DOCUMENT RESUME

ED 469 944 SP 041 114

AUTHOR	Jamentz, Kate
TITLE	Isolation Is the Enemy of Improvement: Instructional Leadership To Support Standards-Based Practice.
INSTITUTION	WestEd, San Francisco, CA.
SPONS AGENCY	Office of Educational Research and Improvement (ED), Washington, DC.
ISBN	ISBN-0-914409-13-1
PUB DATE	2002-00-00
NOTE	109p.
CONTRACT	ED-01-CO-0012
AVAILABLE FROM	WestEd, 730 Harrison Street, San Francisco, CA 94107-1242. Tel: 415-565-3000; Tel: 877-4-WestEd (Toll Free); Web site: http://www.WestEd.org.
PUB TYPE	Guides - Non-Classroom (055)
EDRS PRICE	EDRS Price MF01/PC05 Plus Postage.
DESCRIPTORS	Academic Achievement; *Academic Standards; Elementary Secondary Education; Faculty Development; *Instructional Leadership; *Teacher Collaboration; *Teacher Competencies; *Teaching Skills

ABSTRACT

This book is designed to help school leaders critically examine what they should expect from students, how they will know when students have achieved those expectations, and how to design and implement instruction to ensure that every student achieves agreed-upon goals. It asserts that leaders are first and foremost teachers. Chapter 1, "Teaching to High Standards: Understanding What Teachers Need to Know and Be Able to Do," reviews the instructional demands of standards based reform, detailing specific teacher knowledge and skills critical to ensuring that all students achieve to high standards. Chapter 2, "Identifying Teacher Skills in Practice," presents two classroom vignettes illustrating the teaching behaviors described in the previous chapter. Chapter 3, "The Work of Instructional Leadership: Supporting Teachers to Build and Sustain Critical Skills," discusses the kinds of learning opportunities teachers need to build and sustain critical skills, offering examples of how instructional leaders can provide such opportunities by creating new structures for teacher learning and using familiar structures more effectively. Chapter 4, "Leaders as Teachers: Leaders as Learners," identifies potential challenges as instructional leaders take on greater responsibility for focusing on, exploring, and influencing classroom practice. An appendix presents tools for fostering and assessing instructional skills. (Contains 23 references.) (SM)

Isolation is the Enemy of Improvement

Instructional Leadership to Support Standards-Based Practice

WestEd®
Improving education through research, development, and service

Isolation is the Enemy of Improvement

Instructional Leadership
to Support Standards-Based Practice

Kate Jamentz

Western Assessment Collaborative

WestEd®
Improving education through research, development, and service

WestEd, a nonprofit research, development, and service agency, works with education and other communities to promote excellence, achieve equity, and improve learning for children, youth, and adults. While WestEd serves the states of Arizona, California, Nevada, and Utah as one of the nation's Regional Educational Laboratories, our agency's work extends throughout the United States and abroad. It has 16 offices nationwide, from Washington and Boston to Arizona, Southern California, and its headquarters in San Francisco.

The Western Assessment Collaborative (WAC) at WestEd works with district leaders, principals, and teachers to create effective professional development tools and strategies that increase the capacity of schools to ensure that every student achieves to high standards.

For more information about WestEd, visit our Web site: WestEd.org, call 415.565.3000 or, toll-free, (1.877) 4-WestEd, or write:

WestEd
730 Harrison Street
San Francisco, CA 94107-1242.

Library of Congress Card Number: 2002102861

ISBN: 0-914409-13-1

This report was produced in whole or in part with funds from the Office of Educational Research and Improvement, U.S. Department of Education, under contract #ED-01-CO-0012. Its contents do not necessarily reflect the views or policies of the Department of Education.

Table of Contents

Acknowledgments

The author wishes to thank a number of people and organizations for their contributions to the development of this book. First, thanks to the William and Flora Hewlett Foundation and the Walter S. Johnson Foundation for funding "Instruction at the Core." It is through the Western Assessment Collaborative's (WAC) work with the district leaders, site administrators, and teachers in this project that the ideas and tools presented in this book have been developed. Thanks, too, to all those school and district leaders in San Lorenzo Unified, San Leandro Unified, and San Mateo-Foster City Elementary School Districts from and with whom we have been learning. Of course this book would not have been written without the commitment and skill of WAC staff members Jeannie Bosley, Cheryl Milner, and Trudy Schoneman, who provide direct support to our partner districts. Special appreciation goes to Cheryl who wrote the seventh-grade vignette in Chapter Two and has given invaluable feedback on all other aspects of the book. I am grateful, too, to those who reviewed and gave feedback on drafts of the tools or text, chief among them Laura Cooper, Julie Koppich, Carol Robertson, Maureen Sanders, Cindy Tucker, and Joy Zimmerman.

Joan Baratz-Snowden, Director of the Special Issues Division of the American Federation of Teachers (AFT), originally commissioned, reviewed, and published "The Instructional Demands of Standards-based Reform," an article that with AFT permission has been revised as Chapter I of this document. Permissions for use of the seventh-grade Mathscapes unit entitled "Being an Informed Consumer" was generously granted by Glencoe/McGraw Hill.

Introduction

FOR MANY YEARS, "INSTRUCTIONAL LEADERSHIP" HAS BEEN the Holy Grail of educators everywhere. Superintendents and principals are exhorted to put issues of classroom practice above the bureaucratic operations of their schools and teachers urged to take on new leadership roles to mentor and support other teachers. But clarity about what effective instructional leaders do on a day-to-day basis has remained elusive.

