Table of Contents

Overview

Program Research

Table of Contents

Program Research

Results and Validation

Research Summary

Glencoe's *Discovering Our Past: Ancient Civilizations,* as well as Glencoe's entire social studies series, is the product of ongoing classroom-oriented research that involves students, teachers, curriculum supervisors, administrators, parents, content experts, and educational-research specialists.

Glencoe's programs are founded on pedagogy, research, and authorship, all of which contribute to the success of Glencoe's programs in the classroom. Glencoe's pedagogical approach draws on significant educational research conducted by leading scholars and practitioners in education. Glencoe's author team is a mix of practicing classroom teachers, curriculum supervisors, college-level educators, and learning specialists. Glencoe's research framework helps ensure that Glencoe social studies programs are both practical and progressive in their approach.

Overview

This summary provides an overview of the research-based framework study of Glencoe's *Discovering Our Past: Ancient Civilizations* contained in this booklet.

Components of the Study

Glencoe/McGraw-Hill social studies textbooks are developed using independent research conducted by experts in pedagogy, reading, geography, and social studies content. Once a book is developed, independent research firms test its classroom effectiveness with educators and students. The scholarly research used by Glencoe/McGraw-Hill during the development of *Discovering Our Past: Ancient Civilizations* is included in this booklet.

In addition, research conducted on *Discovering Our Past: Ancient Civilizations* in schools across the United States using quantitative and qualitative methods was collected and compiled to support the effectiveness of *Discovering Our Past: Ancient Civilizations* in classrooms. Research methods used include focus groups, teacher discussion groups, and classroom visits. Summaries of this data are also included in this booklet.

The section entitled "**Program Research"** includes independent research on reading, learning styles, and geography and cartography. The section entitled "**Results and Validation"** both quantitative and qualitative research based on independent studies conducted with classroom teachers.

We have created this booklet to help you better understand Glencoe's *Discovering Our Past: Ancient Civilizations* textbook and how it has contributed to increased scores in districts that have used it. This textbook will contribute not only to increased student scoring in your district, but also to better student understanding of the subject and a more enjoyable teaching experience.

Features and Benefits

The following section provides a summary of the instructional features and benefits included in Glencoe's *Discovering Our Past: Ancient Civilizations* program.

Dynamic Instructional Strategies present a clear and comprehensive coverage of world history.

- Engaging section introductions include *Guide to Reading, Looking Back, Looking Ahead, Focusing on the Main Ideas, Locating Places, Meeting People, Vocabulary and Reading Strategy.*
- *"You Decide"* allows students the opportunity to compare viewpoints and answer document based questions (DBQ).
- *Main Ideas* and *Reading Connections* are noted throughout the text to alert students to the "big picture."

A Strong Reading Strand encourages active reading and learning for students of all reading levels.

- *Foldables* ™ help students organize and process key concepts as they read the chapters.
- A two-page *Reading Strategy, "Get Ready to Read"* at the beginning of each chapter reinforces good reading habits.
- *Writing Prompts* and *Writing Activities* develop writing and retention skills for students.
- *Reading Checks* help students gauge their reading comprehension.

Differentiated Instruction makes *Discovering Our Past: Ancient Civilizations* accessible to students of all learning levels.

- *Universal Access activities and strategies are designed for students of differing abilities and learning challenges.*
- *Booklink CD-Rom* allows teachers to generate reading lists by topic, reading level, or theme.

Standards Practice gives students the opportunity to practice for state assessments.

- *Section and Chapter assessments* provide a variety of standards practice opportunities.
- *Standards Handbook* offers standards practice.

A Variety of Interdisciplinary Activities and Features get students excited about world history and contribute to student success.

- *Geography Handbook* shows students how to use essential geographic tools, such as globes, maps, and graphs.
- *The Tools of the Historian* section gives students background in all the tools historians use in their research.
- *Primary Sources* throughout allow students many opportunities to read the words of people in history.

Teacher Resources provide convenient strategies to help new and experienced teachers.

- *The Planning Guide* in each unit provides background information to help you prepare for each unit.
- *Fast File™* chapter resources contain content and standards-driven reproducible masters.
- *Chapter Videos* offer high interest programs that go beyond the content of each chapter.

Technology provides time-saving software products to help creatively engage students and reduce your preparation time.

- *Study Central™* makes more content, skills practice, and vocabulary development available to students.
- *Glencoe Skillbuilder Interactive Workbook, Level 1* offers individual skills practice.
- *NGS Online* provides lesson plans, atlas updates, cartographic activities with interactive maps, an online map store, and geographic links.
- *Web site* at ca.hss.glencoe.com holds additional, text-specific resources.

Social Studies and the No Child Left Behind Connection

Developing proficient reading skills has long been an important component of social studies instruction, as such development helps promote comprehension and retention of curricular subject matter. Furthermore, research has shown that students can improve their language skills and reading proficiency by using social studies reading materials. Today, the link between reading and social studies has perhaps never been more critical. Reading proficiency is the key to the government's education program, as evidenced by the attention given to the *No Child Left Behind (NCLB) Act.* The act, signed into law in January of 2002, resulted from disturbing reports about serious deficiencies in students' reading abilities and how this affects their preparations for college and the workforce. Specifically, the government reports that:

- **Students who fall behind in reading have a greater chance of dropping out of high school.**
- **Of 100 ninth graders, only 68 will graduate from high school on time; 38 will enter college directly, but only 26 will still be enrolled in college by their sophomore year, and only 18 will graduate from college. (The rates for minority students are even lower.)**
- **In wealthy school districts, more than one-fifth of fourth graders were unable to reach the National Assessment of Educational Programs' basic level in 2000, and about two-thirds of fourth graders in high-poverty schools were unable to reach the basic level.**
- **Only one-third of America's workforce has any post-secondary education, yet 60 percent of new jobs will require post-secondary education.**

The goal of *NCLB* is to ensure that students graduate from high school with the skills needed to succeed in college and in the modern workforce. States are charged with improving the academic achievement of their schools each year. To accomplish this, states must annually test children in grades three through eight in reading and math and make sure that students are proficient in those subjects by 2014. To help accomplish these objectives, states can receive significant federal funding through the *NCLB's Reading First* program to help establish comprehensive, scientifically based reading instruction for children in kindergarten through third grade.

"Research has shown that students can improve their language skills and reading proficiency by using social studies reading materials."

Impact of *NCLB* on the Curriculum

The stringent guidelines set forth in *NCLB* require teachers and administrators to design reading curricula and assessments that will improve proficiency and eliminate gaps in student achievement. Some schools have responded by launching extensive reading programs, many of which emphasize reading at the expense of other subjects. The result has been a narrowing of the overall curriculum.

In a recent study by the Council for Basic Education, about three-fourths of the 1,000 principals surveyed report that their teachers now spend more time on reading, writing, and math, and nearly one-third of elementary school principals report less class time for social studies. Perhaps most unsettling are results showing that nearly half of the principals in elementary schools serving mostly minority students report decreases in social studies class time. Clearly, it is not easy to fit social studies into a curriculum crowded by subjects charged with meeting strict government-mandated standards.

The Reading/Social Studies Link

"The social-studies curriculum can be used to improve and support reading proficiency."

Instead of diminishing or even eliminating social studies instruction, teachers can use the social studies curriculum to improve and support reading proficiency. In describing the importance of reading to learning, U.S. Education Department spokeswoman Susan Aspey noted that schools can use a variety of disciplines to improve basic skills. In other words, reading-skills instruction should not be limited to the reading-skills classroom; rather, a subject such as social studies can become a key component of a school's reading-proficiency efforts.

"The parallels between the goals of social studies and those of reading instruction are longstanding."

The parallels between the goals of social studies and those of reading instruction are longstanding. Social studies teachers strive to ensure that their students clearly grasp the content of what they read in their textbooks and in other materials. In addition, both disciplines frequently demand that students:

- Understand vocabulary.
- Identify key concepts, ideas, connections, and chronologies.
- Evaluate and analyze writing methods.
- Compare and synthesize information from multiple sources.
- Form questions and draw conclusions about the subject matter.

Thus, social studies curricula can clearly be complementary to reading instruction, and vice versa.

Literature, as one example, has proven to be an excellent vehicle for learning history. In the article "Learning History Through Children's Literature," Lynn R. Nelson and Trudy A. Nelson explain that reading material "illustrating the triumphs of individuals embodying civic virtue and good character" has historically been used to teach history. They note that literature and narratives have "provided children with an understanding of American history and government as well as the attributes that individual citizens needed to maintain the Republic." To acquire the full value of understanding and instruction offered by literature and to make connections and inferences apart from the subject context—to fully appreciate the unique meaning literature provides—children must be taught to improve their reading proficiency.

Similarly, MaryEllen Vogt, author and associate professor of education at California State University, notes the advantages of cross-curricular thematic instruction, or using reading and writing in a variety of subject areas to encourage students to explore important topics, problems, and questions. Rather than teaching in isolated learning periods, students can explore a theme by using a variety of disciplines. Thus, a social-studies topic can be explored through reading and writing about the topic, role-playing, art projects, music, and research. The skills gained through such experience also can be employed when reading or writing about the sciences or reviewing, for instance, mathematical statistics on the same theme.

This type of cross-curricular instruction, Vogt notes, enables students to "integrate and enrich the language processes of reading, writing, listening, speaking, and thinking." Another result is that "reading and writing tasks are authentic, interesting, relevant, and contextualized." Correspondingly, when students are offered a variety of reading sources, they can choose material that is appropriate for their reading level, and teachers can plan lessons based on students' abilities, needs, and interests.

Social Studies Texts and English Learners

Linguistic and cultural diversity is on the rise in U.S. schools, prompting renewed attention on how best to prepare students for mainstream instruction. A study by the National Center for Research on Cultural Diversity and Second Language Learning suggests that by increasing the use of visuals, demonstrations, and graphic organizers, among other techniques, teachers can facilitate comprehension of course material.

"This type of cross-curricular instruction, Vogt notes, enables students to 'integrate and enrich the language processes of reading, writing, listening, speaking, and thinking.'"

Researcher Deborah J. Short, reporting on the study, notes that many social studies textbooks use common structures, such as chronological and cause-and-effect order, as well as linguistic signals, such as verb tenses and conditions, time expressions, rhetorical markers, and causative words, to signal students about time references, cause and effect, and comparison/contrast frameworks. Short explains that "classroom observations showed that students who were taught to recognize these cues improved their reading and writing skills."

Another study by the National Center for Research on Cultural Diversity and Second Language Learning, which focused on middle-school history classes, revealed that the reading proficiency gained from an emphasis on social studies language, reading, and writing skills can be transferred to other disciplines:

> ". . . the academic language used in social studies is commensurate with much of the academic language in other humanities courses and is similar to the non-technical language used in the math and science classroom. Because the language skills required for participation in social studies courses mirror those of other academic courses, placement in integrated language and social studies classes is recommended for developing the academic skills needed by English Learners before they are placed in mainstream classes."

". . . The academic language used in social studies is commensurate with much of the academic language in other humanities courses and is similar to the non-technical language used in the math and science classroom."
—National Center for Research on Cultural Diversity and Second Language Learning

Glencoe's Approach to Teaching Social Studies and Reading

The numerous reading skills and strategies introduced and reinforced throughout Glencoe's social studies texts and supplementary materials are appropriate for a variety of learning levels. In particular, each text's reading strategies are research-based, with the goal of improving reading comprehension and extending language skills. Reading strategies are employed in the introduction of each unit, chapter, and section. Strategies used include:

- Unit Openers
- Chapter Openers
- Reading and Study Skills Foldables™
- Guide to Reading (previews the main idea, key terms academic vocabulary and provides a reading strategy)
- Main Ideas and Reading Connections
- Reading Checks
- Section Review
- Chapter Assessments
- StudentWorks Plus (includes an electronic version of the Student Edition with embedded audio, all of the program's workbooks, a Student Presentation Builder, and a Daily Assignment and Grade Log for students)

Further reading support for all learning styles can be found in Glencoe blackline masters, including the Chapter Resources booklets, the Reading Essentials and Study Guide, and the Active Reading Note-Taking Guide. In addition, Glencoe social studies textbooks use extensive visual reading features, such as graphs, charts, graphic organizers, maps, and photographs, to aid reading comprehension. Visual reading features help present complex information in easy-to-understand formats.

Glencoe texts are designed with the reading proficiency goals of *NCLB* in mind, with particular emphasis on reading skills, strategies, features, writing prompts, assessments, and other support materials. Each text reflects a commitment to support teachers in their efforts to improve student performance and achieve *NCLB* goals.

Clearly, the alarming achievement gap that *NCLB* attempts to close can be addressed in coursework that extends beyond the reading-skills classroom to include the entire social studies curriculum. This unmistakable trend promises to enhance the understanding, appreciation, and proficiency levels of both the reading and social studies disciplines.

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Standards–based Instruction: A Focused Approach to Teaching and Learning

by Emily M. Schell, Ed.D.

What consistently guides your work and informs your instructional decisions? Chances are, your response to this question is "standards." Of course, there are additional sources that influence you and your work as an educator, but few instructional decisions are made in today's classrooms without consideration of the standards.

Standards have remained fixed at the center of school reform efforts during the past decade. Simply defined as "what students should know and be able to do," standards have weathered many storms that threatened to discredit their utility and purpose. Today, standards provide a focus for curriculum, instruction, and assessment as well as professional development and dialogue. What emerged from *A Nation at Risk* became developed through *Goals 2000: Educate America Act* and has been implemented in schools nationwide, creating a focused approach to teaching and learning in a standards-based system of education. Today, *No Child Left Behind* seeks to hold educators and students accountable for high-quality standards in education.

"standards provide a focus for curriculum, instruction, and assessment…"

Providing a monumental shift in how educators define teaching and learning, standards have replaced or provided support for existing state curriculum frameworks. While those frameworks or core curriculum guides serve to describe what teachers should teach, content standards serve to describe the knowledge and skills demanded of each student. Shifting primary ownership for educational achievement from teachers to students, issues of accountability have raised the stakes for the entire educational community— educators and students alike. This is not to imply that neither teachers were teaching nor students were learning before standards appeared. However, the content, expectations, and accountability for students varied widely between classrooms within and across districts. The challenges to raise student achievement for all students are great, and though reform efforts are far from complete in our nation's schools, standards have brought about historic change.

The standards movement began as a response to the 1983 U.S. Department of Education's National Commission on Excellence in Education report *A Nation at Risk: The Imperative for Educational Reform,* which cited the failures of America's education system. In this alarming report, the commission stated the following:

The people of the United States need to know that individuals in our society who do not possess the levels of skill, literacy, and training essential to this new era will be effectively disenfranchised, not simply from the material rewards that accompany competent performance, but also from the chance to participate fully in our national life. A high level of shared education is essential to a free, democratic society and to the fostering of a common culture, especially in a country that prides itself on pluralism and individual freedom.

The commission recommended that schools adopt higher and measurable standards for academic performance. So the development of content and performance standards began.

In 1994, President Clinton signed the *Goals 2000: Educate America Act,* which called for coherent, nationwide, systemic education reform, including the development and certification of high-quality, internationally competitive content and student performance standards. The term content standards became defined as the broad descriptions of the knowledge and skills students should acquire in a particular subject area. Performance standards were introduced as the concrete examples and explicit definitions of what students have to know and be able to do in order to demonstrate proficiency of the content standards. The act also identified the need for opportunity-to-learn standards, which determine the criteria for assessing the quality of the resources, practices, and conditions necessary at each level of the education system (schools, local education agencies, and states) to provide all students with the opportunity to learn the adopted content standards. In other words, educators need more than a set of standards—more than a document stating what students should know and be able to do. We require a coordinated system to support, evaluate, and revise the implementation and effectiveness of standards-based instruction.

Through the development of national voluntary content standards as well as state and local content standards, many educators became engaged in rich discussions about their subject areas, pedagogy, instructional practices and resources, and assessment. While multiple stake-holders participated in the actual development of content standards, the processes of adoption and implementation elicited even greater participation from practitioners (Abdal-Haqq, 1995). Initially, many teachers viewed their new content standards with frustration and doubt since their resources and assessments did not align with these standards. However, since the development and implementation of content standards, textbooks and materials, curriculum maps, and assessments have been developed to align with those standards in order to further support a standards-based system of education. The quality and rate of adoption of these aligned resources varies from district to district and state to state. However, over time, teachers have begun to see the benefits of a coordinated system of curriculum, instruction, and assessment focused on a common set of standards.

In a standards-based system, a common set of content and performance standards provides for alignment not only within, but also between classrooms. Therefore, the content, rigor, and expectations for any course are not contingent upon the teacher, school site and/or student population. Course content and expectations for achievement have been made clear among educators, students, and parents through standards documents that have been published, posted, and shared within and beyond the educational community. Of course, most content standards are subject to interpretation, so they have become a focal point of professional dialogue and development. Teachers now work collaboratively to "unpack" or analyze their standards in efforts to design clear instruction and assessments. Instead of weighing in on what they find interesting and/or personally important to teach, which is sometimes only loosely connected to the framework descriptions, teachers' comments and contributions have become focused on the standards demanded of all of their students. The insights and expertise of teachers remains an important factor in this process, however, decisions are made based upon the commonly held standards available to all teachers. There remains great value in veteran teachers sharing their successful strategies and useful resources so long as they support the teaching and learning of the standards. Similarly, educators have realized that effective professional development focuses on support for standards-based instruction and achievement.

"…textbooks and materials, curriculum maps, and assessments have been developed to align with those standards in order to further support a standards-based system of education."

With common standards, common assessments have been developed at numerous school sites and at district levels in order to provide accountability for student achievement. Teacher-developed common assessments often provide for alternative or multiple measures of student achievement. Some districts use common assessments as benchmark indicators that provide formative assessment data on student progress. Additionally, these assessments have generated data that serves to inform teachers of their own progress towards established goals or achievement targets. Using common assessments created from common standards, colleagues have begun to share instructional materials and practices for improved teaching and learning. Together, they collaborate to interpret standards and assessment data, which then informs their decisions about such issues as curriculum mapping, pacing, reteaching, differentiated instruction, and general progress.

In contrast to a system of education where the content and direction for any given subject was hidden in the lesson plan books of the teachers, and assessment was a mysterious game of "guess what the teacher wants us to learn," today's standards-based system of education provides greater and equal access to academic targets and performance expectations. Perhaps this is what the authors of *A Nation at Risk* envisioned when they stated that students should have "the chance to participate fully in our national life." That national life starts where students are—in school. Perhaps this is what the authors meant by a "shared education," which they described as "essential to a free, democratic society and to the fostering of a common culture, especially in a country that prides itself on pluralism and individual freedom." Standards do not diminish the role, importance, or authority of the educator. Standards serve to enhance the value and necessity of each educator.

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Program Research

About Our Authors

Glencoe textbooks are written by leading scholars in the fields of education, geography, and history. Experts from the National Geographic Society contribute their expertise to Glencoe's curriculum through map and atlas development.

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Jackson L. Spielvogel is associate professor emeritus of history at the Pennsylvania State University. He received his Ph.D. from The Ohio State University, where he specialized in Reformation history under Harold J. Grimm. His articles and reviews have been published in several scholarly publications. He is co-author (with William Duiker) of *World History*, published in 1994 (3rd edition, 2001). Professor Spielvogel has won five major university-wide awards, and in 1997, he became the first winner of the Schreyer Institute's Student Choice Award for innovative and inspiring teaching.

National Geographic Society

The National Geographic Society, founded in 1888 for the increase and diffusion of geographical knowledge, is the world's largest nonprofit scientific and educational organization. The Society uses sophisticated communication technologies, from color photography to holography, to convey geographic knowledge to a worldwide membership. The Education Products Division supports the Society's mission by developing innovative educational programs—ranging from traditional print materials to multimedia programs including CD-ROMs, videodiscs, and software.

