

BUILDING ACADEMIC BACKGROUND KNOWLEDGE





Facilitator's Guide

BUILDING ACADEMIC BACKGROUND **KNOWLEDGE**



ASSOCIATION FOR SUPERVISION AND CURRICULUM DEVELOPMENT

ALEXANDRIA, VIRGINIA USA

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We gratefully acknowledge the support and participation of the staff and students of Lakeview Centennial High School, Lyles Middle School, and Golden Meadows Elementary School, Garland, Texas; Steinmetz Academic Centre, Chicago, Illinois; and Jane Addams Elementary School and Walter R. Sundling Middle School in the Community Consolidated School District 15, Palatine, Illinois.

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ASCD Stock Nos.: Entire Set 405020; Facilitator's Guide, 405020FG; Tape 1, 405021; Tape 2, 405022; Tape 3, 405023; DVD, 605020

ISBN Nos.: Entire Set, 1-4166-0024-8; Facilitator's Guide, 1-4166-0174-0;

Tape 1, 1-4166-0025-6; Tape 2, 1-4166-0026-4; Tape 3, 1-4166-0027-2; DVD, 1-4166-0061-2

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Introduction

BUILDING
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Building Academic Background Knowledge

Every day across the United States, students walk into classrooms and face the daunting task of mastering new content. Although many factors contribute to how well a student will meet this challenge, research suggests that one of the strongest predictors is what the student *already knows* about the content. The relationship between this academic background knowledge and student achievement is well established (see, for example, Dochy, Segers, & Buehl, 1999; Tobias, 1994; Alexander, Kulikowich, & Schulze, 1994; Schiefele & Krapp, 1996; Tamir, 1996; Boulanger, 1981). Simply stated, students who have greater access to academically oriented experiences outside of school are more likely to do well in school than those students who do not.

Children from language-rich homes where ideas are discussed and curiosity about the world is encouraged develop a basic understanding of concepts important to academic achievement. Children who have had a variety of academically oriented experiences, such as visiting a zoo or going on vacation with their families, acquire a wealth of new concepts that contribute to their success in school.

But what about students with less access, particularly students who live in poverty? In his latest book, *Building Background Knowledge for Academic Achievement: Research on What Works in Schools*, Robert Marzano concludes that such differences in access constitute the greatest *alterable* inequality separating students who live in or near poverty from those who do not. Because these students may have fewer opportunities for direct learning experiences, such as field trips to museums or traveling to different countries, Marzano asserts that schools can and must provide sufficient indirect experiences to compensate for this inequity.

Marzano builds his case by relating learning theory and current understanding of brain function to what research says about school-based practices that build background knowledge. The research shows that schools directly and indirectly influence the building of students' academic background knowledge. Schools can directly contribute to students' background knowledge by sponsoring field trips to museums, historical sites, art galleries, and the like, thus immersing students in the learning experience. These kinds of events engage all the senses and give students multiple opportunities to form concepts that will become part of their permanent memory.

Another way schools can directly influence students' background knowledge is by implementing mentoring programs that match students with

individuals in the community who can support their interests and be a consistent presence in their lives.

As effective as these programs are, reality suggests that time and the school budget will limit direct ways of building student academic background knowledge. Schools can, however, build background knowledge indirectly in ways that can be infused into the students' daily routine. The research shows that indirect, or virtual, experiences gained through wide reading and direct vocabulary instruction are effective in building students' academic background knowledge if they are approached systematically over time.

Marzano's analysis has resulted in a set of characteristics of effective indirect approaches. These approaches would

- Have the goal of installing background knowledge in permanent memory;
- Ensure that students have multiple exposures to the target information in order to facilitate the storage of information in permanent memory;
- Focus on the development of surface-level but accurate knowledge across a broad spectrum of subject areas;
- Use instructional techniques that focus on the linguistic and nonlinguistic aspects of background knowledge;
- Focus on developing labels for packets of experiential knowledge in the tradition of direct vocabulary instruction; and
- Rely on the generation of virtual experiences in working memory through wide reading, language interaction, and educational visual media.

Because background knowledge manifests itself as vocabulary knowledge, the book *Building Background Knowledge for Academic Achievement: Research on What Works in Schools* explores direct vocabulary instruction in depth by outlining eight characteristics of effective vocabulary instruction and applying these characteristics to a six-step process that teachers can use to help students develop and understand new concepts.

To assist schools and districts in implementing this process, Marzano identifies 7,923 terms extracted from national standards documents and from two documents that synthesize both national and state standards documents. This list marks a starting point for teachers, schools, and

districts to first articulate the terms considered most important for their students to be familiar with and then to launch a systematic program that will build their students' background knowledge.

Building Background Knowledge for Academic Success: Research on What Works in Schools continues Robert Marzano's elaboration of practices that research shows to be the most effective at enhancing student achievement. He initially identifies these education practices in the ASCD book *What Works in Schools: Translating Research into Action* (2003) and categorizes them into three groups:

- School-level factors, those aspects of the overall system that are under the jurisdiction of the school as a whole (a guaranteed and viable curriculum, challenging goals and effective feedback, parent and community involvement, a safe and orderly environment, and collegiality and professionalism).
- Teacher-level factors, those aspects of classroom practice over which teachers have control (instructional strategies, classroom management, and classroom curriculum design).
- Student-level factors, those aspects of their learning that are directly related to student background (home environment, learned intelligence and background knowledge, and motivation).

This professional development program shows how these factors can interact to create an approach to building students' academic background knowledge that involves the entire system. In a systematic program, the school-level factor of guaranteed and viable curriculum is, in effect, created by the selection of terms that represent concepts that all teachers will focus on. The six-step process for applying certain instructional strategies represents the teacher-level factor. The involvement of the students with specific learning activities builds the student-level factor—learned intelligence and background knowledge. This program is useful for anyone committed to closing the achievement gap in our schools and enabling all of our students to succeed, both in the classroom and beyond.

The purpose of this professional development series is to present and illustrate research documented in *Building Background Knowledge for Academic Achievement: Research on What Works in Schools*, an ASCD book written by Robert J. Marzano. The video programs and facilitator's guide can be used to introduce principals, supervisors, teach-

Purpose of the Series

ers, and others to what research says about background knowledge: what it is, why it is important to future learning, and how it contributes to that learning. In addition, the longer workshops can be used to help practitioners and administrators better understand the science and strategies behind successful vocabulary development.

About the Series

This video-based professional staff development series consists of three programs and a facilitator's guide on building background knowledge. The first program examines the neuroscientific basis for learning language, concepts, and vocabulary, and connects this information to what the research says about how children best acquire new academic terms and understanding. It also explores characteristic 8 of effective direct vocabulary instruction by describing how schools can prepare to teach new concepts and build background knowledge by systematically identifying words and concepts to teach in every subject area and grade level. The second program focuses on characteristics 1–3 of effective direct vocabulary instruction, and the third on characteristics 4–7. The guide includes detailed agendas and activities for six workshops—two workshops per video—as well as handouts, overheads, and additional readings and resources.

Two workshop formats are provided for each program. The first workshop format runs about an hour and a half, giving participants an opportunity to view the video in its entirety and to reflect on and share broad reactions to and perspectives about the issues addressed. The second workshop format runs approximately three and a half hours. Activities, supplemental readings, and opportunities for discussion deepen participants' understanding of specific issues explored in each program and help them to apply these issues to their own situations. The longer workshops are designed to help participants gain a better understanding of building academic background knowledge and to explore ways in which its principles and strategies may be employed in their own classrooms and schools.

Use of the Facilitator's Guide

As the facilitator of this workshop series, you may find it helpful to keep in mind that when different people view a video, each may see, hear, and learn something different. Consequently, if participants discuss their different insights, they will often learn more than if they simply viewed the program without follow-up activities. Moreover, viewing video programs can often be a passive activity, much like watching

television, unless careful preparation has been made to turn viewing into an intellectually active experience by providing the viewer with appropriate previewing discussion activities and follow-up activities. The follow-up activities can promote further reflection and can support the participants' efforts to plan for the effective application of the ideas presented in the program.

This guide is designed to help you obtain the best possible benefits from this series on *Building Academic Background Knowledge*. The workshop activities and discussion questions included here can serve as a starting point; however, the facilitator's choices of activities and questions should certainly not be limited to those contained in this guide. Indeed, facilitators should encourage participants to raise their own questions based on the particular needs or concerns of their school, district, or community.

This guide contains four sections:

- The Introduction offers an overview of the research presented in *Building Academic Background Knowledge*, as well as a description of the video programs participants will view.
- The Workshops section provides agendas, materials, and information needed for the leader to plan and conduct two different workshops for each video program.
- The Handouts and Overheads section includes the materials to be duplicated and distributed to participants in each workshop. They include camera-ready masters for overhead transparencies that are incorporated within the various workshop formats.
- The Readings and Resources section includes a selection of readings—several of which are incorporated within the workshops—that may be duplicated and distributed to workshop participants.

As facilitator of this viewing process, you could be a staff developer, principal, central office administrator, teacher, parent, or community member. Regardless of your background, as the leader, your preparation for the workshop and discussion will help your group to benefit from this program. Remember, you may be showing this video to a group of individuals who have varying levels of knowledge and experience with learning theory, current understanding of brain function, and direct vocabulary instruction, so your background knowledge and outside reading will be beneficial. As a leader, you have several major responsibilities.

Role of the Facilitator

Read and View the Materials.

Your initial preparation should include viewing the video(s) you are going to use in your workshop, reading the Introduction, and studying the workshop format(s) you plan to use. A thorough reading of the book *Building Background Knowledge for Academic Achievement: Research on What Works in Schools* prior to the workshop would likely be beneficial as you lead participants through the discussion and activities.

Prepare the Program Activities.

You'll want to read each of the articles in the Readings and Resources section. You should also review the workshop guides and handouts, duplicate materials, and gather the necessary equipment and supplies for the workshop.

Check the Room and the Seating Arrangements.

Reserve a room that is large enough, with ample seating for the number of participants you expect to attend, and ensure that it is conducive to small-group discussions.

Arrange for the Necessary Video and Audiovisual Equipment.

Arrange for a working VCR or DVD player and monitor, ensure proper electrical fitting, and make sure you have sufficient power cords with adapters for the VCR or DVD player. (One 23- to 25-inch monitor will suffice for up to 25 participants.) Plug in both machines to ensure that they are in working condition and to make sure that the electrical outlets in the reserved room are in working order. If the room is large, you may need a microphone and speakers. If you plan to use overheads, make sure you have a working overhead projector, screen, and extra transparencies and markers, if you need them. Provide a flipchart and markers, or chalk and eraser for a chalkboard.

Prepare Materials.

Duplicate enough handouts for all participants—as well as any supplementary readings you would like to distribute. Prepare overhead transparencies from the Overheads section of this guide and duplicate any overheads you wish to use as handouts.

Announce the Program.

In your announcements or invitations, give sufficient notice and clearly specify the day of the week, date, time, and location for the program. Remind participants to bring pencils and notepads. Keep in mind that if

parents, business leaders, or community members are invited, they may need more advance notice than school or district staff members.

Make Other Arrangements.

Prepare an agenda, with times for breaks. Also, arrange for refreshments, if desired.



Workshops

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PROGRAM 1

*The Art and Science
of Teaching*



Workshop 1A

This workshop accompanies Program 1, *The Art and Science of Teaching*, and explores the neuroscientific basis for learning language, concepts, and vocabulary, and connects this information to what education research says about how children best acquire new academic terms and understanding. It also explores how schools can prepare to teach new concepts and effectively build students' background knowledge.

During the workshop, participants reflect on specific challenges faced by their students and model a process for defining an academic vocabulary. This process reflects the eighth and final characteristic of effective direct vocabulary instruction: Instruction should focus on terms that have a high probability of enhancing academic success.

Agenda and Time Guide

Activity	Time (minutes)
Welcome and Introductions	20
Introduction to the Video	10
View Program 1, <i>The Art and Science of Teaching</i>	30
Reflection and Discussion	40
Total Approximate Workshop Time	1 hour, 40 minutes

Objectives for Workshop 1A

This workshop will help participants to

- Understand what it means to build academic background knowledge.
- Identify specific challenges faced by their students in building background knowledge and interventions for those challenges.
- Experience the process of defining an academic vocabulary.

Materials List for Workshop 1A

- Handout 1, Reflection Activity: Challenges and Interventions
- Handout 2, Defining Critical Vocabulary: Practice
- Handout 4, Eight Characteristics of Effective Direct Vocabulary Instruction: Focus on Characteristic 8
- Overhead 1, Objectives for Workshop 1A

Facilitator's Note

Providing folders with all materials inside is an efficient way to distribute handouts and other resources. You may also wish to provide name tags.

- Chalkboard, flipchart, or overhead transparency, and chalk or markers, as appropriate

Welcome and Introductions (20 minutes)

1. Welcome all participants. Introduce yourself and explain your role as workshop facilitator. As the facilitator, you guide the group through the workshop to help them meet the workshop objectives.
2. Depending on the size of the group and whether the participants of the workshop know one another, you may want to set aside time for participants to introduce themselves individually.
3. Summarize key points from the introduction to the manual in your own words.

Introduction to the Video (10 minutes)

1. Explain to participants that this video is the first part of a three-part series that focuses on what research says about academic background knowledge: what it is, why it is important to future learning, and how it can be built through specific interventions in the classroom, particularly direct vocabulary instruction. Explain that direct vocabulary instruction is addressed in greater depth in Workshops 2 and 3 of this professional development series.

This video explores the neuroscientific basis for learning and connects this information to what education research says about how children best acquire new academic concepts. It also examines how schools can prepare to teach new concepts and effectively build students' background knowledge.

2. Display Overhead 1, Objectives for Workshop 1A, and explain the goals of this workshop. Give participants copies of Handout 1, Reflection Activity: Challenges and Interventions.
3. Ask participants to consider the specific challenges that students in their classroom, school, or district face with regard to building background knowledge. Give participants about five minutes to reflect and record their thoughts on Handout 1. Suggest that they also use Handout 1 to record notes and questions as they view the video.

View Program 1, *The Art and Science of Teaching* (30 minutes)

Reflection and Discussion (40 minutes)

1. After viewing the video, ask participants to refer to Handout 1, on which they recorded their reflections on the challenges that students in their classroom, school, or district face with regard to building background knowledge. Suggest that they take the next five minutes to reflect on and record possible interventions, based on what they saw and heard during the video.
2. Divide participants into groups of 4–6 people. Distribute Handout 2, Defining Critical Vocabulary: Practice. Reiterate to participants that to make the task of academic vocabulary instruction manageable, schools and districts must first determine for themselves the most important terms and concepts to be taught. The next activity will model this practice.
3. Ask the groups to brainstorm 10 terms related to the topic of “gardening.” Participants should not discuss the terms at this time; they should simply generate a quick list and record the terms on a chalkboard, flipchart, or an overhead transparency.
4. Next, ask participants to individually write the terms on their handouts and review each term, assigning it a ranking of 1, 2, or 3—“1” meaning that a term or concept is critical for students to know, “2” meaning that a term or concept is useful but not critical, and “3” meaning that a term or concept is interesting but not critical. Note that space is provided for participants to add terms of their own. Emphasize that although the terms and concepts they will rank are all related to a single topic, in reality, a school or district team’s job is made more difficult by the necessity of prioritizing what will be taught across subject areas.
5. After 5–10 minutes, the small groups should tally the results of their rankings on a chalkboard, flipchart, or an overhead transparency. Participants should discuss the reasons for their rankings and attempt to build consensus.
6. After about 15 minutes, bring the small groups back together. Ask the reconvened group to discuss the challenges they faced in this activity and then brainstorm ways to anticipate and overcome these challenges when they enact this process in their school or district.

Record important points on a chalkboard, flipchart, or an overhead transparency.

7. When the discussion is complete, distribute Handout 4, Eight Characteristics of Effective Direct Vocabulary Instruction: Focus on Characteristic 8. Explain to participants that the handout lists characteristics of an effective direct vocabulary instruction program and the activity they've just completed demonstrated the last characteristic: Instruction should focus on terms that have a high probability of enhancing academic success. Allow participants a few minutes to discuss how the characteristic related to their activity. Tell them that the other characteristics are focused on in more detail in Programs 2 and 3.
8. Close the workshop by reviewing the workshop objectives, and address any questions the participants may have about building background knowledge and additional workshop options. Thank the participants for attending the workshop.

