment for other performance measures.

9. Evaluate program outcomes. Develop a system for assessing how well the program is meeting its goals.

Although the majority of current publications on WAC program assessment are based on college programs, much useful information can be gleaned from them. Duke and Sanchez's (2001) *Assessing Writing Across the Curriculum* is one good resource focused on secondary programs.

For additional information on planning, sustaining, and assessing writing across the curriculum programs, see the school profiles in the Northwest Sampler as well as the Resources section at the end of this booklet.

CONCLUSION

Unlike many trends in education that have come and gone in recent decades, WAC as a movement appears to have lasted, evolving alongside more than 20 years of changes in educational policy, technology, and ideas about what students should know and be able to do by the time they graduate from high school. Across the country, WAC-based programs in middle and high schools continue to expand and adapt to meet new needs. From online writing centers to expeditionary learning programs, the schools profiled in the following Northwest Sampler represent just a few of the innovative approaches educators in this region are taking to encourage more and better writing beyond the walls of the English classroom.

NORTHWEST SAMPLER

The following profiles briefly describe several diverse Writing Across the Curriculum efforts in Pacific Northwest middle and high schools[1]. We profile the Montana Heritage Project in which students across the state conduct original research for community-based projects. We describe the strategies of two Oregon high school teachers as they incorporate writing in their art and mathematics classes. In Washington state, two university-school partnerships mentor students in online writing labs—one program mentors English language learners. Finally, we highlight two Washington middle schools that have achieved results by emphasizing all-staff assessment of student writing, collaboration across the content areas in wriging, and continuous staff development.

These educators list many indicators of success observed and/or documented by achievement tests:

- Teachers and mentors see a greater enthusiasm and motivation for writing. They also observe that as students practice writing and prewriting skills, they perfect their skills.
- Some schools report that scores for state achievement tests and local tests have improved—especially in the areas of content, organization, and style.
- Students learn to write for specific audiences and purposes.
- Writing helps students organize and clarify their thoughts and ideas, and analyze and evaluate what they are learning, while they are learning.

[1]Programs and curricula listed in these profiles do not necessarily imply endorsement by NWREL. For more information about any of these practices, contact the educators directly.

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Note: The following contains excerpts from a previously published work by Michael L. Umphrey: *Beyond Standards: Community-Centered Education Embeds High Standards Within Authentic Projects* (2002), retrieved from www.edheritage.org/projects/montana_standards_writing.pdf

As part of the Montana Historical Society, the Montana Heritage Project has been providing grants for teachers and students to implement primary-source heritage research projects for more than 10 years. The project's goal is "to guide young people toward a deeper understanding of their cultural heritage, including the understanding that such a heritage is kept vibrant and wholesome by being improved by each new generation as they meet the particular challenges of their time and place". (Quote retrieved from www.montanaheritageproject.org/index.php/teacherlore/index)

Teachers apply for a limited grant (up to $1,000 per school) to take students on research-related excursions, obtain supplies

and other resources to implement a project into their existing curriculum, or create separate classes. The grant also provides professional development, on-site technical assistance, opportunities for teachers to collaborate, and a venue for students to present their work at a state festival. Every year a group of students present their work to the Librarian of Congress in Washington, D.C. Although the funding is available, any teacher can participate in accessing information and conducting a local research project, and can attend the festival.

Each year, the project suggests a theme. In 2004, the theme centers on the question, "How did the Vietnam War change America?" Schools have participated in a variety of projects over the years. One year students at Simms High School researched the decade 1925–1935 in their community and used their research to write essays, short stories, and poems for their literary magazine. A high school class in Libby conducted oral interviews with 15 Korean War veterans and wrote essays based on their research, which were compiled into a book. (To view examples of students' writing, visit www.edheritage.org/student/contents.html)

Writing and conducting research is integral to all projects. Students conduct oral interviews to gather information organized around "key essential questions." Some questions that schools have explored in the past include: What effect did the coming of television have upon life in Chester? How has ranching culture in Harlowton changed in the past 100 years? How did changes in the national economy affect the coal mining industry in Roundup? How did people in Libby respond to the influx of people during the construction of Libby Dam? How did World War II affect women in Townsend? Writing is posted on the Web site and published in various formats,

depending on the audience and purpose of the project. Umphrey emphasizes that students are involved in "deep learning" as they work on their projects (2004). Deep learning typically has five not necessarily linear stages that one progresses through. These stages are called "ALERT— Ask questions; Listen in various ways for answers (e.g., reading what others have read, listening to what people say); Explore by visiting places and interviewing others; Reflect in a journal or talking with others; Transform—sharing, preserving with the community what you have learned in different formats such as a Web site, book, or presentation.