The call for standards-based reform provides a unique opportunity to define the work of instructional leadership. The commitment to establish shared standards for student performance and to target organizational resources to ensure that every student meets or exceeds these standards requires that leaders provide guidance and direction to the critical issues of what gets taught, the quality of the work students are expected to produce, and how instruction will be evaluated (Elmore, 2000). Providing such guidance requires administrators and teacher leaders to work in new ways.

In school systems that assume that some students will succeed academically and others will not, instructional leadership is often defined as "hiring good teachers and getting out of their way." In the name of teacher autonomy or the belief that good teaching is an "art" not easily taught or learned, school leaders — whether administrators or teacher-colleagues — have stayed out of decisions about what goes on in individual classrooms on a day-to-day basis. Teachers work in isolation from one another, seldom knowing what goes on even in the

classroom next door. Differences in expectations for student performance from one classroom to the next are accepted as the inevitable consequence of bringing together teachers with different backgrounds, experiences, and values. The result is that those students lucky enough to get teachers with high expectations and strong teaching skills do high-quality work, while less is expected of — and achieved by — others.

In contrast, when the success of the education system is defined by every student reaching agreed-upon high standards, leaders are called upon to build a community of *shared*, high expectations to which both students and educators are held accountable. In this system educators work together to consider what students should be learning and are learning, question whether what students produce is good enough, and collaborate on ways to ensure that students achieve at higher levels. To accomplish this, school leaders must break down the professional culture that has kept instructional decision-making the private domain of individual teachers. They must find ways to replace old norms of isolationism with new habits of collective action.

Unfortunately, most professional development programs fail to provide administrators or teacher leaders with the tools or support they need to learn to work in these ways. This book is designed to help school leaders engage their colleagues in critical questions of what they should expect from students, how they will know when students have achieved those expectations, and how instruction must be designed and carried out to ensure that every student achieves to agreed-upon levels.

For the last six years, the Western Assessment Collaborative (WAC) at WestEd has been working with teacher, school, and district leaders to assist them in implementing standards-based accountability systems. This work is grounded in the understanding that commitment to achievement of high standards by all students requires new ways of thinking about what teachers need to know and do (Jamentz, 2001). Teachers need more diagnostic and analytical capacity than ever before: They don't just "deliver" instruction; they examine readiness, analyze results, and monitor the effects of their actions on student performance. WAC's work has helped leaders identify these critical dimensions of effective standards-based instruction, incorporate them into expectations for teacher performance, and learn the leadership skills needed to sustain this kind of teaching in their schools.

A key premise of this work is that leaders are first and foremost *teachers*. The understanding that teaching is a key function of leadership underlies the work of successful corporate leaders such as General Electric's Jack Welch and INTEL's

Andy Grove (Tichey, 1997). It has also guided the work of effective school district leaders such as Anthony Alvarado and Elaine Fink who led New York District #2's successful literacy reform efforts (Elmore & Burney, 1998; Fink & Resnick, 2001). In elaborating on the work of leaders like these, Noel Tichey, a professor at University of Michigan's Business School and former director of the General Electric Executive Development Center, notes:

> "Teaching is at the heart of leading. In fact it is through teaching that leaders lead others. Leading is not dictating specific behavior. It is not issuing orders and commanding compliance. Leading is getting others to see a situation as it really is and to understand what responses need to be taken so that they will act in ways that will move the organization toward where it needs to be.... Teaching is how organizational ideas and values get shared." (Tichey, page 57)

For the leaders in New York District #2, this meant that professional development was not centered on the occasional opportunity of a workshop, but took place in the day-to-day operations of the school. School and district leaders took the opportunity of their routine interactions with principals and teachers to ask questions or to give feedback designed to push on critical issues of instruction.

Similarly, WAC's work with school leaders challenges them to seize every opportunity to focus attention on the essential issues of standards-based practice: the alignment of instruction to agreed-upon content and performance standards, the rigor of tasks students are given to do, the effectiveness of assessments used to monitor and report on student performance, and the appropriateness of the criteria used to determine what level of work is "good enough" to meet a standard. District, site, and teacher leaders in our partner districts have begun to reconsider what they talk about when they meet with teachers in their supervisory interactions; what they look for and give feedback on when they visit classrooms; and, even, how they use time at faculty meetings. They are beginning to use these routine interactions to transmit new expectations for teacher and student performance and to learn together how to achieve these expectations.

A second premise of WAC's work is that instructional leadership is the job of administrators and teachers alike. We expect administrators to understand the demands of standards-based instruction well enough to foster the conditions that support it. But we recognize that in order to provide for the continuous growth of every teacher, there must be many others at the school site who understand the complexity of effective instruction and who are willing to question and guide others through critical instructional issues. Our work supports teachers in

designated leadership roles — peer coaches or mentors — but, at the same time, encourages all teachers to establish norms that promote reflection and critical review of their own and their colleagues' instructional practice.

A third premise of WAC's professional development work is that instructional leaders need to have — and model — the same commitment to high achievement by the adults in their school that they have for students in the standards-based systems they are trying to create. They must operate on the belief that the characteristics of effective teaching can be named, taught, and learned. More importantly, they must operate on the belief that all teachers can and, when appropriately supported, *will* learn the instructional skills necessary to help every student succeed academically. To that end, leaders must be clear about expectations for adult performance, must learn to collect and analyze data about adult performance in a variety of ways, and must provide specific and targeted feedback that teachers can use to improve their teaching skills.

This book is intended to help instructional leaders recognize the characteristics of effective standards-based instruction and help their colleagues incorporate these characteristics into their own practice and, more broadly, the collective practice of the school. We include tools that have emerged from WAC's professional development work. Chapter One opens with an overview of the instructional demands of standards-based reform, detailing the specific teacher knowledge and skills critical to ensuring that all students achieve to high standards. That overview is followed by a brief discussion of what these new demands imply for establishing standards for teacher performance and the work of school leaders in helping teachers build and sustain these skills.