Workshop 1B

This workshop accompanies Program 1, *The Art and Science of Teaching*, and details the activities for a three and a half hour workshop for 10–100 participants. If the workshop has to be shorter, you may eliminate portions of the activities as appropriate. Possible audiences for this long-form workshop might include school improvement teams, faculty or staff, task forces, parent-teacher groups, leadership teams, central office administrators, and school board members.

The video focuses on the neuroscientific basis for learning language, concepts, and vocabulary, and connects this information to what education research says about how children best acquire new academic terms and understanding. It also explores how schools can prepare to teach new concepts and effectively build students' background knowledge.

Agenda and Time Guide

Activity	Time (minutes)
Welcome and Introductions	15
Introductory Activity	15
View Program 1, <i>The Art and Science of Teaching</i>	30
Critical Incident Activity	30
Break	15
Silent Sustained Reading	30
Defining an Academic Vocabulary	40
The Six-Step Process	15
Next Steps	15
Conclusion	10
Total Approximate Workshop Time	3 hours, 35 minutes

Objectives for Workshop 1B

This workshop will help participants to

- Understand what it means to build academic background knowledge.
- Identify specific challenges faced by their students in building background knowledge and interventions for those challenges.
- Learn about a five-step process for developing a sustained silent reading (SSR) program.
- Experience the process of defining an academic vocabulary.

Facilitator's Note

Providing folders with all materials inside is an efficient way to distribute handouts and other resources. You may also wish to provide copies of some of the readings suggested in the Readings and Resources section, particularly Reading 1, "Tapping the Power of Wide Reading and Language Experience," and Reading 2, "Six Steps to Effective Vocabulary Instruction." It may be helpful for participants to receive these materials prior to the workshop. You may also wish to provide name tags.

- Learn about six steps to effective vocabulary instruction.

Materials List for Workshop 1B

- Handout 1, Reflection Activity: Challenges and Interventions
- Handout 2, Defining Critical Vocabulary: Practice
- Handout 3, Critical Incident Activity
- Handout 4, Eight Characteristics of Effective Direct Vocabulary Instruction: Focus on Characteristic 8
- Handout 5, Next Steps
- Overhead 2, Objectives for Workshop 1B
- Overhead 3, Silent Sustained Reading: A Five-Step Process
- Overhead 4, A Six-Step Process for Effective Vocabulary Instruction
- Reading 1, "Tapping the Power of Wide Reading and Language Experience"
- Reading 2, "Six Steps to Effective Vocabulary Instruction"
- Chalkboard, flipchart, or overhead transparency, and chalk or markers, as appropriate

Welcome and Introductions (15 minutes)

1. At the door, have a sign-in sheet for participants to record their names, addresses, and phone numbers.
2. If participants are from different schools, arrange seating so that participants from the same school are sitting together.
3. Welcome all participants. Introduce yourself and explain your role as workshop facilitator. As the facilitator, you guide the group through the workshop to help them meet the workshop objectives.
4. Depending on the size of the group and whether the participants of the workshop know one another, you may want to set aside time for participants to introduce themselves individually. You might also ask the participants to state why they are interested in learning about building academic background knowledge and to describe briefly the extent to which they are familiar with Robert Marzano's work.

5. Explain that this workshop is suggested for those who wish to become more deeply involved in examining what research says about academic background knowledge: what it is, why it is important to future learning, and how it can be built through direct vocabulary instruction in the classroom.
6. Display Overhead 2, Objectives for Workshop 1B. Give participants copies of Handout 1, Reflection Activity: Challenges and Interventions.

Introductory Activity (15 minutes)

1. Ask participants to consider the specific challenges that students in their classroom, school, or district face with regard to building background knowledge. Give participants about 10 minutes to reflect and record their thoughts on Handout 1. Suggest that they also use Handout 1 to record notes and questions as they view the video.

View Program 1, *The Art and Science of Teaching* (30 minutes)

Critical Incident Activity (30 minutes)

1. Ask participants to pair up for this activity, which is designed to help them reflect on what they have just learned about building academic background knowledge. Distribute Handout 3, Critical Incident Activity. Present to them the following scenario: You have just read an editorial in which the writer asserts that “some students can’t learn.”

Instruct participants to discuss in pairs the following:

- Based on the video, what are two or three main points you might make in response to this writer?
- Based on your own experience, what additional points might you make?

Ask participants to record their thoughts and suggestions on Handout 3.

2. After about 15 minutes, ask participants to share their responses and reactions to the activity with the group.

Facilitator’s Note

Some participants may agree with the writer. As the facilitator, you will need to lead the discussion in ways that respect all perspectives. Attempt to keep participants on-task by redirecting them to the content of the video when necessary.

Break (15 minutes)

Sustained Silent Reading (30 minutes)

1. Explain to participants that sustained silent reading is the first of two interventions that you will consider in this workshop. Ask participants to share with the large group what reading programs look like in their schools, as well as any benefits and drawbacks to these programs.
2. Distribute copies of Reading 1, “Tapping the Power of Wide Reading and Language Experience,” and Overhead 3, Sustained Silent Reading: A Five-Step Process, and display the overhead.
3. Give participants about 15 minutes to read and discuss Reading 1. Then call their attention to Overhead 3 and ask them to share their responses to the reading with the whole group. Record the most salient comments on a chalkboard, flip chart, or overhead transparency.

Defining an Academic Vocabulary (40 minutes)

1. Divide participants into groups of 4–6 people. Distribute Handout 2, Defining Critical Vocabulary: Practice. Explain to participants that the first step in the second intervention, direct vocabulary instruction, is for teachers, schools, and districts to determine what terms and concepts are critical for their students to learn. The next activity will model this practice.
2. Ask the groups to brainstorm 10 terms related to the topic of “gardening.” Participants should not discuss the terms at this time; they should simply generate a quick list and record the terms on a chalkboard, flipchart, or an overhead transparency.
3. Next, ask participants to individually write the terms on their handouts and review each term, assigning it a ranking of 1, 2, or 3—“1” meaning that a term or concept is critical for students to know, “2” meaning that a term or concept is useful but not critical, and “3” meaning that a term or concept is interesting but not critical. Note that space is provided for participants to add terms of their own. Emphasize that although the terms and concepts they will rank are all related to a single topic, in reality, a school or district team’s job is made more difficult by the necessity of prioritizing what will be taught across subject areas.

4. After 5–10 minutes, the small groups should tally the results of their rankings on a chalkboard, flipchart, or an overhead transparency. Participants should discuss the reasons for their rankings and attempt to build consensus.
5. After about 15 minutes, bring the small groups back together. Ask the reconvened group to discuss the challenges they faced in this activity and then brainstorm ways to anticipate and overcome these challenges when they enact this process in their school or district. Record important points on a chalkboard, flipchart, or an overhead transparency.
6. When the discussion is complete, distribute Handout 4, Eight Characteristics of Effective Direct Vocabulary Instruction: Focus on Characteristic 8. Explain to participants that the handout lists characteristics of an effective direct vocabulary instruction program and the activity they’ve just completed demonstrated the last characteristic: Instruction should focus on terms that have a high probability of enhancing academic success. Allow participants a few minutes to discuss how the characteristic related to their activity. Tell them that the other characteristics are focused on in more detail in Programs 2 and 3.

A Six-Step Process (15 minutes)

1. Explain to participants that after a school or district team has defined the academic vocabulary that it feels is important for students to know, it is ready to enact this program through a six-step process. Ask participants to share with the large group what vocabulary instruction looks like in their schools, as well as any benefits and drawbacks to these programs.
2. Distribute copies of Overhead 4, A Six-Step Process for Effective Vocabulary Instruction, and display the overhead. Review briefly the six steps to effective vocabulary instruction outlined in Reading 2, “Six Steps to Effective Vocabulary Instruction.” Explain to participants that these six steps are generated by the eight characteristics of effective direct vocabulary instruction.

Next Steps (15 minutes)

1. Distribute Handout 5, Next Steps. Give participants 5 minutes to individually brainstorm responses to the questions on the handout:

- What are the most important pieces of information I will take away from this workshop?
 - What is one specific step I can take in my classroom, school, or district to put what I have learned into action?
2. Take about 10 minutes to conduct a whole-group discussion about what participants learned from the workshop and how this new knowledge may influence their classroom practices.

Conclusion (10 minutes)

Close the workshop by reviewing the workshop objectives, and address any questions the participants may have about building background knowledge, direct vocabulary instruction, or additional workshop options. Thank the participants for attending the workshop.

PROGRAM 2

*Teaching Vocabulary,
Characteristics 1-3*



Workshop 2A

This workshop accompanies Program 2, *Teaching Vocabulary, Characteristics 1–3*, and introduces participants to three of the eight characteristics of effective direct vocabulary instruction, as described by Robert Marzano in the book *Building Background Knowledge for Academic Achievement: Research on What Works in Schools*.

- Characteristic 1: Effective vocabulary instruction does not rely on definitions.
- Characteristic 2: Students must represent their knowledge of words in linguistic and nonlinguistic ways.
- Characteristic 3: Effective vocabulary instruction involves the gradual shaping of word meanings through multiple exposures.

During the workshop, participants learn how current research on how the brain learns relates to the above characteristics. They also see these principles illustrated in real classroom activities.

Agenda and Time Guide

Activity	Time (minutes)
Welcome and Introductions	10
Introduction to the Video	10
View Program 2, <i>Teaching Vocabulary, Characteristics 1–3</i>	30
Activity and Discussion	40
Total Approximate Workshop Time	90 minutes

Objectives for Workshop 2A

This workshop will help participants to

- Understand characteristics 1–3 of effective direct vocabulary instruction.
- Understand specific elements related to each of these three characteristics.
- Explore vocabulary acquisition based on these three characteristics from the perspective of a student.
- Identify how they might implement the strategies suggested by these three characteristics in their classrooms, schools, and districts.

Facilitator’s Note

Providing folders with all materials inside is an efficient way to distribute handouts and other resources. You may also wish to provide copies of some of the readings suggested in the Readings and Resources section, particularly Reading 3, “Characteristics of Effective Direct Vocabulary Instruction.” It may be helpful for participants to receive these materials prior to the workshop. You may also wish to provide name tags.

Materials List for Workshop 2A

- Handout 6, Eight Characteristics of Effective Direct Vocabulary Instruction: Focus on Characteristics 1–3
- Handout 7, Exploring Academic Terms
- Overhead 5, Objectives for Workshop 2A
- Overhead 6, Exploring Academic Terms: Sample
- Overhead 7, Discussion Questions for Workshop 2A
- Reading 3, “Characteristics of Effective Direct Vocabulary Instruction”
- Chalkboard, flipchart, note cards, or overhead transparencies and chalk or markers, as appropriate

Vocabulary Terms for This Workshop

The following are some suggested terms to use during the Reflection and Discussion activity. You may also use terms of your own choosing, keeping in mind the desired instructional elements. Participants who have begun school- or districtwide work on generating their own list of terms may use those terms instead.

Facilitator’s Note

Prior to the workshop, you should select an appropriate number of terms based on the number of anticipated participants—one term for every group of four participants (e.g., if you have 24 workshop participants, select six terms from the suggested list). You might write the terms on note cards, to be distributed among the groups.

Minneapolis	elitism	Condoleezza Rice
Appalachia	culture	habitat
abbreviation	immigration	recreation
bibliography	atmosphere	Venn diagram
rhyme	Lance Armstrong	multiplication
profit	mass media	first aid
composer	immunization	

Welcome and Introductions (10 minutes)

1. Welcome all participants. Introduce yourself and explain your role as workshop facilitator. As the facilitator, you guide the group through the workshop to help them meet the workshop objectives.

2. Depending on the size of the group and whether the participants of the workshop know one another, you may want to set aside time for participants to introduce themselves individually.
3. Summarize key points from the introduction to the manual in your own words.

Introduction to the Video (10 minutes)

1. Explain to participants that this video is the second part of a three-part series that focuses on what research says about academic background knowledge: what it is, why it is important to future learning, and how it can be built through specific interventions in the classroom, particularly direct vocabulary instruction.
2. Display Overhead 5, Objectives for Workshop 2A, and explain the goals of this workshop. Give participants copies of Handout 6, Eight Characteristics of Effective Direct Vocabulary Instruction: Focus on Characteristics 1–3. Explain that even though this video focuses specifically on characteristics 1–3, all eight of the characteristics should be integrated in a systematic program of direct vocabulary instruction.
3. Ask participants to consider what vocabulary instruction looks like in their schools: Is it effective? What are its strengths and weaknesses? Ask them to write several sentences that capture their thinking on the back of Handout 6. Suggest that they also use Handout 6 to record notes and questions as they view the video.

View Program 2, *Teaching Vocabulary, Characteristics 1–3* (30 minutes)

Reflection and Discussion (40 minutes)

1. Explain that the group will now engage in an activity that illustrates how students might explore academic vocabulary, based on characteristics 1–3. This is an opportunity for participants to “walk in their students’ shoes.”
2. Divide the participants into groups of four and distribute Handout 7, Exploring Academic Terms. Next, assign each group one of the terms you selected prior to the workshop. Each group should receive a different term to explore.

Facilitator’s Note

Although you may adjust the size of the groups based on the configuration of your particular workshop, try to keep the groups small to encourage all members to participate.

Facilitator's Note

Consider providing the terms on note cards. Remind participants that if they have begun school- or districtwide work on generating their own list of terms, they may use one of those terms instead.

3. Display Overhead 6, Exploring Academic Terms: Sample. Explain in your own words the different elements of the sample, paying particular attention to the difference between a “definition” and a “description.” Direct participants to use Handout 7 to do the following as a group:
 - Create a written description of the term that has been assigned to them.
 - Create a nonverbal representation of the term (graphic representation, picture, pictograph, action).
 - Create a comparison, classification, metaphor, or analogy that deepens understanding of the word.
4. After about 20 minutes of small-group discussion, bring the groups back together and invite participants to report on their experiences during this activity. Display Overhead 7, Discussion Questions for Workshop 2A, and direct them to address some or all of the following questions:
 - What were the challenges of the activity and how did you address them? How would you help students address them?
 - Did generating multiple representations of the term change your understanding of it? If so, how?
 - Did the activity or workshop change your understanding of vocabulary acquisition? How?
 - Did the activity or workshop change your perception of vocabulary instruction in your classroom or school?
 - What is one specific step that you can take next in your classroom or school to implement what you have learned in this workshop?

Record important points on a chalkboard or flipchart.

5. Close the workshop by reviewing the workshop objectives, and address any questions the participants may have about building background knowledge, direct vocabulary instruction, or additional workshop options. Thank the participants for attending the workshop.

Workshop 2B

This workshop accompanies Program 2, *Teaching Vocabulary, Characteristics 1–3*, and introduces participants to three of the eight characteristics of effective direct vocabulary instruction, as described by Robert Marzano in the book *Building Background Knowledge for Academic Achievement: Research on What Works in Schools*.

- Characteristic 1: Effective vocabulary instruction does not rely on definitions.
- Characteristic 2: Students must represent their knowledge of words in linguistic and nonlinguistic ways.
- Characteristic 3: Effective vocabulary instruction involves the gradual shaping of word meanings through multiple exposures.

This workshop details the activities for a three and a half hour workshop for 10–100 participants. If the workshop has to be shorter, you may eliminate portions of the activities as appropriate. Possible audiences for this long-form workshop might include school improvement teams, faculty or staff, task forces, parent-teacher groups, leadership teams, central office administrators, and school board members.

During the workshop, participants learn how current research on how the brain learns relates to the above characteristics. They also see these principles illustrated in real classroom activities.

Agenda and Time Guide

Activity	Time (minutes)
Welcome and Introductions	20
Introductory Activity	30
View Program 2, <i>Teaching Vocabulary, Characteristics 1–3</i>	30
Characteristics 1–3 in More Detail	40
Break	20
Bringing It All Together	45
Next Steps	15
Conclusion	10
Total Approximate Workshop Time	3 hours, 30 minutes

Objectives for Workshop 2B

This workshop will help participants to

- Understand characteristics 1–3 of effective direct vocabulary instruction.
- Understand how current research on how the brain learns relates to these characteristics.
- Understand specific elements related to each of these three characteristics.
- Explore how to implement strategies suggested by these three characteristics in actual classroom practice.
- Identify how they might implement the strategies suggested by these three characteristics in their classroom, schools, and districts.