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A World Awaits You

by Ericka Markman, President, National Geographic Children's Books and Education Publishing Group

The National Geographic Society was founded as a scientific and educational organization in 1888 for the purpose of increasing and spreading geographic knowledge. The Society's long-standing commitment to education and the dissemination of information about Earth and all of its inhabitants make it the ideal contributor to Glencoe's 2005 social studies textbook program. The Society's 115 years of geographic expertise, the countless number of maps and photographs, and the eminent staff of experienced researchers, explorers, scientists, geographers, cartographers, photographers, and educators bring a wealth of high-interest content to this new textbook program.

Geographic Knowledge

The Society's flagship *National Geographic Magazine,* with its familiar yellow-bordered cover, is one of the most widely read publications worldwide. The magazine represents a broad cross-section of the types of research and geographic knowledge that the Society supports.

The research and educational resources of the National Geographic Society enhance Glencoe/McGraw-Hill's geography-history textbook series. Special focus sections on "Geography & History," especially created for Glencoe textbooks, help students see the connections between these two core disciplines, and features that address environmental issues draw attention to the role that people play in introducing change—both positive and negative—into Earth's environment.

Photographs

The National Geographic Society is renowned for the quality of its photographic images. The world has long been captivated by images of majestic landscapes, of rare animals in the wild, and of people celebrating their unique cultures. Who will ever forget the piercing eyes of the young Afghan woman whose face first appeared on the magazine's cover in 1985? That same photographic power brings life to the pages of the Glencoe/McGraw-Hill geography-history textbook series.

Maps

The cartographic resources of the National Geographic Society have evolved over the years, moving from a tradition of carefully hand-drafted and colored maps to the latest in computer technology that enables staff cartographers to keep up with our fast-changing world. The Society is committed to providing the most up-to-date information about changing boundaries and place names.

The extensive resources of National Geographic's cartographic services add a special dimension to the Glencoe/McGraw-Hill geography-history textbook series. Each book includes a reference atlas. Throughout each book in the series, specially drafted maps complement the themes and ideas presented in the text, helping students visualize locations and relationships that link people and places around the world.

Extending the Partnership

National Geographic Magazine and other resources of the Society are well indexed. Students can locate articles on many topics of interest in both geography and history. The maps and charts produced by the Society make clear the patterns and associations that are integral to an understanding of people and places on Earth.

- Encourage students to develop independent projects based on resources available from the National Geographic Society. They can begin with the special focus features in their textbooks and extend their inquiry to other resources, both print and online.
- Have students look at the many special features created for their textbooks by the National Geographic Society. Then, have them work in small groups to create their own special features modeled on those in the textbook. They can locate photographs and maps in old issues of *National Geographic Magazine* or online at www.nationalgeographic.com.

Glencoe's new textbook series, with the help of the National Geographic Society, will open up new worlds for learners of all ages. But it does not end there. The resources of the National Geographic Society can help students develop habits of research and lifelong learning that reach far beyond the classroom.

National Geographic Offers Relevance

by Richard Easby, Geography Specialist

One of the great challenges of teaching comprehensive subjects such as geography and history is bringing to life facts, places, dates, and people for young learners. One way to meet this challenge is to introduce case studies that present real people experiencing the events or circumstances occurring in a given place or at a particular time. Case studies help students relate distant places or events to the experiences of their daily lives. And that is when learning becomes exciting!

Glencoe/McGraw-Hill textbook World History uses a variety of case studies to enrich the complex story of humans on Earth. Prepared exclusively for Glencoe by National Geographic, these case studies use maps, photographs, and special color graphics to capture student interest.

Geography & History

Linkages between geography and history are presented in special features titled "Geography & History." These features provide a window on past events that have had life-changing effects on people and places.

In *Glencoe World History,* case studies are presented in the form of "Special Reports" that apply a geographic perspective to important people and places in world history, such as "Stanley and Livingstone in Africa." Maps, photos, and narrative unfold stories of adventure, conquest, and discovery that ultimately redefined people's worldview at critical moments in history.

Geography & the Environment

A central theme of geography is the relationship between people and the environment. Special case studies in Glencoe's books, such as "Eye on the Environment" focus on this connection. Maps, photographs, and clear text help students see how they are a part of today's environmental issues. Challenging questions encourage students to learn more.

Geography & Global Connections

"Special National Geographic features in the Glencoe/ McGraw-Hill textbooks not only make learning about geography and history exciting but also help students connect to the places and events that make up the human story on Earth."

The special features called "Global Connections" draw attention to the many ways in which students' daily lives are linked to people and places all around the world. Shelter, food, clothing, or the latest hit CD, the products we use each day connect us to the global economy. Case studies, such as "South Asia and the United States: Textiles," help students see how they are a part of this web of global connections.

Special National Geographic features in the Glencoe/McGraw-Hill textbooks not only make learning about geography and history exciting but also help students connect to the places and events that make up the human story on Earth.

Research on the Elements of an Effective Textbook

The following section provides research articles that evaluate the reading and learning strategies used in textbooks and supporting educational resources. This section includes both academic and practical approaches to current reading and learning pedagogy.

Glencoe Reading Strategies

Glencoe's unique reading strategies make social studies accessible, understandable, and engaging by providing students with strategies before, during, and after their reading. Reading success is a priority to Glencoe. The active-reading strategies directed particularly to reading in the content area are research-based and develop better readers and better understanding. Each chapter includes a reading skill activity, and each lesson includes an active reading strategy to ensure student comprehension. The following comprise Glencoe's active reading strategies in *Discovering Our Past: Ancient Civilizations*.

- **Unit Openers** provide a reason for learning in "Why It's Important." The tiered time lines enable students to compare events in different civilizations and encourage them to continue making comparisons as they read the text. The "Where in the World?" maps illustrate where in the world the events of each chapter occur, thus making a visual connection that helps students better retain and organize the chapter content as they read. The "People to Meet" features in the Unit Openers directly connect to biographies within the text and provide a reference to those biographies.

- **Chapter Openers** continue to immerse the students in the content by summarizing the topics of each section. The chapter video appeals to visual and auditory learners by introducing key concepts and piquing student interest. The book companion Web site provides additional opportunities for students to acquire a broad understanding of the chapter content. Every element on the student page is designed to engage and assist students in understanding the topic they are about to study.

- **Reading and Study Skills Foldables™** appear in the text as well as in a separate booklet. These student-made, interactive, 3-D graphic organizers help students organize and retain information as they read. Foldables™ can be used as reading, assessment, or study tools.

- **Get Ready to Read** features follow each chapter and provide a detailed introduction to various reading skills. The early chapters cover more basic reading skills, and as the book progresses the level of reading skills taught steadily increases. Each of the reading-skill activities uses actual excerpts of text to illustrate the reading skill. This helps to focus student attention on the text and puts the skill into the context of the actual material the students are reading.

- **Guide to Reading** opens each section and is a pre-reading tool to be used before, during, and after the study of each section. It makes connections to previous sections and explains why the section they are about to read matters. It also previews the main ideas of the section, and identifies key people, places, content vocabulary and academic vocabulary. It also provides a respelling of difficult terms, aiding in student pronunciation and recall of difficult terms. A Reading Strategy serves as a model for students, providing a graphic organizer that shows them how to read for information and process what they have read.

- **Main Ideas** at the beginning of each section summarize what the students will learn when they read the material. These main ideas help focus student attention and provide them with frameworks for understanding what they have read.

- A **Reading Connection** follows each Main Idea. This activates prior knowledge and makes connections between the students' own lives and the material they will read in the text.

- **Reading Checks** are included after every topic to guide students' comprehension and help them build essential knowledge. These checks help students "chunk" the information they read into smaller, manageable pieces.

- **Section Reviews** include a summary of the main ideas, along with reading and writing prompts so that students can apply what they have learned in the section. Study Central provides additional internet activities for homework support and practice.

- **Chapter Assessments** offer a variety of assessment methods and activities, from matching and multiple choice questions to short answers and essays. Document-based questions give students practice in interpreting maps and graphs, and research projects provide opportunities for further study and extension.

- **Additional Reading Support** can be found in many of the ancillary products, including the Chapter Resource Booklets and the Reading Essentials and Study Guide. StudentWorks Plus is another essential reading-support tool, offering an electronic version of the Student Edition with embedded audio so that struggling students and English learners can read along with the text.
  - **Chapter Resource Booklets** contain Guided Reading Activities, which help students identify and comprehend important information in each textbook chapter, and Vocabulary Activities, which use a variety of formats to give students practice in using the terms introduced in each section of the textbook.
  - **Active Reading Note-Taking Guide** gives students practice in taking notes, writing outlines, working with graphic organizers, and extending their vocabulary and language knowledge.
  - **Reading Essentials and Study Guide** is the entire text of the Student Edition rewritten at a lower reading level. It is designed to help struggling students and English learners use recognized reading strategies to improve their reading-for-information skills.
  - **Reading Strategies and Activities** for the Social Studies Classroom, Middle School and High School versions, offer pre-reading, as-you-read, and post-reading strategies to help students comprehend and retain what they read.
  - **English Learner Handbook** provides teachers who work with English learners with social studies strategies and activities while improving student's English proficiency.
  - **Building Academic Vocabulary** contains key chapter academic vocabulary words and provides activities for students to use, reinforce, and learn the words.
  - **Universal Access** has activities and strategies that are designed for students of differing abilities and learning challenges.
  - **Graphic Novels** resemble comic books as they discuss controversial issues and complex social studies story lines. They are motivating, challenging, and engaging for students but reduce reading demands.
  - **A Variety of Technology Components** complements the reading strategies by teaching vocabulary and reviewing content. These components allow teachers the flexibility to differentiate instruction for varying ability levels.

Glencoe Social Studies programs teach specific reading comprehension skills to students. Students learn, practice, and apply effective reading comprehension strategies to construct meaning from text. The importance of being able to understand, analyze, and act upon what is read is an essential skill for student success today and tomorrow.

Project CRISS

by Carol M. Santa, Ph.D., Lynn T. Havens, and Evelyn M. Maycumber

The following article is a selection from A National Diffusion Network Exemplary Program. We designed Project CRISS, **CR**eating **I**ndependence through **S**tudent-owned **S**trategies, to help students learn more effectively throughout the curriculum. Our project focuses on teaching students how to learn through reading, writing, talking, and listening. Students learn to apply CRISS in all subject areas.

Identifying the Author's Craft and Design

Before assigning a selection for our students to read, we need to have an understanding of the strengths and weaknesses of the reading material. Instructional approaches and students' strategic behaviors are inherently bound to text, whether this text is fiction, nonfiction, or technical. In each case, reading comprehension involves interaction between the student and the text. Knowing the author's craft or style of presentation helps enhance this interaction.

Two strands of research lay the groundwork for the instruction strategies outlined in this chapter. The first strand deals with the relationship between text structure and comprehension; the second focuses on the importance of teaching students ways to identify the author's craft.

Text Structure Research affirms the common-sense and powerful notion that better-written texts are more effective instructional tools. When students read well-written materials, they learn more than when they read poorly written materials (Meyer & Rice, 1984). For example, students learn more when main ideas and details are clearly presented. Bauman (1986) rewrote science passages from four popular textbooks. In these revisions, he presented general topics in the titles and subheadings and made sure that main ideas were explicit in paragraphs. Fifth-grade students read either the original passages or the revisions. Then they were tested on the key ideas in the selection. Students reading the rewritten passages outperformed those reading the originals.

Student Knowledge of Text Structure The next strand of research indicates that students' knowledge of text structure plays an important role in comprehension. If students know how authors structure their writing, they can more readily understand and remember what they read. Students who have more knowledge of text structure learn more from expository material than students who are not aware of structure (Slater & Graves, 1988).

"Research affirms the common-sense and powerful notion that better-written texts are more effective instructional tools."

"…research indicates that students' knowledge of text structure plays an important role in comprehension."

Moreover, teaching students about structure helps with comprehension (Richgels, McGee, and Slaton, 1988). Many students pay no attention to the ways authors structure their writing. Usually, they remain oblivious to introductory paragraphs, placement of main ideas, presence of boldface print, and topical headings unless they receive explicit instruction. Taylor (1982) and her colleagues (Taylor & Beach, 1984) found that teaching students to use headings, subheadings, and signals indicating main points in paragraphs helped comprehension and retention.

This brief overview of research leaves us with several insights. First, as teachers we must seek well-written materials for our classroom. Our students deserve to read considerate texts. We need to be sensitive to differences between well-written and poorly-written materials and choose selections carefully. Second, we need to help our students become more conscious of how authors write so that they can use the author's style of presentation as a comprehension tool. We want our students to "get inside the author's head" and see the author's plan of presentation.

The next portion of this article describes the qualities of a well-written text and provides a checklist for analyzing whether or not a text is considerate.

The Search for Considerate Text

"…we have to move beyond the 'splash' of beautiful pictures, boldface print, and fancy graphics and really analyze the author's style of presentation."

In order to select considerate text for our students, we have to move beyond the "splash" of beautiful pictures, boldface print, and fancy graphics and really analyze the author's style of presentation. This involves taking an editorial stance and carefully analyzing the author's strengths and weaknesses.

There is a series of steps to follow for determining whether nonfiction classroom materials are considerate. These materials might be traditional classroom texts or nonfiction trade books. In either case, the steps are the same. First is the evaluation of the overall content. Do the materials match up with the school curriculum and course objectives? Next, do the materials provide adequate structure and guidance to help the students with the "before," "during," and "after" stages of reading comprehension and retention? Within these stages we will specifically look for help with (1) activating students' background knowledge, (2) setting purposes for reading, (3) identifying the main idea, (4) supporting the main idea with clear, complete explanations, (5) organizing the information, (6) comprehending vocabulary and concepts, and (7) metacognition.

At the end of this chapter, you will find a checklist that you may find helpful when analyzing content materials. Feel free to photocopy it and adapt it for your own use. The checklist evaluates the following areas:

Overall Content Begin your examination of the book by first evaluating the content. Is the content appropriate to your own and your district's instructional goals? Does the content fit your district curriculum? Is the content gender fair and representative of multiple cultures?

Pre-Reading Features Choose a chapter from the book and assess its "before reading" features. Note whether the chapter contains an introduction that provides an overview of the key concepts in the chapter. In this overview, does the author **activate background knowledge** that students will need to understand the upcoming selection? Does the introduction help students recall information previously learned about this subject? Does the introduction help students relate their life experiences to the chapter topic? These features will help students integrate the new information with what they already know.

Note whether the chapter begins with an introduction or a list of objectives, statements, or questions indicating what students will learn in this chapter. These will **set a purpose for reading** for students, helping them determine what the most important ideas are. Next, read the material following the introduction. Has the author developed topics indicated in the introduction and/or objectives? Are these ideas presented clearly? Check the headings and subheadings provided by the author throughout the chapter. Do they reflect the main idea(s) of the section they label? Can they be changed into clear and focused, purpose-setting questions? If students are unable to determine what information is critical for them to include in their notes, they most likely will not take notes.

Research tells us that "frontloading" an assignment (activating prior knowledge and establishing clearly defined purposes for reading) is the most critical component of reading comprehension. If we can select texts that guide students into this frontloading, they can then use these strategies without teacher intervention. We have made one giant step forward in helping our students become effective independent learners.

Active Reading Evaluate whether the author has organized information around bold-print topics and subtopics. Do titles of each section within the chapter **indicate the main idea** of that section? Note whether or not main ideas are stated in a single sentence and whether they are obvious and easy for students to understand. Explicitly stated main ideas located in the beginning of paragraphs are typically easier for students to understand than those in other positions within the paragraph (Baumann, 1986).

"Choose a chapter from the book and assess its 'before reading' features."

"Evaluate whether the author has organized information around bold-print topics and subtopics."
—Santa, Havens, and Maycumber

The most common complaint about content texts is their lack of adequate explanations. It is very important that texts **support and reinforce the main idea**. Choose several key concepts and examine the explanations. Are the concepts explained thoroughly? Are they explained with vocabulary and examples that students understand?

An intriguing study done by Hermann (1984) may help clarify this analysis. She examined the effects of inadequate explanations on students' learning. She presented eighth-grade students with two versions of an explanation of how the heart works. The original version, published in a popular junior high text, was tersely written. The revised version was designed to provide students with a better explanation of the same topic. It contained more detail and an explanation of how various parts of the heart are related. Text passages below show the original and the revised explanations:

Original Version (Heimler & Lockard, 1977)

A human heart is a cone-shaped muscular organ about the size of a large fist. The heart is located in the center of the chest behind the breastbone and between the lungs.

A human heart contains four chambers—right atrium (AY tree uhm), left atrium, right ventricle (VEN trih kuhl), and left ventricle. Right and left refer to the body's right and left sides. A wall separates the chambers on the right from the chambers on the left.

Revised Version (Hermann, 1984)

The heart is the part of the circulatory system that pumps blood throughout the body. The heart is located in the center of the chest behind the breastbone and between the lungs. The human heart is suited for pumping because it is a hollow, cone-shaped, muscular organ about the size of a large fist. Being hollow, the heart can easily fill up with blood. Once filled, the heart muscle provides the power necessary for pumping the blood through the body.

A human heart contains four hollow chambers made for receiving and sending blood. The right atrium (AY tree uhm) and right ventricle (VEN tru kuhl) receive and send blood to the lungs, while the left atrium and left ventricle receive and send blood to the rest of the body. (Note that right and left refer to your body's right-hand and left-hand sides.) The right and left sides of the heart are separated by a wall of muscle. This wall keeps blood going to the lungs separate from the blood going to the body.

As predicted, students learned more about the heart from the revised version. These eighth graders benefited from an elaborated explanation. The quality of explanations is a critical feature of content materials.

Too often authors list concepts without really explaining them fully. We call this the "mentioning" problem. One concept is mentioned after another without a full explanation. So take some time and examine how concepts are developed in your text. Keep in mind several key variables: First, does the author link new concepts to something familiar in the students' background? Second, is explanatory information relevant to the concept? Inclusion of irrelevant information and extraneous detail confuses readers. Third, are there clear examples of the concept, and are these examples more familiar than the concept being explained? Is this concept explained through everyday phenomena and tied to known information? In summary, is there sufficient elaboration and explanation, or does the author simply mention issues and concepts without sufficient explanation?

Classroom materials should not only be well organized, but their **organization should be consistent** and apparent to the reader. Is the organization consistent across chapters? Considerate authors practice their craft conscientiously and follow the same organizational style throughout the text.

The text should be arranged logically so that students can easily take notes. The authors should also include signal words to show how ideas within a section are related to one another. Keep the following questions in mind as you read through sections of the material:

(1) Does the author use explicit signals to indicate sequencing of ideas? (**first, second, third**)?

(2) Does the author use emphasis words to indicate important concepts (**most important, key idea**)?

(3) Does the author use explicit signals to indicate comparisons (**but, nevertheless, on the other hand, at the same time, similarly**)?

(4) Does the author use explicit signals for illustration (**for example, such as**)?

(5) Does the author use explicit signals for conclusions (**therefore, as a result**)?

Another consideration is **vocabulary appropriateness**. Texts that are not considerate will often contain excess jargon. Some high school chemistry texts, for example, contain an estimated 3,000 words that are unfamiliar to high school students. The number of words presented in most science books far exceeds the number of words in most foreign language classes (Holliday, 1991).

"The quality of explanations is a critical feature of content materials."

"The text should be arranged logically so that students can easily take notes."

Experts warn us about overloading students with inappropriate vocabulary (National Research Council, 1990). Bill Holliday (1991) notes that authors often label important concepts and phenomena that probably don't need labels. He suggests that technical vocabulary becomes jargon when words are (1) difficult for most students to learn, (2) used only by experts, (3) used only for academic testing purposes, or (4) introduced too soon in a student's schooling.