Chapter Two presents two classroom vignettes that illustrate many of the teaching behaviors described in the previous chapter. The first vignette is set in a third-grade classroom and involves a unit on writing reports. The second vignette is set in a seventh-grade math class where students are learning about percentages. Each vignette provides a window into a classroom over the course of several days, allowing us to see some of what the teacher says and does, the classroom materials he or she uses and, occasionally, how students respond as the unit proceeds. In these brief illustrations of practice, the reader is able to identify specific indicators of effective standards-based instruction.

Chapter Three begins with a brief discussion of the kinds of learning opportunities teachers need to build and sustain these skills. That discussion is followed by examples of how instructional leaders can provide for these learning opportunities both by creating new structures for teacher learning and by using familiar structures more effectively. Three instructional planning or reflection

frameworks are designed for use by instructional leaders and evolved from WAC's professional development work with administrators and teacher leaders.

Chapter Four identifies some of the challenges that may arise as instructional leaders take on greater responsibility for focusing on, exploring, and influencing classroom practice.

The final section of the book contains formatted copies of all of the professional development tools referenced in the previous chapters. Included are the three instructional planning or reflection frameworks introduced in Chapter Three, as well as unannotated versions of the vignettes from Chapter Two. These versions are intended for use as exercises with administrators or teachers to help them internalize an understanding of the specific practices common to effective standards-based instruction. Readers are encouraged to reproduce and use these materials to promote learning in their own districts or schools.

The professional development tools presented in this publication are designed to *initiate* learning about effective standards-based instruction. But they are only a beginning. While the instructional planning and reflection frameworks, for example, guide teachers and administrators in what questions to ask, they are necessarily limited in their ability to suggest desired answers in specific contexts or to help leaders know how to respond to what teachers may say. Absent video or other media exemplars to illustrate a range of hypothetical interactions, the tools are best used in settings in which a supervisor or peer observer is available to provide feedback about the rigor and direction of any discussion provoked by the use of these tools.

Judging by work in WAC's partner districts, it is fair to say that these tools should probably come with a warning label: *Use of these tools has been known to disturb district policy and require leaders to work in new ways.* As administrators and teacher leaders have learned new skills, WAC's partner districts have found themselves entering unanticipated — and sometimes uncharted — territory. In some instances, principals and teachers have called for revision of the standards and performance indicators that had been adopted for teacher evaluation in their districts. The work has also raised questions about how teacher performance data are collected and about the professional development needed for those whose job it is to support and evaluate teachers. Perhaps most dramatically, the work has called into question the level of investment made in the system of policies and practices intended to support teacher quality. As WAC's work with partner districts continues, we offer this book to those who wish to launch similar efforts in their own district or school.

CHAPTER ONE

Teaching to High Standards:

Understanding What Teachers Need to Know and Be Able to Do*

AMERICANS HAVE LONG PRIDED THEMSELVES ON A PUBLIC school system that welcomes all comers. Since the middle of the 19th century, children of the immigrant poor and from both working class and well-established families have had access to what Horace Mann envisioned as a system of "common schools" that "equalized the conditions of men." The current standards movement was born of the realization that, despite public schools opening their doors to everyone, what students experience once they walk through those doors varies greatly. As it has turned out, America's system of common schools provides anything but a common experience for its students.

In the schools most of us attended, as well as in most of today's schools, the teacher's primary job has been to plan engaging instructional experiences designed to help students cover the curricula in a given grade level or content area. Teachers have chosen lessons or learning activities from texts — or have made up their own — to address key topics from that curriculum. Working in isolation, they have individually determined how long to spend on a given topic,

* This chapter is an adaptation of a paper commissioned and published by the Special Issues division of the American Federation of Teachers (AFT). Titled *The Instructional Demands of Standards-Based Reform,* it is available from AFT.

when and how to test students on what they have learned, and what criteria to use for rating the quality of students' work. What teachers have taught and expected of students has been a function of what individual teachers know or don't know about their subject matter, what they like to teach, and what they believe their various students are capable of learning.

Thus, what students are exposed to, what they learn, and "what counts" in terms of their grade have been determined by which teacher they happen to have in a particular year or course. Other students in the same grade level or course, but with a different teacher, might be required to do very different work or be expected to produce work of much greater or lesser quality. For the most part, those students deemed by the system to be "college material" land in the classes of the most demanding teachers, while others experience a range of expectations from challenging to "Mickey Mouse."

Standards-based reform envisions something different: that all students can achieve to high levels. In this vision, school systems are driven by agreements about what every student should know and do, guided by assessment data that reveal whether students have adequately learned those things, and motivated by accountability mechanisms designed to ensure that every student has access to effective learning opportunities.

Unfortunately, the rhetoric of the standards movement has largely ignored the subtle but profound shifts in classroom and school practice that must occur if we are to push beyond the platitude of "high standards for all" and see that goal come to life in student performance. Missing from the discussion is any specificity about how our "wish list" of what students should know and be able to do gets translated into changes at the classroom and school level. If we are sincere in the commitment to turn slogan into reality, school leaders need to understand the very real demands of standards-based instruction. Equally important, they must understand their own role in ensuring the capacity of every classroom teacher to meet these demands.

Planning Backwards From Demonstrations of Achievement

In a standards-based education system, expectations for student performance are not left to individuals, but set by the larger community — by a school, a district, or a state. And those agreed-upon standards apply not just to certain students, but to every student. The standards describe not only what students should know (content standards), but the quality of the work every student will be

expected to do (performance standards). Once standards are set, programmatic resources are allocated to ensure that every student reaches — but is not limited to — this high-level education foundation.