Facilitator's Note

Providing folders with all materials inside is an efficient way to distribute handouts and other resources. You may also wish to provide name tags.

Materials List for Workshop 2B

- Handout 5, Next Steps
- Handout 6, Eight Characteristics of Effective Direct Vocabulary Instruction: Focus on Characteristics 1– 3
- Handout 7, Exploring Academic Terms
- Overhead 6, Exploring Academic Terms: Sample
- Overhead 8, Objectives for Workshop 2B
- Overhead 9, Thinking About Vocabulary Instruction
- Overhead 10, Thinking About the Characteristics
- Reading 3, “Characteristics of Effective Direct Vocabulary Instruction”
- Reading 5, “The Importance of Background Knowledge”
- Chalkboard, flipchart, note cards, or overhead transparencies and chalk or markers, as appropriate

Vocabulary Terms for This Workshop

The following are some suggested terms to use during the Bringing It All Together activity. You may also use terms of your own choosing, keeping in mind the desired instructional elements. Participants who have begun

school- or districtwide work on generating their own list of terms may use those terms instead.

Minneapolis	immigration	multiplication
Appalachia	atmosphere	profit
abbreviation	Lance Armstrong	composer
bibliography	Condoleezza Rice	mass media
rhyme	habitat	immunization
elitism	recreation	first aid
culture	Venn diagram	

Facilitator's Note

Prior to the workshop, you should select an appropriate number of terms based on the number of anticipated participants—one term for every group of four participants (e.g., if you have 24 participants, select six terms from the suggested list). You might write the terms on note cards, to be distributed among the groups.

Welcome and Introductions (20 minutes)

1. At the door, have a sign-in sheet for participants to record their names, addresses, and phone numbers.
2. If participants are from different schools, arrange seating so that participants from the same school are sitting together.
3. Welcome all participants. Introduce yourself and explain your role as workshop facilitator. As the facilitator, you guide the group through the workshop to help them meet the workshop objectives.
4. Depending on the size of the group and whether the participants of the workshop know one another, you may want to set aside time for participants to introduce themselves individually. You might also ask the participants to state why they are interested in learning about building academic background knowledge and to describe briefly the extent to which they are familiar with Robert Marzano's work.
5. Explain that this workshop is suggested for those who wish to become more deeply involved in examining what research says about academic background knowledge: what it is, why it is important to future learning, and how it can be built through direct vocabulary instruction in the classroom.
6. Display Overhead 8, Objectives for Workshop 2B. Give participants copies of Handout 6, Eight Characteristics of Effective Direct Vocabulary Instruction: Focus on Characteristics 1–3. Explain to participants that by the end of this workshop, they will have a better understanding of the following three of the eight characteristics of

effective direct vocabulary instruction, as described by Robert Marzano in the book *Building Background Knowledge for Academic Achievement: Research on What Works in Schools*.

Characteristic 1: Effective vocabulary instruction does not rely on definitions.

Characteristic 2: Students must represent their knowledge of words in linguistic and nonlinguistic ways.

Characteristic 3: Effective vocabulary instruction involves the gradual shaping of word meanings through multiple exposures.

Note that even though this workshop focuses specifically on characteristics 1–3, all eight of the characteristics should be integrated in a systematic program of direct vocabulary instruction.

Explain to participants that in this workshop they will learn how current research on how the brain learns relates to the characteristics. They will see these principles illustrated in real classroom activities.

Facilitator's Note

If you know participants have already completed Workshop 1A/1B, you might adjust your introductory comments to address their prior knowledge.

Facilitator's Note

Select the question or questions to be discussed based on your understanding of participants' prior knowledge and experience, including prior workshops in this series.

Introductory Activity (30 minutes)

1. Discuss with participants the concept of academic background knowledge and approaches to enhancing it, highlighting the role of direct vocabulary instruction in this process. Use the introductory material in this manual and Reading 5, “The Importance of Background Knowledge,” from the Readings and Resources section to guide you in these remarks.
2. Display Overhead 9, Thinking About Vocabulary Instruction, and ask participants to discuss in a large group one or more of the following questions:
 - What does vocabulary instruction look like in your classroom? In your school?
 - Talk to your group about the last vocabulary terms you taught in class. How did you teach the vocabulary terms? What do you think students learned?
 - Do you think vocabulary instruction is an important part of a standards-based classroom? Explain.
 - If you were the king or queen of vocabulary in your school, what would vocabulary instruction look like?

3. Suggest that participants use the back of Handout 6 to record notes and questions as they view the video.

View Program 2, *Teaching Vocabulary, Characteristics 1–3* (30 minutes)

Characteristics 1–3 in More Detail (40 minutes)

1. Explain that participants will now engage in an activity designed to give them more in-depth understanding of characteristics 1–3. Divide participants into three groups and assign each group one of the three characteristics addressed in this workshop. Distribute Reading 3, “Characteristics of Effective Direct Vocabulary Instruction.” Each group should appoint a recorder and a reporter.
2. Ask participants to individually read the section of Reading 3 that addresses the characteristic assigned to their group. During the reading, display Overhead 10, Thinking About the Characteristics, and direct participants to consider the following questions as they read:
 - In what specific ways can this characteristic be reflected in direct vocabulary instruction in my classroom or school?
 - What would it look like in my classroom or school if students were actively engaged in vocabulary instruction that reflected this characteristic?

Ask participants to then discuss these questions in their small groups, recording their discussion points so that they can report to the larger group.

3. After about 20 minutes of discussion, direct the groups to create a flipchart poster that includes
 - A review of the information about the characteristic, based on the video and the reading.
 - A summary of the group’s ideas related to implementing direct vocabulary instruction that reflects this characteristic.
4. Allow about 10 minutes for the groups to make their posters, then ask the reporters from each group to remain behind to explain the group’s responses and answer questions as other participants rotate through the poster stations. Participants will visit each of the posters, hear from the reporters, and ask questions or make suggestions as appropriate.

Facilitator’s Note

If you have a large number of participants, adjust the group sizes and assignments as necessary to ensure that they are conducive to discussion. Ask people who work in the same school to form groups together.

Facilitator’s Note

Before beginning the gallery walk, inform participants that they will call upon their understanding of each of the three characteristics in the next activity. They should take notes and discuss as necessary to gain a full understanding of the characteristics.

5. After all participants have seen and reflected on each of the group's posters, have the reporter from each group share with the larger group any additional suggestions provided by the other workshop participants

Break (20 minutes)

Bringing It All Together (45 minutes)

Facilitator's Note

Consider providing the terms on note cards. Remind participants that if they have begun school- or districtwide work on generating their own list of terms, they may use one of those terms instead.

1. Explain to the group that they will now synthesize what they have learned about characteristics 1–3 and apply this information to the teaching of a specific term.
2. Divide participants into groups of 4–6 people. Every group should have at least one representative from each of the previous exercise's groups—that is, one person from the group that focused on characteristic 1, one person from the group that focused on characteristic 2, and one person from the group that focused on characteristic 3. Distribute Handout 7, Exploring Academic Terms. Next, assign each group one of the terms you selected prior to the workshop. Each group should receive a different term to explore.
3. Display Overhead 6, Exploring Academic Terms: Sample. Explain in your own words the different elements of the sample, paying particular attention to the difference between a “definition” and a “description.” Direct participants to do the following individually:
 - Create a written description of the term.
 - Create a nonverbal representation of the term (graphic representation, picture, pictograph, action).
 - Create a comparison, classification, metaphor, or analogy that deepens the understanding of the word.
4. After about 10 minutes, tell participants to compare their notes with others in their small groups and discuss. Small groups should then address the following question: Did generating multiple representations of the term change your understanding of it? If so, how?
5. After 10–15 minute of discussion, bring the small groups back into one large group and ask participants to report on their experience during this activity. Ask them to respond to the following questions:
 - What was challenging or surprising about the activity and the follow-up discussion?

- How could you help students to cope with these challenges?
- What additional strategies could you use to help students deepen their understanding of terms and build their background knowledge?

Record important points on a chalkboard, flipchart, or an overhead transparency.

Next Steps (15 minutes)

1. Distribute Handout 5, Next Steps. Give participants 5 minutes to individually brainstorm responses to the questions on the handout:
 - What are the most important pieces of information I will take away from this workshop?
 - What is one specific step I can take in my classroom, school, or district to put what I have learned into action?
2. Take about 10 minutes to conduct a whole-group discussion about what participants learned from the workshop and how this new knowledge may influence their classroom practices.

Conclusion (10 minutes)

Close the workshop by reviewing the workshop objectives, and address any questions the participants may have about building background knowledge, direct vocabulary instruction, or additional workshop options. Thank the participants for attending the workshop.

Facilitator's Note

If participants reflected on whether or not direct vocabulary instruction is an important part of a standards-based classroom at the beginning of the workshop, or reflected on another question, ask them to respond to an appropriate follow-up question here.

PROGRAM 3

*Teaching Vocabulary,
Characteristics 4-7*



Workshop 3A

This workshop accompanies Program 3, *Teaching Vocabulary, Characteristics 4–7*, and introduces participants to four of the eight characteristics of effective direct vocabulary instruction, as described by Robert Marzano in the book *Building Background Knowledge for Academic Achievement: Research on What Works in Schools*.

Characteristic 4: Teaching word parts enhances students’ understanding of terms.

Characteristic 5: Different types of words require different types of instruction.

Characteristic 6: Students should discuss the terms they are learning.

Characteristic 7: Students should play with words.

During the workshop, participants will learn specific strategies that teachers use to help students acquire new vocabulary and conceptual learning.

Agenda and Time Guide

Activity	Time (minutes)
Welcome and Introductions	10
Introduction to the Video	10
View Program 3, <i>Teaching Vocabulary, Characteristics 4–7</i>	30
Reflection and Discussion	40
Total Approximate Workshop Time	90 minutes

Objectives for Workshop 3A

This workshop will help participants to

- Understand characteristics 4–7 of effective direct vocabulary instruction.
- Understand specific elements related to each of these four characteristics.
- Explore how to implement strategies suggested by these four characteristics in actual classroom practice.
- Identify how they might implement the strategies suggested by these four characteristics in their classroom, schools, and districts.

Facilitator’s Note

Providing folders with all materials inside is an efficient way to distribute handouts and other resources. You may also wish to provide copies of some of the readings suggested in the Readings and Resources section, particularly Reading 3, “Characteristics of Effective Direct Vocabulary Instruction.” It may be helpful for participants to receive these materials prior to the workshop. You may also wish to provide name tags.

Materials List for Workshop 3A

- Handout 8, Eight Characteristics of Effective Direct Vocabulary Instruction: Focus on Characteristics 4–7
- Handout 9, Starting Point: Using Categories and Semantic Features of Words
- Overhead 11, Objectives for Workshop 3A
- Overhead 12, Discussion Questions for Workshop 3A
- Reading 3, “Characteristics of Effective Direct Vocabulary Instruction”
- Reading 4, “Categories and Semantic Features of Words”
- Chalkboard, flipchart, note cards, or overhead transparencies and chalk or markers, as appropriate

Vocabulary Terms for This Workshop

The following are some suggested terms to use during the Reflection and Discussion activity. You may also use terms of your own choosing, keeping in mind the desired instructional elements. Participants who have begun school- or districtwide work on generating their own list of terms may use those terms instead.

Facilitator’s Note

Prior to the workshop, you should select an appropriate number of terms based on the number of anticipated participants—one term for every group of four participants (e.g., if you have 24 workshop participants, select six terms from the suggested list). You might write the terms on note cards, to be distributed among the groups.

Minneapolis	culture	recreation
Appalachia	immigration	Venn diagram
abbreviation	atmosphere	multiplication
bibliography	Lance Armstrong	profit
rhyme	Condoleezza Rice	composer
elitism	habitat	mass media
immunization	first aid	

Welcome and Introductions (10 minutes)

1. Welcome all participants. Introduce yourself and explain your role as workshop facilitator. As the facilitator, you guide the group through the workshop to help them meet the workshop objectives.

2. Depending on the size of the group and whether the participants of the workshop know one another, you may want to set aside time for participants to introduce themselves individually.
3. Summarize key points from the introduction to the manual in your own words.

Introduction to the Video (10 minutes)

1. Explain to participants that this video is the third part of a three-part series that focuses on what research says about academic background knowledge: what it is, why it is important to future learning, and how it can be built through specific interventions in the classroom, particularly direct vocabulary instruction.
2. Display Overhead 11, Objectives for Workshop 3A, and explain the goals of this workshop. Give participants copies of Handout 8, Eight Characteristics of Effective Direct Vocabulary Instruction: Focus on Characteristics 4–7. Explain that even though this workshop focuses specifically on characteristics 4–7, all eight of the characteristics should be integrated in a systematic program of direct vocabulary instruction.
3. Ask participants to consider what vocabulary instruction looks like in their schools: Is it effective? What are its strengths and weaknesses? Ask them to write several sentences that capture their thinking on the back of Handout 8. Suggest that they use Handout 8 to record notes and questions as they view the video.

Facilitator's Note

If participants have already completed Workshop 2A, they will already have addressed the question of whether vocabulary instruction is effective. Ask them instead to consider whether or not direct vocabulary instruction is an important part of a standards-based classroom and to explain their response. Or, you can formulate a relevant question of your own choosing.

View Program 3, *Teaching Vocabulary, Characteristics 4–7* (30 minutes)

Reflection and Discussion (40 minutes)

1. Explain to the group that they will now engage in an activity that illustrates strategies that reflect characteristics 4–7. This is an opportunity for participants to explore with colleagues ways to apply what they have learned.
2. Divide participants into groups of 4–6 people. Distribute Handout 9, Starting Point: Using Categories and Semantic Features of Words, and Reading 4, “Categories and Semantic Features of Words.” Next, assign each group one of the terms you selected prior to the workshop. Each group should receive a different term to explore.

Facilitator's Note

You may adjust the size of the groups based on the configuration of your particular workshop, but try to keep the groups small to encourage participation. If participants have begun school- or districtwide work on generating their own list of terms, they may use one of those terms instead.

Facilitator's Note

If you think that participants would benefit, go over the “port city” example in Reading 4 to model the process.

3. Explain that participants should take about 10 minutes to independently determine which features they might emphasize when presenting an initial description of the term to students. Participants should refer to Reading 4, “Categories and Semantic Features of Words,” for this portion of the exercise. Next, participants should discuss these features and descriptions in their small groups. Participants should share their ideas and then address the following question: How did the targeted features and descriptions change as a result of exchanging ideas with colleagues?
4. After about 15 minutes of small-group discussion, bring the groups back together and invite participants to report their reactions to the activity and workshop. Display Overhead 12, Discussion Questions for Workshop 3A, and direct them to address the following questions:
 - Did the activity or workshop change your understanding of vocabulary acquisition? How?
 - Did the activity or workshop change your perception of vocabulary instruction in your classroom or school?
 - What is one specific step that you can take in your classroom or school to implement what you have learned in this workshop?
5. Close the workshop by reviewing the workshop objectives, and address any questions the participants may have about building background knowledge, direct vocabulary instruction, or additional workshop options. Thank the participants for attending the workshop.

Workshop 3B

This workshop accompanies Program 3, *Teaching Vocabulary, Characteristics 4–7*, and introduces participants to four of the eight characteristics of effective direct vocabulary instruction, as described by Robert Marzano in the book *Building Background Knowledge for Academic Achievement: Research on What Works in Schools*.

Characteristic 4: Teaching word parts enhances students' understanding of terms.

Characteristic 5: Different types of words require different types of instruction.

Characteristic 6: Students should discuss the terms they are learning.

Characteristic 7: Students should play with words.

This workshop details the activities for a three and a half hour workshop for 10–100 participants. If the workshop has to be shorter, you may eliminate portions of the activities as appropriate. Possible audiences for this long-form workshop might include school improvement teams, faculty or staff, task forces, parent-teacher groups, leadership teams, central office administrators, and school board members.

During the workshop, participants will learn specific strategies that teachers use to help students acquire new vocabulary and conceptual learning.