Teachers are encouraged to incorporate the process into their teaching. Says Umphrey, "The classroom at its best can be a platform from which to do authentic research in the real world. In such classrooms, learning will take the form of a story. Students will be changed. That is, they will learn" (2004). To obtain more information about the ALERT process including downloadable planning sheets, visit www.edheritage.org/tools/alert.htm

The Web site offers numerous resources for teachers to implement these projects, and teacher guidelines for implementing specific projects such as "Writing the Essay of Place" (www.edheritage.org/tools/tools.htm). Umphrey provides some examples of how school projects directly relate to each Montana State Content Standard for Writing and benchmarks (2002).

Content Standard 2: Students apply a range of skills and strategies in the writing process (Benchmarks for graduation: planning strategies to generate ideas; analyzing purpose and audience; writing multiple drafts to explore and organize ideas; revise by seeking input from others; edit for punctuation, grammar, etc.; and publish or share a final product): Seniors in Nancy Widdicombe's class at Harlowton conducted a yearlong research and writing project into the history of ranches that have been in the same family for at least 100 years. Teams created sets of open-ended questions for each family drawn from their preliminary research. Each team toured important sites, including barns, hay meadows, lofts, and historic outbuildings or houses. They transcribed the interviews and wrote reports about the site visits.

After discussing how to organize the material they had gathered, they agreed to tell the story of each family, including the past, the present, and the families' expectations for the future. Individual students within each team wrote drafts that dealt with different parts of the overall history. They combined these drafts into unified histories, which were edited before being sent back to the respective families for further editing and revisions. After another draft to clarify some facts and add needed detail, the final drafts were read by multiple editors.

Students created a PowerPoint presentation of their findings and a video of the project for a public open house. They created a Web site featuring photographs and excerpts from their book, *Images of the Upper Musselshell Valley*. They printed 25 copies of the book, intended primarily for family members and the local museum and library, but they had to reprint it twice to meet demand from the community.

Content Standard 4: Students write for a variety of purposes and audiences (Graduation benchmarks: identify and articulate purpose for writing, choose audience appropriate to the purpose and topic, experience writing in various genres)

Juniors at Chester High School selected historical photographs from the Liberty County Museum collections, then researched and wrote interpretive text, creating display panels for the museum.

Roundup High School conducted research for interpretive signs for the Park Trail, which will be a historical interpretive walking tour. Students have selected and photographed 14 sites as part of an ongoing, multiyear project.

Students in Renee Rasmussen's English classes in Chester researched and wrote nominations to the National Register of Historic Places for three local buildings. The most recent was a house built by Estonian immigrants. In researching who had built the house and why, students learned about the Russian Revolution, the Dawes Act, the Great Depression, the Dust Bowl, and the history of the railroad.

The projects' successes go beyond student achievement. The Librarian of Congress said it best at the Montana Heritage Project Youth Heritage Festival in March 2004: "The work you're doing to record, document, and analyze human experience in Montana, when you do it well, is every bit as valuable as Clark Whistler's work was in 1904 on those high and windy spaces of the Blackfeet Reservation. You contribute to the nation's story and to the Library of Congress' comprehensive record of American history and creativity."

The deadline for applying for grants is March 1 of each year. For more information visit www.edheritage.org/affiliates/AffiliatesApplication.html

Portland Public Schools

An article in the Portland *Oregonian* last fall highlighted the need for writing across the curriculum, after the latest state assessments in writing reported that only 48 percent of sophomores were proficient, down 6 percent from the previous year. Eighth-graders did worse, with only 37 percent achieving proficiency. A large part of the problem, reported educators from across the state, is that teachers have not had time to incorporate writing into large classes, and less class time. Meeting Adequate Yearly Progress in reading, mathematics, and science often takes priority.

Linda Christensen, Portland Public School's Language Arts High School Specialist agrees that writing often is "put on the back burner because there is a big push for reading in the content areas." However, through her work directing the Portland Writing Project, she is able to provide extensive professional development in writing to many teachers through the years. She emphasizes that writing can be used in all content areas—for students to demonstrate what they have learned and, in turn, so teachers can analyze what students are understanding. "Most teachers have not been taught to assess writing in this way," she says. Teachers also need to clearly understand the different modes of writing, says Christensen—that there is a different way to teach narrative and persuasive writing, even though the two share some characteristics.

The following two profiles highlight two Portland public high school teachers' experiences with incorporating writing into their classes.

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An Art Teacher's Perspective on Writing To Learn

Sue Van Loon is one of four art teachers at Cleveland High School. Reading and writing across the curriculum are strongly emphasized at the school, and teachers are given professional development one day a month on various topics that include writing. The professional development is also tied to preparing students to receive the Certificate of Initial Mastery. Among other requirements, students must meet state performance benchmarks on the writing test in 10th grade, and complete three writing samples. To help students meet these requirements, the Oregon Department of Education recommends that schools offer a writing curriculum that provides frequent opportunities to write on a variety of topics for various audiences; and specific instruction that provides feedback to students about the quality of their writing.