If every student is to achieve the given standards, the traditional process by which a teacher plans a course and his or her daily instructional activities must be turned on its head (see Figure 1). A teacher must start with a solid understanding of the shared expectations for student performance and then plan backwards to determine what each lesson must look like if every student is to be prepared to meet the standards.

Figure 1: The Process of Instructional Planning

Traditional Practice	Standards-Based Practice
Select a topic from the curriculum	Select standard(s) from among those that students need to meet
↓	↓
Design instructional activities	Design an assessment through which students will have an opportunity to demonstrate the knowledge and skills to meet standard(s)
↓	↓
Design and give an assessment	Decide what learning opportunities students will need to learn those things
↓	↓
Give grade or feedback	Plan instruction to ensure that each student has adequate opportunities to learn
↓	↓
Move onto new topic	Use assessment data to give feedback, reteach, or move to next level

Using Assessment to Guide Instruction

To ensure that every student achieves to high standards, teachers must, themselves, understand the standards — and that means having a clear vision of what achievement of each particular standard would look like: What will a student have to do to demonstrate achievement? And what qualities will have to be evident in the performance for it to be considered demonstrative of sufficient progress or mastery? The answers to these questions guide both the design of lessons and decisions about how to plan and pace instruction.

In traditional instructional planning, teachers generally develop assessments only after they have taught a curriculum unit; the test is designed to check whether students know what has been taught. By contrast, in standards-based systems, the assessment represents what students need to know, thereby guiding what is taught. The teacher begins instructional planning by conceptualizing the task or tasks students would have to do — and how well they would have to perform those tasks — to demonstrate achievement of one or more standards. Only then does the teacher plan a set of lessons designed to ensure that every student in the class will be able to perform those tasks.

Good teaching requires a balance between providing students with opportunities to learn and practice new skills, and collecting evidence of whether students can do the same or similar tasks on their own, and, if not, why not. It is the information yielded by this evidence that, in turn, guides subsequent instruction. Teachers, therefore, must have a means of periodically gathering valid evidence at the classroom level of how student learning is progressing. They must be well versed in what has been called "assessment literacy" (Stiggins, 1994). They must know how to design and/or administer an assessment activity that is a good match to the kind of learning outcome required by the standard(s). They must also decide how much support to provide as students perform the task, and they must recognize the point at which support confounds the data the assessment is designed to provide.

In Figure 2, the math standard asserts that all students should know how to calculate statistical measures accurately and in what contexts each should be used. Assessment A is aligned only to the first part of the standard. In Assessment B, students are required to calculate accurately, consider, and justify a variety of statistical measures while anticipating counterarguments of the child not chosen for the team. If students were prepared only for Assessment A, they would not have the opportunity to learn all that is expected by the math standard.

Teaching While Thinking About the End

Traditional instructional planning is driven by a text or a curriculum guide. Far too often, however, curriculum guides list only the most general topics to which students should be exposed, offering no detail about what students should know or about what they should be able to do with the information or skills they learn. For example, an eighth-grade curriculum guide might list "the colonial period in American history" without stating *what* students should know about the American colonies or how they might be expected to apply that knowledge, for instance, to argue for or against taxes being levied in their own

Figure 2: Sample Assessment Activities

SIXTH GRADE STANDARDS TO BE ASSESSED

MATH: STATISTICS, DATA ANALYSIS, AND PROBABILITY

1.0 Students compute and analyze statistical measurement for data sets including:
- compute the range, mean, median, and mode of data sets;
- understand how additional data added to data sets can affect these computations of measures of central tendency;
- understand how the inclusion or exclusion of outliers affect measures of central tendency; and
- know why a specific measure of central tendency (mean, median, mode) provides the most useful information in a given context.

WRITING: COMPOSITION

1.0 Students write persuasive essays or letters that:
- state a clear position on a proposition or proposal;
- support the position with organized and relevant evidence; and
- anticipate and address reader concerns and counterarguments.

Assessment A

Calculate the mean, mode, median, and range of each of the following sets of numbers:

1) 42, 98, 15, 15, 12, 17

Mean = _____ Median = _____
Mode = _____ Range = _____

2) 105, 120, 79, 108, 105, 105

Mean = _____ Median = _____
Mode = _____ Range = _____

3) 12, 8, 6, 3, 8, 8, 10

Mean = _____ Median = _____
Mode = _____ Range = _____

Assessment B — The Bowling Task

The tables below show the season's bowling scores for two members of your team. A higher number indicates a better game.

Dave's Scores: 152; 138; 141; 144; 141; 158
Bill's Scores: 210; 105; 118; 131; 105; 215

Both Dave and Bill are hoping for a spot on the team you will take to the League Championships. As the coach, you must decide which one should be chosen. You have only one spot left on the team. Examine the data and consider the statistical procedures that might be used to make your decision.

Part 1: On one side of your paper, show all the statistical procedures you considered in making your selection. This part of the assessment will be scored on the appropriateness of the statistical procedures you consider and the accuracy of your calculations.

Part 2: The person you do not choose will be very disappointed and will want to understand how you determined your choice. Write a letter to the person you did not choose explaining what statistical procedures you considered and used to make your decision. Use charts and graphs as necessary to illustrate your findings. The purpose of your letter is to persuade the reader that you made a thoughtful selection. It should:
- state a clear position on a proposition or proposal;
- support the position with organized and relevant evidence; and
- anticipate and address reader concerns and counterarguments.

communities. Lesson plans are often sequenced according to the order of the topics listed, or by the table of contents in a text, with little consideration of prerequisite knowledge or skills. The activities students are given to do are either dictated by the text or are devised by the teacher to engage students. Students busily complete textbook-based tasks, do book reports, construct posters or dioramas, or write reports with little knowledge of what is expected of them other than turning the assignment in on time. To a large extent, the success of a classroom activity is gauged by supervisors and teachers alike on whether students completed the task and enjoyed it.