Agenda and Time Guide

Activity	Time (minutes)
Welcome and Introductions	20
Introductory Activity	30
View Program 3, <i>Teaching Vocabulary, Characteristics 4–7</i>	30
Characteristics 4–7 in More Detail	40
Break	20
Bringing It All Together	50
Next Steps	15
Conclusion	10
Total Approximate Workshop Time	3 hours, 35 minutes

Objectives for Workshop 3B

This workshop will help participants to

- Understand characteristics 4–7 of effective direct vocabulary instruction.
- Understand specific elements related to each of these four characteristics.
- Experience and discuss ways in which different types of words require different types of instruction.
- Explore how to implement strategies suggested by these four characteristics in actual classroom practice.
- Identify how they might implement the strategies suggested by these four characteristics in their classrooms, schools, and districts.

Facilitator's Note

Providing folders with all materials inside is an efficient way to distribute handouts and other resources. You may also wish to provide name tags.

Materials List for Workshop 3B

- Handout 8, Eight Characteristics of Effective Direct Vocabulary Instruction: Focus on Characteristics 4–7
- Handout 9, Starting Point: Using Categories and Semantic Features of Words
- Handout 10, Next Steps
- Overhead 9, Thinking About Vocabulary Instruction
- Overhead 10, Thinking About the Characteristics
- Overhead 13, Objectives for Workshop 3B
- Overhead 14, Discussion Questions for Workshop 3B
- Overhead 15, More Discussion Questions for Workshop 3B
- Reading 3, “Characteristics of Effective Direct Vocabulary Instruction”
- Reading 4, “Categories and Semantic Features of Words”
- Reading 5, “The Importance of Background Knowledge”
- Chalkboard, flipchart, note cards, or overhead transparencies and chalk or markers, as appropriate

Vocabulary Terms for This Workshop

The following are some suggested terms to use during the Bringing It All Together activity. You may also use terms of your own choosing, keeping in mind the desired instructional elements. Participants who have begun school- or districtwide work on generating their own list of terms may use those terms instead.

Minneapolis	immigration	multiplication
Appalachia	atmosphere	profit
abbreviation	Lance Armstrong	composer
bibliography	Condoleezza Rice	mass media
rhyme	habitat	immunization
elitism	recreation	first aid
culture	Venn diagram	

Facilitator's Note

Prior to the workshop, select an appropriate number of terms based on the number of anticipated participants. Select two terms for every three participants: one concrete term, such as "Minneapolis," and one abstract term, such as "culture."

Welcome and Introductions (20 minutes)

1. At the door, have a sign-in sheet for participants to record their names, addresses, and phone numbers.
2. If participants are from different schools, arrange seating so that participants from the same school are sitting together.
3. Welcome all participants. Introduce yourself and explain your role as workshop facilitator. As the facilitator, you guide the group through the workshop to help them meet the workshop objectives.
4. Depending on the size of the group and whether the participants of the workshop know one another, you may want to set aside time for participants to introduce themselves individually. You might also ask the participants to state why they are interested in learning about building academic background knowledge and to describe briefly the extent to which they are familiar with Robert Marzano's work.
5. Explain that this workshop is suggested for those who wish to become more deeply involved in examining what research says about academic background knowledge: what it is, why it is important to future learning, and how it can be built through direct vocabulary instruction in the classroom.

6. Display Overhead 13, Objectives for Workshop 3B. Give participants copies of Handout 8, Eight Characteristics of Effective Direct Vocabulary Instruction: Focus on Characteristics 4–7. Explain to participants that by the end of this workshop, they will have a better understanding of the following four of the eight characteristics of effective direct vocabulary instruction, as described by Robert Marzano in the book *Building Background Knowledge for Academic Achievement: Research on What Works in Schools*.

Characteristic 4: Teaching word parts enhances students' understanding of terms.

Characteristic 5: Different types of words require different types of instruction.

Characteristic 6: Students should discuss the terms they are learning.

Characteristic 7: Students should play with words.

Note that even though this workshop focuses specifically on characteristics 4–7, all eight of the characteristics should be integrated in a systematic program of direct vocabulary instruction.

7. Explain to participants that they will see how teachers use these and other strategies to help students acquire new vocabulary and conceptual understanding.

Facilitator's Note

Because participants are reflecting on the effect of direct vocabulary instruction in their own schools, ask people who work in the same school to form groups together.

Facilitator's Note

If you know participants have already completed Workshops 1A/1B or 2A/2B, consider adjusting your introductory comments to address their prior knowledge.

Facilitator's Note

Select the question or questions to be discussed based on your understanding of participants' prior knowledge and experience, including prior workshops in this series.

Introductory Activity (30 minutes)

1. Discuss with participants the concept of academic background knowledge and approaches to enhancing it, highlighting the role of direct vocabulary instruction in this process. Use the introductory material in this manual and Reading 5, "The Importance of Background Knowledge," from the Readings and Resources section to guide you in these remarks.
2. Display Overhead 9, Thinking About Vocabulary Instruction, and ask participants to discuss in a large group one or more of the following questions:
 - What does vocabulary instruction look like in your classroom? In your school?
 - Talk to your group about the last vocabulary terms you taught in class. How did you teach the vocabulary terms? What do you think students learned?

- Do you think vocabulary instruction is an important part of a standards-based classroom? Explain.
- If you were the king or queen of vocabulary in your school, what would vocabulary instruction look like?

View Program 3, *Teaching Vocabulary, Characteristics 4–7* (30 minutes)

Characteristics 4–7 in More Detail (40 minutes)

1. Explain that participants will now engage in an activity designed to give them more in-depth understanding of characteristics 4–7. Divide participants into four groups, one for each characteristic addressed in this workshop and assign each group a characteristic to focus on. Distribute Reading 3, “Characteristics of Effective Direct Vocabulary Instruction.” Each group should appoint a recorder and a reporter.
2. Ask participants to individually read the section of Reading 3 that addresses the characteristic assigned to their group. During the reading, display Overhead 10, Thinking About the Characteristics, and direct participants to consider the following questions as they read:
 - In what specific ways can this characteristic be reflected in direct vocabulary instruction in my classroom or school?
 - What would it look like in my classroom or school if students were actively engaged in vocabulary instruction that reflected this characteristic?

Ask participants to then discuss these questions in their small groups, recording their discussion points so that they can report to the large group.

3. After about 20 minutes, direct the groups to create a flipchart poster that includes
 - A review of the information about the characteristic, based on the video and the reading.
 - A summary of the group’s ideas related to implementing direct vocabulary instruction that reflects this characteristic.

Facilitator’s Note

If you have a large number of participants, adjust the group sizes and assignments as necessary to ensure that they are conducive to discussion.

Facilitator's Note

Before beginning the gallery walk, inform participants that they will call upon their understanding of each of the four characteristics in the next activity. They should take notes and discuss as necessary to gain a full understanding of the characteristics.

4. Tape each poster to the wall. Have the reporter from each group explain the group's responses as the other participants rotate through the poster stations. Participants will visit each of the posters, hear from the reporter, and ask questions or make suggestions as appropriate.

Break (20 minutes)**Bringing It All Together (50 minutes)****Facilitator's Note**

Consider providing the terms on note cards. Remind participants that if they have begun school- or districtwide work on generating their own list of terms, they may use one of those terms instead.

Facilitator's Note

If you think that participants would benefit, go over the "port city" example in Reading 4 to model the process.

1. Explain to the group that they will now synthesize what they have learned about characteristics 4–7 and apply this information to the exploration of two terms.
2. Divide participants into new groups of four. Every group should have a representative from each of the previous exercise's groups—that is, one person from the group that focused on characteristic 4, one person from the group that focused on characteristic 5, one person from the group that focused on characteristic 6, and one person from the group that focused on characteristic 7.
3. Distribute Handout 9, Starting Point: Using Categories and Semantic Features of Words, and Reading 4, "Categories and Semantic Features of Words." Next, assign each group one of the terms you selected prior to the workshop. Each group should receive a different set of two terms, one concrete, such as "Minneapolis," and one abstract, such as "culture." (You may repeat terms, as necessary, or add in your own terms.)
4. Explain that participants should take 10–15 minutes to independently determine which features they might emphasize in an initial description of the term presented to students. Participants should refer to Reading 4, "Categories and Semantic Features of Words," for this portion of the exercise. Then ask them to discuss these features and descriptions in their small groups.
5. Display Overhead 14, Discussion Questions for Workshop 3B, and ask participants to discuss the following questions, in addition to any generated by the group itself:
 - How was it different to work with a concrete term versus an abstract term?
 - How did the targeted features or descriptions change as a result of exchanging ideas with colleagues?

Finally, ask each small group to take 10–15 minutes to put itself “in the students’ shoes” and brainstorm a way to present this term by either acting it out (as in a Charades-type game) or drawing it, which they will later do for the rest of the participants. These activities are examples of ways in which students might be encouraged to play with words to deepen their understanding.

6. After about 15 minutes, bring the small groups back together. Invite volunteers to present one of their terms to the large group, either by acting it out or drawing it. Members of other groups should attempt to guess the term based on the depiction.
7. In the large group, take 10–15 minutes for items 7–9. Ask participants to report on their experience during this activity. Display Overhead 15, More Discussion Questions for Workshop 3B, and ask participants to respond to the following questions:
 - What was challenging or surprising about the activity and the follow-up discussion?
 - How could you help students to cope with these challenges?
 - What additional strategies could you use to help students to deepen their understanding of terms and build their background knowledge?
8. Encourage anyone who volunteered to act out or draw their group’s term in front of the larger group to talk about that experience.
9. Record important points on a chalkboard, flipchart, or an overhead transparency.

Next Steps (15 minutes)

1. Distribute Handout 10, Next Steps. Give participants 5 minutes to individually brainstorm responses to the questions on the handout:
 - What are the most important pieces of information I will take away from this workshop?
 - What was challenging about the activities in this workshop?
 - What is one specific step I can take in my classroom, school, or district to put what I have learned into action?
2. Take about 10 minutes to conduct a whole-group discussion of these questions.

Conclusion (10 minutes)

Close the workshop by reviewing the workshop objectives, and address any questions the participants may have about building background knowledge, direct vocabulary instruction, or additional workshop options. Thank the participants for attending the workshop.



*Handouts and
Overheads*

BUILDING
ACADEMIC
BACKGROUND
KNOWLEDGE

HANDOUT 1

Reflection Activity: Challenges and Interventions

Challenges	Interventions

Notes from video:

HANDOUT 2

Defining Critical Vocabulary: Practice

Term	Rank

Rankings:

- 1—Term or concept is critical for students to know.
- 2—Term or concept is useful but not critical.
- 3—Term or concept is interesting but not critical.

HANDOUT 3

You have just read an editorial in which the writer asserts that “some students can’t learn.” Discuss with your partner the following questions. Record your thoughts and suggestions on this handout.

1. Based on the video, what are two or three main points you might make in response to this writer?
2. Based on your own experience, what additional points might you make?

Critical Incident Activity

HANDOUT 4

- Characteristic 1:** Effective vocabulary instruction does not rely on definitions.
- Characteristic 2:** Students must represent their knowledge of words in linguistic and nonlinguistic ways.
- Characteristic 3:** Effective vocabulary instruction involves the gradual shaping of word meanings through multiple exposures.
- Characteristic 4:** Teaching word parts enhances students' understanding of terms.
- Characteristic 5:** Different types of words require different types of instruction.
- Characteristic 6:** Students should discuss the terms they are learning.
- Characteristic 7:** Students should play with words.
- Characteristic 8:** Instruction should focus on terms that have a high probability of enhancing academic success.

Eight Characteristics of Effective Direct Vocabulary Instruction: Focus on Characteristic 8

Source: From *Building Background Knowledge for Academic Achievement: Research on What Works in Schools* (pp. 70–90), by R. Marzano, 2004, Alexandria, VA: Association for Supervision and Curriculum Development.

HANDOUT 5

What are the most important pieces of information I will take away from this workshop?

Next Steps

What is one specific step I can take in my classroom, school, or district to put what I have learned into action?

HANDOUT 6

Characteristic 1: Effective vocabulary instruction does not rely on definitions.

Characteristic 2: Students must represent their knowledge of words in linguistic and nonlinguistic ways.

Characteristic 3: Effective vocabulary instruction involves the gradual shaping of word meanings through multiple exposures.

Characteristic 4: Teaching word parts enhances students' understanding of terms.

Characteristic 5: Different types of words require different types of instruction.

Characteristic 6: Students should discuss the terms they are learning.

Characteristic 7: Students should play with words.

Characteristic 8: Instruction should focus on terms that have a high probability of enhancing academic success.

Eight Characteristics of Effective Direct Vocabulary Instruction: Focus on Characteristics 1–3

Source: From *Building Background Knowledge for Academic Achievement: Research on What Works in Schools* (pp. 70–90), by R. Marzano, 2004, Alexandria, VA: Association for Supervision and Curriculum Development.

HANDOUT 7

Term:

Definition:

Description (presented in everyday language):

Nonlinguistic Representation (graphic representation, picture, pictograph, action):

Comparison, classification, metaphor, or analogy:

Exploring Academic Terms

HANDOUT 8

- Characteristic 1:** Effective vocabulary instruction does not rely on definitions.
- Characteristic 2:** Students must represent their knowledge of words in linguistic and nonlinguistic ways.
- Characteristic 3:** Effective vocabulary instruction involves the gradual shaping of word meanings through multiple exposures.
- Characteristic 4:** Teaching word parts enhances students' understanding of terms.
- Characteristic 5:** Different types of words require different types of instruction.
- Characteristic 6:** Students should discuss the terms they are learning.
- Characteristic 7:** Students should play with words.
- Characteristic 8:** Instruction should focus on terms that have a high probability of enhancing academic success.

Source: From *Building Background Knowledge for Academic Achievement: Research on What Works in Schools* (pp. 70–90), by R. Marzano, 2004, Alexandria, VA: Association for Supervision and Curriculum Development

Eight Characteristics of Effective Direct Vocabulary Instruction: Focus on Characteristics 4–7

HANDOUT 9

Term:

**Starting
Point: Using
Categories
and Semantic
Features of
Words**

Critical Features:

Description or Examples (based on Critical Features):

HANDOUT 10

What are the most important pieces of information I will take away from this workshop?

Next Steps

What was challenging about the activities in this workshop?

What is one specific step I can take in my classroom, school, or district to put what I have learned into action?

OVERHEAD 1

Objectives for Workshop 1A

This workshop will help participants to

- **Understand what it means to build academic background knowledge.**
- **Identify specific challenges faced by their students in building background knowledge and interventions for those challenges.**
- **Experience the process of defining an academic vocabulary.**

OVERHEAD 2

Objectives for Workshop 1B

This workshop will help participants to

- **Understand what it means to build academic background knowledge.**
- **Identify specific challenges faced by their students in building background knowledge and interventions for those challenges.**
- **Learn about a five-step process for developing a sustained silent reading (SSR) program.**
- **Experience the process of defining an academic vocabulary.**
- **Learn about six steps to effective vocabulary instruction.**

OVERHEAD 3

Sustained Silent Reading: A Five-Step Process

Step 1: Students Identify Topics of Interest to Them

- **Encourages student motivation**

Step 2: Students Identify Reading Material

- **Multiple sources: books, articles, Web sites**
- **Assistance from librarians, media specialists, teachers, and others**

Step 3: Students Are Provided Uninterrupted Time to Read

- **Adjusted for grade level**
- **Conducive environment**
- **Clear rules**

Step 4: Students Write About or Represent the Information in Their Notebooks

- **One section of academic notebook devoted to SSR topic(s)**
- **Free responses and structured responses (suggested, not required)**
- **Linguistic and nonlinguistic responses**

Step 5: Students Interact with the Information

- **Benefits of repeated exposure through variety of interactions**

Source: From *Building Background Knowledge for Academic Achievement: Research on What Works in Schools* (pp. 42–61), by Robert Marzano, 2004, Alexandria, VA: Association for Supervision and Curriculum Development.

OVERHEAD 4

A Six-Step Process for Effective Vocabulary Instruction

Step 1: The teacher provides a description, explanation, or example of the new term.

Step 2: Students restate the explanation of the new term in their own words.

Step 3: Students create a nonlinguistic representation of the term.

Step 4: Periodically, students do activities that help them add to their knowledge of vocabulary terms.

Step 5: Periodically, students are asked to discuss the terms with one another.

Step 6: Periodically, students are involved in games that allow them to play with the terms.