Van Loon teaches ceramics, drawing, painting, sculpting and printmaking, and International Baccalaureate Research and Studio Art. Cleveland is one of two Portland Public Schools to

offer this challenging international program that generally allows students to fulfill requirements of various international education systems and receive college credit. The grading system is criterion-referenced, which means that each student's performance is measured against well-defined levels of achievement. Top grades reflect knowledge and skills relative to set standards applied equally to all schools. IB Diploma Programme students are required to conduct original research on a topic in one of 22 subjects, and write an essay of 4,000 words maximum. The essay provides an opportunity for students to explore a topic in depth and to become familiar with the research and writing skills expected at the university level.

There is a strong emphasis on writing in the IB program, including art classes. Students write every day, filling a 120-page Research Journal yearly. Teachers provide bimonthly feedback on their writing. The students choose a genre of art that interests them to research and then create studio work inspired by it. Being self-motivated is necessary for success. In all the art classes at Cleveland students learn to analyze art; they are led through steps of critiquing using the DIE model. The students first Describe what they see happening in a painting, then Interpret the meaning, and finally Evaluate it, answering the questions—Is it any good? How do I respond to it? Did the artist succeed in his or her goal?

In Van Loon's non-IB classes, there is less research, although she tries to incorporate writing as much as possible. The writing abilities of her students vary, and so students are given the opportunity to interpret art orally as well as in writing. "I grade my students on how much they are learning, by how much their art has matured, and how well they can talk and write about art," says Van Loon.

Van Loon recognizes that the IB emphasis on writing helps the learning process, and is encouraged to adapt IB lessons for all students. "Writing helps students clarify their thoughts. Teachers are being encouraged to talk less, so that students can talk, write, and participate more in their own education," she says.

Location

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Writing in Mathematics

Although writing has not traditionally been integrated into mathematics, it is a valuable way for students to demonstrate their problem-solving processes and for teachers to assess what they are learning. The National Council of Teachers of Mathematics Communications Standards for grades 9–12 say that students should be able to:

- Organize and consolidate their mathematical thinking through communication
- Communicate their mathematical thinking coherently and clearly to peers, teachers, and others
- Analyze and evaluate the mathematical thinking and strategies of others
- Use the language of mathematics to express mathematical ideas precisely (2000)

Franklin High School has just started using a technology-assisted algebra curriculum that not only motivates students of all abilities, but also requires them to analyze and evaluate problems and describe how they obtain answers.

When the district decided to require all freshmen to take algebra, a team researched various programs that would be suitable for different learning styles and abilities. After visiting Kent School District, where a curriculum had been implemented successfully for a few years, the team decided to use Carnegie Algebra in Franklin and Madison High Schools.

The Carnegie Algebra curriculum combines software-based, individualized computer lessons with collaborative, real-world problem-solving activities. Students spend about 40 percent of their class time using the software, and the balance of their time engaged in classroom problem-solving activities. These activities have students write an explanation of the process for solving a problem, and an analysis of a problem—in full sentences. For example, in a lesson on patterns and linear functions, the student is given a problem and then asked to answer some questions: *What are the variable quantities in the problem situation? Which of the two variable quantities depend on each other? Explain.* Later in the lesson, students are given this problem in which "you" are working at a custom T-shirt store and are required to calculate the price of the orders. The questions that follow ask you to, "in your own words, clearly identify the problem situation; how you see this problem differing from a previous problem; and questions about variable quantities and constant quantities."

Roberta Lambert, a Franklin mathematics teacher who was a member of the team that chose Carnegie Math, is impressed with what she has seen so far. "If students can explain the concepts in writing it reinforces the concepts for them," she says. She can also evaluate students' understanding of those concepts better through their written

analysis. Lambert also sees that students are more interested and motivated to complete assignments using the computer-assisted program. It uses more realistic scenarios for problem solving to help students relate mathematics to real-life situations.

Lambert also says that because the new freshman academies structure facilitates collaboration across core content areas, she has been able to work closely with the freshman language arts teacher. She gives that teacher quizzes that contain vocabulary and concepts she wants her students to learn. The language arts teacher then reinforces the concepts by using them in his lessons. Lambert and the science teacher also use the same terminology.

In previous years, students in 10th grade were required to answer open-ended questions on the state's Certificate of Initial Mastery assessment, as well as a multiple-choice test. The test "measured students' mastery of complex math reasoning and encouraged teachers to teach by using that approach," and "would lead to richer, deeper teaching and understanding in math" (Hammond, 2004). However, in part because the state "could no longer ensure the quality and accuracy of the problem-solving test (Susan Castillo, cited in Hammond, 2004) due to schools' reluctance to assign and grade complex open-ended math assignments, given growing class sizes," the test has been suspended until perhaps 2008, when it is hoped a better math test will be developed.