In contrast, standards-based instruction targets the *quality* of performance we want from students. It is not enough to have completed an assignment; students' work must demonstrate progress toward mastery of specific knowledge, skills, or dispositions. With the quality of the performance expected clearly in mind, teachers plan and conduct lessons aimed at teaching students how to achieve these specific characteristics. (An example of an instructional unit plan for assessment B, above, is provided in Figure 3.) In this context, instruction is not random. Rather, it is planned in relation both to what students already know and can do — information gleaned from assessment — and to the qualities of work they are expected to do.

A high-quality, standards-based unit might begin with the teacher explaining what students will be required to do at the end of the unit and what criteria will be used to judge their performance. At some point, the teacher might introduce work samples of varying quality done by other students for a similar task. By examining these samples with the students, the teacher can help them discern which ones embody the qualities required by the standard. Later, after they have participated in lessons designed to teach to those qualities, students might be asked to practice their new skills by revising and improving upon the weaker sample responses.

Many Routes to One Standard

In standards-based systems, the end is held constant for all students; each one is expected to meet the standards. But the means of getting students to that end may vary greatly within and across classrooms. As is true of all effective teaching, in standards-based systems, teachers must develop a repertoire of differentiated strategies for meeting the variety of learning needs represented among any group of students. Classroom educators must artfully orchestrate effective lessons and choreograph groupings that allow students to progress at their own rate while, at the same time, ensuring that no student falls through the cracks. As conductors of standards-based instruction, teachers are not driven by

Figure 3: Instructional Unit Planning

Standards

Math: Students compute and analyze statistical measures of mean, mode, median, and range and know why a specific measure of central tendency provides the most useful information in a given context.

Writing: Writes persuasive compositions.

Assessment

The Bowling Task

Required Opportunities to Learn

Math

- Lessons on calculation of mean, mode, median, and range
- Lessons identifying appropriate use of these statistical procedures — why/when to use one over the other
- Lessons using charts or graphs to illustrate statistical information or findings
- Opportunities to select and justify the choice of a statistical procedure in a given context
- Practice problems that require consideration of more than one statistical procedure
- Practice problems that require students to state assumptions that give context to their selection of one measure over another
- Practice describing mathematical concepts in writing to others

Writing

- Lessons illustrating the characteristics of persuasive writing
- Lessons illustrating how authors anticipate counterarguments
- Practice laying out an argument in writing and using evidence (even visuals) to support conclusions
- Practice with problems and arguments requiring author to state assumptions before proceeding
- Practice anticipating counterarguments
- Practice writing letters that anticipate, acknowledge, and state counterarguments

texts or other instructional materials, yet they know how to draw on these resources as appropriate to help students learn what they need to know.

Standards-based instruction demands that teachers know both their content and their students well. Teachers' capacity to pose questions, select tasks, evaluate student understanding, and decide what to teach next all depend on how they, themselves, understand their subject matter and what they are able to discern from assessment about their students' prior knowledge. Staying one chapter ahead of the class will not suffice. Research suggests that to help students learn to high levels, teachers must understand how concepts within their discipline are related to others within and outside their field. They must understand how knowledge in that field is generated and verified. They must understand their subject matter deeply enough to identify how particular phenomena or events are commonly interpreted and the fundamental ideas that underlie those interpretations (McDiarmid, Ball, & Anderson, 1988).

It is this solid understanding of the content that makes a teacher sensitive to misconceptions or misunderstandings that students may bring to new learning experiences in a particular content area. This sound knowledge also helps teachers determine the skills that are prerequisite for the achievement of certain standards and enables them to glean from a student's work what he or she is ready to learn.

Judging Performance and Giving Feedback Based on Shared Standards

In most traditional classrooms, judgments about student performance are communicated in summary grades, with individual teachers determining their own grading policy. Grades are generally based on a combination of a teacher's judgment about the quality of the student's work and a judgment about the student's attitude or level of effort. A student who has not produced high-quality work may, nonetheless, get an "A" if he or she is considered to have a positive attitude and to have worked hard. Similarly, work that is otherwise of high quality may receive only an average grade if the student has failed to meet length specifications or to include all required components of an assignment.

In standards-based instruction, the teacher's judgment about a student's progress and the quality of his or her performance reflects hard-won district or schoolwide agreement about the specific intellectual characteristics of acceptable performance. These performance standards might be reflected in cut scores on an assessment, or in exemplars of the quality of work expected of all students (see Figure 4). While there will always be some grading differences attributable to individual preferences, in a standards-based system, a student can be reason-

ably certain that what is considered good work or acceptable progress by one teacher, will be considered similarly by the others.

In school systems with shared standards, feedback to students is tied specifically to the shared expectations for that type of assignment, and the feedback distinguishes between the quality of the work students produce and the effort or attitude demonstrated while doing it. A teacher's evaluative comments and analysis of a student's progress are based not on what that one teacher happens to think a given student can do, but on what evidence has shown *every* student can reasonably be expected to do when provided with high-quality instruction. Students are also taught to evaluate their own work and progress in respect to specific characteristics of quality. They learn to say, "This essay needs more evidence from the text to bolster my argument," rather than, simply, "I didn't do very well on this essay."