With this in mind, examine the technical vocabulary in your reading assignments. Is the vocabulary overly technical for the concepts being explained? Critical terms should be highlighted in some way and explained within the context of the material. Look for more than just a direct definition. Students will understand and remember terms better if the author includes pictures or other graphics, examples, analogies, essential components, and so on.

"A considerate text provides aids to help students monitor their comprehension."

Post-Reading Features *Metacognition*: A considerate text provides aids to help students monitor their comprehension. Skim through a chapter or section of the text. Does the author incorporate questions into the body of the selection? Does the author provide opportunities for the students to test their knowledge by applying it to new situations, labs, investigations, hands-on activities? Does the summary provide a good overview of the key ideas in the selection or chapter? Check to see whether the author has included study questions so that students can self-review the chapter's concepts. Do the questions cover more than details and facts? Do they relate to the objectives at the beginning of the section?

Sentence Structure Sentence complexity influences text difficulty. Well-written prose contains sentences of varied length. Students have more difficulty with reading material that has consistently long, complex sentences than with content materials written with simpler sentences. Good writers choose the simplest and most direct way to communicate.

Simpler sentence patterns contain active rather than passive verbs. The sentence "Jargon and passive voice create sentence complexity" is strong and direct. "Sentence complexity is usually caused by excessive use of jargon and passive voice" is weak and indirect. Passive voice creates cluttered writing and automatically lengthens sentences.

Verbs are the energy source of a sentence. They make writing move. Many authors use bland, imprecise verbs and try to spruce them up with extraneous adverbs. The sentence, "He walked slowly along the path," improves when the author uses a verb to convey the same message: "He plodded along the path."

Randomly choose excerpts from your reading materials and examine sentence structure. Are sentences of varied lengths? Are the sentences in active voice? Are verbs specific, or are they imprecise and bland? You may want to examine some of the books and supplementary materials used in your classroom and use them to assess books you might adopt in the future.

"Randomly choose excerpts from your reading materials and examine sentence structure."
—Santa, Havens, and Maycumber

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Children's Book and Content Text

Heimler, C. and J. Lockard. *Life Science*. Columbus, OH: Merrill, 1977.

What Are "Just Right" Books?

by Bonnie Valdes, Reading Specialist and Master CRISS Trainer

There is great controversy today concerning the grade level appropriateness of content materials students are using in U.S. schools. We are reading and hearing a great deal about single-source content textbooks and multi-genre, multi-leveled texts.

To begin, there is a tremendous difference between the appropriateness of materials used for instructional purposes and those assigned for independent reading. Some educators consider both instructional and independent reading materials to be one and the same, but this theory is not valid. Students who are unable to decode or comprehend the assigned material become frustrated learners and often just give up. Even good students may become frustrated if they do not fully understand the material assigned.

On the other hand, teachers can make comprehension creative and constructive by providing a safe and supportive learning atmosphere. Dr. Carol Santa, past International Reading Association President and original developer of Project CRISS (CReating Independence through Student-owned Strategies), tells teachers that they spend far too much time testing comprehension and not nearly enough time instructing students on ways to comprehend text. Good teachers demonstrate comprehension strategies, leading students to own and apply these strategies as independent learners.

Understanding the author's craft is one of the first things teachers and students need to address before reading and learning new material. What does the author do to help the student learn?

- What does the author do to help students discover the main ideas in text?
- How is the information introduced in the text?
- Does the author identify key vocabulary terms and give clear examples?
- Does the student set purpose?
- Does the author use maps, charts, graphs, and other visual aids to help explain the material?
- Does the author use transition words so that students understand the information sequentially to help them form a story line?

"…there is a tremendous difference between the appropriateness of materials used for instructional purposes and those assigned for independent reading."

"Good teachers demonstrate comprehension strategies, leading students to own and apply these strategies as independent learners."

If students can figure out the author's plan, then they can understand the text more effectively. Enabling students to look at nonfiction materials and think about how the author helps them learn is paramount. Knowing the author's plan is key to understanding the material!

Glencoe and the authors of *Discovering Our Past: Ancient Civilizations*—Spielvogel and The National Geographic Society—have laid out their plan in the *Guide to Reading*! section that accompanies each section opener. *Looking Back, Looking Ahead* starts off each section and provides students with a context for events to help them connect what they are about to learn with what they already know. *Focusing on the Main Ideas* presents the central themes of the section and helps students set a purpose for their reading. The authors also draw attention to important people and places in *Meeting People* and *Locating Places*, and they identify key terms in *Content Voc*abulary and *Academic Vocabulary*. A *Reading Strategy* provides a graphic organizer for understanding the content. Finally, the authors present a time line to preview the events that will be discussed, aiding in the development of a story line.

Dinah Zike's Foldables™ Study Organizers, Backed by Research

Dinah Zike began designing Foldables™ over 30 years ago as a means to increase student responsibility for learning and organizing content information while integrating student writing, self-questioning, notetaking, and other teaching strategies that she had studied and used. Over the years, these organization techniques have been collectively called graphic organizers.

Graphic organizers exist in many forms, one of which is Foldables™, or three-dimensional graphic organizers. Dinah found that adding a kinesthetic aspect to a proven visual instructional aid provides another dimension to the learning experience. For example, if main ideas are written on the front tabs of a Foldable™ and supporting facts are written under the tabs, the Foldable™ not only organizes data but it also becomes a self-check study aid. Students are constantly immersed in main ideas as they look at the front tabs, and they are forced to mentally recall what they know about each main idea before reading the phrases, vocabulary terms, names, dates, and so on that they wrote under the tables. Please note that 3-D Foldables™ include the following: concept maps, flowcharts, Venn diagrams, journals, tables, reporting formats, and more. As with other graphic organizers, Foldables™ can be used at any level and with any subject.

There are numerous research articles on the advantages of using graphic organizers in instruction, but please find one of Dinah's favorite articles explaining their advantages and a list of reference sources below. Dinah's biography and other information are available at www.dinah.com. We are proud to be associated with Dinah and to share her 3-D interactive graphic organizers with students through the Glencoe textbooks. Dinah is a frequent speaker at conferences and state conventions.

Supporting Research

The following abstracts summarize extensive research on Dinah Zike's Foldables™.

Graphic organizers provide a visual, holistic representation of facts and concepts and their relationships within an organized frame. They have proven to be effective tools to aid learning and thinking by helping students and teachers represent abstract information in more concrete form, depict relationships among facts and concepts, relate new information to prior knowledge, and organize thoughts for writing. Graphic organizers exist in a variety of forms. Perhaps the most widely known is the web. Other types of graphic organizers include the concept map, sequence chain, story map, main idea table, flowchart, matrix, and Venn diagram. Graphic organizers may be productively utilized before instructional activities, such as reading or viewing a film, to activate prior knowledge, to provide a conceptual framework for integrating new information, and to encourage student prediction. During instruction, they can help students actively process and reorganize information. And after instruction, graphic organizers may be used to summarize learning, encourage elaboration, help organize ideas for writing, provide a structure for review, and assess the degree of student understanding. When introducing students to a new graphic organizer, teachers should describe its purpose, model its use, and provide students with opportunities for guided practice. Once students become comfortable with using organizers, more independent applications are appropriate. Finally, teachers can then encourage students to create their own organizers.

This article can be found at this Web address: http://www.mdk12.org/practices/good_instruction/projectbetter/thinkingskills/ts-33-35.html

Semantic feature analysis as compared to traditional vocabulary "look up" activities gave structure to discussions for learning-disabled adolescents and resulted in significantly better performance on measures of comprehension and concept learning.

Anders, P.L., Bos, C.S., and Filip, D., (1984). The effect of semantic feature analysis on the reading comprehension of learning disabled students. Changing Perspectives on Reading/Language Processing and Instruction. Niles, J.A, and Harris, L.A., (Eds.), (pp. 162–166). Rochester, NY.: The National Reading Conference.

This study examined the effectiveness of the use of "mapping" techniques for eighth-grade students. The results showed that students who mapped short expository prose passages recalled a greater number of ideas from the passage after a twenty-four hour delay than did the control groups. Also, the probability of recalling ideas that have been organized into a map was significantly greater than the probability of recalling ideas that were not organized in this fashion.

Armbruster, B., and Anderson, R., (1980). The Effect of Mapping on Free Recall of Expository Text (Technical report 160). Center for the Study of Reading, University of Illinois, Urbana-Champaign.

The author reviews research with children and adults demonstrating that "category clustering" (grouping items based on perceived similarities) leads to greater recall, and that children as young as 3 years old have some ability to use clusters to aid recall. The research studies presented here, working with children ages 4 –8, demonstrate that the more one's knowledge is organized into schemas, or organized frameworks, the easier it is to remember and extend that knowledge…

Chi, M., (1985), Interactive roles of knowledge and strategies in the development of organized sorting and recall. Thinking and learning skills, Vol. 2: Research and open questions. Chipman, S.F., Siegal, J.W., & Glaser R., (Eds.), Hillsdale, NJ: Lawrence Erlbaum Associates.

This research involved college students in a "Techniques of College Learning" class. Two matched groups of students studied a passage from a geology text. Students in the experimental group received instruction on conceptual frames for understanding scientific theories (a "knowledge schema"); control group subjects received instruction in concentration management. Students in the treatment group outperformed control subjects on an essay-format posttest that assessed recall and comprehension of the text material.

Dansereau, D.F., (1985). Learning strategy research. Thinking and learning skills, Vol. 1: Relating instruction to research. Segal, J.W., Chipman, S.F., & Glaser, R. (Eds.), Hillsdale, NJ: Lawrence Erlbaum Associates.

This report reviews the theory and research relevant to semantic mapping and gives examples of classroom applications.

Hagan-Heimlich, J.E., and Pittelman, S.D., (1984). Classroom Applications of the Semantic Mapping Procedure in Reading and Writing. (Program Report 84-4).

In studies using college students and seventh-grade students, those who had received training in "matrix outlining and analysis" (a form of graphic organizer) outperformed control subjects in both recall of unordered information about a topic of instruction and essay writing on that topic.

Jones, B.F., Amiran, M., & Katims, M., (1985) Teaching cognitive strategies and text structures within language arts programs. Segal, J.W., Chipman, S.F., & Glaser, R., (Eds.), Thinking and learning skills, Vol. 1: Relating instruction to research. Hillsdale, NJ: Lawrence Erlbaum Associates.

Improving Adolescent Literacy Through Note Taking

by Douglas Fisher and Nancy Frey

Why Teach Students How to Take Notes?

During a recent conversation with a group of teachers, we asked about the strategies used to teach students to store and retrieve information from class lectures and textbooks. Interestingly, note taking was a given, something that all students should do. As one of the teachers said, "We all know how to take notes, and we all have our own ways of doing so. We don't need to teach students to take notes; they come to us knowing this already." Another teacher countered, "While people may have different ways of taking notes, I do believe that it's a skill that can be taught. I also believe that students need to be shown how to take notes—good notes—that they can use later." We concur with the second teacher and hope that secondary school teachers focus instruction on this area. We believe that this difference in opinion is based on the omnipresence of note taking in secondary and post-secondary schools. We also believe that all students can learn to take effective notes; the key is to identify for students why their notes can be useful to them later. As Jim Burke (2002) noted:

> Taking notes is an essential skill, one that has many other subskills embedded within it. Taking good notes trains students not only to pay attention but what to pay attention to. It teaches them to evaluate the importance of information and the relationship between different pieces of information as they read textbooks and articles. It also teaches them to organize that information into some format that serves their purposes. After all, we take different notes if we will use them to write a research paper. (p. 21)

"Students sometimes view note taking as a process function only—to scribe. When notes are used in subsequent learning activities, students see the value in quality notes."

Setting Students Up for Successful Note Taking

While it is important to teach students how to take and use notes effectively, educators also have a responsibility to organize their lectures in ways that make it possible to create notes. It is instructionally sound to introduce the sequence of topics and concepts for the day's class because it prepares students for learning. This simple preview also gives students a way to organize their notes. Once notes are previewed, students should expect that the sequence will not be drastically altered and that the teacher will present concepts in an organized fashion. Detailed information, including technical vocabulary, names, dates, and formulas, should be presented visually as well as verbally, and well-timed pauses should be used to give students time to record this information. Signal words and phrases like *this is important* or even *be sure to write this down* will alert students to include items in their notes. Ending the class with a review enhances memory and retention and allows students to make corrections to the day's notes.

Distinguishing Note Taking From Note Making Before we venture any further, a definition or two is in order. We use the term note taking to refer to students' written notes from a lecture or class discussion. We use the term note making to refer to the slightly different phenomenon of recording notes from printed materials. Many of the instructional strategies are the same, but we have to remember that students cannot go back again for more information in note taking (because the lecture is over), but they can in note making (by rereading the text).

In terms of research on note taking and note making, the evidence is fairly conclusive. Better note takers generally do better in school, and specific types of note taking produce better results (Faber, Morris, & Lieberman, 2000; Kiewra, Benton, Kim, Risch, & Christensen, 1995). The reasons for this are interesting.

Dating back to the seminal work of DiVesta and Gray (1972), the evidence suggests that note taking requires both a process and a product function. It seems that both of these are important to produce improved results in comprehension and retention of material.

Process and Product Functions The process function—recording the notes—and the product function—reviewing notes later—are both required to create valuable notes (Henk & Stahl, 1985; Katayama & Crooks, 2001). Stahl, King, and Henk (1991) refer to these as the "encoding and external storage functions" (p. 614). The encoding function requires students to pay attention to the lecture while they write. This, in turn, allows students to transform information and deepens their understanding. The external storage function allows students an opportunity to review their notes, and thus the main ideas presented, before using the information on a test, in an essay, or in a lab.

In addition to the use of graphic organizers used in note taking, a number of common formats have been suggested. Figure 1 contains "12 time-honored criteria for successful note taking" (Stahl, King, & Henk, 1991, p. 615). These authors have also developed an assessment and evaluation system for teaching students about note taking called **NOTES** (**N**ote taking, **O**bservation, **T**raining, and **E**valuation Scales).

"Because students can refer back to notes, they are able to affirm information."

1. Date and label notes at the top of the page.
2. Divide page into two columns and keep all running lecture notes in one column.
3. Use the other column for organization, summarizing, and labeling.
4. Indent to show importance of ideas.
5. Skip lines to indicate change of ideas.
6. Leave space for elaboration and clarification
7. Use numbers, letters, and marks to indicate details.
8. Be selective.
9. Abbreviate when possible.
10. Paraphrase.
11. Use underlining, circling, and different colors of ink to show importance.
12. Cover up one column when studying.

Figure 1
General Note-taking Procedures

Source: Stahl, Norman A., King, James R., & Henk, William A. (p. 615). (1991, May). Enhancing students notetaking through training and evaluation. Journal of Reading, *34 (8), 614-622. Reprinted with permission of Norman A. Stahl and the International Reading Association. All rights reserved.*

Note Making in Social Studies

"What questions might we ask about the Cold War, just by looking at this page of text?" Ms. Tsai queries her U.S. history class as they participate in a pre-reading activity to prepare for the next chapter in their text. She knows that creating a skeletal note structure of the text is a powerful pre-reading skill her students must acquire in order to become effective note takers and note makers.

Technology and Note Taking Ms. Tsai uses a combination of a Directed Notetaking Activity [DNA] (Spires & Stone, 1989) and computer-assisted outlining (Anderson-Inman, 1996) as she engages her students in history lessons. DNA is a process approach to note taking that includes three instructional principles:

(1) a structured format for taking notes commonly referred to as the split-page method;

(2) a self-questioning strategy for monitoring levels of involvement before, during, and after note taking; and

(3) direct, explicit teaching of the note-taking process adapted for note-taking instruction from Pearson's model (1985) for teaching reading comprehension (Spires & Stone, 1989, p. 37).

Consistent with the DNA process approach, Ms. Tsai wants her students to become familiar with the structure of the text, preview the targeted vocabulary, form questions, question themselves and others, and gain background knowledge from all of the charts, maps, illustrations, photographs, and captions.

Stepping into the classroom, one can see how Ms. Tsai incorporates this note-making activity with the use of a PowerPoint® presentation, a series of maps pertinent to the geographical areas and time period, and chart paper to list student-generated questions. She orchestrates a class discussion that requires the students to refer to their notes, follow a multimedia display of text and maps on two separate screens, and contribute to the new set of notes that she transcribes into a PowerPoint® display. The expanding PowerPoint® presentation Ms. Tsai creates with her students' guidance becomes another structure for them to incorporate into their note making as they read the text. As Anderson-Inman (1996) notes, computer-assisted outlining does not confine students to predetermined amounts of space in which to take notes. Further, computer-assisted outlining allows for multiple additions, modifications, and deletions.

With books open, Ms. Tsai and her students skim the chapter page by page as they contribute ideas to the class notes displayed on one of two screens set up at opposite ends of the room. An outline of the chapter takes shape as the class decides on bullets for main ideas from the headings and subheadings of each textbook page and from their discussion notes. Ms. Tsai then leaves empty bullets under each main idea, areas requiring support information, to be completed later as students read each section of the chapter.

Engaging Students at Multiple Levels Students are required to preview any visual aids on each text page such as graphs, charts, pictures, diagrams and maps and add pertinent bulleted information to their skeleton outline. They also list all of the italicized and boldface terms in the vocabulary section of their notebooks. These terms become the target vocabulary, to be incorporated into their notes with definitions added. As part of her DNA instruction, Ms. Tsai periodically asks students to consider their level of participation in the notetaking activity. She may ask students to think about their level of motivation and their purpose for listening and participating or whether they are separating main ideas from details.

Using Notes in Class When the skeleton outline is complete, Ms. Tsai uses it in a PowerPoint® presentation as she gives the students an overview of the chapter. On subsequent days, she will use the maps on the walls as contextual aids, and she will have students begin posing questions based on the main ideas of the bulleted outline. The series of student-generated questions is added to a growing list of questions on a chart in the front of the room.

As her students review their notes regarding the Allies' plan for the postwar world, Tsai repeats the inquiry, "What questions might we ask about the rationale of the Truman Doctrine?" She asks students to consider how geography and politics impacted the Truman Doctrine. She hopes for a deeper level of thinking than that required when students simply memorize facts.

"Do you think Truman's economic aid contributed to the containment of communism in Europe after the war? Why?" Ms. Tsai smiles as she surveys the scene of students flipping through notes taken over the past week of lecture, class discussions, and textbook facts. A student scribe writes these questions on the large sheet of chart paper attached to the wall. Now the students have access to the map on the overhead projector displayed on the front screen as well as to the notes they have constructed from the textbook. Ms. Tsai guides their thinking with the questions being written on the chart paper hanging next to the data projector screen. This screen now displays the main idea of this discussion: *The Truman Doctrine*.

Ms. Tsai hits the return button on her podium and a subtopic bullet appears while the cursor blinks expectantly.

"OK? What do you think? Look over your notes, look at the map, and consider the world of the late 1940s. Europe is crippled; America has emerged from the war as a world leader. What do you suppose were some of President Truman's reasons for asking Congress to give economic aid to Turkey and Greece?"

Brian hesitates at first and then with confidence reads from his notes, "Truman believed that the United States should support those countries that were fighting communism. And since Turkey and Greece were weak after the war, they were ripe for a takeover."

"Hmm, good point," says Ms. Tsai as she types into her PowerPoint® template. The vacant bullet is now filled with a summary of Brian's idea: *Stop the spread of communism*. Ms.Tsai's students know she means business when the new notes incorporate Brian's ideas, and they copy this point into their notes. A few others begin to search their notes and textbooks for information to share. Ms. Tsai recognizes the familiar reaction of students who know that their ideas are validated. She deliberately uses her students' questions and ideas—either on the chart paper or the PowerPoint® template—to validate their thinking. She believes that the synthesis of students' questions and concerns with historical data is evidence that they are making meaning.