Lambert is also very open to learning new ways to incorporate literacy into her mathematics classes. She often has students in other classes compose their own word problems. Portland Public Schools has provided some staff develop-

ment workshops on literacy. At a recent staff development day, all teachers were required to come up with a literacy-based lesson for their content area and demonstrate it to the other teachers. Lambert's lesson was to enable students to understand challenging vocabulary such as co-linear and co-planer by having them build three-dimensional models of the words using toothpicks, dot stickers, and index cards.

In spite of the change in the state assessment, Lambert remains committed to using Carnegie Algebra. Carnegie builds writing into the curriculum, which doesn't take much time, which is very helpful, says Lambert. She hopes that more teachers will see how well the curriculum works, and that it is used for the next three years.

For more information about Carnegie and for independent evaluations of the curriculum visit www.carnegielearning.com/start.cfm?startpage=research/published%5Fresearch/

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Bridges Project

"It is the hope of the Bridges leadership to build a learning community of classroom teachers, faculty, college students and middle and high school students who are excited about writing and communicating."

Central Washington University and schools in central Washington have partnered for the last few years to provide mentors for middle and high schools, especially for children learning English as an additional language. Through this coordinated program, teams of university students assist teachers in the classroom mentoring students, organizing after-school book clubs, working on writing projects, and teaching students to build their own Web pages.

The funding for this project is primarily through a GEAR UP Grant. The Bridges Project currently receives part of that funding to operate the program in five schools. This past

year, a full-time coordinator, Veronica Gomez-Vilchis was hired using the grant funds.

Mentors and CSU faculty work with teachers in designing projects that will encourage and develop their writing. Some mentors work as aides in classrooms with the teachers. Mentors visit the schools in teams at least two hours a week. Project Director Lois Breedlove suggests that teachers and mentors meet prior to the first class so they develop a clear understanding of roles and expectations. Teachers are encouraged to develop specific projects for mentors, rather than just giving them general aide duties.

Too often, says Breedlove, students who are learning English are marginalized in their schools and are not given the opportunity to express themselves. When teachers are under pressure to raise test scores in their schools, and work overtime with large classes, they may emphasize grammar and de-emphasize students just telling their stories. "Part of what we're focusing on is this whole notion of ... telling the story, being sympathetic listeners and getting the kids to talk, because it is novel to them."

The mentors benefit in many ways from the experience. Preservice teachers can receive practicum credit and gain experience working with English language learners that they may not have received. Most important, they gain a greater understanding of the culture and history of recent Hispanic immigrants. Says Gomez-Vilchis, "When I recruit mentors, I look for college students who have a real desire to be role models, and to learn from their students as well. If a teacher isn't willing to learn about their students' lives, the children will not open up and be willing to learn from you."

Breedlove explains that prewriting skills are very important for children learning to write in another language. "We use a lot of journalism writing for our projects that serves to do many things, such as enable students to know what questions to ask in an interview. We model press conferences for the students to give them more practice in asking questions."

Grammar instruction is not a focus of the mentor relationships, emphasizes Breedlove. "Because these students have never written before, prewriting skills are emphasized—I focus with my mentors during their training, so they focus on how students can get their stories out. When kids learn to write for publishing, whether on a Web site or in print, for a real audience, they start to think that for others to be able to comprehend my writing, I'd better spell words right! They realize that they want their message to be clearly understood."

Gomez-Vilchis adds that when students write down their family stories, the stories become more real for them. For one assignment students were to write an essay about what story they would tell about themselves if they were invited back to their school in 2014. Students who envision what they will be doing in the future—going to college, having a family—will believe they can achieve those goals when they see it in writing.

The Morris Schott Middle School "Hidden Stories" 2004 Project gave students the opportunity to hear from their parents, often for the first time, about their life in another country and the experience of coming to the United States. The children interviewed their parents at home, and then returned to school to write stories about what they learned.

Before they started to write, they heard stories from Gomez-Vilchis and others, which broke the ice for the kids to start writing. The mentors then worked with the students to help them write the stories. The essays were all bound into a book called "Harvesting Hope: Stories of Mattawa" and posted on the Web site.

Family stories were very powerful and emotional for the kids to tell—they are often about the hardships in Mexico and the turmoil and pain of the children crossing the U.S.-Mexican border on the backs of their parents. "One boy wrote a story, and then read it to me and cried like a little boy," remembers Breedlove. "And everyone just hugged him, which is so different from the more competitive Anglo classrooms that I am more used to."

Another powerful moment for the children was when they asked their parents "what did you hope for by coming to the United States?" Says Breedlove, "Of course we knew what the answer was, they came for their kids, and what they hope for is a good life for their kids. But the kids had never heard that from their parents—many of their parents are working two or three jobs to make ends meet." This experience, although it was difficult for many parents to speak of their past, helped to create better communication within the families.