Source: From *Building Background Knowledge for Academic Achievement: Research on What Works in Schools* (pp. 91–103), by R. Marzano, 2004, Alexandria, VA: Association for Supervision and Curriculum Development.

OVERHEAD 5

Objectives for Workshop 2A

This workshop will help participants to

- **Understand characteristics 1–3 of effective direct vocabulary instruction.**
- **Understand specific elements related to each of these three characteristics.**
- **Explore vocabulary acquisition based on these three characteristics from the perspective of a student.**
- **Identify how they might implement the strategies suggested by these three characteristics in classrooms, schools, and districts.**

OVERHEAD 6

Exploring Academic Terms: Sample

TERM: Johnny Cash

DEFINITION: An American country singer, 1932–2003

DESCRIPTION (presented in everyday language):

An American country music legend known for his talent, his connection to the common man, and for being an outlaw of sorts.

NONLINGUISTIC REPRESENTATION (graphic representation, picture, pictograph, action):



COMPARISON, CLASSIFICATION, METAPHOR, OR ANALOGY

Johnny Cash is to country music as Henry Ford is to the automobile.

Both were pioneers in fields that had significant effects on American culture.

OVERHEAD 7

Discussion Questions for Workshop 2A

- **What were the challenges of the activity and how did you address them? How would you help students address them?**
- **Did generating multiple representations of the term change your understanding of it? If so, how?**
- **Did the activity or workshop change your understanding of vocabulary acquisition? How?**
- **Did the activity or workshop change your perception of vocabulary instruction in your classroom or school?**
- **What is one specific step that you can take next in your classroom or school to implement what you have learned in this workshop?**

OVERHEAD 8

Objectives for Workshop 2B

This workshop will help participants to

- **Understand characteristics 1–3 of effective direct vocabulary instruction.**
- **Understand how current research on how the brain learns relates to these characteristics.**
- **Understand specific elements related to each of these three characteristics.**
- **Explore how to implement strategies suggested by these three characteristics in actual classroom practice.**
- **Identify how they might implement the strategies suggested by these three characteristics in their schools.**

OVERHEAD 9

Thinking About Vocabulary Instruction

- **What does vocabulary instruction look like in your classroom? In your school?**
- **Talk to your group about the last vocabulary terms you taught in class. How did you teach the vocabulary terms? What do you think students learned?**
- **Do you think vocabulary instruction is an important part of a standards-based classroom? Explain.**
- **If you were the king or queen of vocabulary in your school, what would vocabulary instruction look like?**

OVERHEAD 10

Thinking About the Characteristics

- **In what specific ways can this characteristic be reflected in direct vocabulary instruction in my classroom or school?**
- **What would it look like in my classroom or school if students were actively engaged in vocabulary instruction that reflected this characteristic?**

OVERHEAD 11

Objectives for Workshop 3A

This workshop will help participants to

- **Understand characteristics 4–7 of effective direct vocabulary instruction.**
- **Understand specific elements related to each of these four characteristics.**
- **Explore how to implement strategies suggested by these four characteristics in actual classroom practice.**
- **Identify how they might implement the strategies suggested by these four characteristics in their classrooms, schools, and districts.**

OVERHEAD 12

Discussion Questions for Workshop 3A

- **Did the activity or workshop change your understanding of vocabulary acquisition? How?**
- **Did the activity or workshop change your perception of vocabulary instruction in your classroom or school?**
- **What is one specific step that you can take in your classroom or school to implement what you have learned in this workshop?**

OVERHEAD 13

Objectives for Workshop 3B

This workshop will help participants to

- **Understand characteristics 4–7 of effective direct vocabulary instruction.**
- **Understand specific elements related to each of these four characteristics.**
- **Experience and discuss ways in which different types of words require different types of instruction.**
- **Explore how to implement strategies suggested by these four characteristics in actual classroom practice.**
- **Identify how they might implement the strategies suggested by these four characteristics in their classroom, schools, and districts.**

OVERHEAD 14

Discussion Questions for Workshop 3B

- **How was it different to work with a concrete term versus an abstract term?**
- **How did the targeted features or descriptions change as a result of exchanging ideas with colleagues?**

OVERHEAD 15

More Discussion Questions for Workshop 3B

- **What was challenging or surprising about the activity and the follow-up discussion?**
- **How could you help students to cope with these challenges?**
- **What additional strategies could you use to help students to deepen their understanding of terms and build their background knowledge?**



*Readings and
Resources*

**BUILDING
ACADEMIC
BACKGROUND
KNOWLEDGE**

READING 1

Tapping the Power of Wide Reading and Language Experience

In Chapter 2 [of *Building Background Knowledge for Academic Achievement*], we noted that reading accompanied by language interaction (talking and listening to others) may compensate for the lack of direct experiences by providing a variety of virtual experiences. We also discovered that students from different environments vary widely in the amount of reading they do and the amount of language they experience. This chapter describes an approach to adapting sustained silent reading (SSR) so that it enhances the academic background knowledge of students through extensive reading and language interaction.

Sustained Silent Reading

As described in Chapter 2, SSR programs have a proven track record of enhancing students' knowledge and skills. To be effective, however, the SSR program must have specific characteristics. One of those characteristics is that it must be continuous over many years. To illustrate, Krashen (2000) organized the studies in SSR into three categories based on how long the programs were in place: less than seven months, seven months to one year, and more than one year. Again, I used meta-analytic techniques described by Bushman (1994) to analyze these data (for an explanation of the process used, see Technical Note 4 on pp. 130–131). When I analyzed the impact of SSR programs that were used for less than seven months or for seven months to one year, I found no significant effect. In other words, statistically there was no difference between the students who went through SSR programs and those who did not in terms of their comprehension ability. For the studies in which SSR was used for more than a year, however, the estimated effect size was .87. To interpret this, consider two students who are both at the 50th percentile in terms of their comprehension ability. (For a more detailed discussion of how to interpret an effect size, see Technical Note 5 on p. 131.) One student is placed in an SSR program that lasts for more than a year and the other student is not. At the end of that period, the student who has

gone through the extended SSR program will be at the 81st percentile and the student who did not will remain at the 50th percentile.

Based on these findings, I recommend that an SSR program used to enhance academic background knowledge be continuous over many years. Why? My emphasis is on building academic background knowledge, which is, by definition, a cumulative process. Students who have grown up in economically disadvantaged backgrounds have not had the many opportunities other students have had to accumulate critical academic background knowledge. Righting this situation will not happen in a year or two. Indeed, past efforts to help such students have demonstrated that interventions lasting only a year or two might provide initial gains in student learning, but these gains fade when the programs cease. For example, speaking of the efforts in the early 1960s to wage a “War on Poverty,” Hart and Risley (1995) explain that it was not enough to remove barriers and to offer early intervention programs for children in poverty before they entered formal schooling (p. 15). Given the disparity in oral language and reading experiences between students from families with differing financial resources, compensatory programs must be sustained and intense and must span many school years. I recommend that a modified SSR program as described in this chapter be implemented through grade 10. Such a program should also conform to the eight factors identified by Pilgreen (2000): access, appeal, conducive environment, encouragement, staff training, nonaccountability, follow-up activities, and distributed time to read.

Access refers to the ease with which students acquire reading materials. Pilgreen defines access as follows: “trade books, comics, newspapers, and other reading materials [are] provided directly to the students in a variety of ways instead of requiring the students to bring something from home to read” (p. 8). To provide adequate access, SSR classrooms commonly have a large stock of books. For example, Pilgreen notes that in the studies she reviewed, some schools checked out books from local libraries and

housed them in the classroom during the time students were initially selecting books. In other studies, students had opportunities to visit the school library and local libraries. When access to school and local libraries was not sufficient, students received help acquiring books through interlibrary loans. Pilgreen further explains that the key to providing access in all of the successful SSR programs was that the burden did not fall on the students to locate their own reading materials outside school. The teachers ensured that all students found something suitable to read.

Appeal means that students are free and encouraged to read information that they find highly interesting. This factor is not as straightforward as it seems. In addition to being interesting to students, the selected books should be at appropriate levels of reading difficulty. As Pilgreen explains:

The goal is to be sure that everyone has access to materials that they not only want to read—but **can** [emphasis in original] read. Materials that will pique everyone's interests must be available so that the least proficient to the most proficient readers in the classroom can enthusiastically engage in free reading. (p. 9)

Conducive environment refers to the atmosphere provided for reading. Ideally, it is relaxed and comfortable because this is a natural characteristic of personal reading. As Pilgreen explains: "Whenever we find something good to read, it is logical that we are drawn to comfortable, quiet places. . . ." (p. 10). In SSR classrooms, teachers commonly arrange the classroom to make it more like the typical environment for personal reading—for example, by placing a comfortable chair or couch in one corner of the room. Other teachers may allow students to go to some area of the school that has comfortable seats. Pilgreen notes that even when students simply sit in their regular seats they should be protected from noise and interruptions.

Encouragement refers to providing students with positive feedback regarding their topic selection and their involvement in the reading process. This commonly occurs in three ways. First, the teacher demonstrates interest in what students are reading; for example, by asking students questions about what they have read or providing students with

supplemental information or resources. Teachers also provide encouragement by being excited about their own personal reading. Teacher enthusiasm is highly contagious. Finally, teachers provide encouragement by allowing students to share what they have read with their peers. In fact, according to Pilgreen, researchers in the successful programs mentioned the importance of peer interaction as a way of legitimizing the SSR process for students. Seeing their peers enthusiastic about reading made it safe for students to be personally excited.

Staff training involves providing information and training that engage all members of a school's staff in the success of an SSR program. Pilgreen identifies some of the unsuccessful SSR programs as those that did not adequately explain the purposes of their SSR program and enlist the support of all staff members—not just those who were enthusiastic about the program from the outset. Programs do not fare well if they simply set aside time for students to read but do not take time to ensure that teachers learn about the philosophy underlying SSR and the mechanics of a well-functioning program.

Nonaccountability is a critical factor in the success of an SSR program, Pilgreen believes. In fact, she makes the case that violating this factor can totally subvert the positive impact of an SSR program. In discussing those SSR programs she found successful, she notes:

The key to non-accountability, as indicated by these successful groups, is to omit any activity that gives students the message that they are responsible for completing a task, comprehending a particular portion of their reading, or showing they have made improvement in some way. In order to get the most enjoyment possible from their reading, they should feel no obligation associated with it. (p. 15)

By definition, then, nonaccountability rules out testing students' knowledge of what they have read. However, it does not rule out activities that ask students to interact with the text and with one another in complex ways. In the context of SSR, such activities are referred to as *follow-up activities*.

Follow-up activities are those that allow and encourage students to interact about the information they have read. This might involve students' interacting with one another or with the information they

have read in some personal way. At first blush, this factor looks like it conflicts with the factor of nonaccountability. It is true that follow-up activities include some activities that might be used to hold students accountable, such as answering questions about the information and reviewing the information. The distinguishing feature is that these activities are *recommended*, not *required*. Additionally, the purpose of follow-up activities is to help students better understand and interact with the information they have read, not to test their knowledge or track their performance.

Distributed time to read involves systematically and frequently providing students with SSR time. Pilgreen explains:

In fact, it wasn't the range of time that varied so much as the frequency with which free reading time

was provided. In ninety-seven percent of the successful programs, the researchers offered free reading time to the students at least twice per week. This frequency pattern became the yardstick for what I called the "distributed time programs." And, more than half of these programs offered SSR on a daily basis. I noticed that students were sometimes given time to read for longer stretches of time, but on a monthly, bi-monthly, weekly, or bi-weekly basis, so I characterized these cases as "massed time to read"—or "all at once" programs. (p. 18)

From Pilgreen's comments we can conclude that SSR time should be provided at least twice per week. Other discussions of SSR programs (National Institute of Child Health and Human Development, 2000; Holt & O'Tuel, 1989; Pilgreen & Krashen, 1993) typically recommend a 20- to 30-minute SSR period. ■

Six Steps to Effective Vocabulary Instruction

Step 1: The Teacher Provides a Description, Explanation, or Example of the New Term

During the first step, the teacher explains the target word. As we have seen, definitions do not appear to be useful instructional tools, particularly in the initial stages of learning a word. However, conversational descriptions, explanations, and examples are very useful to students when first learning a term. Ideally, the semantic features listed in Figure 4.8 [Reading 4 in this guide] would guide the choice of information presented in these descriptions, explanations, and examples. That is, for each term the teacher would identify the critical features that form the basis of the descriptions. Although the teacher's description might be informal, it should contain all the elements considered important to an accurate understanding of the word.

Step 2: Students Restate the Explanation of the New Term in Their Own Words

As Stahl (1999) notes, “the goal of vocabulary learning is to have students store the meanings of the words in their long-term memory . . .” (p. 14). The discussion in Chapter 2 regarding the role of working memory tells us that students must process information actively and repeatedly for this to occur. This step begins that process. In Step 2, students are asked to restate *in their own words* what the teacher has presented about a new vocabulary term. It is important that students not simply copy the teacher's explanation of a term. Rather, students should construct their own explanations based on what the teacher has presented. Additionally, combining this step with the use of the academic notebook creates a vehicle for the multiple exposures and the gradual “shaping” of understanding of terms so vital to vocabulary development.

The academic notebook was introduced in Chapter 3 in conjunction with SSR and discussed briefly at the beginning of this chapter. Students should have a section of their notebooks dedicated to their

SSR topic. That section would contain their written responses and their representations of the information about their topics. Their notebooks should also have sections devoted to their academic subject areas. Thus, a middle school student with classes in mathematics, science, social studies, and language arts would have notebook sections for each of these subject areas. As the various teachers present new terms, the student records them in the appropriate section in the notebook. The notebook pages can be formatted so that each page has three columns with the following headings: My Description, Representation, and New Insight. This step in the vocabulary development process addresses the first column of the notebook. As indicated by its heading, in this column students record their understanding of what the teacher has presented.

Step 3: Students Create a Nonlinguistic Representation of the Term

The discussions in chapters 2 and 4 illuminated the importance of students representing information nonlinguistically. For vocabulary development, this step is best done immediately after students have generated their own linguistic description of the term. In other words, Steps 1 through 3 follow a related instructional sequence: the teacher presents the new term along with a description; students then create their own linguistic descriptions of the term. After approaching the term linguistically, students create a nonlinguistic representation of it. These representations can be in the form of graphic organizers, pictures, or pictographs, as described in Chapter 4.

Step 4: Students Periodically Do Activities That Help Them Add to Their Knowledge of Vocabulary Terms

To ensure multiple exposures to terms, students should take part in activities that allow them to interact with vocabulary terms in a variety of ways.

Chapter 4 described a number of these activities:

- Comparing terms
- Classifying terms
- Generating metaphors using terms
- Generating analogies using terms
- Revising initial descriptions or nonlinguistic representations of terms
- Using understanding of roots and affixes to deepen knowledge of terms

A critical point to remember is that after these activities, students go back to their academic notebooks and record new insights. New Insights is the third column in the academic notebook.

Step 5: Periodically Students Are Asked to Discuss the Terms with One Another

As explained in Chapter 4, just as student interaction plays a key role in SSR, so too does it play a role in the development of academic vocabulary. Consequently, teachers should periodically organize students into groups and ask them to discuss the

terms in the vocabulary sections of their notebooks. Again, this would occur as part of regular subject matter instruction. To stimulate discussion, the teacher might pose questions each group will address. These questions might simply direct students to terms they find interesting, or they might ask students to identify issues and questions they have about specific terms.