"Yeah, but some Americans believe that we were just messing in other countries' business," José points out.

"Yeah, I heard that is what is going on in the Middle East now," Miriam interjects.

Ms. Tsai pauses; she does not type that idea into the note-making frame visible on the screen. Instead, she asks the class whether that is a question to include in the growing list of ideas to consider in the future. Most students agree that it should be part of future class discussions. The class scribe adds the new idea to the chart paper.

Miriam waves her hand, and Ms. Tsai nods in her direction and asks, "Did you find other information in your notes to add to the Truman Doctrine?"

Miriam reads from her class notes. "Because the United States was the only nation with money to help, we had to do something to stop the possibility of more war." Ms. Tsai smiles and types the next bullet: *$400 million in economic and military aid*.

"OK. Do you think this idea was only a generous act, or could there be other reasons for the Truman Doctrine?" Ms. Tsai turns on the overhead projector. A map of Europe appears, illustrating the Mediterranean Sea, the Black Sea, and surrounding countries.

Structured Outline Support Before, During, and After Activities This repeated practice and use of note making demonstrates to students the ease and efficacy of structuring notes before reading, during independent reading of the text, and in class discussions. Students also learn to monitor their involvement and comprehension in that they can change behaviors if they are not learning. The combination of the Directed Notetaking Activity (DNA) and computer-assisted outlining ensures that students move gradually toward independent skills in note making.

What Matters in Text Formatting and Layout? Columns and Considerate Texts

by Douglas Fisher, San Diego State University

Ensuring that all students meet rigorous standards is a national priority. Every sector of the education enterprise has stepped up efforts to ensure that no child is left behind and that every student has the opportunity to learn. As educational publishers who are part of the learning solution, we asked ourselves and several noted researchers how texts could be best organized so that students could learn with and through them. One area of concern focused on our textbooks' formatting, especially in the area of the number of columns in which text should be organized.

What we found after an exhaustive search of the three largest educational research databases—the Educational Resources Information Center (ERIC), the EBSCO Academic Search Elite, and the Wilson Web Education Full Text— is that there is no evidence that the column format of a text influences comprehension or achievement in any way. These databases contain literally thousands of research studies on what works in teaching and learning. Although studies have revealed that some students seem to prefer two columns for aesthetic reasons (e.g., Kuhn, 2003; Hartley, 1980; Wilson, 1981), these studies did not comment on achievement outcomes based on column format.

These results should not surprise most teachers. Teachers know that students must learn to read and read to learn from texts with a variety of formats, including novels printed in one column, magazine articles printed in two columns, and newspapers printed in multiple columns. If we want to prepare our students for life after public school, we must ensure that they are taught how to access texts of many different column formats.

It seems reasonable, then, to ask, "Given that the Glencoe textbook programs are research- and evidence-based, what advice does the research literature offer for textbook formats and features?" An analysis of research on textbook features is very conclusive. While the number of columns does not matter, the way in which the textbook is designed and taught is very important. There are a number of features that aid students in understanding informational texts.

In *Content Area Reading and Learning, Instructional Strategies*, edited by Diane Lapp, James Flood, and Nancy Farnan, Bonnie Armbruster (1996) of the University of Illinois at Champaign-Urbana coined the term "considerate texts" to describe texts that aid comprehension and learning from reading. Research has suggested that there are three overlapping features of text that contribute to comprehension and learning: structure, coherence, and audience appropriateness (e.g., Boscolo & Mason, 2003; Chambliss, 1994; Kobayashi, 2002; Meyer, 2003; Mosenthal & Kirsch, 1992; Tyree & Fiore, 1994). Let's examine each of these features in greater detail and review current research on each of them.

Structure

There is significant evidence that the way in which ideas or topics are structured in a text greatly impacts student comprehension (Bakken & Whedon, 2002; Ciardiello, 2002; Parsons, 2000). A number of features of the Glencoe/McGraw-Hill programs specifically address the issue of **text structure**. First, the textbooks provide headings and subheadings that guide readers through information. Second, the textbooks use signals or hints (such as introductions) about how a text is structured; specific words (such as *first, second*, and *third* for description and *because, since*, and *as a result* for cause and effect) that convey the structure; learning objectives that indicate the structure; and margin information to aid the reader. And third, Glencoe textbooks employ extensive graphic support, including Venn diagrams, structured overviews, semantic feature analyses, and a variety of maps, charts, and other visual aids. Taken together, these key features ensure that students not only learn the social-studies content of their textbook, they also acquire valuable tools to help them decipher other informational texts outside the social-studies content area.

Coherence

The second factor that determines whether texts are considerate of their readers relates to how concepts, phenomena, and events are explained and whether they are tied together in a meaningful way. We call this concept **coherence**. Again, research shows that a text's coherence is an important factor in student comprehension (McNamara & Kintsch, 1996; Meyer, 2003; Sanders, 1997).

As with structure, a number of features of Glencoe's textbooks specifically address the issue of text coherence. First, the main ideas are explicitly stated in the chapter openings and at the beginning of each section. Second, each paragraph or section's information clearly connects back to the main idea. Third, events fall in a logical order, and the relationships between events and topics are clearly delineated. Finally, transitions between topics are smooth and lead the reader logically from one main idea to the next. These are all significant factors to consider when analyzing a text and its ability to engage readers.

Audience Appropriateness

The final factor that makes a text considerate concerns the extent to which the material corresponds with the knowledge of the intended audience. In other words, **audience appropriateness** is a measure of how well a text matches students' probable background and prior knowledge. These are two important considerations. Textbook writers must consider how much information students already know and should "elaborate new concepts sufficiently to be meaningful to readers and to facilitate learning" (Armbruster, 1996, p. 54). Of the three factors we have looked at thus far, the research on audience appropriateness is particularly strong (Alexander, Schallert & Hare, 1991; Heffernan, 2003; Seda, Ligouri, & Seda, 1999).

As with structure and coherence, there are a number of features in the Glencoe/McGraw-Hill program that specifically address the issue of audience appropriateness. First, the Glencoe/McGraw-Hill authors and editors continually evaluate their textbooks' conceptual density (the number of new concepts per unit of text) to ensure that there is a balance between this density and the core content standards they must cover. Second, instead of providing limited information on an overwhelming number of topics, the textbooks focus intensively on a manageable number of topics, thus allowing students and teachers to concentrate on the content standards. In doing so, the textbooks use and extend the information students already have about a topic. Third, the textbook specifically addresses the common misconceptions readers have. These misconceptions are often the source of audience mismatch as students may not be able to integrate new information unless their misunderstandings are specifically addressed.

Conclusion

In sum, the accessibility of a text, or whether or not it is considerate of readers, has little or nothing to do with the number of columns in which the text is printed. Instead, the text must include specific structural features to guide readers. It must be coherent and allow readers to follow the logical flow of the book, and it must be written in such a way that the audience is considered and addressed. Combined with high-quality teaching (Simpson & Nist, 2000), these three text factors, rather than column formatting, will determine a student's success.

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Teaching Academic Vocabulary

by Robin C. Scarcella

By the time children have completed elementary school, they must have acquired the knowledge needed to understand academic vocabulary. How many words must they acquire to be able to access their textbooks? According to Nation (1990), a basic 2,000-word vocabulary of high-frequency words makes up 87% of the vocabulary of academic texts. Eight hundred other academic words comprise an additional 8% of words. Three percent of the remaining words are technical words. These technical words, which consist of 1,000 to 2,000 words, differ from one field to another. The remaining 2% of words in academic texts are low-frequency words. There may be as many as 123,000 low-frequency words in academic books. Despite the large volume of such words, they may be mentioned only once in a given text and, according to Nation, they do not usually merit specific learning. One half of general words and two-thirds of all academic, technical, and low-frequency words come from Latin, French (through Latin), or Greek.

English learners who have mastered a basic 2,000-word vocabulary are ready to acquire the majority of the *general words* found in their academic texts. Several lists of general words have been compiled in the last 50 years. The most well-known is West's General Service List of English Words (1953). Like other word lists, West's list is based on the frequency of a word's use, its range of use over different types of texts, the needs of language learners, and the difficulties involved in learning the word. The General Service List is a set of 2,000 words selected to be of the greatest "general service" to ELs. They are not the most common 2,000 words, though frequency was one of the factors taken into account in making the selection. Each of the 2,000 words is a headword representing a word family. Frequency numbers are given, derived from Thorndike and Lorge (1944). Although dated, the list is one of the few that is based on teaching ELs. Since words change very slowly, it is still useful to educators today. While teachers may be able to predict what vocabulary their students have learned from the use of required textbooks, teachers will find wide differences in their ELs' vocabulary knowledge. High school teachers who wish to estimate the size of their students' vocabulary may find the Vocabulary Levels Test (Nation, 1990, 2001) useful.

"Knowledge of academic words combined with continued acquisition of general words, can significantly boost an English learner's comprehension level of academic texts."

Knowledge of academic words, combined with continued acquisition of general words, can significantly boost an English learner's comprehension level of academic texts. Nation combined academic word lists into one 800-item University Word List (Xue & Nation, 1984). The list is designed to serve as a guide for teachers and as a checklist and goal for students. The Academic Word List (commonly known as the AWL) consists of vocabulary that students are likely to encounter across all academic fields (Coxhead, 2000). It includes the most common 570 words in academic texts, excluding the 2,000 words of West's General Service List. (A sample of words from the General Service List are: *the, in, of, about, under, dog, cat, that, eat, take, door*.) English learners who learn and practice the words on this list before they graduate from high school are likely to be able to master academic material with more confidence and speed, wasting less time and effort in guessing words or consulting dictionaries than those who only know the basic 2,000 words that characterize ordinary conversation. Knowledge of this type of vocabulary is an important factor in achieving high scores on the SAT-I and ACT as well as writing exams such as the SAT-II/Writing, tests that are often prerequisites to entering colleges in the United States. A more complete discussion of the General Service List, and word lists in general, can be found in Nation (1990, pp. 21–24), Carter & McCarthy (1988), and Coxhead (2000).

The Academic Word List consists of 800 words arranged alphabetically. The additional information provided is a score ranging from 1 to 11 that reflects word frequency and range. Additional information about the list can be obtained from the following Web site: http://www.vuw.ac.nz/lals/staff/averil-coxhead/awl/index.html.

The Academic Word List

The following list consists of the headwords in the AWL. Michael Stubbs has taken the 570 headwords in Coxhead's (2000) list, and he has re-ordered them by frequency groups. Group 1 is the most frequent, and Group 10 is the least frequent. (See http://www.uni-trier.de/uni/fb2/anglistik/Projekte/stubbs/awl.htm.)

Group 1

analyze approach area assess assume authority available benefit concept consist constitute context contract create data define derive distribute economy environment establish estimate evident export factor finance formula function identify income indicate individual interpret involve issue labour legal legislate major method occur percent period policy principle proceed process require research respond role section sector significant similar source specific structure theory vary

Group 2

achieve acquire administrate affect appropriate aspect assist category chapter commission community complex compute conclude conduct consequent construct consume credit culture design distinct element equate evaluate feature final focus impact injure institute invest item journal maintain normal obtain participate perceive positive potential previous primary purchase range region regulate relevant reside resource restrict secure seek select site strategy survey text tradition transfer

Group 3

alternative circumstance comment compensate component consent considerable constant constrain contribute convene coordinate core corporate correspond criteria deduce demonstrate document dominate emphasis ensure exclude framework fund illustrate immigrate imply initial instance interact justify layer link locate maximize minor negate outcome partner philosophy physical proportion publish react register rely remove scheme sequence sex shift specify sufficient task technical technique technology valid volume

Group 4

access adequate annual apparent approximate attitude attribute civil code commit communicate concentrate confer contrast cycle debate despite dimension domestic emerge error ethnic goal grant hence hypothesis implement implicate impose integrate internal investigate job label mechanism obvious occupy option output overall parallel parameter phase predict principal prior professional project promote regime resolve retain series statistic status stress subsequent sum summary undertake

Group 5

academy adjust alter amend aware capacity challenge clause compound conflict consult contact decline discrete draft enable energy enforce entity equivalent evolve expand expose external facilitate fundamental generate generation image liberal licence logic margin medical mental modify monitor network notion objective orient perspective precise prime psychology pursue ratio reject revenue stable style substitute sustain symbol target transit trend version welfare whereas

Group 6

abstract accurate acknowledge aggregate allocate assign attach author bond brief capable cite cooperate discriminate display diverse domain edit enhance estate exceed expert explicit federal fee flexible furthermore gender ignorant incentive incidence incorporate index inhibit initiate input instruct intelligence interval lecture migrate minimum ministry motive neutral nevertheless overseas precede presume rational recover reveal scope subsidy tape trace transform transport underlie utilize

Group 7

adapt adult advocate aid channel chemical classic comprehensive comprise confirm contrary convert couple decade definite deny differentiate dispose dynamic eliminate empirical equip extract file finite foundation globe grade guarantee hierarchy identical ideology infer innovate insert intervene isolate media mode paradigm phenomenon priority prohibit publication quote release reverse simulate sole somewhat submit successor survive thesis topic transmit ultimate unique visible voluntary

Group 8

abandon accompany accumulate ambiguous append appreciate arbitrary automate bias chart clarify commodity complement conform contemporary contradict crucial currency denote detect deviate displace drama eventual exhibit exploit fluctuate guideline highlight implicit induce inevitable infrastructure inspect intense manipulate minimize nuclear offset paragraph plus practitioner predominant prospect radical random reinforce restore revise schedule tense terminate theme thereby uniform vehicle via virtual visual widespread

Group 9

accommodate analogy anticipate assure attain behalf bulk cease coherent coincide commence compatible concurrent confine controversy converse device devote diminish distort duration erode ethic format founded inherent insight integral intermediate manual mature mediate medium military minimal mutual norm overlap passive portion preliminary protocol qualitative refine relax restrain revolution rigid route scenario sphere subordinate supplement suspend team temporary trigger unify violate vision

Group 10

adjacent albeit assemble collapse colleague compile conceive convince depress encounter enormous forthcoming incline integrity intrinsic invoke levy likewise nonetheless notwithstanding odd ongoing panel persist pose reluctance so-called straightforward undergo whereby

Handing this list out to high-school or middle-school students and expecting them to master it on their own is a bad idea. The list requires guidance from the teacher if it is to be successfully integrated into instruction.

English learners at the intermediate to high-intermediate and advanced levels in middle school, high school, and college need to learn academic vocabulary. All learners need to learn age-appropriate vocabulary tied to school contexts. They also need explicit instruction, the type of instruction in which teachers teach students word parts, word relationships, grammar, and other lexical information. Pointing out new words in the students' textbooks and supplementary reading materials and teaching students how to use specific words in their written and oral assignments is critical. It is important to expose students repeatedly to the targeted words. Targeted words must be recycled and reviewed so that students can learn their different grammatical forms, registers, associations, and collocations in a variety of contexts.

Teachers who want to assess their students' knowledge of academic words can use a simple procedure available at this website: http://www.er.uqam.ca/nobel/r21270/cgi-bin/webfreqs/web_vp.cgi.

"Pointing out new words in the students' textbooks and supplementary reading materials and teaching students how to use specific words in their written and oral assignments is critical."

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Content Literacy: Ensuring that Students Access the Text to Build their Reading, Writing, and Thinking Skills

by Douglas Fisher, Ph.D., San Diego State University

Considerable research evidence exists regarding "what works" in helping students to understand difficult concepts and content. The evidence to date clearly indicates that teachers must activate students' background and prior knowledge, teach students how to take notes and use graphic organizers, focus on vocabulary, and help students develop their thinking through writing. As such, our instructional goals are multi-faceted. We want students to understand the content of the text. In addition, we want students to extend their ability to read, write, and think. We know that most learning is language-based. Students must read, write, speak, listen, and view in order to understand the content. This requires that we provide content literacy instruction that is evidence-based and results in increased achievement.

Activating Background and Prior Knowledge

Decades of research strongly suggest that learning is dependent on attention and interest. When we have and hold students' attention and interest, they think about the content of our classes, and they learn. To gain their attention, we have to activate both background knowledge and prior knowledge. (Dochy, Segers, & Buehl, 1999)

Although they are sometimes used interchangeable, background and prior knowledge are two different yet complementary ideas. Background knowledge is the information that students have because of who they are and what they have experienced. For example, students living in Alaska are likely to have different background knowledge about the Iditarod, types of snow, and salmon runs that students living in south Florida. Prior knowledge is the information that students should know based on their participation in previous schooling experiences. For example, there are certain concepts and content that students should have mastered in previous school years or previous weeks of instruction.

Activating and building both background and prior knowledge focus students' attention and interest on the topic at hand. (Marzano, 2004) Eggen and Kauchak (2001) identified four general approaches for gaining students' attention, including demonstrations, discrepant events, visual displays, and thought-provoking questions. Taken together, these are powerful ways to begin a standards-aligned unit of study.

Note Taking

The ability to take and organize notes is a significant predictor of student success. Notes serve an external storage function, which builds comprehension and understanding of the content. Over time, and with instruction, students not only use their notes for external storage of information, but also for encoding their ideas. In a review of note taking instruction, Ganske (1981) suggested that note taking is a critical skill that must be fostered. Similarly, Pauk (1974) observed that note taking was a critical skill for college success. Further, Peverly, Brobst, Graham, and Shaw (2003) showed that background knowledge and note taking were significant predictors of success on tests.

In other words, note taking is a critical skill. But the question remains: what kind of note-taking system works? According to a number of studies, a two-column format such as Cornell note-taking is effective (Fisher, 2001). Using this format, students take notes and complete the tasks on the right side of the page while the left side provides a guide to key points. These key points help students quickly find information, locate references, and study for exams. As Faber, Morris, and Lieberman (2000) found, the Cornell note-taking system increases comprehension (and test scores!).

Graphic Organizers

Graphic organizers, such as concept maps, semantic webs, cause-and-effect charts, and the like, also help students organize information presented in text format. (Fisher, Frey, & Williams, 2002) The aim is to organize the key points visually. (Vasilyev, 2003) In addition, graphic organizers are a good way of summarizing information and will aid students in remembering and recalling content. (Irwin-DeVitis & Pease, 1995; Wilson, 2002)

Graphic organizers have been used successfully with English language learners (Carlson, 2000), struggling readers or students with disabilities (Mastropieri, Scruggs, & Graetz, 2003), and students who are gifted and talented. (Cassidy, 1989; Howard, 1994) In other words, the usefulness of graphic organizers is well documented, and it is a powerful way to ensure that students learn and understand the content.

Vocabulary

The vocabulary demands in secondary schools are intense. Students are expected to learn thousands of words per year in multiple content areas. In a study of secondary students, Espin and Foegen (1996) found vocabulary to be a significant predictor of content area performance. Farket and Elmore (1992) found vocabulary knowledge to be a stronger predictor of reading

comprehension than most other variables, even cognitive ability. Students need to learn three types of vocabulary (Vacca & Vacca, 1999):

- **Generalized—**commonly used terms, such as deny, allow, and fight, often with widely agreed-upon definitions.
- **Specialized—**terms used across disciplines with specific meanings such as the word loom. When used in social studies as a verb, the word means an impending event, and when used in family and consumer sciences as a noun, the term means a tool for weaving.
- **Technical—**terms used specifically for the discipline, such as senate, Bill of Rights, and equator.

Most content area teachers are comfortable with teaching the technical terms in their discipline. Unfortunately, this is insufficient. Texts use all three types of terms and students require instruction in each to comprehend the content. (Flood, Lapp, & Fisher, 2003)

In summary, when researchers study successful students, they often find that vocabulary knowledge is an important factor in student learning. (Martino & Hoffman, 2002) Teachers must ensure that their students develop the specialized and technical vocabulary to discuss the discipline, as well as the generalized vocabulary to convey their thinking about the subjects they study.