Another project used technology for students to tell their stories. The Prosser Film Festival Project brought seventh-grade students from Prosser Middle School to the Central Washington University campus to watch films by both college students and Hollywood directors. Several college students presented their own films.

Students had two writing assignments. First, they wrote a film review of a movie they watched. The assignment went beyond characters and setting—they had to analyze the movie to determine the director's purpose and the message the director wanted to convey. The second writing assignment was to create a one-minute script with a prompt (www.cwu.edu/~bridges/upcomingevents/ff/assignment.html). The prompt asked the students to write a script answering the question, "What do you think your community or country needs? What can you do to help your community or country?" Says Gomez-Vilchis, "The purpose of this event was to have students use their creativity, and learn how a movie or video is created as a way to communicate their stories. It takes a lot of writing, planning, editing, and sensitivity, depending on the audience they are targeting."

These are just a small sampling of the projects that Bridges students have done. Writing for a purpose, that connects students to their community seems to be a large part of the success of the project, as is the mentoring by college students.

Both Breedlove and Gomez-Vilchis have noticed that students who have been a part of the project are writing much more than they had before. This has amazed teachers who have said they hadn't seen such expression previously. "Students accepted their mentors quickly, and wanted to do more writing if they knew their mentor was visiting that day," adds Gomez-Vilchis.

The grant will enable the project to be with sixth-graders for five more years, and so can continue to provide mentoring and support throughout their high school years.

A goal of the Bridges Project is having students become more aware of university life, and opening the door to them considering college. Many students had never met a college student before they met their mentors. Gomez-Vilchis says that now she hears many students say "I am going to college," not just that they are thinking about it. The Bridges mentors will continue to work with sixth-graders for five more years and provide continuous support and inspiration throughout their high school years. "You have to keep telling them they can go to college, because people out there will tell them they are worthless," says Gomez-Vilchis.

Breedlove says that she would like to work more with the family and community. She learned that ELL students have a strong sense of community, and that when they enter college, having a strong, supportive community will be very important.

Tips for Success in Forming a School-Community-University Partnership

- University faculty need to leave the university and go on school campuses to work with teachers, students, and mentors.
- Teachers need to be volunteers with the project, not "told to do it," for it to be successful. To facilitate partnerships at the schools, all GEAR UP grantees have an on-site coordinator.

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Cross-Curricular Writing Focus Increases Test Scores

Hockinson Middle School is located in rural Southwest Washington, about seven miles from Vancouver. There are 29 teachers, with about 550 students in grades 6–8. Like many other schools, changes have occurred in the last several years—an increase in the numbers of students; a changing community that is seeing newcomers move to the small, cohesive, rural district; and a change from a junior high model to a middle school model. Staff have been responsive to these changes and are willing to research new curriculum and implement new programs to continue to improve their student's achievement and growth.

Hockinson Middle School staff continuously use data on which to base their school improvement decisions and to inform their instruction. Beginning in 2002 and 2003, the site council did an indepth data analysis of many kinds of data—formal assessments, informal assessments, grade distribution, discipline, attendance, focus groups, and surveys, and then the site council shared the data with the entire school staff. (So

the entire staff could look at all the data, a data carousel was used). This activity enabled everyone to analyze all the data, to discern the strengths and weaknesses, and to rank their top concerns. The ranking results led to a prioritized list of concerns that would be used to guide the school improvement plan. (An example of how to use a data carousel is located on the Washington Office of Public Instruction's Web site www.k12.wa.us/SchoolImprovement/pubdocs/AppB/Portfolio-CarouselActivity.doc).

Writing across the curriculum emerged as a priority from the data carousel activity. If teachers could improve students' ability to write clearly and effectively, their success in many areas would be affected. In researching how to approach implementing WAC, teacher Andrea Roscoe recommended a curriculum she had been using, Step Up to Writing. Upon further investigation, the entire staff agreed to implement it in all classes. Principal Kevin O'Rourke committed resources for all staff to be trained. A team of four teachers from across the disciplines was trained, and they in turn trained the other teachers in a sequence of inservice sessions.

Step Up to Writing offers coordinated teaching strategies and writing activities with the goal of teaching students to write clear, organized paragraphs, reports, and essays. According to an essay describing the research base for the program, "Through explicit instruction in organizational schemes, students are taught in small groups to organize their ideas before they write. Drawing on multi-sensory techniques, students are taught to use color-coding to visualize writing organization by equating the colors of a traffic signal with different parts of a written piece..." All the teachers have the elements of organization with the color codes posted in their classrooms.

This program works particularly well, explains O'Rourke, because it focuses on expository writing, which was an important area that needed improvement and is part of all curricular areas—mathematics, social studies, science, and language arts—and so is not difficult for all teachers to implement. In the past, he says, teachers may have wanted to implement writing in their classes, but didn't expect to be teaching writing themselves. Now, with the training and ongoing staff development, teachers are much more comfortable teaching these expository principles. Additionally, O'Rourke sees that science teachers are using similar and related vocabulary that language arts teachers use. For example, students are learning that topic sentence they formulate in language arts is similar to the thesis statement they use in science.