Step 6: Periodically Students Are Involved in Games That Allow Them to Play with the Terms

In Chapter 4, I discussed the importance of games as a tool for vocabulary development. Students can play with new vocabulary terms in many ways. Johnson, von Hoff Johnson, and Schlichting (2004) identify eight categories of word play. Marzano and Christensen (1992) describe 15 types of vocabulary games suitable for the classroom. As discussed previously, teachers can use games as sponge activities to stimulate interest and enthusiasm about vocabulary as well as provide multiple exposures to terms. ■

Characteristics of Effective Direct Vocabulary Instruction

Characteristic 1: Effective vocabulary instruction does not rely on definitions. One of the most common ways a new vocabulary term is presented to students is in conjunction with a definition. Teachers provide students with a definition outright or ask them to look up the definition in a standard dictionary, write the definition, and then use the new word in a sentence to demonstrate understanding. When we consider the characteristics of most dictionary definitions, however, this practice seems highly questionable. Stahl (1999) explains:

Definitions, in fact, are conventions we use to talk about words. There is a form for a definition, dating back to Aristotle, in which the definition first identifies which class (*genus*) the word belongs to, and then how that word differs from other members of its class (*differentia*). For example, *The Random House Dictionary* (1978) defines *fissure* as “a narrow opening” [the class] produced by cleavage [the differentiation]. (p.17)

Beck, McKeown, and Kucan (2002, p. 33) further explain why dictionary definitions are not effective instructional devices:

To understand why dictionary definitions are so often unhelpful, it can be useful to know a bit about how definitions end up in the form they do. Formalized definitional practice can be traced to the time of Samuel Johnson’s mid-18th-century *Dictionary of the English Language*. The traditional form of definitions is based on describing a word by first identifying the class to which something belongs and then indicating how it differs from other members of the class. A classic example is *bachelor* defined as “a man who is *unmarried*.”

The most overriding consideration for definitional format, however, is that definitions in dictionaries must be concise because of space restrictions. Lexicographers, those who develop dictionaries, have called this constraint “horrendous.” Indeed, one lexicographer made the point that “almost every defining characteristic common to dictionaries can be traced to the need to conserve space” (Landau, 1984, p. 140), and another has said that dictionary definitions have led to “some remarkable convolutions in dictionary prose style.” (Hanks, 1987, p. 120)

Supporting this conclusion, Snow (1990) found that students’ ability to construct a definition was related more to their familiarity with the structure of definitions than it was to their comprehension ability.

Beck, McKeown, and Kucan (2002) pose a viable alternative to presenting students with definitions. They explain that when people first learn words, they understand them more as *descriptions* of words as opposed to definitions. They recommend that words’ meanings be presented to students in everyday language. I have organized several examples presented by Beck, McKeown, and Kucan in Figure 4.5. As the figure shows, descriptions present information about words in the way someone might respond to a friend when asked about the meaning of a word. At least one dictionary takes this kind of approach to word meanings: the COBUILD English Language Dictionary (Collins, 1987). For example, it describes lollop in the following way: “When an animal or a person lollops along, they run awkwardly and not very fast” (see Stahl, 1999, p. 18). Some researchers assert that conventional dictionaries may be more useful after students have established a basic understanding of the meaning of a word provided by a descriptive approach (Nist & Olejnik, 1995).

Characteristic 2: Students must represent their knowledge of words in linguistic and nonlinguistic ways. In Chapter 2, I discussed the importance of processing information in linguistic and nonlinguistic forms in the context of the first principle of background knowledge. Specifically, the dual coding theory (DCT) explains that for information to be anchored in permanent memory, it must have linguistic (language-based) and nonlinguistic (imagery-based) representations. In Chapter 3, this principle was apparent in the recommendation that students should represent the information they have read on their topics for SSR in linguistic and nonlinguistic forms (see Step 4 in Chapter 3, p. 54). This recommendation also holds true for the direct

teaching of vocabulary. Specifically, the meta-analysis by Stahl and Fairbanks (1986) demonstrated the effectiveness of both language-based strategies, such as writing a description of vocabulary words, and nonlinguistically based strategies, such as using a graphic organizer to represent the meaning of a word.

In a more focused meta-analysis, Powell (1980) reported that instructional techniques involving nonlinguistically based strategies had an average effect size of 1.00, indicating that these strategies produce a gain of 34 percentile points gain in vocabulary learning. (See Technical Note 5 on p. 131 for a discussion of effect sizes.) Additionally, Powell reported the average effect sizes of studies that contrasted linguistically based techniques with nonlinguistically based techniques. As shown in Figure 4.6, nonlinguistically based techniques produced vocabulary gains that were 37 percentile points higher than those produced by having students review definitions, and 21 percentile points higher than those produced by having students generate sentences that demonstrated an understanding of vocabulary words. The clear implication from Stahl and Fairbanks (1986) and from Powell's (1980) meta-analyses is that both linguistic and nonlinguistic techniques are useful in direct vocabulary instruction, and teachers should highlight nonlinguistic techniques.

In terms of specific techniques for vocabulary instruction, those discussed in Chapter 3 work well. That is, students can be asked to represent words they are learning using graphic representations, pictures, and pictographs. In addition, some researchers and theorists suggest that students should be encouraged to create mental pictures of new words and even act out their meanings (see Marzano, Pickering, & Pollock, 2001; Stahl, 1999).

Characteristic 3: Effective vocabulary instruction involves the gradual shaping of word meanings through multiple exposures. The discussion of the fourth principle in Chapter 2 established the fact that knowledge is useful even if it is known at surface levels only. This phenomenon also applies to vocabulary knowledge. Commenting on a study by Dorso and Shore (1991), Stahl (1999) explains:

One does not always need to know a word fully in order to understand it in context or even to answer a test item correctly. Adults possess a surprising amount of information about both partially known and reportedly unknown words. Even when people would report never having seen a word, they could choose a sentence in which the word was used correctly at a level above chance or discriminate between a correct synonym and an incorrect one. (Stahl, 1999)

Vocabulary knowledge also appears to deepen over time. Speaking of a study by Schwanenflugel, Stahl, and McFalls (1997), Stahl (1999) explains: "Thus, vocabulary knowledge seems to grow gradually, moving from the first meaningful exposure to a word to a full and flexible knowledge" (p. 16). Indeed, Sticht, Hofstetter, and Hofstetter (1997) reached the same conclusion. As described in Chapter 1, they examined the vocabulary knowledge of 538 randomly selected adults by giving them a test. They divided their subjects into five levels of vocabulary knowledge. They found that the older the subjects, the more words they knew. For example, subjects 16 to 18 knew no words on their test. Subjects 19 to 24 knew 18 percent of the words. Subjects 25 to 39 knew 34 percent, and subjects 40 to 54 knew 60 percent of the words.

The dynamics involved in the gradual development of words is partially explained by Carey's (1978) distinction between "fast mapping" and "extended mapping." According to Carey, students are quite capable of obtaining an idea of a word's meaning with minimal (e.g., one) exposure to a word. This is called "fast mapping." To understand the word at deeper levels, however, students require repeated and varied exposure to words, during which they revise their initial understandings. Such exposure is referred to as "extended mapping." Without experiences that allow for extended mapping, word knowledge remains superficial but useful. Research by Dolch and Leads (1953) supports this notion by indicating that even adults have a highly superficial understanding of some fairly common words, presumably because of limited exposure to them. This research points to the need for multiple exposures to the words targeted for direct vocabulary. It also correlates well with the discussion of the second principle in Chapter 2, indicating that multiple exposures to information are necessary to anchor that

information in permanent memory. The research on vocabulary instruction mirrors this principle. Students must process words multiple times (Graves, 1986; Jenkins, Stein, & Wysocki, 1984).

During these repeated exposures, learning is greatly enhanced if students interact with vocabulary in a variety of ways (Beck, McKeown, & Kucan, 2002; Marzano & Marzano, 1988; Stahl, 1999). Thus, teachers should vary the type of interactions students have with vocabulary terms. One obvious technique is to use both linguistic and nonlinguistic representations. Some activities should involve writing; some should involve constructing graphic representations; others should involve drawing pictures.

Characteristic 4: Teaching word parts enhances students' understanding of terms.

Teaching of roots and affixes has traditionally been a part of regular vocabulary instruction. The logic behind this instructional activity is that knowledge of roots and affixes enables students to determine the meaning of unknown words. Commenting on the work of Dale and O'Rourke (1986), Stahl (1999) explains:

While words like *geologist*, *interdependent*, and *substandard* can often be figured out from context, decomposing such words into known parts like *geo-*, *logist*, *inter-*, *depend*, etc., not only makes the words themselves more memorable, but, in combination with sentence context, may be a useful strategy in determining the meaning of unknown words. (p. 44)

Adams (1990) also attests to the logic of teaching word parts, noting that it is important "to teach [students], for example, that such words as *adduce*, *educate*, *induce*, *produce*, *reduce*, and *seduce* are similarly spelled because they share a common meaning element: *duce*, 'to lead' " (p. 151). However, she adds the following cautionary note: "Although teaching older readers about roots and suffixes of morphologically complex words may be a worthwhile challenge, teaching beginning or less skilled readers about them may be a mistake" (p. 152).

Affixes include prefixes and suffixes. Prefixes commonly augment the meaning of the words to which they are attached. Suffixes commonly change the part of speech of the words to which they are attached. Some vocabulary researchers and theorists

argue against teaching long lists of affixes. Indeed, one of the most comprehensive sources of lists of prefixes and suffixes is *The New Reading Teacher's Book of Lists* (Fry, Fountoukidis, & Polk, 1985). It identifies more than 40 prefixes that indicate where something is (e.g., *in-*, *intra-*, *off-*).

Fortunately, studies have identified those affixes that occur most frequently in the English language. Specifically, White, Sowell, and Yanagihara (1989) identified the most common prefixes based on a study of words in *The American Heritage Word Frequency Book* (Carroll, Davies, & Richmond, 1971). As described by White and colleagues:

What is striking about these data is that a handful of prefixes account for a large percentage of the prefixed words. The prefix *un-* alone accounts for 26% of the total. More than half (51%) of the total is explained by the top three prefixes, *un-*, *re-*, and *in-* "not". And with just four prefixes, *un*, *re*, *in* "not", and *dis-*, one could cover approximately three-fifths of the prefixed words (58%). (pp. 302–303)

They recommend a sequence of six lessons. In the first lesson, the teacher explicitly defines and teaches the concept of a prefix by presenting examples and nonexamples. The goal of this first lesson is for students to understand the difference between genuine prefixed words like *unkind* and *refill* as opposed to "tricksters" like *uncle* and *reason*. In the second lesson, the teacher explains and exemplifies the negative meanings of the prefixes *un-* and *dis-*. The third lesson addresses the negative meanings of *in-*, *im-*, *ir-*, and *non-*. In the fourth lesson, the teacher explains and exemplifies the two meanings of *re-* ("again" and "back"). The fifth lesson addresses the less common meaning of *un-* and *dis-* ("do the opposite") and the less common meanings of *in-* and *im-* ("in or into"). Finally, in the sixth lesson the teacher explains and exemplifies the meanings of *en-*, *em-*, *over-*, and *mis-*.

White, Sowell, and Yanagihara's study (1989) also identified the most common suffixes. About their findings on suffixes, the researchers note:

It is plain . . . that the distribution of suffixes, too, is not uniform. The first 10 suffixes listed comprise 85% of the sample. Plural and/or third person singular *-s/-es* alone account for about a third (31%) of the sample. Three inflectional suffixes, *-s/-es*, *-ed*, and *-ing*, account for 65%. In light of this, middle ele-

mentary teachers would do well to concentrate on -s/-es, -ed, and -ing. (p. 303)

Again, they recommend a series of lessons. In the first lesson, the teacher explains and exemplifies the concept of a suffix using examples and nonexamples. The next two lessons present suffixed words that show no spelling change from the base words: *blows*, *boxes*, *talking*, *faster*, *lasted*, *sweetly*, *comical*, *rainy*. Next, the teacher presents one or more lessons illustrating each of the three major kinds of spelling changes that occur with suffixes: (1) consonant blending (*thinner*, *swimming*, *begged*, *funny*); (2) y to i (*worried*, *flies*, *busily*, *reliable*, *loneliness*); and (3) deleted silent e (*baking*, *saved*, *rider*, *believable*, *refusal*, *breezy*). Finally, a number of lessons provide examples of three inflectional endings (-s/-es, -ed, -ing), and the following derivational suffixes: -ly, -er, -ion, -able, -al, -y, -ness.

Along with teaching affixes, vocabulary instruction commonly teaches root words. Again, a problem with roots is that they are so numerous that instruction cannot cover all of them. Unfortunately, no usable study has identified the most frequent or the most useful roots. Figure 4.7 [next page] identifies some common Greek and Latin roots.

In summary, teaching affixes and roots, when done judiciously, can be a useful aspect of direct vocabulary instruction. To this end, research has identified those affixes that are used most frequently.

Characteristic 5: Different types of words require different types of instruction. It seems logical that instruction should differ somewhat for vocabulary terms that have different syntactic functions. For example, Stahl (1999) distinguishes between nouns and verbs. He notes the importance of considering the type of word that is being addressed on grammatical grounds only: "Although we tend to talk about vocabulary as separate from grammar, they are, of course, connected. *Give*, for example, is as verb. In language, verbs function differently from nouns and modifiers (adjectives and adverbs)" (p. 20).

Stahl explains that each verb implies a relationship with one or more nouns. For example, the verb *jog* implies that someone is performing the action. The verb *give* implies that someone is willingly

transferring possession to someone else. As Stahl (1999) notes: "Each verb implies a frame that needs to be filled with nouns or noun phrases" (p. 20). To facilitate learning verbs, Stahl recommends using frames like the following for the verb *pacify*:

_____ pacified _____
who _____ whom

Stahl breaks nouns into two basic categories: concrete (e.g., *lever*) and abstract (e.g., *parsimony*). He notes that concrete nouns can usually be described. Thus a teacher might initially give the following description for the concrete noun *invertebrates*: "They are any type of animal without a backbone, like a worm or slug. Even insects like ants, bees, and spiders are invertebrates. They don't have backbones." Abstract nouns must be exemplified. Thus a teacher might provide students with the following example of *parsimony*. "I was practicing parsimony when I described the entire movie in a few sentences."

Characteristic 6: Students should discuss the terms they are learning. I have already addressed the importance of discussion in conjunction with SSR. Among its many benefits, discussion helps students encode information in their own words, helps them view things from different perspectives, and allows for self-expression. These virtues also hold true for vocabulary instruction. As students discuss new terms, they gain deeper understanding and increase the probability that they will store the words in permanent memory. Research supports these benefits. Stahl and Clark (1987) found that students who knew they were not going to be called on during vocabulary instruction recalled fewer words than students who knew they might be called on in class. Fisher, Blachowicz, Costa, and Pozzi (1992) found that asking students to discuss the words they were learning positively affected the amount of time students spent studying words as well as the strategies they used to determine and verify the meaning of words. Finally, discussion about words being learned is an important aspect of the Vocabulary Self-Collection Strategy, or VSS (Haggard, 1982; Ruddell, 1993). VSS is a program that emphasizes

Figure 4.7
Common Greek and Latin Roots

Greek Root	Meaning	Examples
ast cycl gram graph meter phon photo scop therm	star circle, ring letter, written write measure sound light see heat	astronomy, disaster cyclone, cycle telegram, diagram telegraph, autograph thermometer, centimeter symphony, telephone photograph, photosynthesis microscope, periscope thermometer, thermal
Latin Root	Meaning	Examples
act ang aud credit dict duc, duct fac loc man migr miss mob mot ped pop port rupt sign spec tract urb vac vid volv	do bend hear believe speak lead make place hand move send move move foot people carry break mark see pull, drag city empty see roll	react, transact angle, angular audience, audible discredit, incredible contradict, dictate aqueduct, educate factory, manufacture location, allocate manuscript, manipulate immigrant, migratory dismiss, missionary automobile, mobile motion, motor pedal, pedestrian population, popular import, portable erupt, rupture signature, signal inspect, spectator tractor, attraction urban, suburb vacant, vacuum video, evidence revolver, revolution

student choice regarding the words they study and systematic discussion of those words. As reported by Ruddell, studies of VSS versus traditional approaches with high school students indicate that the VSS condition “increased collaborative time in the classroom and that students took ownership and enjoyed being in a position of self-determination in the VSS condition. . . . Students in the VSS condition scored higher on short-term tests administered at the end of . . . the experimental treatment” (p. 436).

Although interaction about words will typically occur during the natural course of instruction, teachers should occasionally organize students into groups for the specific purpose of discussing what they have learned about vocabulary terms.

Characteristic 7: Students should play with words. One powerful instructional technique that schools typically underuse is games. Covington (1992) summarizes much of the research on game theory and its use in the classroom. Malone (1981a, 1981b) explains that games have at least three distinguishing characteristics. First, they present manageable challenges for students. As Covington (1992) explains, games provide tasks that “challenge the individual’s present capacity, yet permit some control over the level of challenge faced” (p. 160). Second, games arouse curiosity. They do this by “providing sufficient complexity so that outcomes are not always certain” (Covington, 1992, p. 160). Finally, games involve some degree of fantasy arousal. Again, Covington explains that fantasy arousal is not “merely unbridled wish fulfillment or fairy tales, but rather the creation of imaginary circumstances that permit the free and unfettered use of one’s growing abilities” (p. 160).