Writing to Learn

Writing is an excellent way to learn. Did you know that we all make our thinking clearer when we write? Students often say that they didn't know what they thought until they wrote it down. Not only does writing help students clarify their thinking, it also provides the teacher with information about what students do and do not understand. (Fisher & Frey, 2004) However, the writing prompts must be constructed to ensure that students engage and think as they write.

Quality writing prompts remind students to do what good readers automatically do: summarize information, predict what's coming next, make connections between their lives and the text, question the information in the text and the author of the text, clarify information and ideas, visualize what the text has to say, and make inferences or draw conclusions from facts and ideas. (Harvey & Goudvis, 2000)

Summary

In short, learning is language- based. To comprehend academic content, students must engage in a number of reading, writing, speaking, listening, and viewing activities. These activities must be grounded in well-developed content, and they must be accessible for students. Not all strategies are

created equal. There are specific instructional strategies and techniques that enjoy a firm research base. The topics, ideas, approaches, and strategies outlined in this paper and in the references below will ensure that students become increasingly literate as they learn valuable content information.

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Using Graphic Novels: Popular Culture and Social Studies Interact

by Douglas Fisher, Ph.D. and Nancy Frey, Ph.D., San Diego State University

Graphic novels represent a significant segment of the literary market for adolescents and young adults. These stories may resemble comic books, but on closer inspection, they often address controversial issues using complex story lines. Some graphic novels that are well-known to Western audiences include *Watchmen*, which examines how superheroes live in a society that has turned against them; Maus, which uses anthropomorphic characters to tell the story of a Holocaust survivor; *From Hell*, which presents one explanation for the actions of historical serial killer Jack the Ripper; and *Road to Perdition*, which was made into a motion picture by the same name.

Graphic Novels "are motivating, engaging, challenging, and interesting" to students.

What Are Graphic Novels?

Graphic novels, as they are known in Western countries, are inspired by Japanese *manga* (comics) and *anime* (animation). Anime style is most commonly recognizable in its use of large-eyed characters with oversized heads, and it has become increasingly recognized as a distinct art form by Western audiences.

Use of the *manga* genre in Japan is far more widespread than in Western countries and dates back to the early part of the twentieth century. Japanese *manga*, rendered in black and white and printed on newsprint, are read by children and adults and include many topics, although science fiction *mechas* (robots) dominate the field. The topics of these works are surprisingly similar to the Western young adult fiction. A large portion of the market is *shojo*, comic books designed to appeal to girls. A popular *shojo* character that appears in America is the *Sailor Moon* series, featuring a resourceful Japanese schoolgirl. *Shonen manga* is designed primarily for boys and usually consists of action stories. Teachers may recognize *shonen manga* in *Yu-Gi-Oh!* and other such cards collected and traded by many American youth. Many *manga* are published in serial form and together can be as many as 750 pages in length. One of the first *manga* for Western consumption was *The Four Immigrants Manga: A Japanese Experience in San Francisco*, 1904–1924 (Kiyama, 1999), first published in 1931. It is not in the anime style of today's novels, but offers a poignant portrayal of the challenges facing Asian immigrants at the time.

Why Do Graphic Novels Appeal to Students?

Part of the appeal of graphic novels lies in their "underground" (and therefore forbidden) reputation. Another part of the appeal of *manga* and *anime* lies in sophisticated story lines and the development of complex characters (Izawa, 2002). Unlike American comic books that feature a superhero with fixed and exaggerated attributes, many of these Japanese stories include a subtext of universal themes about ethical and moral dilemmas. These *gekiga* (literary novels) are ambitious in their scope and intricacy and are becoming more available with English translations.

Graphic novels continue to develop and diversify (Frey & Fisher, 2004). More recently, interactive graphic novels told in serial form are appearing on the Internet. Readers have a variety of options when they visit each month to view the next installment, including engaging in role-playing games, creating new characters to interact with those developed by the author, and visiting an extensive catalog for background information. A unique subset of these graphic novels and *manga* is a style of writing called *fanfiction*, where readers create and post their own alternative versions of stories featuring their favorite characters (e.g., Chandler-Olcott & Mahar, 2003).

Why Use Graphic Novels in Social Studies?

Graphic novels are amazingly diverse, both in terms of their content and usefulness. For example, Gorman (2002) notes that graphic novels are exactly what teens are looking for—they are motivating, engaging, challenging, and interesting. Schwartz (2002b, 2004) believes that graphic novels are engaging because they allow for teachers to enter the youth culture, and students are encouraged to bring their "out of school" experiences into the classroom. Called "**multiple literacies**," the idea is that educators must bridge the gap between students' school literacy and the ways in which they use reading and writing outside of school.

Graphic novels have also been used effectively with students with disabilities, students who struggle with reading, and English learners (e.g., Cary, 2004; Frey & Fisher, 2004; Schwartz, 2002a). One of the theories behind the use of graphic novels for struggling adolescents focuses on the fact that the graphic novel presents complex ideas that are interesting and engaging for adolescents, while reducing the text or reading demands. As a result, all students can thoughtfully discuss the content at hand. As Weiner (2003) noted,

> Graphic novels have found their way into the classroom, as teachers are realizing their usefulness as literacy tools. After a study of graphic novels, researchers concluded that the average graphic novel introduced readers to twice as many words as the average children's book. This realization has reinforced the idea that the comics format is a good way to impart information. (p. 61)

Conclusions

While there remains controversy about graphic novels—especially from people who worry that graphic novels will end traditional reading—our experiences with adolescents, as well as a number of current research studies, suggest that graphic novels are an important adjunct in our instruction. Graphic novels are viable options for students with disabilities, struggling readers, and English learners, but they are more powerful than that. Graphic novels are motivating and engaging for all students. They allow us to differentiate our instruction and provide universal access to the curriculum.

"Graphic novels have also been used effectively with students with disabilities, students who struggle with reading, and English learners"
—Cary, Frey & Fisher, Schwartz

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Differentiating Instruction in Responsive Middle and High School Classrooms

by Nancy Frey

The secondary classrooms of the twenty-first century will increasingly be defined by their diversity. As in the larger society, the students in our future classrooms are likely to speak languages and possess cultural experiences that are different from the teacher's. Accountability systems will require demonstrated progress by subgroups such as students with disabilities. Therefore, these students will need access to general education curriculum and expert content-area teachers in order to make the necessary academic gains. Now more than ever, teaching effectiveness is predicated on the teacher's ability to meet the needs of a wide range of students.

What factors define effective teaching for student learning? The National Research Council conducted a synthesis of the research on factors that are critical to student learning in history, mathematics, and science and found three essential components of sound instruction:

- understanding students' initial level of knowledge and anticipating their misconceptions;
- developing a solid foundation of factual knowledge; and
- teaching for metacognition so students can become active learners. (NRC, 2005)

These instructional goals encompass a number of pedagogical approaches, including formative and summative assessments, scaffolding curriculum, and flexible grouping to tailor instruction. Differentiated instruction holds the key for drawing upon these approaches in a cohesive fashion.

> *"The goal of differentiation is to make classrooms more responsive to the needs, talents, and interests of the students in them."*

What is Differentiated Instruction?

Carol Ann Tomlinson, a leader in the field of differentiated instruction, and her colleagues define differentiation as "an approach to teaching in which teachers proactively modify curriculum, teaching methods, resources, learning activities, and student products to address the needs of individual students and small groups of students to maximize the learning opportunity for each student in the classroom." (Tomlinson, Brighton, Hertberg, Callahan, Moon, Brimijoin, Conover, & Reynolds, 2003, p. 121) Perhaps the key word in that definition is proactively. The entire process of differentiation is rooted in an assumption of differences among learners; it does not come as a surprise. These student differences include variations in interest, background knowledge, and ability. In addition, these variations are influenced by language, gender, culture, and ethnicity. Although it is often used to support students whose achievement is lower than the class average, differentiated instruction was conceived as a way to meet the needs of learners who are identified as talented or gifted, especially as more of these students were moved into heterogeneous classrooms. (e.g., Willard-Holt, 1994) The goal of differentiation is to make classrooms more responsive to the needs, talents, and interests of the students in them.

It is important to define what differentiated instruction is *not*. This approach is not intended to result in individualized instruction for every student, necessitating 35 separate lesson plans. The practice is not reserved for students who have been labeled as "different." Rather than designing a lesson for all students and then retrofitting for a few, a differentiated approach requires planning for a range of different experiences: different groupings, different materials, and different methods for receiving information and demonstrating mastery. When differentiation becomes the norm, rather than a stopgap measure for individual students, all learners benefit. Instruction has the intention to build background knowledge, use flexible grouping arrangements, and teach for knowledge and strategies. (Marzano, Pickering, & Pollock, 2001)

Differentiating Instruction in Middle and High School Classrooms

Effective differentiation requires that the teacher examine the curriculum demands and the methods of instruction to be used. This begins with reflective questioning about the curriculum content:

- What are the standards and goals for this unit?
- What are my students' interests and talents?
- What pertinent background knowledge do they possess?
- What misconceptions are they likely to harbor?

Next, consider how students will receive information and demonstrate competency:

- How will I provide a range of materials?
- In what ways can students show me they have learned the content?

Finally, take into account the ways students will acquire strategic knowledge for independent learning:

- Where are the opportunities for students to work collaboratively?
- How will I expand metacognitive awareness of learning?

Through reflective planning, content area teachers can design engaging and effective units of study for their students. Accordingly, it is useful to use a step-by-step approach in developing your first differentiated unit. (Fisher & Frey, 2001) Let's look more closely at each element of a differentiated unit.

Step #1: Identify Standards, Expectations, and Essential Questions

The starting point in any secondary course is the content standards. These documents, with accompanying curricular frameworks, have been produced by 49 of the 50 states (Iowa is the exception) to guide teachers, administrators, and parents in understanding what is important at each grade level. (Tucker & Codding, 1998) Typically found within the content standards are three types of knowledge necessary for students to gain mastery of the subject (Fisher & Frey, 2001):

- factual knowledge;
- dispositions, skills, and habits of mind (such as inquiry, work habits, and critical literacy); and
- communication skills (reading, writing, speaking, listening, and viewing).

It is seldom advisable to have students work on a set of standards that is different from the rest of the class, yet it is possible to differentiate according to expectations. While a middle school unit on the American Revolution would utilize the same content standards, for example, expectations may be individualized within the unit. Thus, different some students would be expected to demonstrate competency in differing ways.

> *"Competent performance is built on neither factual nor conceptual understanding alone; the concepts take on meaning in the knowledge-rich contexts in which they are applied."*
> —NRC

The National Research Council affirms the importance of both facts and big ideas in science, mathematics, and history: "Competent performance is built on neither factual nor conceptual understanding alone; the concepts take on meaning in the knowledge-rich contexts in which they are applied." (NRC, 2005, p. 6) Essential questions engage learners by increasing their interest in the unit of study. (Jorgensen, 1998) These questions should require that students become active participants in their own learning, rather than requiring a simple "yes" or "no". The American Revolution unit of study can be refined through use of the essential question "What is freedom?" Learners explore the American Revolution using this essential question as a lens for inquiry. The essential question later forms the basis for assessment of student learning.

Step #2: *Design Formal and Informal Assessments*

Once the standards and expectations for the unit have been identified, it is time to design the assessments that will be used to gauge student learning. First among these is a pre-assessment to determine background knowledge and identify any misconceptions. For instance, a student survey of key vocabulary in a tenth-grade biology class provides the teacher with insight about students' understanding of genetic variation and mutation, allowing for more precise lessons. Similarly, inviting students to place positive and negative integers on a number line can serve as an effective assessment for planning a unit on number sense in sixth-grade mathematics. Students who demonstrate a thorough understanding of these principles can extend their understanding through independent learning projects. This differentiation practice is called curriculum compacting and is useful for meeting the needs of students working above grade level. (Fisher & Kennedy, 2001)

In addition to pre-assessments, formative assessments enable the teacher to identify students who may need further instruction. One of the most useful ways to gather formative assessments is through writing-to-learn activities. (Fisher & Frey, 2004) Writing-to-learn activities are brief writing exercises designed to capture student understanding at a given moment in time. Moreover, they provide an opportunity for students to clarify their own understanding and formulate questions they still have. (Mitchell, 1996) A simple method for collecting this information is to devote the last five minutes of class to writing a summary of the day's lesson. This "ticket out the door" is handed to the teacher when the bell rings. (Fisher & Frey, 2004) Then the teacher can quickly review the written responses and gain timely information about which concepts may need to be reviewed, and with whom.

Step #3: *Offer Richly Detailed Source Material*

Textbooks are the primary resource for written material in secondary classrooms. (Dove, 1998) Most textbooks provide content that is aligned with state standards, as well as graphics, questions, and a variety of other features. However, in today's diverse classrooms there are likely to be students for whom the readings are too difficult to effectively convey even basic content. Other students may be captivated by a particular topic and hunger for more detailed information. The use of other source materials ensures that all students have access to a meaningful text. (Onosko & Jorgensen, 1997) Materials such as biographies and autobiographies in social studies courses, picture books illustrating complex scientific processes, or web sites on current events in mathematics can be used to introduce new concepts or extend familiar ones. Many teacher editions of textbooks suggest additional sources, and innovative publishers are now producing their own richly detailed web sites to enhance the printed text.

> *"Many teacher editions of textbooks suggest additional sources, and innovative publishers are now producing their own richly detailed web sites to enhance the printed text."*

Step #4: *Plan for Flexible Grouping Patterns*

Differentiated classrooms are notable in their use of many types of grouping patterns. In particular, students should experience:

- whole group instruction to introduce material and model strategies;
- small group work for collaborative learning with peers; and
- individualized learning for independent work and teacher-directed instruction.

Small group work is an opportunity for students to work with a variety of classmates. In particular, it is useful to group heterogeneously so that students learn from interacting with a broad range of peers. These guiding questions can be helpful in making grouping decisions. (Fisher & Frey, 2001, p. 64)

- What are the goals and objectives of the lesson?
- What comprises the students' background knowledge?
- What is the range of fluency in oral language?
- What are students' interests and work habits?
- Are there social concerns or needs?
- Do students have a choice in grouping?
- What materials are available?

Step #5: *Design Interrelated Daily Lessons and Culminating Activities*

Once goals and assessments have been identified and the print resources have been reviewed, it is time to plan for a series of daily lessons that are crafted to scaffold student understanding. These lessons incorporate material previously learned in the context of anew material and should lead to culminating activities that allow students to utilize the strategies taught. This allows them more independence in their learning. (Fisher & Frey, 2001)

Effective daily lessons utilize a research-based format including certain key elements to build student understanding. These elements should be transparent to learners so that they can become more cognizant of how their learning progresses step by step. These elements include establishing a purpose, an anticipatory activity, modeling, guided practice, independent practice, and assessment and closure. (Hunter, 1994) Of course, this language is not used in the classroom; rather, phrases that guide understanding of learning processes can become part of the classroom vernacular (Fisher & Frey, 2001):

- Learning objectives and standards: "This is our purpose today…"
- Anticipatory activity: "Here's what we're going to learn today…"
- Instruction and modeling: "Let me show you…"
- Guided practice: "Follow me…"
- Independent practice: "Now you try it…"
- Assessment and closure: What did you learn today?"

By scaffolding content and including the elements above, these interrelated lessons should lead to noteworthy culminating projects that provide students with ways to respond to the essential questions of the unit. For example, the eighth grade social studies students attempting to answer the question, "What is freedom?" might be given a choice of culminating activities, including writing a research paper, giving an oral presentation, or creating a web site. Because each student's response to this essential question would differ, the entire class can benefit from each other's work. Thus, the learning shifts from teacher-directed to student-centered as students increasingly take on responsibility for creating new knowledge. Student-centered learning, is an important factor in the differentiated classroom. (Tomlinson, 2001) While differentiation is not about creating 35 individual lessons, it is about meeting the needs of a range of students by allowing them to utilize and maximize their existing skills. When these learners support each other, all share the responsibility and all benefit.

Student-centered learning, is an important factor in the differentiated classroom.

—Carol Ann Tomlinson

Other tools for differentiation of assessments are tiered assignments and tests. This is the practice of developing multiple pathways for learners to demonstrate their competence. Tiered assignments and tests offer levels of difficulty so that the full range of students in the classroom can successfully respond. For example, a tiered assignment on probability might offer degrees of difficulty for discrete random variables, such as creating a distribution table for coin tosses (Level 1), determining the mean and standard deviation of the coin tosses (Level 2), or developing the probability density function of the coin tosses (Level 3). Students then choose which assignment they want to do, or are given it by the teacher.

Tiered tests also offer a choice to students. Most commonly, teachers develop a test containing a variety of items, including multiple choice, short answer, and short essay. Each item has a different point value based on its relative difficulty, and students choose the items they want to answer. Once again, metacognition plays a role as students must consider their own understanding as they select test items.

Conclusion

Differentiated instruction is often described as a tool to meet the needs of diverse learners. However, this definition limits the potential of this approach to teaching and learning by focusing only on the differences among students. What if we began to see it for what it really is: the practice of creating more responsive curriculum and instruction to meet the diverse needs of all learners? (Fisher & Frey, 2001)

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Integrating Content Areas with English Language Development for English Language Learners

by Okhee Lee, School of Education, University of Miami, Florida

Education reform in general, and the *No Child Left Behind* Act in particular, require that all students achieve high academic standards in core subject areas. Teachers working with students from diverse languages and cultures— in short, most of today's teachers—face the challenge of making academic content and process accessible and meaningful for their students. Despite efforts to ensure that all students receive equivalent content area instruction and fair assessment, opportunities to learn may be limited for English language learners (ELLs). With ELLs, teachers are under pressure to promote English language and literacy development as well as academic achievement in the content areas (August & Hakuta, 1997; Garcia, 1999). This may require subject-specific instructional strategies that go beyond the general preparation in English as a Second Language (ESL), English to Speakers of Other Languages (ESOL), or bilingual education that many teachers receive.

In order to not fall behind their English-speaking peers in academic content areas, ELLs need to develop English language and literacy skills in the context of content area instruction. Ideally, content area instruction should provide a meaningful context for English language and literacy development, while improving English skills provide the medium for understanding academic content (Amaral, Garrison, & Klentschy, 2002; Buxton, 1998; Casteel & Isom, 1994; Lee & Fradd, 1998; Stoddart, Pinal, Latzke, & Canaday, 2002). In reality, however, ELLs frequently confront the demands of academic learning through a yet-unmastered language without the instructional support they need. For their part, teachers often lack the knowledge and the institutional support to address the ELLs' educational needs. Thus, a vision of reform to support the academic achievement of ELLs requires integrating knowledge of academic disciplines with knowledge of English language and literacy development. The need for such integration is especially urgent given the climate of standards-based instruction, high-stakes assessment, and accountability facing today's schools.

Two issues are addressed in this paper. First, literacy development and English language proficiency with ELLs are described. Then, research-based approaches for effective instruction and assessment with ELLs in academic content areas are discussed. Content examples are drawn primarily from science, but the general features of the discussion are applicable across subjects.

"…ELLs need to develop English language and literacy skills in the context of content area instruction."

Literacy Development and English Language Proficiency

Literacy development involves abilities well beyond being able to speak, listen, read, and write. Literacy involves learning to think and reason, and to view and visually represent pictorial and graphical as well as textual representations of ideas and information. Language functions (e.g., describing, hypothesizing, explaining, predicting, and reflecting) develop simultaneously with inquiry and process skills (e.g., observing, describing, explaining, predicting, estimating, representing, and inferring). In this sense, inquiry promotes thinking and reasoning that involves both literacy and learning (Amaral et al., 2002; Casteel & Isom, 1994; Lee & Fradd, 1998).