O'Rourke acknowledges that the Step Up to Writing "is somewhat formulaic" in that it provides a formula for writing organization and doesn't develop the writer's voice yet. However, he says the process has greatly helped students who do not yet have these organizational skills, and has taught them to provide evidence for their ideas in a cohesive way. Now students are asking questions about how to organize their essays that indicate they are internalizing the process. Last year was the first year of implementing the program; this year the teachers intend to build on what students learned the previous year and develop other aspects of their writing, such as persuasive writing and development of voice.

Sixth-grade teacher Lisa Parker agrees that giving students a structure for their writing is very important, and that they can develop voice along with structure. Parker incorporates much writing in all her classes, as do many teachers. She

uses retelling frequently. Students have put together a book of compare/contrast essays about Canada. In math, Parker has students develop a written response to a problem.

When teachers are already collaborating across and within grade levels, writing across the curriculum can be more successful, says O'Rourke. He believes that supporting his teachers is most important if writing across the curriculum is to be sustained and to progress. The move from a junior high to a middle school model, where teachers are in interdisciplinary teams, helps create a cohesive focus. All teams have a common prep time. In this way, explains O'Rourke, language arts teachers, science, math, and history teachers can support each other's work with writing. Core content teachers also meet together on a regular basis. Additionally, the school board approved last year a one-hour early release per week for staff, which has been more effective than once a month for a longer period of time. Teachers share what writing strategies are working in their classrooms and the hour is often structured so that one teacher is a trainer.

Another way that writing across the curriculum is facilitated is the curriculum mapping process. At the start of the semester, teacher teams look at their writing goals and map out when the goals will be accomplished. The ELR benchmarks for writing are broken down for each grade level and then divided up for each subject area. For example, one goal is for students to write personal letters. The map shows that this will be taught in September in [such and such] classes. "The challenge to making the mapping process work," says O'Rourke, is to make sure that it is used as a resource that you reflect upon throughout the year. "Backing up to look at the bigger picture is very important."

Future plans to focus better on interdisciplinary, authentic projects are in the works. If the staff can come up with the funding, they are very interested in implementing Expeditionary Learning Outward Bound, a research-based model to involve students in interdisciplinary, project-based learning expeditions. Integrating core subjects such as writing is a primary goal. (For more information about ELOB, see www.elob.org.) O'Rourke and the teaching staff voted to pursue the contract, for many reasons, including having the opportunity for high-quality, comprehensive professional development and coaching support. The ELOB staff members work closely with teachers on designing projects for students, thinking the process through, identifying resources, and modeling strategies. This is very important for a sustained, cohesive process.

Many teachers, quite naturally, expressed some hesitation about implementing projects across the curriculum because they see that developing projects can be time-consuming if not structured or supported with professional development. This is why obtaining the funding to fully implement the model is so important, says O'Rourke. While O'Rourke certainly understands the hesitation, he praises teachers for implementing such projects on a smaller scale—and emphasizes that ELOB can build on these strategies. "ELOB enables students to think of a broader audience for their work, rather than just their teacher," says O'Rourke.

Funding is certainly a possibility because the district receives grants already from the Bill and Melinda Gates Foundation. The Gates Foundation strongly supports ELOB schools—in 2003, Gates funded ELOB in 20 schools across the country.

Indicators of Success

Although the WAC focus has been in place for just a year, assessment scores show that more students are meeting standards in content, organization, and style—three of the essential learning requirements (ELRs) that the state assessment, the WASL, assesses. In 2003–2004, 71.2 percent of seventh-graders met the standards, up from 63.3 percent the previous year. The writing scores for the same cohort of students who had been fourth-graders in 2000–2001, was 48 percent.

Hockinson students took a writing pre-assessment based on the WASL rubric in September 2003, and a post-assessment in May 2004. These writing samples were scored by grade level staff and used to target areas of need. Students were rated in content, organization, and style as meeting or not meeting the standard. The number of eighth-grade students meeting the standard increased almost 30 percent from pre- to posttest. The number of seventh-graders meeting the standard increased 25 percent, and the number of sixth-graders meeting standards increased 50 percent (in interpreting these data, one must take into account that the students were pretested in the beginning of the year, after a summer break, and were tested on content they were to learn in the coming year, so an increase would be assumed by the end of the year).

To be successful, O'Rourke understands that building leadership among the staff provides the continuous focus and momentum to continue implementing writing across the curriculum. "If the push was left up to me alone, it could seem dictatorial, and indeed, I might lose energy myself," he says. By building broad support, in which staff members are encouraged to share their expertise with each other, implementing writing across the curriculum is that much more successful.