Several sources describe how to use games and gamelike activity to help stimulate students’ thinking about vocabulary. Johnson, von Hoff Johnson, and Schlichting (2004) discuss *logology*—word and language play—and identify a number of ways word play can be integrated into vocabulary instruction. In their book *Literacy Plus: Games for Vocabulary and Spelling*, Marzano and Christensen (1992) describe in depth how teachers might use games in vocabulary instruction. They note:

Vocabulary learning need not be a drudgery for students. Rather, activities should be designed to create an awareness and appreciation of words and to stimulate word fluency through experiences that are meaningful and enjoyable. The purpose of this collection of games is to help teachers and students achieve this goal. (p. i)

Their book lists 15 games that can be used as “sponge activities” to enhance vocabulary development. As the name implies, a sponge activity is intended to “soak up” the “dead time” that frequently occurs in classes. For example, a teacher might use sponge activities during the last few minutes of class, when instructional activities have wound down. Sponge activities might be used at the beginning of class to generate students’ enthusiasm and excitement. When students are playing vocabulary games, they are having fun and experiencing vocabulary terms in a new context and seeing them from different perspectives.

Characteristic 8: Instruction should focus on terms that have a high probability of enhancing academic success. As we have seen, one of the primary arguments against the direct teaching of vocabulary is that important terms are too numerous to teach. But we have also seen that this argument is a bit of a “straw man” for a number of reasons. Estimates of the number of words students should know vary greatly, and not all words students might encounter are critical to know. It is my firm belief that if some basic distinctions could be made between words that are critical to students’ academic success and those that are not, a viable and straightforward approach to direct vocabulary instruction could be devised. The issue, then, is identifying a listing of vocabulary terms critical to academic success.

Beck and McKeown (1985) suggest that vocabulary be thought of in three tiers. As described by Beck, McKeown, and Kucan (2002), the first tier consists of the most basic words, such as *clock*, *baby*, *happy*, *walk*, and the like. Beck and colleagues (2002) explain: “Words in this tier rarely require instructional attention to their meanings in school” (p. 8). Virtually all of the words in this tier are found in the first category in Figure 4.2 (p. 66). Students will encounter them frequently during reading.

Thus, it makes sense to rely on wide reading for the learning of these words. Specifically, if a school implements the SSR process described in Chapter 3, we might assume that for the most part, students will learn these first-tier words through context. Unfortunately, these are the very words that are commonly the focus of instruction at the lower grades. Adams (1990) reports that “it seems that the majority of the words listed for instruction by the basals are already familiar to most children” (p. 148). To illustrate, a study by Roser and Jule (1982) of 3rd, 4th, and 5th grade students found that students already knew 72 percent of the words listed in the basal as appropriate targets for vocabulary instruction. Even students in the lowest reading group knew 48 percent of the words.

Tier-two words, according to Beck, McKeown, and Kucan (2002) are those that appear infrequently enough that the chance of learning them in context is slim. Tier-three words are those that are specific to subject areas. Beck, McKeown, and Kucan (2002) focus on tier-two words as the appropriate target of vocabulary instruction. I believe that this is a mistake for two reasons.

First, although the criterion commonly used to order words is how frequently they appear in written text, studies indicate that word frequency is not a reliable indicator of a word’s importance. To illustrate, Breland, Jones, and Jenkins (1994) analyzed the research on the various word-frequency lists over the decades. They note that the assumption that the frequency of a word is a good indicator of how difficult it is to learn is highly questionable: “Word frequency can only be an approximation of word difficulty” (p. 3).

To illustrate, consider the following examples from the *American Heritage Word Frequency Book* (Carroll, Davies, & Richman, 1971). According to this source, words that appear once in every one million words of running text include *diatoms*, *tinder*, *fortnight*, *skinks*, *pupa*, *slunk*, *rheumatic*, *sheaves*,

ramparts, *alight*, *fiords*, *wooly*, *spectra*, and *ere*.

Words that appear once in every one hundred million words of running text include *amnesty*, *assimilate*, *busybody*, *cheeseburger*, *contemporary*, *flex*, *fluent*, *furor*, *jellybean*, *liturgy*, *mediate*, *persecute*, *pool-side*, *raccoon*, *rambunctious*, *shamrock*, and *stenographer*. There is something intuitively wrong about the two lists of words. A typical student is certainly more likely to know the words *busybody*, *cheeseburger*, and *contemporary* than the words *diatoms*, *fortnight*, and *skinks*. Yet the latter are 100 times more frequent in text, at least according to one frequency list. In short, word frequency is not the guide we need to identify the target words for direct vocabulary instruction.

The second problem with the suggestion that tier-two words should be the target of vocabulary instruction is that there typically is no distinction between words that are important to specific subject areas and words that are more general in their use. Recall the discussion in Chapter 2 regarding the specific nature of academic background knowledge. A knowledge of general terms (e.g., tier-two words as described by Beck, McKeown, and Kucan, 2002) might do little to help students develop the academic background knowledge that will help them succeed in mathematics, science, and history. Also recall the findings of Stahl and Fairbanks (1986) that instruction in general vocabulary drawn from word-frequency lists is associated with a gain of 12 percentile points in comprehension, but instruction in words that are specific to the content being taught is associated with a gain of 33 percentile points.

If the goal of direct vocabulary instruction is to enhance academic background knowledge, then what is clearly needed is a list of subject-specific terms. Indeed, one of the contributions of this book to the field of vocabulary instruction is a list of 7,923 terms critical to success in 11 academic subject areas. How this list was constructed and its use are described in depth in Chapters 6 and 7. ■

READING 4

Categories and Semantic Features of Words

Category	Semantic Features
Types of people (general)	<ol style="list-style-type: none"> 1. The type of person performs specific actions (e.g., firefighter). 2. Specific requirements are necessary to become the type of person (e.g., doctor). 3. The type of person has a specific set of physical or psychological characteristics (e.g., basketball player, psychologist).
Specific people	<p>The characteristics above will apply, plus the following:</p> <ol style="list-style-type: none"> 4. The person is associated with a specific time period (e.g., George Washington). 5. The person is associated with a specific place (e.g., Saddam Hussein). 6. The person is associated with a specific event (e.g., Lee Harvey Oswald). 7. The person is associated with a specific accomplishment (e.g., Babe Ruth).
Natural objects and places (general)	<ol style="list-style-type: none"> 1. The object or place is associated with a specific setting (e.g., beach). 2. The object or place is associated with specific physical characteristics (e.g., granite, mountain range). 3. The object or place is developed or formed in a specific way (e.g., tidal basin). 4. The object or place is associated with specific uses (e.g., lumber).
Natural objects and places (specific)	<p>The characteristics above will apply, plus the following:</p> <ol style="list-style-type: none"> 5. The object or place is associated with specific events (e.g., Mt. St. Helens). 6. The object or place is associated with specific people (e.g., Little Bighorn). 7. The object or place is associated with a specific time (e.g., the land bridge connecting Alaska and Siberia). 8. The object or place is associated with a specific location (e.g., the Amazon).

Category	Semantic Features
Man-made objects and places (general)	<ol style="list-style-type: none"> 1. The object or place is associated with a specific setting (e.g., coastal city). 2. The object or place is associated with specific physical characteristics (e.g., wheel). 3. The object or place is developed or built in a specific way (e.g., railroad). 4. The object or place is associated with specific uses (e.g., automobile).
Man-made objects and places (specific)	<p>The characteristics above will apply, plus the following:</p> <ol style="list-style-type: none"> 5. The object or place is associated with specific events (e.g., New York City). 6. The object or place is associated with specific people (e.g., Versailles). 7. The object or place is associated with a specific time (e.g., the Parthenon). 8. The object or place is associated with a specific location (e.g., Stonehenge).
Man-made events (general)	<ol style="list-style-type: none"> 1. The event is associated with specific types of people (e.g., football game). 2. The event is associated with a specific process or specific actions (e.g., party). 3. The event is associated with specific equipment, material, resources, or context (e.g., polo match). 4. The event is associated with a specific setting (e.g., picnic). 5. The event is associated with specific causes and consequences (e.g., graduation).
Man-made events (specific)	<p>The characteristics above will apply, plus the following:</p> <ol style="list-style-type: none"> 6. The event is associated with specific people (e.g., Holocaust). 7. The event is associated with a specific time (e.g., Christmas). 8. The event is associated with a specific place (e.g., 9/11/01). 9. The event is associated with a specific cause or outcome (e.g., World War II).
Natural phenomena (general)	<ol style="list-style-type: none"> 1. The phenomenon is associated with a specific process (e.g., volcanic eruption). 2. The phenomenon is associated with specific causes and consequences (e.g., tornado). 3. The phenomenon is associated with a specific setting (e.g., tidal wave).

Category	Semantic Features
Natural phenomena (specific)	<p>The characteristics above will apply, plus the following:</p> <ol style="list-style-type: none"> 4. The phenomenon is associated with a specific place (e.g., Alaskan earthquake of 1964). 5. The phenomenon is associated with a specific time (e.g., ice age).
Intellectual, artistic, or cognitive products (general)	<ol style="list-style-type: none"> 1. The product is associated with a specific process (e.g., a painting). 2. The product is associated with a specific purpose or use (e.g., a letter). 3. The product is associated with specific types of people (e.g., opera). 4. The product is associated with specific equipment (e.g., sculpture).
Intellectual, artistic, or cognitive products (specific)	<p>The characteristics above will apply, plus the following:</p> <ol style="list-style-type: none"> 5. The product is associated with a specific person (e.g., the Mona Lisa). 6. The product is associated with a specific time or event (e.g., Rosetta Stone). 7. The product is associated with a specific cause or consequence (e.g., U.S. Constitution). 8. The product is associated with a specific place (e.g., ceiling of the Sistine Chapel).
Physical actions (general)	<ol style="list-style-type: none"> 1. The physical action is associated with a specific process (e.g., running). 2. The physical action is associated with specific types of people (e.g., mountain climbing). 3. The physical action is associated with a specific location (e.g., fishing). 4. The physical action is associated with a specific purpose (e.g., weight lifting). 5. The physical action is associated with a specific cause or consequence (e.g., fighting).
Mental actions (general)	<ol style="list-style-type: none"> 1. The mental action is associated with a specific process (e.g., experimenting). 2. The mental action is associated with specific types of people (e.g., arbitration). 3. The mental action is associated with a specific location (e.g., legal defense). 4. The mental action is associated with a specific cause or consequence (e.g., problem solving).

Category	Semantic Features
Social/societal groups, institutions, or organizations (general)	<ol style="list-style-type: none"> 1. The institution or organization is associated with a specific purpose (e.g., posse). 2. The institution or organization is associated with specific types of people (e.g., governing board). 3. The institution or organization is associated with a specific setting (e.g., jury).
Social/societal groups, institutions, or organizations (specific)	<p>The characteristics above will apply, plus the following:</p> <ol style="list-style-type: none"> 4. The institution or organization is associated with a specific location (e.g., U.S. Congress). 5. The institution or organization is associated with a specific time (e.g., KKK). 6. The institution or organization is associated with a specific event (e.g., Chicago Seven).
Shapes/direction/position	<ol style="list-style-type: none"> 1. The shape/direction/position has distinguishing physical features (e.g., triangle). 2. The shape/direction/position is associated with specific uses (e.g., arch). 3. The shape/direction/position is associated with specific reference points (e.g., south).
Quantities/amounts/measurements	<ol style="list-style-type: none"> 1. The quantity, amount, or measurement has a specific relationship with other quantities, amounts, or measurements (e.g., one million). 2. The quantity, amount, or measurement has a specific referent (e.g., inches).

In essence, the list in [this figure] is a set of very general semantic features. It is designed to provide guidance regarding the critical semantic features for words that are the target of direct vocabulary instruction. Research indicates that instructional activities focusing on key semantic features positively affect student learning of vocabulary terms (Johnson, Toms-Bronowski, & Pittleman, 1982; Anders, Bos, & Filip, 1984). To illustrate, assume that the term *port city* is the focus of instruction. Using [this figure], it would most likely be classified as a general (as opposed to specific) man-made object or place. As identified in [this figure], the critical features of this type of term include the following:

- Its typical setting
- Its specific physical characteristics

- How it is developed or built
- Its typical uses

Teachers can use the information in [this figure] in several ways. For example, it can help them determine which characteristics they might emphasize in an initial description of the word presented to students. In this case, the characteristics identified in [this figure] would cue a teacher to emphasize the following:

- The setting of a port city is usually near an ocean with easy access to open waters.
- Typical physical characteristics of a port city are that it has large docks and equipment for unloading ships, and it is close to railroads so that cargo can be transported inland.

- Port cities usually develop because early settlers coming from the ocean landed at that location and found it highly useful in terms of receiving new people and supplies.
- Typical use of a port city is that it is a center for trade, commerce, and the mixing of many cultures.

Armed with this information about the important semantic features of *port city*, the teacher would construct a description or provide examples that contain all the key features.

[This figure] can also help with an activity that Johnson and Pearson (1984) have developed, “attribute comparison,” in which students compare two or more terms on selected attributes or semantic features. For example, assume that a teacher asked

students to compare attributes for the terms *port city* and *industrial city*. The teacher would first have students identify the specifics of port cities and industrial cities using the semantic features selected from [this figure] (i.e., typical setting, physical characteristics, how developed, typical uses). Next, students would be asked to compare how these terms are similar and different in terms of these semantic features.

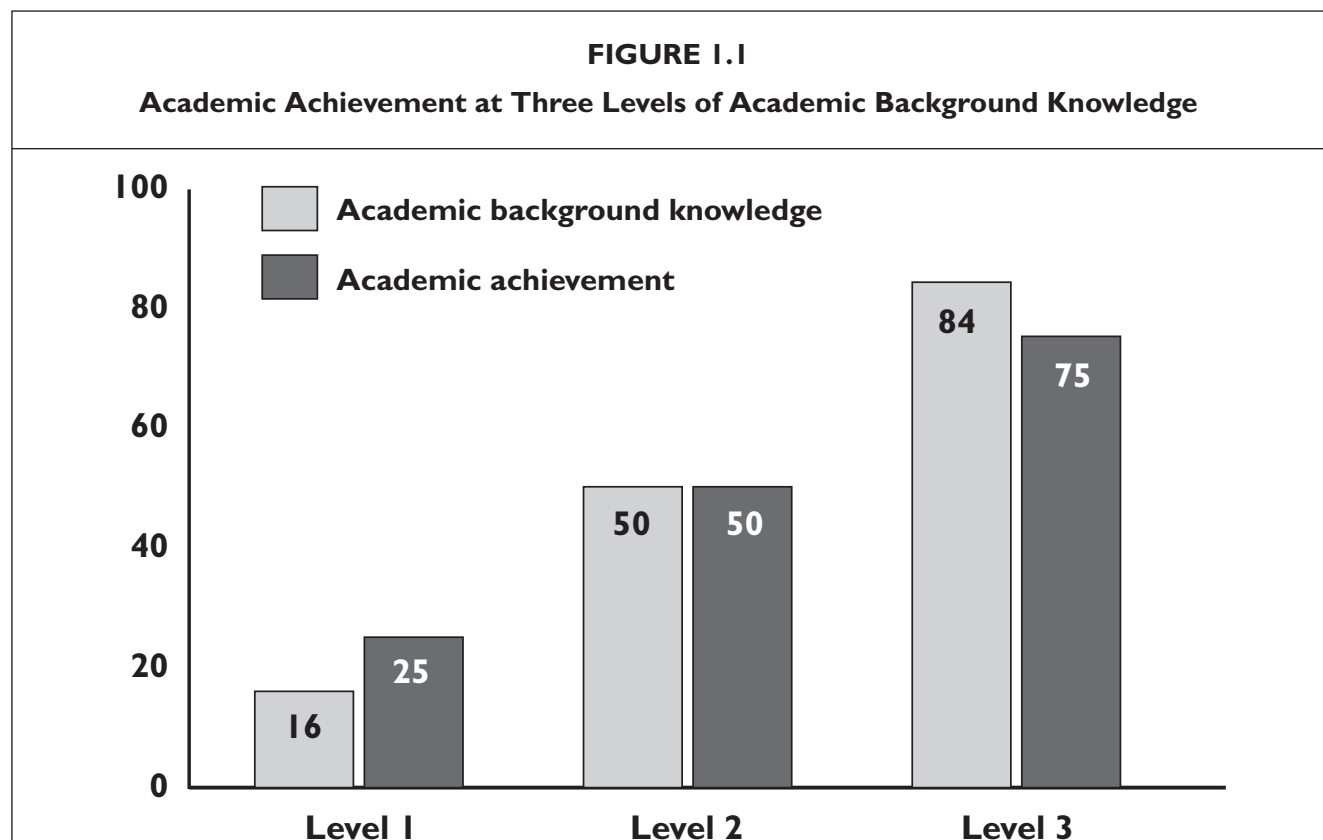
One qualifying note should be attached to the use of [this figure]. It is not an exhaustive list of categories for organizing vocabulary terms, but it should provide a good starting place for teachers. Also, many terms can be associated with more than one category. With these qualifications, [this figure] serves as a tool for enhancing vocabulary instruction. ■

The Importance of Background Knowledge

According to the National Center for Education Statistics (2003), every day from September to June some 53.5 million students in the United States walk into classes that teach English, mathematics, science, history, and geography and face the sometimes daunting task of learning new content. Indeed, one of the nation's long-term goals as stated in *The National Education Goals Report: Building a Nation of Learners* (National Education Goals Panel, 1991) is for U.S. students to master "challenging subject matter" in core subject areas (p. 4). Since that goal was articulated, national and state-level standards documents have identified the challenging subject matter alluded to by the goals panel. For example, in English, high school students are expected to know and be able to use standard conventions for citing various types of primary and secondary sources. In mathematics, they are expected to understand and use sigma notation and factorial representations. In science, they are expected to know

how insulators, semiconductors, and superconductors respond to electric forces. In history, they are expected to understand how civilization developed in Mesopotamia and the Indus Valley. In geography, they are expected to understand how the spread of radiation from the Chernobyl nuclear accident has affected the present-day world.