Literacy development occurs along a continuum from preliterate, with little or no exposure to text, to the age- and grade-appropriate development necessary for academic achievement. Preliterate students require a great deal of support in academic learning. The content enables them to associate real-world objects and events with symbolic representations. Students progress from describing "here and now" events, to reporting "what happens" for those who are not present at the events, and then to hypothesizing about "what will happen." Through this process, students move from simple and concrete to more complex and abstract ways of thinking.

In addition to general literacy, students need to acquire English language proficiency to effectively participate in mainstream classrooms. English language proficiency involves knowledge and effective use of the conventions of literacy, such as vocabulary, syntax, spelling, and punctuation, in social and academic contexts. In content areas, proficiency includes knowledge of various sub-registers representing specific disciplines (Chamot & O'Malley, 1994). Proficiency also requires the ability to employ non-technical terms in ways that have unique meanings within a given academic discipline, for example, matter, force, energy, and space in science. Furthermore, students learn through thinking and reasoning as members of a learning community.

While bilingual education has fallen out of favor in an increasing number of states that adopt English-only policies, there is ample research indicating that developing literacy and proficiency in two or more languages promotes cognitive flexibility and capabilities (Cummings, 1984, 1986). In learning, students may start by observing, imitating, and interacting with others and gradually learn to perform independently. Through this process, students communicate about the subject in other languages as well as in English. In addition to promoting academic achievement, the use of students' home languages enhances their cultural and linguistic identities (Garcia, 1999; Moll, Diaz, Estrada, & Lopes, 1992).

Effective Instruction and Assessment with ELLs

Content area instruction for ELLs is often treated as secondary to language instruction. Many teachers, especially at the elementary level, are not adequately prepared in content areas, Additionally, they are not sufficiently prepared to meet the learning needs of ELLs (National Center for Education Statistics, 1999). Furthermore, many teachers assume that ELLs must acquire English before engaging in content area learning, are unaware of linguistic influences on student learning, do not consider "teaching for diversity" as their responsibility, or purposefully overlook linguistic differences and accept inequities as a given condition (Cochran-Smith, 1995). Such beliefs and practices on the part of teachers almost inevitably lead ELLs to fall behind their English-speaking peers (August & Hakuta, 1997; Garcia, 1999).

Effective Instruction

Academic learning. Hands-on, inquiry-based instruction provides opportunities for all students to develop understanding and to engage in inquiry practices (Lee & Fradd, 1998; Rosebery, Warren, & Conant, 1992). This type of instruction is especially promising for ELLs. Hands-on activities are less dependent on formal mastery of the language of instruction and, thus, reduce the linguistic burden on ELLs. Additionally, collaborative, small-group work provides structured opportunities for developing English proficiency in the context of authentic communication about knowledge.

"Hands-on, inquiry-based instruction provides opportunities for all students to develop understanding and to engage in inquiry practices ."
—Lee & Fradd, Rosebery, Warren, & Conant

By engaging in inquiry, ELLs also acquire English language and literacy while developing other content knowledge. Students develop English grammar and vocabulary, as well as familiarity with genres of writing (Lee, Deaktor, Hart, Cuevas, & Enders, in press). Additionally, inquiry bridges authentic, communicative language activities and hands-on, contextualized exploration, while promoting students' communication in a variety of formats, including written, oral, gestural, and graphic. As part of instruction, ELLs learn mathematics as they measure properties of objects and events (e.g., weight, length, and speed), use statistics and probability concepts for data analysis and interpretation, and learn how to record and present data in multiple formats. Students become precise and accurate in taking measurements, applying mathematical concepts, identifying patterns and anomalies in data, using multiple representational formats for data displays, and reasoning quantitatively. Thus, by integrating academic content across subjects, teachers can help students see meaningful connections and relevance among various subjects. An integrated approach is especially important for ELLs with limited access to content instruction in school (Amaral et al., 2002; Lee & Fradd, 1998; Stoddart et al., 2002).

Strategies to develop literacy and English language proficiency in content area instruction. Learning and literacy development reinforce each other in a reciprocal process (Casteel & Isom, 1994; Lee & Fradd, 1998). Teachers may use various strategies to develop students' literacy in the context of content area instruction:

- Read short stories or narrative vignettes to activate students' prior knowledge on topics
- Use narrative vignettes or expository texts related to everyday experiences to promote meaningful engagement and authentic communication
- Use specific comprehension questions about inquiry activities
- Use strategies to enhance comprehension of information in expository texts at the end of each lesson
- Use a variety of language functions (e.g., describing, explaining, reporting, drawing concluding) in the context of inquiry
- Engage students in whole-group, small-group, and individual reading on topics
- Have students write an expository paragraph describing the process under investigation
- Have students create Venn diagrams, concept maps, or graphic organizers using vocabulary
- Have students record data and report results in multiple formats (oral, written, and graphic)
- Incorporate trade books or literature with themes into instruction
- Use writing tasks as homework assignments; for example, students can write about what they did in class, share their writings with family members, write about what they talked about with family members, and finally, share their writings in class

In addition to developing general literacy with all students, teachers should consider the use of language support strategies with ELLs to enhance comprehension of academic content and to develop English language proficiency:

- Recognize students' varying levels of language proficiency
- Structure activities to reduce the language load required for participation (e.g., slower rate, enunciation)
- Use language that matches students' levels of communicative competence in length, complexity, and abstraction, such as reducing difficult language to key vocabulary or using shorter utterances and simplified sentence structures
- Communicate at or slightly above students' level of communicative competence (i.e., comprehensible input)
- Use multiple modes of communication and representation through non-verbal (gestural), oral, graphic, and written communication
- Introduce key vocabulary in the beginning of lessons and encourage students to practice the vocabulary in a variety of contexts

- Use language in multiple contexts (e.g., introduce, write, repeat, highlight)
- Promote precision in describing and explaining objects and events, for example, give explicit attention to particular words, such as positional words (e.g., above, below, inside, outside), comparative terms (e.g., cold, colder, coldest), and affixes (e.g., /in-/ in "increase" or "inflate" as opposed to /de-/ in "decrease" or "deflate")
- Use realia (demonstration of real objects or events)

Home language and culture. With ELLs, teachers need to understand how to use students' home language in academic content areas. In instruction, teachers may use key terms in students' home language to enhance understanding, allow ELLs to discuss the lesson in class using their home language, encourage bilingual students to assist less English proficient students in their home language, or allow ELLs to write about ideas in their home language (Lee, 2004).

Teachers should also consider students' cultural experiences in relation to the subject. They could incorporate the ways students' cultural experiences may influence instruction; culturally-based ways students communicate and interact in their home and community; students' lives at home and in the community; and students' cultural artifacts, culturally relevant examples, and community resources (Barba, 1993; Lee, 2002). For example, teachers may use both the metric and conventional units of measurement to incorporate the prior knowledge of students from different countries, and to help students understand the relation between the two systems. They may encourage a variety of group formations, so that students learn to work independently as well as collaboratively.

Effective Assessment

An important aspect of classroom assessment includes the use of meaningful and relevant topics, tasks, and activities. Teachers can employ assessment practices for ELLs, which may serve to benefit all students. First, using two separate scoring criteria, teachers may assess ELLs for learning and English language proficiency separately. This assessment practice enables teachers to identify strengths and weaknesses of ELL's in both content and English language. Such scoring rubrics for instruction are available (Fradd & Lee, 2000).

Second, teachers may assess ELLs in their home languages as well as in English. Allowing students to communicate knowledge in their home languages promotes both general literacy and academic learning which, in turn, promotes English language proficiency. The emphasis on English language proficiency should not overshadow the importance of general literacy and academic learning. Achievement in these three areas can develop simultaneously (Thomas & Collier, 2001).

Finally, teachers should promote the use of multiple representational formats, keeping in mind that the goal is to move students toward established literacy standards. Those who cannot write in either home language or English can express ideas in drawings or through oral communication. For example, a newly arrived Haitian elementary student, who had developed very limited literacy and little schooling, had difficulty even holding a pencil. When he was asked to explain why a boat made of clay would float or sink, he became intently involved, gave explanations in terms of the air in the boat, and related this task to his perilous journey to the U.S. on a boat. Not only did the oral assessment allow him to demonstrate his knowledge of the topic, it made the content come alive for him.

Summary

In addition to ensuring that ELLs acquire the necessary communicative language functions used for social communication, teachers must also create classroom conditions that promote ELLs' development of general and content-specific academic language functions, such as describing, explaining, comparing, and concluding (Wong-Fillmore & Snow, 2002). Additionally, they must be able to view language within a human development perspective. Such an understanding enables teachers to formulate developmentally appropriate expectations about language comprehension and production over the course of students' learning of English. Finally, teachers need to be able to apply this knowledge to the teaching of general and content-specific academic language. The amalgamation of these three knowledge sources should result in teaching practices that engage students of all levels of English proficiency in academic language learning; that engage students in learning activities that have multiple points of entry for differing levels of English proficiency; that provide multiple modes for students to display learning; and that ensure student participation in a manner allowing for maximum language development at their own level.

Conclusion

In any learning situation, students bring their previous experiences and prior knowledge related to the topic of study. In addition to learning academic knowledge, ELLs need to develop English proficiency and ways of communicating and interacting in the mainstream. ELLs with limited literacy or little schooling in their home countries also need to develop general literacy. Because of these multiple requirements, ELLs are more vulnerable to discontinuities that occur when educational policies and practices fail to meet their learning needs. Yet, ELLs bring cultural and linguistic resources that can be valuable in academic learning as well as in general literacy and English language proficiency. However, these resources may not be easily recognized by teachers without specialized training.

It is a challenge for educators to recognize what linguistic and cultural resources the diverse student groups in their classes bring to the learning process and in what areas they need assistance. Teachers require professional development opportunities to gain deep and complex understandings of content area knowledge and to learn pedagogical strategies for promoting English language and literacy as part of content area instruction. Since educational policies for instruction and assessment in both content area teaching and ESL/ESOL/bilingual education influence classroom instruction, the support of school administrators is critically important. Eventually, ELLs learn academic content and process, while also mastering English as a new language.

Despite efforts to ensure that all students receive equivalent content instruction and fair assessment, opportunities to learn may be more limited for ELLs than for English proficient students. Educators at all levels of the educational system should make efforts to provide resources and opportunities that meet the learning needs of all students, including ELLs. With creative and collaborative planning, much more can be done within the current system without excessively overburdening students or teachers. In providing accessible, high-quality content area instruction for all students, the education system will prepare students to become educated citizens and to participate effectively in a multilingual and multicultural society.

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Explore the Role of Assessment

by Lois Moseley

The last decade has witnessed significant changes in educational assessment practices. These changes are reflected in both large-scale, standardized tests and in individual classroom assessment practices. At least four factors have contributed to assessment reforms: the introduction of standards-based education; the importance of aligning curriculum, instruction, assessment, and professional development; the flexibility of the technology used in data analysis; and accountability.

The Center for Assessment and Research Studies defines assessment as "the systematic process of determining educational objectives, gathering, using, and analyzing information about student learning outcomes to make decisions about programs, individual student progress, or accountability" (Erwin, 1991). This definition implies that assessment should be more than merely a test at the end of instruction to see how students perform under special conditions; rather, it should be an integral part of instruction that informs and guides teachers as they make instructional decisions.

Assessment "should be an integral part of instruction that informs and guides teachers as they make instructional decisions."

What are some of the purposes of assessment?

According to Richard and Noreen Kellough (1999) in their textbook Secondary School teaching: A Guide to Methods and Resources, assessment has seven purposes:

1. To assist student learning

2. To identify students' strengths and weaknesses

3. To assess the effectiveness of a particular instructional strategy

4. To assess and improve the effectiveness of curriculum programs

5. To provide data that can assist in decision making

6. To communicate with and involve parents.

In order to build tests that achieve all of these purposes in the limited time available, a teacher needs to know the rudimentary principles of test construction and interpretation. Teachers should also be aware of assessment technologies that can help in planning, constructing, and in scoring the test and in analyzing the results.

What are some types of student assessment?

Standardized: Some of the purposes of testing may be achieved by administering standardized tests. These are usually designed by a commercial test publisher to provide a reliable measurement of student performance through relatively constant administration and scoring procedures. Standardized tests are used for comparing data across classes, schools, school districts, and states. Many standardized tests have norms and are used as formal assessments of students' progress.

Norm-referenced measures are similar to many typical grading practices. They reveal where a student stands with respect to their immediate peers or some other known group, not how students can perform do in terms of the curriculum to which they have been exposed. To provide a wide range of scores, test items are selected by eliminating those items that all students are likely to answer correctly and favoring items at the 50 per cent level of difficulty. The items tend to maximize differences in performance and provide the most reliable ranking of students.

Criterion-referenced measures reveal where a student stands in terms of specific measures of attainment at each stage of the curriculum. Criterion-referenced interpretations enable teachers to describe what a student knows and can do, without reference to the performance of others. Test items are selected on the basis of how accurately they reflect the specific learning tasks being measured.

The value of a standardized test rests, first, on how carefully the characteristics of the test are aligned with its purpose and, ultimately, on how the test information is used in the school to fulfill that purpose. When instructional sequences and methods are relatively fixed and no basic changes are contemplated, achievement tests may be used as accurate predictors of future school success. However, under radically different instructional conditions and curricula potential for success may not be based on prior school learning, and standardized achievement tests may not be the tool of choice.

Some examples of standardized achievement tests are: the California Achievement Tests (CAT), the Stanford Achievement Test, the Iowa Test of Basic Skills (ITBS), and the Terra Nova.

Alternative Assessment: Some of the purposes of assessment may also be achieved by administering alternative assessments, also called performance-based or authentic assessment popularized by Grant Wiggins (1989). These assessments often require students to generate a product or demonstrate an observable performance rather than respond to multiple-choice or true-false questions. Based on recent research into brain function, performance-based assessment has far reaching implications for education, focusing not only on the manner in which students demonstrate proficiency in knowledge and skills but on the manner in which students gain the knowledge and skills.

Performance assessments employ a rubric evaluation that provides specific descriptions of what a performance or a product looks like at several different levels of quality. The rubric acts as a guide providing direction to the teacher and the student.

Some examples of alternative assessment are: essays, journals, group projects, portfolios, teacher observations, interviews, teacher created test/examinations, peer-evaluations and self-evaluations, and class presentations.

At what points in the school year should we assess students?

Both ongoing formative assessments and summative assessments are essential to monitor, enhance, and evaluate instruction. For assessment to be effective, it must occur before, during, and after instruction.

Formative assessments are done during instruction to provide feedback to the teacher about the progress towards student mastery of a skill. This type of assessment is characterized by timely and immediate feedback, allowing teachers to respond to ongoing learning needs by modifying their instructional approaches (Black and Williams 1998).

The summative assessment is a test that summarizes student learning and the effectiveness of the instructional program. It is usually given at the end of a unit, the end of a course, or the end of the year (Brookhart, 1999). By giving a grade or a score to the test, judgment can be made about learning. Summative assessments are often used as a means of accountability by judging the effectiveness of teachers. A standardized test is one type of summative assessment.

"…performance-based assessment has far reaching implications for education…"

Before Instruction: In the planning phase The time to plan a test is before teaching the material the test is to measure. This is the time to think carefully about the standards, criteria, benchmarks, or objectives that the student will know or be able to do as a result of the lesson. Aligning assessment to the standard should be the focus during the planning phase. Level of difficulty and level of thinking are important considerations in constructing the tests. These two ways of looking at test items will help strengthen the alignment with the standard.

During Instruction: In the instructional phase The full power of assessment is its usefulness in providing feedback to students during instruction. To provide quality feedback, teachers should watch students perform and listen to students' responses. Students reveal their level of understanding in their responses or questions. The teacher evaluates the student's progress toward the standard and modifies the instructional content or process as necessary. The teacher should also make the students aware of how they can meet the established standards. Evidence shows that when assessment criteria and standards have been clearly communicated, students set up definite goals as they approach the tasks and begin to take ownership of their learning.

After Instruction: In the evaluation phase Whether it is constructed by the teacher or by a publisher, the assessment is a basic evaluation tool to determine the student's proficiency in reaching the standards, criteria, benchmarks, or objectives. The assessment approach in the teacher chooses should be congruent with the instructional goals, both in content and process.

There is a considerable movement at present to provide teachers with access to assessment technologies they can use in planning, constructing, and scoring the test and in analyzing the results. These technologies provide timely reports that will allow the teacher to make a thoughtful and accurate assessment of a lesson's effectiveness. These technologies also provide a system for maintaining a record of student's progress in learning and in many instances students participate in the maintenance of their own records.

What should we assess?

Throughout the nation, educational standards determine what students are expected to know and be able to do. Teachers design curricula, implement instructional strategies, develop assessment practices, and select professional development activities to align with these standards. A Guide to Standards-Based Assessment from a No Child Left Behind Issue Brief (2002) states that "standards must be specific enough to enable everyone (students, parents, educators, policy makers and the public) to understand what students need to learn. They also must be precise enough to permit a fair and accurate judgment of whether the standards have been met."

Standards provide targets for teaching and learning at the national, state, district, and school levels. They are sometimes categorized as either Content Standards or Learning Standards. Content standards are those that refer to knowledge and skills belonging to a particular discipline. Learning Standards are the processes and skills that are not specific to any content area because they can be used in many disciplines and situations. Standards identify the most important knowledge and skills from the various disciplines and often require new and different forms of assessment.

What is the standard I am teaching?

In 1989 the National Council of Teachers of Mathematics released the Curriculum and Evaluation Standards for School Mathematics. Since that time, other disciplines have followed suit. Across the nation school districts are developing standards-based curriculum and states are designing standards-based assessments. To support the implementation of a standards-based curriculum, professional development may be needed to study the organization and structure of the standards. This study may include: "unpacking" the standard, analyzing the components, identifying prerequisite skills, awareness of related standards at other grade levels, and generating exemplars or clarifying activities.

Special consideration should be given to the level of thinking required by the standard as instructional strategies are being selected. Benjamin Bloom's taxonomy for categorizing levels of abstraction in questions provides a useful structure for communicating the level of thinking required for the achievement of standards. This taxonomy can provide direction in the selection of resources and the activities. While standards do not mandate a particular curriculum, resource, or instructional approach, they make clear what is expected of students as the result of instruction.

What is the standard's "big idea" that I want to convey?

A coherent instructional unit has a well-defined structure. Big ideas in the disciplines serve as organizers for clusters of standards and facilitate the development of integrated units of study. Standards-based units are sometimes designed around these "big ideas." This concept allows students to explore a subject from many different perspectives and understand the relationship of the parts to the whole.

"Big ideas in the disciplines serve as organizers for clusters of standards and facilitate the development of integrated units of study."

What is the best sort of assessment to have students demonstrate their mastery of the standard?

What we know about learning indicates that assessment and learning are closely linked. Assessment can be either standardized or alternative, depending on how the test is administered and scored. The assessment can be either summative or formative depending on the time of year or where in the course or unit the test is given. The assessment can be either formal or informal depending on to whom or to what the student will be compared. Norm-referenced and criterion referenced assessments are two types of formal assessments.

Formal assessments assume a single set of expectations for all students. They are defined by prescribed criteria for scoring and interpretation. Formal assessments take place at set times. During a formal assessment, all students in a class are evaluated in the same manner. Their examination involves the same content, format, and testing conditions. Results are reported as a grade or score and are used to determine individual students' abilities in a specific area of learning.

During informal assessment, a teacher evaluates students' progress while they are participating in a learning activity in the classroom. Results are used to make decisions about what to do next. Informal assessments take place on an ongoing basis in the natural classroom setting. Observations, checklists, student portfolios, teacher/student conference notes, learning logs, journals, projects, oral presentations, reports, and discussion groups are several types of informal assessments.