In Figure 4, the papers labeled "H" and "O" illustrate the challenge of determining reasonable expectations for student performance. Both papers were completed in response to Assessment B, Part 2, The Bowling Task in Figure 2. Which of these two responses better meets the standards, which call for the students to "anticipate counterarguments" and demonstrate understanding of more than one statistical measure? Paper "H" does these things. What about paper "O"? Should it be considered good enough for a sixth grader doing this task?

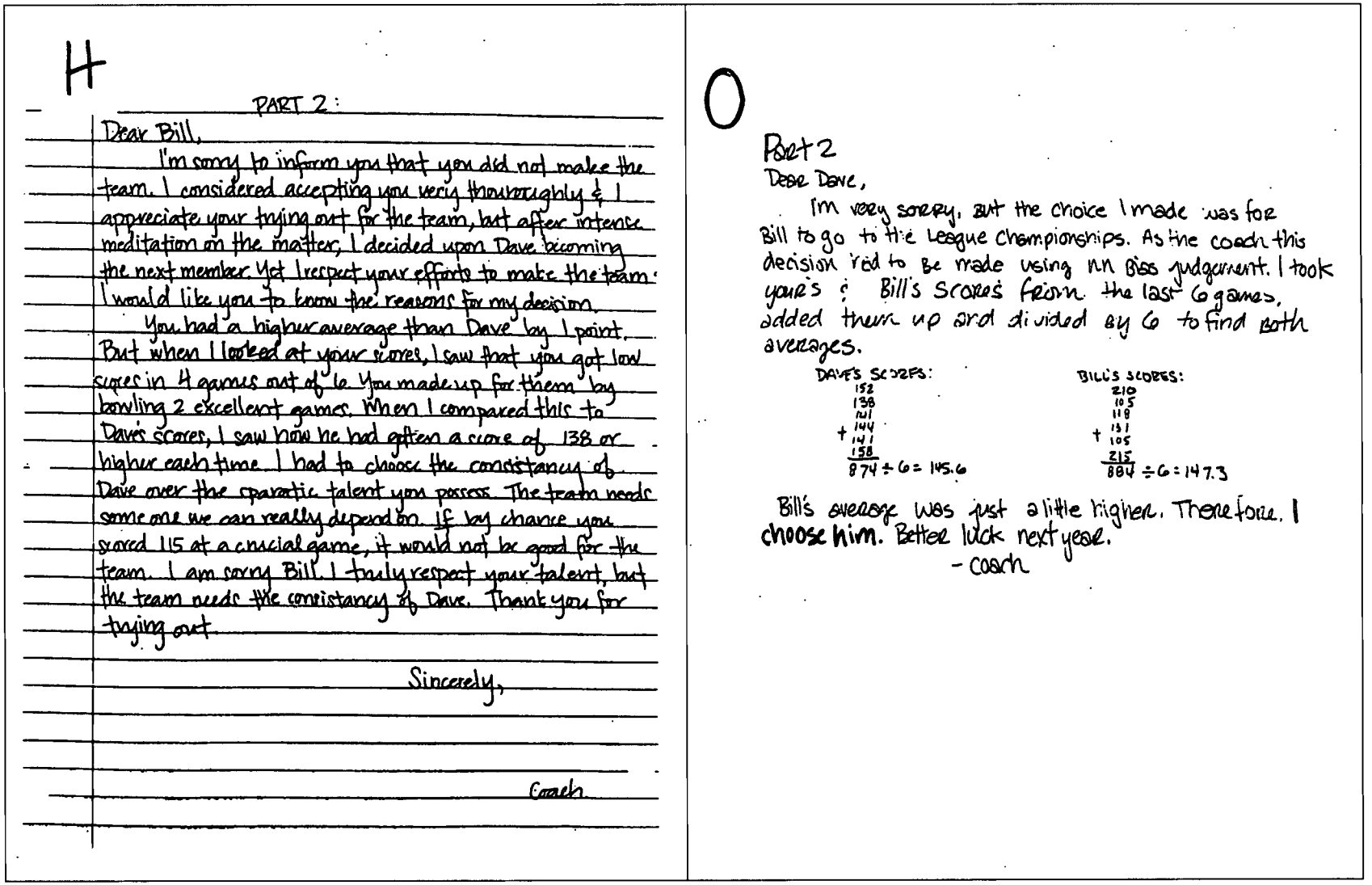
Planning and "Reteaching"

In schools designed to accept that some students will "get it," and others will not, a unit of instruction ends when the teacher gives the assessment, grades the work, and moves on. In contrast, the success of standards-based instruction is based on evidence of adequate student learning. No longer can it be sufficient to say, "I taught a good lesson, but my students didn't get it." Acceptable evidence of good teaching is student work or student performance that meets agreed-upon standards. When the work is inadequate, the teacher or the school as a whole is responsible for providing additional, refocused opportunities to learn.

In standards-based instruction, teachers use student work to find patterns of strengths or weaknesses that point either to the success of a lesson or to the need to revisit a lesson already taught. Teachers also look to the work of individual students to see what the student already understands and how it can be built upon to address those things he or she still needs to learn.

Figure 5 illustrates how student work can be used to diagnose student needs and plan instruction. When analyzed carefully, the work below reveals a good

Figure 4: Student Work Samples



H

PART 2:

Dear Bill,

I'm sorry to inform you that you did not make the team. I considered accepting you very thouroughly & I appreciate your trying out for the team, but after intense meditation on the matter, I decided upon Dave becoming the next member. Yet I respect your efforts to make the team. I would like you to know the reasons for my decision.