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Writing Across the Curriculum—Staff Assessment

A positive result of state-mandated writing assessments is that more schools are incorporating writing across the curriculum and are using assessments to guide practice. Because the writing assessments such as the Washington Assessment of Student Learning (WASL) focus on elements of purpose, organization, style, word choice, and grammar, many schools are focusing on these elements in their instruction. Critics of such standardized tests say the tests will dictate what teachers teach, and that other forms of writing will not be taught (Thomas, 2004). This could be the case; however, Baldwin of the Educational Testing Service believes that "With standardized writing tests here to stay, educators would do well to learn how their students' writing will be scored and how they can apply assessment techniques in their own classrooms" (Baldwin, 2004).

Totem Middle School in Washington state's Federal Way School District has a focus on reading and writing across

the curriculum and has trained their staff to evaluate reading and writing by using rubrics based on the WASL. They determined that structure, word usage, and vocabulary were weak areas, and focused on strengthening those areas.

Staff members are trained to assess essays and compositions using WASL criteria. The school has two whole-school writing events. All staff members including elective teachers participate, and assess a variety of the papers, not just writing in their individual classes. Comments former principal Brenda McBrayer-Knight, "Interestingly, the first writing event provided us with direction.....where do we need to focus our instruction and what must we emphasize in order to develop the writing skills all students need." The staff worked in grade-level teams and discussed why a certain piece of writing might rate a certain score—what an essay with a certain score would look like.

After the teachers assessed papers in their teams, they took the essays back to their students and went through the papers with them, so they could understand why they received a certain score, and why certain papers were rated as they were.

During the "all school write," students choose from a set of topics to write on that are based on the theme of two school assemblies: last year the first was Veteran's Day and the second was Martin Luther King Day. The prompts are similar to WASL prompts. An example of a prompt was "Describe what the Stars and Stripes mean to you." The students would be given a certain amount of time to finish the writing.

The WAC program was embraced by teacher-leaders who developed teams for each grade and as teams developed

plans for administering writing prompts and assessing writing. The staff researched various writing curricula and implemented writing processes consistently, and shared ideas with each other. Says McBrayer-Knight, "We agreed that it is NOT just the responsibility of the language arts department to make sure kids can write well." Says the current assistant principal, Michael Swartz, "All teachers—science, mathematics, physical education teachers—participated."

Throughout the year, students are given many opportunities to write and assess their writing. Core teacher teams worked together to develop essays for a particular unit.

The schoolwide focus on writing and understanding of assessing writing has helped to increase the WASL test scores. In 2003, seventh-graders meeting writing standards of the WASL improved from 41.7 percent to 66.9 percent.

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At Washington State University students enrolled in a teaching writing and rhetoric class help develop middle and high school students' writing and critical thinking skills through an online writing laboratory. Director Lisa Johnson modeled this writing lab on WSU's undergraduate online writing lab. Students submit writing to the privacy-protected site, and a writing mentor provides weekly feedback. Although mentors have flexibility in the feedback they provide, the criteria for assessing writing is based on the WSU Writing Center's Hierarchy of Values. This includes assessing the focus, organization, support, and grammar, spelling, and appropriate word choice.

Because many students have difficulty in developing their subject, the mentors begin by asking questions that "draw out" their area of interest—say sports, or pets—which can then develop into a topic. Here is an example of a real online "writer's exchange" between a mentor and a student. The student, Andrea, logs onto the Web site and posts a paragraph about feeding her pets. The mentor responded the next day with positive, constructive feedback, explaining the concepts of contextualizing and framing in ways the student can understand.

Mentor: "Imagine going up to one of your friends and repeating to them exactly what you have written here... I guarantee you they will say, "Andrea, what are you talking about?" That is why you have to frame your writing (or your speaking) with an introduction that lets the reader or listener "contextualize" what you are telling them. To contextualize means to help them find a place to put the information. Right now your paragraphs have no context; you haven't written to help me understand why you are telling me the information... The best thing you could do next with this piece of writing is to "frame" it with more information ... Don't forget, Andrea, that writing, like speaking, is message-sending. What is the message you are trying to send about dogs and cats? What do you want me to do or believe after I have read what you wrote? I hope you will answer these questions and get back to me."

A few days later, Andrea resubmits a revision to "Feeding My Pet." The tutor starts with complimenting Andrea on making her essay clear and giving very useful information. The tutor offers some suggestions for capitalization of proper names and proper citation of information received from another source.

After Andrea submits the next revision (this time adding a reference to *Child Magazine*), the tutor responds with enthusiasm and positive reinforcement: " We are impressed by how well you read and responded to our comments and we look forward to helping you write other papers in the future. ... Have you considered writing another paper about caring for pets? It might be interesting for you to write (and for us to read) about the things that pet owners need to know about caring for cats and dogs in different seasons...Anyway, thanks so much for continuing to write to us. We look forward to hearing from you again."