The broad array of content and learning standards gives direction to the variety and types of assessment instruments. A good assessment is one that is aligned with a standard, both in content, process, level of difficulty, and level of thinking. The effective test has distracters that are plausible and based on common error patterns. In short, select the type of assessment that is best aligned with the standard and best fits the purpose of the assessment. Select the method of assessment that will best demonstrate the student's ability to meet the standard.

How to pull it all together?

Standard-based curriculum and assessment has great potential for improving student achievement and teacher accountability. The achievement of these ends will depend on educators' ability to obtain the resources and expertise to help students meet the expectations of the standards. In summary, well-implemented standard-based assessment serves as a safety net to catch any student before he or she is left behind.

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Visual Reading Features

Glencoe social studies textbooks use visual reading features such as graphs and charts as powerful learning tools. By using images rather than words, these tools present complex information in an easy-to-understand format.

Graphs

Graphs are a way of showing numbers or statistics in a clear, easy-to-read way. Because graphs summarize and present information visually, readers have an easier time understanding the data and drawing conclusions. The most common types of graphs are bar graphs, line graphs, circle graphs, and pictographs.

> **Bar Graphs** show how two or more subjects or statistics compare. A bar graph provides information along two sides, or axes. The horizontal axis is the line across the bottom of the graph. The vertical axis is the line along the side. The bars may be either vertical or horizontal. In most cases, the labels on one axis show quantity, and the labels on the other axis show the categories of data being compared.

> **Line Graphs** show change over time. Like a bar graph, a line graph organizes information along horizontal and vertical axes. The horizontal axis usually shows passing time, such as months, years, or decades. The vertical axis usually shows quantity. Sometimes more than one set of data is shown on a line graph. A double-line graph, for instance, plots data for two related quantities, which may be represented in different colors or patterns.

> **Circle Graphs**, also called pie graphs, show how each part or percentage relates to the whole. A circle graph enables the viewer to make comparisons between parts and to analyze the relationship of each part to the whole.

> **Pictographs** use rows of small symbols or pictures, each representing a particular amount. Like a bar graph, a pictograph is useful for making comparisons.

Charts

Although all charts present information or data in a visual way, the type of chart is often dictated by the nature of the information and by the chartmaker's purposes.

Tables show information, including numerical data, in columns and rows. This organized arrangement facilitates comparisons between categories of information. Labels are usually located at the top of each column and on the left-hand side of the table.

Diagrams are specialized drawings. They can show steps in a process; point out parts of an object, organization, or idea; or explain how something works. Arrows or lines may join parts of a figure and can show relationships between parts or the flow of steps.

The Importance of Photographs

by Steve Mico, Vice President and Editor in Chief, National Geographic School Publishing

A *picture is worth a thousand words*. A cliché—yes. But photographs from the files of National Geographic really do tell a fascinating story about Earth and its people. The name National Geographic evokes an image of trust, quality, and substance. Photographs have played a crucial role in creating and maintaining that image, and National Geographic is proud to share this rich resource with the Glencoe social studies textbook program.

Photographs allow us to visit distant places without leaving our desks. They even let us travel back in time to revisit places or events in the past. And because photographs are static, they give us time to examine, ponder, and reflect on what we see and consider what it means.

Contemporary photographs from National Geographic are featured in Glencoe Textbooks. Each chapter opens with a photo feature that sets the tone for the content that follows. Historical photographs provide a window on the past. The black-and-white images are compelling glimpses into the lives of people who experienced the events described on the pages of the textbook. Photographs do much more than break the density of words on a page. Photographs give life and substance to the words and sometimes convey meanings and emotions that words could never express.

"Photographs featured in 'On Location' not only capture moments in daily life but also encourage students to think about questions based on key geographic themes."

"Photographs do much more than break the density of words on a page."

Teaching with Photographs

Photographs are not only an important part of each chapter in the textbook. Photographs are also powerful teaching tools in themselves.

(1) Use the photographs in your textbook to extend the lesson.
- Select several photographs from a chapter in the textbook. Have students work in small groups to "read" the photographs. What do the photographs reveal about the place and the people who live there? What physical and human characteristics of the place can students observe? Is the time period depicted in the photograph contemporary or historical? Have students create a chart to organize their observations. How does the photo analysis enhance the caption or text that accompanies the image?
- Refer to Geography's Six Essential Elements described in the Geography Handbook in the textbook. Use these elements as a framework for analyzing the photographs in a chapter in the textbook. In particular, what can be determined about physical and human systems and about environment and society by examining photographs? Create a chart to record students' observations.

(2) Use photographs from other sources to extend the lesson.
- Have students identify a place or an event related to a topic currently being studied in class. Encourage students to use an Internet search engine to locate photographs of the place or event. (Note: Most search engines can be limited to search only for images.) Have students save the images they locate. When the search is complete, have students create an electronic poster presentation in which they communicate main geographic and historical themes by means of photographic images with captions. Remind students to include sources for all photographic images.
- Use an index to National Geographic Magazine, either in the library or online at www.nationalgeographic.com, to locate an article related to a topic being studied in class. Note the role that photographs play in the article. Would the article be as effective without the images? What do the photographs tell you about the place or event? What characteristics of the physical environment can be observed? What unique human characteristics are evident? Are there examples of linkages with other places? Make a list of questions that have been raised as a result of analysis of the photographs. What sources can you use to answer these questions?

Students have many demands on their time in today's busy world. In the rush to finish an assignment, it is easy to pass over photographs that complement the narrative text. Help students recognize the importance of the images in each chapter by modeling photographic analysis.

How We Address Geography

The story of the world begins with geography—the study of Earth in all of its variety. Geography describes Earth's land, water, and plant and animal life. It is the study of places and the complex relationships between people and their environment.

To understand how our world is connected, some geographers have broken down the study of geography into five themes. **The Five Themes of Geography** are (1) location, (2) place, (3) human/environment interaction, (4) movement, and (5) regions.

Six Essential Elements

Recently, geographers have begun to look at geography in a different way. They break down the study of geography into Six Essential Elements. The following paragraphs describe each of the six elements and provide a sample differentiated instruction activity for each element.

Element 1 *The World in Spatial Terms*

Geographers first take a look at a place's location. Location serves as a starting point by asking, "Where is it?" Knowing the location of places helps you develop an awareness of the world around you.

> **Sample Activity—L2** Have students create a map that shows the route they travel from their homes to school. Display the maps on the class bulletin board.

Element 2 *Places and Regions*

Place has a special meaning in geography. It means more than where a place is. It also describes what a place is like. It might describe physical characteristics such as landforms, climate, and plant and animal life. Or it might describe human characteristics, including language and way of life.

> **Sample Activity—L1/EL** Explain that physical characteristics play a part in shaping human characteristics in a given place. For example, Native Americans in Alaska and Native Americans in New Mexico have very different clothing, economic pursuits, architecture, and lifestyles because of the physical characteristics of their regions. Ask students to describe a favorite city, state, or country. Ask them how the physical characteristics of a place might influence characteristics or customs of the inhabitants.

"To understand how our world is connected, some geographers have broken down the study of geography into five themes."
—National Geographic Society

Element 3 *Physical Systems*

When studying places and regions, geographers analyze how **physical systems**—such as hurricanes, volcanoes, and glaciers—shape Earth's surface. They also look at communities of plants and animals that depend on one another and their surroundings for survival.

> **Sample Activity—L2** Ask students to think of ways that physical systems affect their lives and cultures. Have students explain how events such as hurricanes influence a region's population and economy.

Element 4 *Human Systems*

Geographers also examine **human systems,** or how people have shaped our world. They look at how boundary lines are determined and analyze why people settle in certain places and not in others. A key theme in geography is the continual movement of people, ideas, and goods.

> **Sample Activity—L1/EL** Call on volunteers to name places from which their family or ancestors moved. Discuss the reasons that people move to different places.

Element 5 *Environment and Society*

How does the relationship between people and their natural surroundings influence the way people live? This is one of the questions that the theme of **human/environment interaction** investigates. It also shows how people use the environment and how their actions affect the environment.

> **Sample Activity—L2** Give examples of ways that humans use and modify the environment in places they live. For example, people convert fields and forests into towns and irrigate arid land to support farming. Call on students to give examples of the ways people have modified the environment where they live in both positive and negative ways.

Element 6 *The Uses of Geography*

Knowledge of geography helps us understand the relationships among people, places, and environments over time. Understanding geography and knowing how to use the tools and technology available to study it prepares you for life in our modern society.

> **Sample Activity—L2** Have students give examples of ways in which businesses use geography. Have students explain how geography influences where businesses such as gas stations and shopping malls are built.

"Recently, geographers have begun to…break down the study of geography into Six Essential Elements.*"*

—National Geographic Society

What Makes a Good Map?

by Allen Carroll, Chief Cartographer, National Geographic Society

"The National Geographic Society has been organized to increase and diffuse geographic knowledge," announced the first issue of *National Geographic Magazine* in October 1888. The Society's Cartographic Division has met this challenge since it was formed in 1915, producing thousands of maps for the magazine and a host of atlases, globes, and wall maps. The latest in the long list of mapmaking achievements is producing all of the maps for Glencoe's geography and history textbooks.

Maps are powerful tools for presenting information about Earth and its people. Maps graphically depict the patterns, relationships, and interconnections among peoples and countries on Earth. Maps can be especially effective in helping nonverbal learners master the important concepts and ideas of geography and history.

> *"Maps can be especially effective in helping nonverbal learners master the important concepts and ideas of geography and history."*
> —Allen Carrol

Types of Maps

Maps can be grouped into three main types: physical, political, and thematic.

(1) *Physical maps* show Earth's natural features, such as mountain ranges, plateaus, plains, rivers, lakes, seas, and oceans. Physical maps often show variations in Earth's surface by using shades of colors to indicate differences in elevation or depth.

(2) *Political maps* show the boundaries that people have created to divide Earth's surface into countries or other political territories. Political maps often include other features created by people, such as capitals and major cities.

(3) *Thematic maps*, also called special-purpose maps, are created to show specific information about Earth. For example, an economic map might show the major resources in a country or the main activities that people engage in to earn a living, such as farming, industry, and services. Other thematic maps might show the travel routes of explorers or the locations of major historical events. A special type of thematic map, called a cartogram, represents information graphically by changing the relative size of countries to reflect a particular data value, such as population size or per capita energy consumption.

What Makes a Good Map?

Mapmaking is a time-intensive process. At National Geographic the cartographers work in teams that specialize in design, research, editing, and production. After the theme of a map has been established, a researcher provides a designer with background information for a layout and then gathers source maps and digital data to be compiled into a base map. The team positions place names digitally, formulates color specification, and prepares the map for printing. Editors carefully check every aspect of the map.

"Maps are powerful tools for presenting information about Earth and its people. Maps graphically depict the patterns, relationships, and interconnections among peoples and countries on Earth."

—Allen Carroll

A good map contains several essential elements that make it an important and accurate teaching tool. These elements include the following:

(1) The map *title* helps the reader know what the map is about. A good title is descriptive and helps the reader focus on the map's main purpose.

(2) The map *scale* allows the reader to relate distance on the map to actual distance on Earth's surface. Scale also gives a clue to the degree of generalization on the map. For example, a small-scaled map, such as a world map, shows very little detail. A large-scale map, such as a map of a state or city, includes more detail. National Geographic maps in the Glencoe/McGraw-Hill textbooks show scale by means of a graphic bar. Scale can also be shown as a ratio of a verbal statement.

(3) The *legend*, or map key, identifies all of the symbols that are used on the map to represent different types of information. For example, rivers are often represented by blue lines. Towns and cities may be represented by points of different sizes that reflect the relative sizes of the places.

(4) A *compass rose or North arrow* is used to identify the orientation of the map. We often assume that north is at the top of a map, but this is not always the case. For reasons of layout, a map, especially a large-scale map of a country or city, may be rotated to fit more conveniently on a page. The compass rose lets the reader know the true orientation of the map.

(5) The map *grid* is made up of the lines of latitude and longitude that help the reader identify the absolute location. Every place on Earth has a unique address that is determined by the global grid. For example, Washington, D.C., is located at 39°N, 77°W.

Putting Ideas Into Practice

Students can begin to appreciate the power of maps and the importance of including the elements of good mapping by looking at maps from a variety of sources.

- Have students locate examples of physical, political, and thematic maps in their textbooks. Have them identify each of the basic elements of a good map. Ask them to assume that any one of the basic elements is missing from the map. How would their ability to use the map be affected?
- Have students locate a variety of maps from popular sources, such as the daily newspaper or magazines. Have them use what they have learned about basic elements of a good map to evaluate these maps.
- Encourage students to practice what they have learned by making a map of your community or of their route from home to school. Remind students to apply the elements of a good map.

To view additional maps, visit the Map Machine at the National Geographic Web site: www.nationalgeographic.com/maps/.

Learning Geography with Six Essential Elements

by Barbara Chow, Executive Director, National Geographic Education Foundation

Geography examines the story of people on Earth from a unique perspective. Unlike history—which is concerned with the *chronology* of events, or when things occurred—geography's focus is *spatial*, or where things occur on Earth, why they are there, and what the consequences are. A geographic perspective is an essential part of every student's education. It is a part of that critical core of knowledge that helps students understand who they are and where their lives and experiences fit into the complex story of humankind.

In 1994 Congress passed the "Goals 2000: Educate America Act" (Public Law 103-227). This landmark piece of legislation mandated that children in the United States should demonstrate competency in challenging subject areas, including geography. To guide educators in meeting the goals of this legislation, professionals in the field of geography set about the task of drafting voluntary standards to assist teachers in identifying and organizing core themes, concepts, and skills that define this important discipline. The outcome was the publication of national education standards for geography, *Geography for Life*, in 1994. Also building on Goals 2000, the *No Child Left Behind* legislation passed recently by Congress mandates that teachers become proficient in a number of core academic subjects, including geography.

Glencoe textbooks for world geography, world history, and American history incorporate the essence of the geography standards to tell the story of the human experience on Earth, bringing to life places and events that may seem distant and detached to young learners in today's world. Geography is a broad-based, integrative field of study that incorporates a daunting amount of material—people, places, facts, and ideas. The standards in geography provide a structure that teachers and students can use to organize and understand the patterns and processes that make up the story of various peoples living and interacting on Earth.

Geography Standards

The geography standards are summarized in Six Essential Elements (a revision to the previous Five Themes of Geography). They provide a roadmap to what students should know and be able to do as they set out to become productive and responsible citizens. The Six Essential Elements are as follows:

- **The World in Spatial Terms—**Geography studies the relationships between people, places, and environments by mapping and compiling information about them.
- **Places and Regions—**The identities and lives of people are rooted in particular places and regions.
- **Physical Systems—**Physical processes shape Earth's surface and interact with plant and animal life to create, sustain, and modify ecosystems.
- **Human Systems—**People are central to geography in that human activities help shape Earth's surface, human settlements and structures are part of Earth's surface, and humans compete for control of Earth's surface.
- **Environment and Society—**The physical environment is modified by human activities. Earth's physical features and processes also influence human activities.
- **The Uses of Geography—**Knowledge of geography enables people to understand the relationships between people, places, and environments over time.

The essential elements provide a framework for organizing information about the world. Students can explore these by practicing the following Five Fundamental Skills outlined in the geography standards.

- Asking geographic questions
- Acquiring geographic information
- Organizing geographic information
- Analyzing geographic information
- Answering geographic questions

"A geographic perspective is an essential part of every student's education."

—Barbara Chow

Whether reflecting on questions raised in their textbooks or asking questions about their local community, students can present their findings in the form of maps and other graphic representations and analyze the patterns revealed to understand the world, both past and present, and plan for the future.

The national standards are not a mandate; they are voluntary. However, nearly every state has adopted geography standards, and most of these state standards are modeled in *Geography for Life*. The standards serve as a guide for organizing and understanding the content included in the existing curriculum.

Putting Ideas Into Practice

How can the national standards help teachers and students? The following are suggestions on how to apply the standards to a study of the local community, formulating questions that students can use in an investigation:

- Help students locate maps of different scales that identify both the absolute and relative location of your community.
- Look for historical maps that reveal how the community may have changed over time.
- Encourage students to observe the characteristics that make your community unique. What characteristics does the community share with other places?
- Find out when your community was established. Where did the founders come from? Why was the community founded where it is? How has the population changed? How has the community been affected by new groups of people moving in or by new ideas or traditions?
- What is the economic base of your community? How has that base changed over time? Why? How has this change affected people's lives?
- How have people in the local community changed the environment? Have the changes been good or bad? What are people doing about it?

Geography Skills

by Lydia Lewis, Educator, National Geographic Outreach

Geography skills give students a new set of "glasses" through which they can analyze people and places, as well as history. The application of these skills provides a framework in which students can view, organize, and understand patterns and processes that have shaped our past and present and influence our future. The voluntary National Geography Standards 1994: Geography for Life describes five sets of skills. These five skills were adapted from the Guidelines for Geographic Education: Elementary and Secondary Schools prepared by the Joint Committee on Geographic Education and published in 1984 by the Association of American Geographers and the National Council for Geographic Education. They are as follows:

(1) Asking geographic questions

(2) Acquiring geographic information

(3) Organizing geographic information

(4) Analyzing geographic information

(5) Answering geographic questions

Asking Geographic Questions

Good geographic questions take students beyond the traditional "Where is it?" to ask "Why is it there?" "With what is it associated?" "What are the consequences of its location?" and "What is this place like?" Of course it is important to know *where* something is, just as it is important to know the alphabet in order to learn how to read. But *where* something is located is just the jumping-off point in geographic inquiry. What are the implications of the location of the human or physical feature? It is important that students be encouraged to speculate about the answers to these questions. Their hypotheses will drive the acquiring, organizing, analyzing, and answering of geographic questions.

Acquiring Geographic Information

Geographic information includes the physical and human characteristics of particular places. In order to answer geographic questions, students gather information from a variety of sources. These include but are not limited to a variety of maps, charts, graphs, photographs, satellite imagery, library and Internet resources, interviews, and fieldwork when appropriate.

Organizing Geographic Information

After students have acquired the information needed to answer their geographic question, they must then decide how to organize the information visually. Appropriate forms for organization are student-created maps, charts, graphic organizers, tables, spreadsheets, or time lines. This is also an opportunity for students to use their creativity as they arrange and design the best way to organize the information. Color, scale, and clarity are important.

Analyzing Geographic Information

"Glencoe/McGraw-Hill textbooks for world geography, world history, and American history are rich with opportunities for students to gain competence in geographic skills."

After the geographic information has been acquired and organized, students analyze the information by looking for patterns, relationships, and connections. It is sometimes hard to separate out the analysis from the previous skills because some level of analysis occurs at each step of the process. In many cases, however, final analysis can occur only after data from many sources has been put into a coherent and easily understood form.

Answering Geographic Questions

Students who successfully answer their geographic questions have developed generalizations and conclusions based on the data they acquired, organized, and analyzed. They have demonstrated an ability to make inferences based on information organized in a variety of ways. Often geographic inquiry does not end here. In finding answers, students often discover a new set of questions, and thus the process of geographic inquiry begins again.

Glencoe Textbooks and Geography Skills

Glencoe textbooks for world geography, world history, and American history are rich with opportunities for students to gain competence in geographic skills. Geographic questions are posed with the maps in each chapter, thus creating a geographic-inquiry model for students. Geographic skills are featured in special skills sections, such as analyzing maps and charts. Students are also asked to organize geographic information in various ways.

Putting Ideas Into Practice

The classroom applications for geographic inquiry are unlimited. Glencoe's textbooks provide many opportunities for skill practice. Students should also be encouraged to develop geographic inquiry as an instinctual process when learning about history, people, or places.

The following are examples of geography questions that could shape the inquiry process. The questions come from the "big idea" that humans, past and present, have created trails, canals, railroads, roads, airports, and so on as means of moving goods and people from one place to another.