You had a higher average than Dave by 1 point. But when I looked at your scores, I saw that you got low scores in 4 games out of 6. You made up for them by bowling 2 excellent games. When I compared this to Dave's scores, I saw how he had gotten a score of 138 or higher each time. I had to choose the consistancy of Dave over the sporatic talent you possess. The team needs someone we can really depend on. If by chance you scored 115 at a crucial game, it would not be good for the team. I am sorry Bill. I truly respect your talent, but the team needs the consistancy of Dave. Thank you for trying out.

Sincerely,

Coach

O

Part 2

Dear Dave,

I'm very sorry, but the choice I made was for Bill to go to the League Championships. As the coach this decision had to be made using an Bias judgement. I took your's & Bill's scores from the last 6 games, added them up and divided by 6 to find both averages.

DAVE'S SCORES:

152
138
111
144
+ 141
158
874 ÷ 6 = 145.6

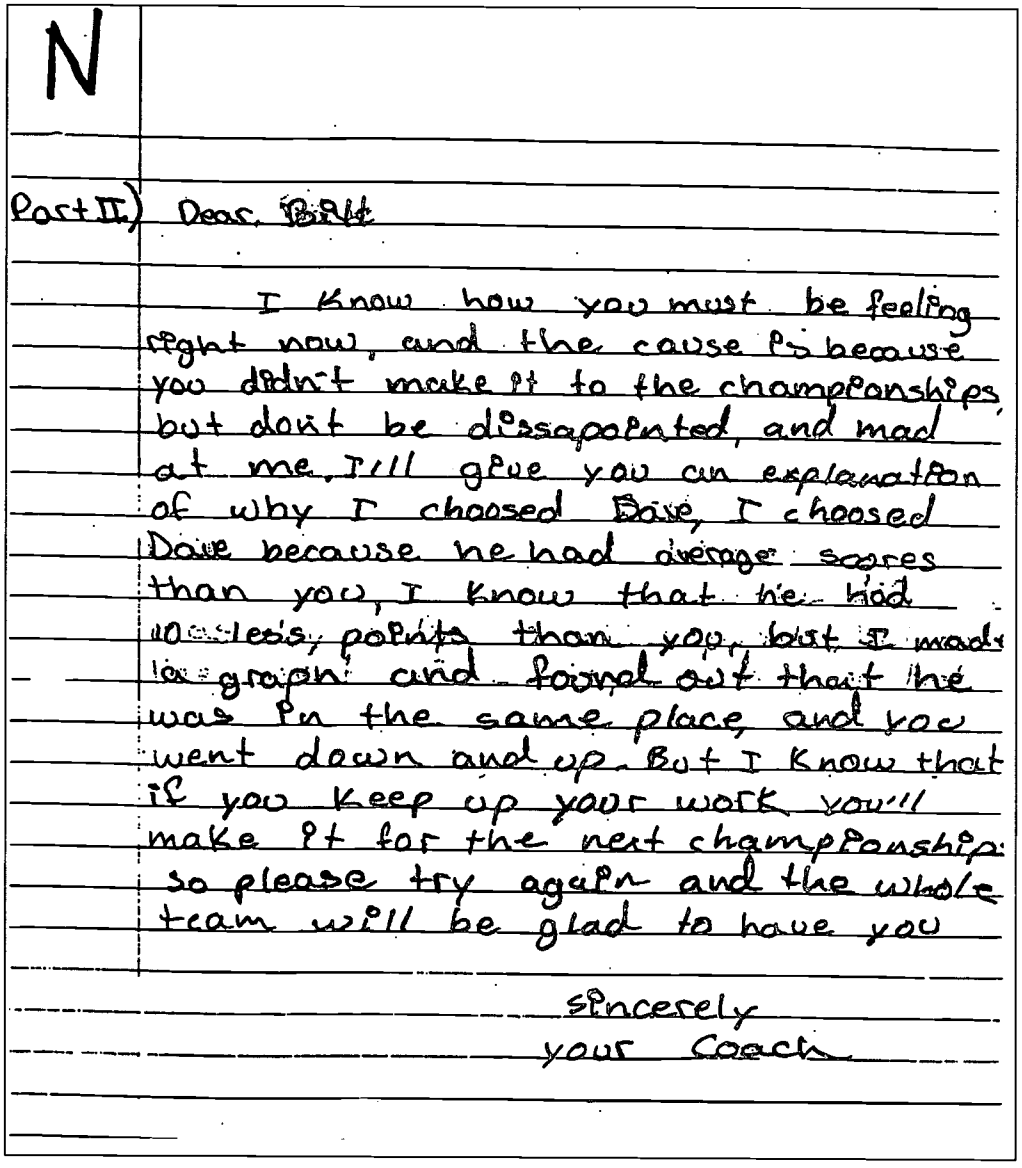
BILL'S SCORES:

210
105
118
131
+ 105
215
884 ÷ 6 = 147.3

Bill's average was just a little higher. Therefore, I **choose him.** Better luck next year.

- coach

Figure 5: Diagnosing Student Work



N

Part II) Dear Brit

I know how you must be feeling right now, and the cause is because you didn't make it to the championships, but don't be dissapointed, and mad at me. I'll give you an explanation of why I choosed Dave, I choosed Dave because he had average scores than you, I know that he had more points than you, but I made a graph and found out that he was in the same place, and you went down and up. But I know that if you keep up your work you'll make it for the next championship so please try again and the whole team will be glad to have you

sincerely
your Coach

deal about what this student knows and what may still confuse her. It is obvious, for example, that she knows the concept of consistency, but not the term itself. The phrasing in which she uses the term "average" should also make the teacher suspicious about her understanding of this statistical procedure. In planning for "reteaching" this student, the teacher will want to address both these issues.

As noted earlier, the obligation to circle back to ensure the success of each student requires that teachers develop a strong repertoire of instructional skills

designed to address a variety of learning needs. It also requires schools to function in such a way that teachers can call on other colleagues when their own skills don't suffice.