Although it is true that the extent to which students will learn this new content is dependent on factors such as the skill of the teacher, the interest of the student, and the complexity of the content, the research literature supports one compelling fact: what students *already know* about the content is one of the strongest indicators of how well they will learn new information relative to the content. Commonly, researchers and theorists refer to what a person already knows about a topic as "background knowledge." Numerous studies have confirmed the relationship between background knowledge and achievement (Nagy, Anderson, & Herman, 1987;



Source: Adapted from *Building Background Knowledge for Academic Achievement: Research on What Works in Schools* (pp. 1–16), by R. Marzano, 2004, Alexandria, VA: Association for Supervision and Curriculum Development.

Bloom, 1976; Dochy, Segers, & Buehl, 1999; Tobias, 1994; Alexander, Kulikowich, & Schulze, 1994; Schiefele & Krapp, 1996; Tamir, 1996; Boulanger, 1981). In these studies the reported average correlation between a person's background knowledge of a given topic and the extent to which that person learns new information on that topic is .66 (see Technical Note 1 on p. 127 for a discussion of how the correlation was computed).

To interpret this average correlation, let's consider one student, Jana, who is at the 50th percentile in terms of both her background knowledge and her academic achievement. Envision Jana's achievement at the 50th percentile as shown in the middle of Figure 1.1. (For a more detailed explanation of this example, see Technical Note 2 on pp. 127–129.) If we increase her background knowledge by one standard deviation (that is, move her from the 50th to the 84th percentile), her academic achievement would be expected to increase from the 50th to the 75th percentile (see the bars on the right side of Figure 1.1). In contrast, if we decrease Jana's academic background knowledge by one standard deviation (that is, move her from the 50th to the 16th percentile), her academic achievement would be expected to drop to the 25th percentile (see the bars on the left side of Figure 1.1). These three scenarios demonstrate the dramatic impact of academic background knowledge on success in school. Students who have a great deal of background knowledge in a given

subject area are likely to learn new information readily and quite well. The converse is also true.

Academic background knowledge affects more than just "school learning." Studies have also shown its relation to occupation and status in life. Sticht, Hofstetter, and Hofstetter (1997) sought to document a relationship between background knowledge and power, with power defined as "the achievement of a higher status occupation and/or the ability to earn an average or higher level income" (p. 2). To test their hypothesis that "knowledge is power" (p. 3), they interviewed 538 randomly selected adults and gave them a test of basic academic information and terminology. They found a significant relationship between knowledge of this academic information and type of occupation and overall income.

This discussion paints a compelling picture of the impact of *academic* background knowledge on students' academic achievement in school and on their lives after school. It is important to note the qualifier *academic*. Two students might have an equal amount of background knowledge. However, one student's knowledge might relate to traditional school subjects such as mathematics, science, history, and the like. The other student's knowledge might be about nonacademic topics such as the best subway route to take to get downtown during rush hour, the place to stand in the subway car that provides the most ventilation on a hot summer day, and so on. The importance of one type of background knowledge over another is strictly a function of context (Becker,

FIGURE 1.2
Relationship Between Education and Yearly Income

Level of Education	Yearly Income
Not a high school graduate	\$10,838
High school graduate	\$18,571
Some college, no degree	\$20,997
Associate's degree	\$26,535
Bachelor's degree	\$35,594
Master's degree	\$47,121
Professional degree	\$66,968
Doctorate	\$62,275

Source: U.S. Census Bureau, March 2003

1977; Greenfield, 1998). The background knowledge of the second student is critical to successfully using public transportation in a specific metropolitan area, but probably not very important for success in school. The first student's background knowledge is critical to success in school but not to successful public transit.

This book is about enhancing students' academic background knowledge. This is not to say that other types of background knowledge are unimportant. Indeed, Sternberg and Wagner's (1986) compilation of the research on practical intelligence makes a good case that success in many aspects of life is related to nonacademic types of background knowledge. However, it is also true that in the United States all children are expected to attend school, and success in school has a strong bearing on their earning potential. Figure 1.2 illustrates the dramatic rise in yearly income as the level of education increases. One particularly disturbing aspect of Figure 1.2 is the income level of those who have not graduated from high school—namely, \$10,838. This is not much above the official poverty line in the United States, which is \$9,359 per year for a single adult (U.S. Census Bureau, September 25, 2003). Students who do not graduate from high school likely condemn themselves to a life of poverty.

Enhancing students' academic background knowledge, then, is a worthy goal of public education from a number of perspectives. In fact, given the relationship between academic background knowledge and academic achievement, one can make the case that it should be at the top of any list of interventions intended to enhance student achievement. If not addressed by schools, academic background can create great advantages for some students and great disadvantages for others. The scope of the disparity becomes evident when we consider how background knowledge is acquired.

How We Acquire Background Knowledge

We acquire background knowledge through the interaction of two factors: (1) our ability to process and store information, and (2) the number and frequency of our academically oriented experiences. The ability to process and store information is a component of what cognitive psychologists refer to as *fluid intelligence*. As described by Cattell (1987), fluid intelligence is innate. One of its defining features is the ability to process information and store it in permanent memory. High fluid intelligence is associated with enhanced ability to process and store information. Low fluid intelligence is associated

FIGURE 1.3				
Interaction of Factors Affecting Academic Background Knowledge				
Information-Processing Ability	Access to Academically Oriented Experiences			
	Low	Meduim	High	
	High	Delbert	Barbara	Allen
	Meduim	Gina	Ethan	Calvin
	Low	Iris	Hilda	Frank

with diminished ability to process and store information.

Our ability to process and store information dictates whether our experiences parlay into background knowledge. To illustrate, consider two students who visit a museum and see exactly the same exhibits. One student has an enhanced capacity to process and store information, or high fluid intelligence; the other has a diminished capacity to process and store information, or low fluid intelligence. The student with high fluid intelligence will retain most of the museum experience as new knowledge in permanent memory. The student with low fluid intelligence will not. In effect, the student with the enhanced information-processing capacity has translated the museum experience into academic background knowledge; the other has not. As Sternberg (1985) explains: “What seems to be critical is not sheer amount of experience but rather what one has been able to learn from and do with experience” (p. 307).

The second factor that influences the development of academic background knowledge is our academically oriented experiential base—the number of experiences that will directly add to our knowledge of content we encounter in school. The more academically oriented experiences we have, the more opportunities we have to store those experiences as academic background knowledge. Again, consider our two students at the museum. Assume that one student has an experience like visiting a museum once a week and the other student has experiences like this once a month. The second student might have an equal number of other types of experiences, but they are nonacademic and provide little opportunity to enhance academic background knowledge. In effect, the first student has four times the opportunities to generate academic background knowledge as the second, at least from “museum-type” experiences.

It is the interaction of students’ information-processing abilities and their access to academically oriented experiences, then, that produces their academic background knowledge. Differences in these factors create differences in their academic background knowledge and, consequently, differences in their academic achievement.

An examination of the interaction of these factors paints a sobering picture of the academic advantages

possessed by some students and not others. Figure 1.3 depicts nine students with differing levels of access to academically oriented experiences and differing levels of ability to process and store information. The darker the box, the more academic background knowledge a student has. Allen has the most background knowledge. He has a great deal of access to experiences that build academic background knowledge and exceptional ability to process and store those experiences. We might say that Allen is doubly blessed because of his ability to process information and his access to many experiences that will be translated into academic background knowledge. Barbara and Calvin are next in order of the amount of academic background knowledge but for slightly different reasons. Barbara has midlevel access to experiences but a highly developed ability to process and store information. She makes maximum use of her academically oriented experiences. Calvin doesn’t have Barbara’s ability to process and store information, but he has many experiences to draw from. As Figure 1.3 demonstrates, enhanced information-processing ability can offset to some degree lack of access to academically oriented experiences, and vice versa. Figure 1.3 also demonstrates the plight of certain students who—I assert—constitute the academically disadvantaged students in the United States. Consider the three students depicted in the first column of Figure 1.3—Delbert, Gina, and Iris.

Delbert has a moderate amount of background knowledge, but only because he has exceptional ability to process and store information. Even though he has little access to experiences, he stores most of what he experiences. Gina has an average ability to process information, but her limited access to background knowledge plays havoc with her chances of developing a large store of academic background knowledge. Iris is in the worst situation of all. She has diminished information-processing ability and limited access to academically oriented experiences. Limited access to academic background experiences, then, represents “the great inhibitor” to the development of academic background knowledge. We might ask, which students characteristically have limited access to academic background experience? Stated differently, who are Delbert, Gina, and Iris?

A Clearer Picture of Delbert, Gina, and Iris

With the links made between family income and access to academic experiences and between ethnicity and family income, our pictures of Delbert, Gina, and Iris come into sharp focus. They are most likely to be African American or Hispanic. They are growing up in families at or near the poverty line. They have experienced a fraction of the rich language development opportunities that come so readily to other students. Additionally, they experience twice as many discouraging messages as they do encouraging messages—the opposite ratio of their more affluent counterparts. Finally, they may regularly deal with income-related familial stresses not characteristic of more affluent homes.

These facts are staggering in their implications, and one marvels at the resilience of children who overcome their impact. Yet many if not most of these children will succumb under the weight of these factors without direct and prolonged interventions by schools.

Direct Approaches to Enhancing Academic Background Knowledge

The most straightforward way to enhance students' academic background knowledge is to provide academically enriching experiences, particularly for students whose home environments do not do so naturally. I refer to such efforts as “direct approaches” to enhancing academic background knowledge.

By definition, a direct approach to enhancing academic background knowledge is one that increases the variety and depth of out-of-class experiences. Such experiences include field trips to museums, art galleries, and the like, as well as school-sponsored travel and exchange programs. Admittedly, these experiences are powerful, but schools are limited in how many they can provide. In these days of shrinking resources, schools commonly must cut back or even cut out these activities.

Another type of direct approach is to help students establish mentoring relationships with members of the community. A mentoring relationship is a one-to-one relationship between a caring adult and a youth who can benefit from support. Although mentoring relationships can develop quite naturally

between students and teachers, relatives, or coaches, planned mentoring relationships are those in which a student is matched with a mentor in a structured format (Brewster & Fager, 1998). Trust appears to be the *sine qua non* of effective mentoring relationships (Sipe, 1999), but it is not easily established between partners from different socioeconomic or ethnic groups. Although there is no well-established script for an effective mentoring relationship, the following appear to be critical factors (Sipe, 1999):

- Maintain a steady and consistent presence in the student's life.
- Take responsibility for keeping the relationship alive and realize that it will probably be one-sided.
- Involve the youth in decisions about how time will be spent and respect the youth's viewpoint.
- Recognize the youth's need for fun.
- Become acquainted with the youth's family.

Programs that follow this script have demonstrated impressive results. Grossman and Johnson (2002) report the research findings on two popular mentoring programs: Big Brothers Big Sisters (BBBS) and Philadelphia Futures' Sponsor-A-Scholar (SAS). BBBS pairs an adult volunteer with a student from a single-parent household. For at least a year, the volunteer and the student meet two to four times per month with meetings lasting two to four hours. Grossman and Johnson (2002) explain that “BBBS is not designed to ameliorate specific problems or reach specific goals, but rather to provide a youth with an adult friend who promotes general youth development objectives” (p. 8).

Whereas BBBS has general goals, SAS has rather specific goals. Its primary focus is to help disadvantaged students from Philadelphia's public schools “make it” to college. According to Grossman and Johnson: “This goal is sought through a range of support services chief among which are the provision of long-term mentoring and financial help with college-related expenses” (p. 8). Mentors work with students for five years, monitoring their academic progress in high school and helping them apply to college. Grossman and Johnson (2002) report the following outcomes when SAS

participants are compared with nonparticipants: higher GPA, higher likelihood to enroll in college, and higher likelihood to persist in college.

In summary, the most direct ways for schools to enhance students' academic background knowledge are to directly provide academically oriented experiences as a regular part of school offerings and to forge mentoring relationships between students and caring adults under the assumption that such relationships will provide more academically oriented experiences. Although I support such efforts wholeheartedly, I believe that a more viable solution is to focus on indirect approaches.

Indirect Approaches: A Viable Answer

If schools had unlimited resources, then the answer to helping Delbert, Gina, and Iris would be straightforward—provide field trips and mentoring programs. These activities would go a long way toward leveling the playing field in terms of the students' academic background knowledge. But in this time of cutbacks in school resources, this solution is unlikely to prevail. So what options do schools have?

I believe that a thorough understanding of the nature of background knowledge and how it is stored in permanent memory demonstrates the usefulness of indirect approaches that schools can implement within the context of the current system and its available resources. I use the term *indirect* because the experiences to which I refer do not rely on students' physically going on trips to the museum or meeting with a mentor. Rather, indirect experiences can be fostered within the regular school day. They represent a realistic and viable approach to providing Delbert, Gina, and Iris with the academic background knowledge possessed by the other students depicted in Figure 1.3.

This book provides the rationale for and research behind a systematic, indirect approach to enhancing students' academic background knowledge. I firmly believe that if schools were to implement the suggestions offered in this book, they would make great strides toward ensuring that all students, regardless of background, would develop the background knowledge essential for academic success. I strongly fear that if schools do not implement indirect approaches like those outlined in this book, they will continue to be a breeding ground for failure for those students who grow up in or near poverty. ■

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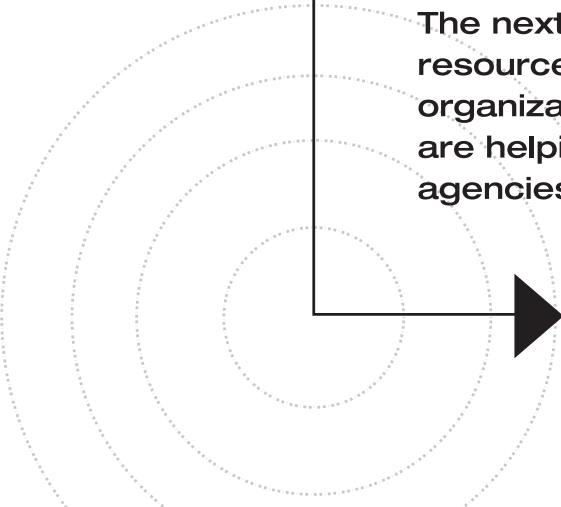
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