- What role did the physical landscape play in the location of the Erie Canal? How did the canal's development help or hinder settlement? How did the canal's construction influence economic factors in the region?
- What role did the physical landscape play in the location of your city? What transportation systems connect it with other places? What are its economic link to other places?

From these questions, students can proceed through the next four skills—acquiring, organizing, analyzing, and answering geographic questions. Be aware that geographic inquiry is addictive. When the step is taken to go beyond "Where is it?" to "Why is it there?," questions will automatically pop into your students' minds as they walk out of the school and into your community. Geographic inquiry creates analytical, curious minds—and lifetime learners.

Research on the Effectiveness of Glencoe's Social Studies Textbooks

Significant research has been conducted on Glencoe/McGraw-Hill's social studies textbooks. This section includes both quantitative and qualitative research conducted on *Discovering Our Past: Ancient Civilizations*.

Program–Efficacy Research Study

Learner Verification Research was conducted to gather data from classroom test sites using the Glencoe *Middle School World History Program ©2006.* Results were compiled, analyzed, and reported by Sigma Research, an independent research facility.

Research Goal

The goal of the research was to gather quantitative data to determine whether the teacher model employed in the ©2006 program leads to increased student understanding and mastery of tested skills and concepts and to gather qualitative data based on the classroom educator's and student's perspective of the program.

Sampling

The convenience sampling method was used in this study. Random sampling (all middle school students enrolled in a world history class in the United States) was not used because the entire population was not available for sampling. State departments of education and local school districts have strict policies in place regarding when and if participation in research projects are allowed.

The unit field test study included experimental groups only. Teachers serving on the program advisory panel or as content reviewers were invited to participate. Glencoe sales staff submitted names of district/building level administrators for sites where contact from publishers was permitted. Demographic, socioeconomic, and geographic locale were taken into consideration when recruiting.

Methodology Instrumentation

The experimental groups provided both quantitative and qualitative data.

Quantitative Data Pretests were administered before each unit, and posttests were administered upon completion of unit instruction and review. Pretests and posttests were sent to Sigma Research for scoring.

Qualititative Data Classroom teachers completed a written evaluation of the experimental program. Support and resource components were rated using a graphic rating scale. Teachers were encouraged to expand on the ratings through open-response questions. Students completed a survey using the graphic rating scale to evaluate the student material.

Data Analysis All test data and written evaluations were sent to Sigma Research for compilation and analysis. Sigma Research is an independent research facility.

Materials and In-service

The experimental group used the Glencoe *Middle School World History Program ©2006* textbook and the accompanying workbooks. Teachers used the supporting Teacher Wraparound Edition and the accompanying resource materials. Training was provided on-site or via a telephone conference.

Methodology

To determine whether there was a significant difference between the pre- and posttests, a paired-samples *t*-test procedure was utilized. When evaluating the impact of mitigating factors such as gender, type of history material, or race, multi-level analyses were conducted. The initial analysis was to determine whether differences exist for the pretest scores as a function of the levels of independent variables of interest using a one-way analysis of variance (ANOVA). If the pretest scores were found to not be different (non-significant), simple comparison of means was done using one-way ANOVA. However, if pretest scores were found to be significantly different, an analysis of covariance (ANCOVA) was completed using the pretest score as a covariate. Similar procedures were used when multiple independent factors were evaluated simultaneously (e.g. history material and gender) using a two-way full-factorial ANOVA design. These analyses evaluated the impact of multiple factors on the pre- and posttest scores. In most cases, no interactions were significant and the analyses were collapsed to the main effect analyses.

Qualitative analysis was carried out on the student evaluation surveys. The open-ended questions were categorized and analyzed. Frequencies are reported for the closed questions. A high-level summary of the teacher evaluations is also included in this report.

Study Demographics

There were 137 6th grade students from 3 California schools who completed pre- and posttests for the Middle School World History field test. Three teachers participated in the study. Approximately half of all students were male or female. A majority of the World History students' ethnic background was non-white (54%). More than 4 out of 10 of World History students were non-minority (Caucasian). See Table WH1 for detailed results.

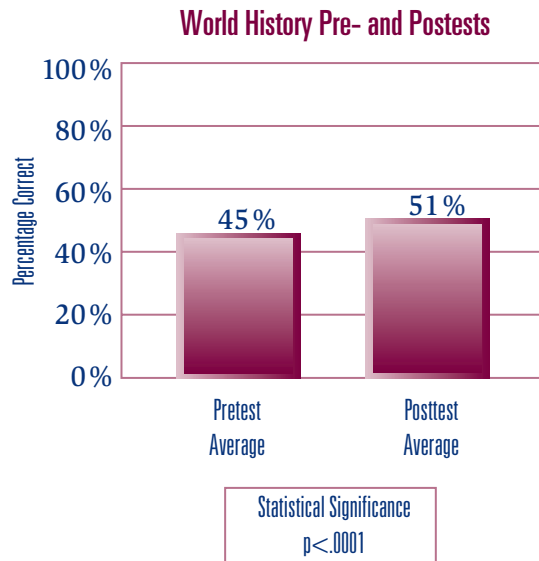| TABLE WH1: STUDY CHARACTERISTICS FOR THE DEMOGRAPHIC MATCHED DATA FOR WORLD HISTORY. (N=71)	
	Total Sample (N=71)
Boys	45%
Girls	55%
Minorities	54%
Non-minorities	42%*

*Total sample does not add up to 100% due to missing data.

Three teachers participated in some portion of the World History study. The World History teachers had similar levels of experience between 18-19 years. They taught in varying types of schools including Rural, Inside CBSA (2 teachers) and Mid-Sized Central City (1 teacher). A majority of the teachers were department chairs.

Test Data Analyses

Overall Pre- and PostTest Results (N=137)

The results (see Table WH2) show that students' overall average test scores improved from 45% to 51% correct between the pre- and posttests. ***Thus, the test materials were effective in improving the World History students' scores.***

World History Pre- and Postests

The improvement in the posttest scores was found to occur for the majority of World History students (55%). While the percentage increase in the average test scores for the World History students was found to be 6%, with more than half of all students' scores improving, a more detailed evaluation of how students performed on the pre- and posttests provides an indication of how students performed on an individual level. Table WH3 provides the details about the number of students who improved (increased the number correct). World History students, on average, improved 1.47 questions.

Slightly more than half of the World History students (55%) earned higher test scores after completing the middle school social studies test program.

TABLE WH3: PERCENTAGE OF WORLD HISTORY STUDENTS WHO IMPROVED THEIR SCORES (E.G. POSTTESTS SCORES HIGHER THAN PRETEST SCORES)		
Test Type	**Students with Improved Test Score (%)**	**Average Number of Questions Improved**
World History (N=137)	55%	1.47

Influence of Gender on World History Test Scores (Pre- and Post-)

Table WH8 provides the results for boys and girls for the pre- and posttests. Both boys' (12%) and girls' (13%) posttest average scores improved significantly. No statistically significant difference exists when comparing boys' and girls' pretest or posttest scores. Furthermore, the number of girls who improved their scores was 72% versus 63% respectively (see Table WH9). Additionally, on average girls' and boys' test scores improved by 3.3 questions (see Table WH9). There was no statistically significant difference in boys' and girls' improved test score percentage and average number of questions improved . The World History materials appear to be equally effective at improving boys' and girls' test scores.

On average, World History students scored 1.5 more questions correct on the posttest in comparison to the pretest.

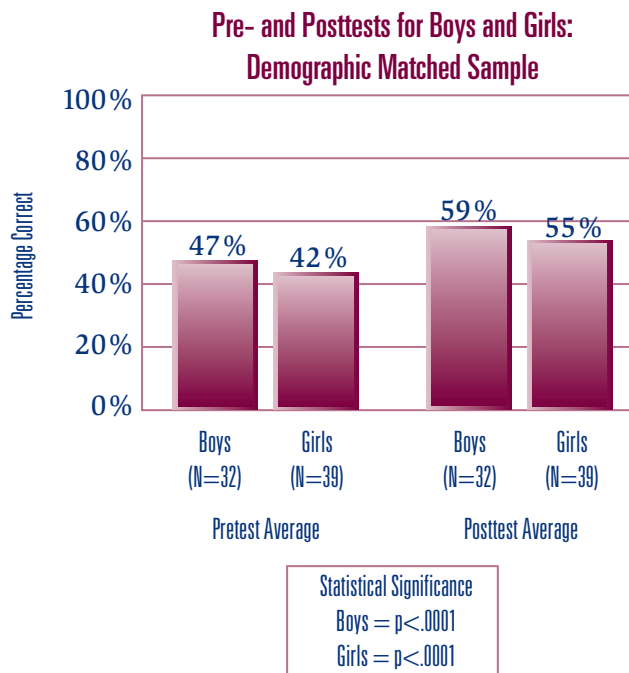*The World History materials appear to be equally effective at improving boys' and girls' test scores.*

Pre- and Posttests for Boys and Girls: Demographic Matched Sample

Statistical Significance
Boys = p<.0001
Girls = p<.0001

T A B L E W H 9 : **PERCENTAGE OF BOYS AND GIRLS WHO IMPROVED THEIR SCORES (E.G. POSTTESTS SCORES HIGHER THAN PRETEST SCORES): DEMOGRAPHIC MATCHED SAMPLE**		
Test Type	**Students with Improved Test Score (%)**	**Average Number of Questions Improved**
Boys (N=32)	63%	3.25
Girls (N=39)	72%	3.31

The World History materials were equally effective for minority and non-minority students with each increasing their test scores by 15% (Non-Caucasian) and 11% (Caucasian) respectively.

Differences Between Non-Minorities (Caucasian) and Minorities (Non-Caucasian) on the World History Test Scores

Table WH10 provides a summary for the Caucasian and Non-Caucasian World History students for the pre- and posttests. Both Caucasian (11%) and Non-Caucasian (15%) posttest average score improved significantly. No statistically significant difference exists when comparing Caucasian and non-Caucasian pretest or posttest scores. The percentage of Caucasian versus Non-Caucasians who improved their scores was 61% versus 77% respectively (see Table WH11). Additionally, on average Caucasian and Non-Caucasians students improved their test scores by 2.76 and 4.0 questions respectively (see Table WH11). Basically, minority status had very limited impact on students' performances, meaning the history materials were equally effective for minority and non-minority students.
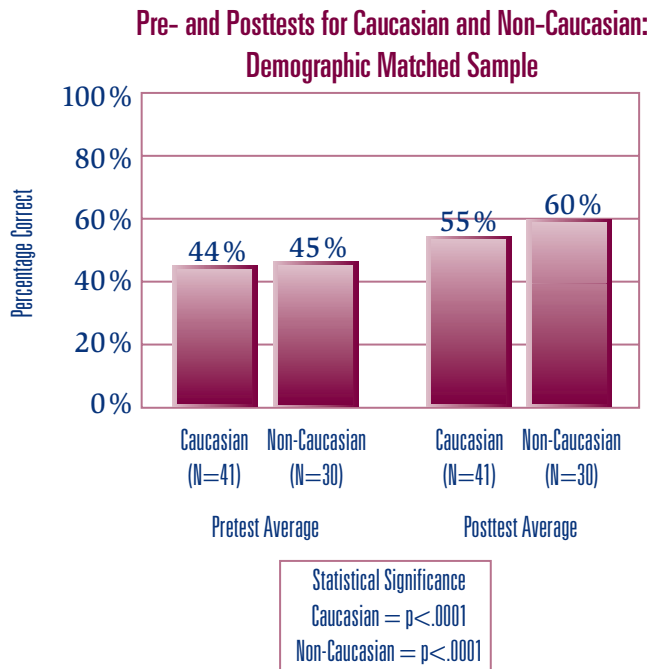
Pre- and Posttests for Caucasian and Non-Caucasian: Demographic Matched Sample

Statistical Significance
Caucasian = p<.0001
Non-Caucasian = p<.0001

T A B L E W H 1 1 : PERCENTAGE OF CAUCASIAN AND NON-CAUCASIAN STUDENTS WHO IMPROVED THEIR SCORES (E.G. POSTTESTS SCORES HIGHER THAN PRETEST SCORES): DEMOGRAPHIC MATCHED SAMPLE		
Test Type	**Students with Improved Test Score (%)**	**Average Number of Questions Improved**
Caucasian (N=41)	61%	2.76
Non-Caucasian (N=30)	77%	4.00

Influence of School on World History Test Scores

TABLE WH12: CHARACTERISTICS OF SCHOOLS PARTICIPATING IN THE WORLD HISTORY PORTION OF THE FIELD STUDY		
School	School WHA (N=45)	School WHB (N=26)
School Location	Mid-sized Central City	Rural, inside CBSA
Students Grade	6th	6th
Average Age	11 years	11 years
Percentage of Students Eligible for Free or Reduced Lunch	40%	24%
% of Non-White (Caucasian) Students	58%	30%
Migrant Population	0%	0%
Student Teacher Ratio	24	20
School District Location	Urban Fringe of Large City	Urban Fringe of Mid-sized City

There was no statistically significant difference in the pre- and posttest World History scores (see Table WH13) between these two schools ($p>0.1$). However, School WHA had a significantly greater improvement in the posttest scores as compared to School WHB (26% versus 5% respectively). Thus, School WHA not only started lower, but also improved their scores above those of the other school. This becomes clear from Table WH14, where 92% of the students in School WHB increased the number of correct questions on the posttest (average increase of almost 7 questions) as compared to School WHA (53%, and only about 1 question better).
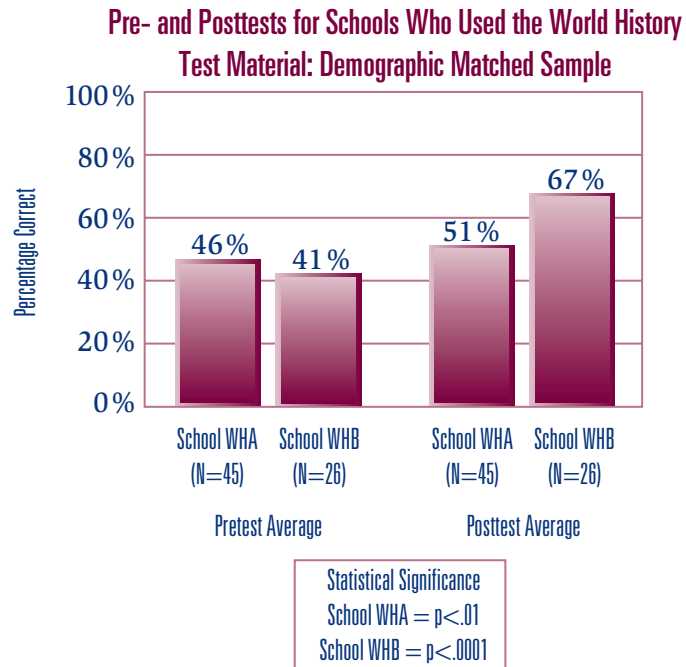
Pre- and Posttests for Schools Who Used the World History
Test Material: Demographic Matched Sample

Statistical Significance
School WHA = p<.01
School WHB = p<.0001

TABLE WH14: PERCENTAGE OF STUDENTS FROM SCHOOLS WHO USED THE WORLD HISTORY TEST MATERIAL AND IMPROVED THEIR SCORES (E.G. POSTTESTS SCORES HIGHER THAN PRETEST SCORES): DEMOGRAPHIC MATCHED SAMPLE		
	Students with Improved Test Score (%)	**Average Number of Questions Improved**
School WHA (N=45)	53%	1.24
School WHB (N=26)	92%	6.81

Observations

Overall the McGraw-Hill test materials were effective in improving the World History students' scores with 55% of students improving. The World History materials appear to be equally effective at improving boys' and girls' test scores with each improving their posttest scores significantly at 12% and 13% respectively.

Non-minority (Caucasian) and minority (non-Caucasian) students performed similarly on the pre- and posttests. For both groups, more than half of the students (61% Caucasian and 77% Non-Caucasian) experienced an improved test score. It seems that the World History test materials are effective for both minority and non-minority students.

Qualitative Research Studies

Qualitative research was conducted by using post teacher and student evaluations during the efficacy study. In addition, focus groups, teacher discussion groups, and classroom visits were conducted while developing the program materials.

Teacher Evaluation Analysis

The Middle School Social Studies World History teacher evaluation instrument asked questions about a wide array of program material including the Student Edition, Teacher Wraparound Edition, and resource materials. This synopsis will highlight trends or issues that appeared when analyzing the data.

T A B L E W H 1 8 : CHARACTERISTICS OF TEACHERS PARTICIPATING IN THE WORLD HISTORY PORTION OF THE FIELD STUDY			
	Teacher WHA	**Teacher WHB**	**Teacher WHC**
Years Teaching World History	18	NA	19
Education	MS	NA	MS
Current Textbook Publisher	Houghton-Mifflin	NA	Glencoe: McGraw Hill
School Location	Rural, inside CBSA	Rural, inside CBSA	Mid-sized Central City
Department Chair	Yes	NA	Yes

In terms of classroom methods, Teachers WHA and WHB distributed their instruction time almost evenly across the four instruction categories (whole class, individual study, small group instruction, and other). Teacher WHC indicated her instruction time falls along traditional practice with approximately 60% of time focused on the whole class and 20% on individual study and small group instruction.

With the exception of Teacher WHB, the other World History teachers indicated that 50% or more of their students were functioning at grade level. Teacher WHC indicated that about 40% of the students were functioning at grade level, and 30% were functioning above or below grade level.

In terms of the Student Edition evaluation, "Introducing the Unit & Chapter Section", teachers rated the "Where in the World? Timeline" and "People to Meet" as universally useful. In terms of Section Instruction, all of the teachers indicated that "Using Geography Skills" was useful to some degree. The

Student Edition feature rated most useful was "Biography" and to a lesser extent, "Get Ready to Read" and "Reading Review".

Overall, the World History teachers indicated that the student materials (interdisciplinary content provided, critical thinking, vocabulary, etc.) were at grade level. Two of the three teachers found the following Teacher Wraparound Editions preparation and instruction features useful:

- Planning Guide
- Biography
- Meeting NCSS Standards
- Meeting Special Needs
- Why It's Important
- Previewing Places to Locate
- Get Ready to Read
- Critical Thinking Activity
- Connecting Across Time

Technology challenges and availability were covered in the World History survey instrument. It seems that the World History teachers had few technology challenges.

Student Evaluation Analysis

The "Student Evaluation" instrument was completed by a total of 107 World History students. The survey instrument was one-page long and consisted of open-ended and closed questions.

Students were asked to **"List three things you find most helpful when using the World History booklet for homework or test preparation."**

World History students' comments concerning the most helpful elements referred to features included in the curriculum that aided them in their studies. The most frequently mentioned were vocabulary (vocabulary sheets were specifically mentioned by several students), Active Note Taking, and Guided Reading. Several students also mentioned that visual stimuli, such as maps and pictures, were helpful. Mentioned less often, but still important, were comments that referred to the organization of the book such as chapter headings.

Focus Groups and Classroom Visits

Qualitative research was gathered across the nation by conducting focus groups and observing classrooms while developing the textbook. Researchers from an independent research firm lead the discussions, and summarized, and analyzed the results. This approach allowed Glencoe to deploy user comments and suggestions directly into the textbooks.

References for Further Study

Glencoe recommends the following resources for further research on teaching reading skills.

Subjects Matter: Every Teacher's Guide to Content-Area Reading, by Harvey Daniels and Steven Zemelman. Portsmouth, NH: Heineman, 2004.

When Kids Can't Read: What Teachers Can Do, A Guide for Teachers 6–12, by G. Kylene Beers. Portsmouth, NH: Heinemann, 2003.

I Read It, But I Don't Get It: Comprehension Strategies for Adolescent Readers, by Cris Tovani. Portland, ME: Stenhouse Publishers, 2000.

Teaching Reading in Middle School, by Laura Robb. New York, NY: Scholastic Professional Books, 2000.