As with the tutors in this exchange, Johnson noticed a dramatic difference in the development of students' writing over just a few sessions. Not only do the middle school students benefit from positive and constructive feedback, but the preservice education students learn how to provide such feedback and will be more prepared when they teach in the future. Classroom teachers have also said that they appreciate the time the colleges students have spent with their students, and have also noticed their students' progression.

The program is funded in part through grants that emphasize outreach and coteaching with schools. Last year the project was piloted with special education students, but will be expanded this year to students in all classes of area schools. Johnson invited teachers to an introductory workshop last summer, at which six schools signed up to be part of the pilot program. Projects funded under the grant focus on how schools can incorporate critical thinking into the curriculum. Because Johnson's specialty is teaching preservice teachers how to teach writing, this became a goal of the outreach program. She also hopes that programs like these will change the perception of the purpose of writing centers—that they don't exist to correct student work, but to work with students one-on-one to develop writing skills and interest in writing.

RESOURCES

Writing To Learn, Writing in the Disciplines, and Writing Across the Curriculum

Hull, G., & Schultz, K. (Eds.). (2002). *School's out! Bridging out-of-school literacies with classroom practice*. New York: Teachers College Press.

Lewin, L. (2003). *Paving the way in reading and writing: Strategies and activities to support struggling students in grades 6–12*. San Francisco, CA: Jossey-Bass.

Offers detailed descriptions of writing-based activities for content area learning in many subjects.

Moore, D.W., Moore S.A., Cunningham, P.M., & Cunningham, J.W. (2002). *Developing readers and writers in the content areas K–12* (4th ed.). Boston, MA: Allyn & Bacon.

Peterson, A. (Ed.). (2003). *Celebrating 30 years with 30 ideas that work*. Berkeley, CA: National Writing Project.

Thirty "classroom-tested" ideas from teachers involved with the NWP are summarized here in brief.

Rothstein, E., & Lauber, G. (2000). *Writing as learning: A content-based approach*. Arlington Heights, IL: Skylight Professional Development.

Resource book designed for teachers at all grade levels offering suggestions for using writing to facilitate metacognitive learning strategies.

Shellard, E. (2004). *Writing across the curriculum to increase student learning in middle and high school.* Arlington, VA: Education Research Service.

WAC Clearinghouse Web site
http://wac.colostate.edu/

Writing Centers

Farrell, P.B. (Ed.). (1989). *The high school writing center: Establishing and maintaining one*. Urbana, IL: National Council of Teachers of English.

Hobson, E.H. (Ed.). (1998). *Wiring the writing center*. Logan, UT: Utah State University Press.

Although already somewhat dated, Childers, Jordan, and Upton's article, "Virtual High School Writing Centers: A Spectrum of Possibilities," offers some valuable insights into how writing centers were created at three different high schools, as well as the thinking behind the use of computers in the three labs.

International Writing Centers Association
www.writingcenters.org/

Writing and Culture

Buchoff, R. (1995). Family stories. *Reading Teacher, 49*(3), 230–233.

Christensen, L. (2000). *Reading, writing, and rising up: Teaching about social justice and the power of the written word*. Milwaukee, WI: Rethinking Schools.

Faltis, C.J. (2001). *Joinfostering: Teaching and learning in multilingual classrooms* (3rd ed.). Upper Saddle River, NJ: Merrill.

Heath, S.B. (1983). *Ways with words: Language, life, and work in communities and classrooms*. New York, NY: Cambridge University Press.

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Ummel-Ingram, L. (2004). Narrative writing works magic in the ELD classroom. *Quarterly of the National Writing Project, 26*(1), 3–6, 15. Retrieved October 29, 2004, from www.writingproject.org/cs/nwpp/print/nwpr/1284

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High School-University Collaboration

Thompson, T.C. (Ed.). (2002). *Teaching writing in high school and college: Conversations and collaborations*. Urbana, IL: National Council of Teachers of English.

Service Learning in Composition

Benson, C., & Christian, S. (with Goswami, D., & Gooch, W.H.). (Eds.). (2002). *Writing to make a difference: Classroom projects for community change*. New York, NY: Teachers College Press.

Writing Assessment

Culham, R. (2003). *6 + 1 traits of writing: The complete guide, grades 3 and up.* New York, NY: Scholastic Professional Books.

Northwest Regional Educational Laboratory's 6+1 Trait™ Writing www.nwrel.org/assessment/department.asp?d=1

Program Assessment

Yancey, K.B., & Huot, B. (Eds.). (1997). *Assessing writing across the curriculum: Diverse approaches and practices.* Greenwich, CT: Ablex.

Although the articles in this book deal primarily with evaluating college WAC efforts, K–12 educators developing a model for assessing their own WAC program may find many of these writers' insights valuable.

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