Collaboration to Support Student Learning

Effective standards-based instruction requires not only that teachers work differently in their own classrooms, but in their relationships with colleagues throughout the school. Schools committed to the achievement of high standards by all students are organized around shared definitions of what students are expected to do. That means that even if standards have been established at the state level, teachers leave the isolation of their classrooms and come together to negotiate common interpretations of those standards as they would hope to see them reflected in the work students are given and produce every day.

In these schools, collaboration is not simply a desirable working condition; it is a requisite professional responsibility. Teachers engage in professional dialogue for the purpose of challenging each other's expectations about what students can and should do, sharing effective instructional strategies, and, as necessary, adjusting or reallocating resources or expertise to address shared programmatic concerns. Teachers in these schools have the skills — and the time — to negotiate common interpretations of quality and to collaborate in planning collective action.

In schools committed to high achievement by every student, decisions are made in consideration of "our students," not just "my students." Decision-making and resource allocations are guided by a single criterion: "Will this help ensure that every student will meet the standards?" Teachers are called upon to share resources and expertise in ways that serve all students well. While teachers' individual content and pedagogical strength are essential to the standards-based system, they do not suffice. Teachers must also be willing and able to share that expertise in a manner that contributes to a system whose effectiveness is greater than merely the sum of its parts.

Implications for Establishing Standards for Teacher Performance

In aspiring to high performance for every student, standards-based reform necessarily demands high performance from all teachers. Effective standards-based instruction, like all effective teaching, requires deep content knowledge

and a variety of skills for engaging students and managing instruction. But the specific commitment to ensuring high levels of achievement by *every* student also puts additional emphasis on teachers' ability to:

... Understand expectations for student performance

Effective standards-based instructional practice requires that teachers:

- work with colleagues to develop shared understanding of the specific characteristics of work that meets the school/district/state performance standards;
- internalize these quality criteria in order to plan instruction and provide feedback on student work; and
- score or grade student work reliably in relation to shared performance standards.

... Communicate standards for student performance to parents and students, and help students assess their own progress in relation to these standards

Effective standards-based instructional practice requires that teachers:

- provide students with quality criteria and/or models as part of a lesson;
- provide students with timely feedback on their work in relation to the characteristics that meet the performance standards;
- build self-assessment opportunities into lessons on a regular basis; and
- communicate student progress to parents in relation to shared school/district/state performance standards.

...Align instruction to standards

Effective standards-based instructional practice requires that teachers:

- select or design lessons and assignments that are at the appropriate level of rigor for the standards and will prepare students to demonstrate deep understanding of key facts or concepts;
- map backwards from expectations for student performance to ensure that every student has access to lessons required to achieve the performance standard; and
- differentiate instruction as required to address unique learning needs.

...*Collect accurate data on student performance*

Effective standards-based instructional practice requires that teachers:

- understand the various purposes of assessment and the appropriate and inappropriate uses of different types;
- use a variety of assessment data in ways that are appropriate to their purpose;
- design or select classroom assessments appropriate to a given standard or set of standards;
- analyze the quality and comprehensiveness of data available from a given assessment and determine what additional data might be needed to provide an accurate picture of what individual students know and can do; and
- organize and manage student performance data to keep track of each student's progress.

...*Use data to guide instruction*

Effective standards-based instructional practice requires that teachers:

- diagnose students' misunderstandings, confusions, and strengths from the work they produce;
- use analysis of student work to plan instruction on a daily basis; and
- design student assignments based on a diagnosis of what students already know and need to learn.

...*Work effectively as part of a team*

Effective standards-based instructional practice requires that teachers:

- share resources and expertise to ensure achievement by all students.

School leaders would be wrong to assume that these are advanced skills, required only of veteran classroom teachers. In fact, these are the skills that differentiate what some have called "random acts of teaching" from instruction targeted to ensure that all students achieve to agreed-upon levels. As districts establish standards for teacher performance and devise systems to support teacher learning, it is critical that these behaviors be expected of all teachers.

Implications for Instructional Leaders

The norms and practices underlying systems of differentiated standards are deeply ingrained, in part because they have been supported by school leaders. Teachers have been taught and supported to develop and implement engaging learning activities, irrespective of whether some students benefit and others do not. The criteria used to judge the quality of instruction have focused primarily on how a teacher presents a lesson, with little regard for what students produce as a result. Organizational investments in classroom assessment are generally small, and they are seldom used for developing or acquiring tools that yield diagnostic information useful for planning instruction. The practice of individual teachers determining what their students should achieve and using their own criteria for judging student performance has been guarded by administrators and teacher leaders in the name of teacher autonomy and perpetuated by the challenge of finding resources to support time for collaborative planning or analysis of student work.

True instructional leadership obliges administrators and teacher leaders to fully understand the demands of standards-based reform, and then establish the organizational norms and practices through which teachers learn these skills. Isolation prevents teachers from developing shared standards, from knowing the real potential of students, and from learning with and from each other in productive ways. Administrators and teacher leaders bring a unique cross-classroom perspective that can be used to start breaking down this isolation. They can begin by bringing the work of some teachers to the attention of others and facilitating the convening of teachers with shared interests, needs, and concerns. Instructional leaders must seek and reallocate resources to provide time for teachers to collaborate and plan collective action. But perhaps most importantly, they must use their leadership skills to focus that collaboration and action on the issues of instruction most likely to make a difference in student performance.

To help instructional leaders and teachers become attuned to identifying the skills of effective standards-based instruction in practice, Chapter Two includes two classroom vignettes that illustrate teachers using many of the skills listed earlier. "Ben Fryer" illustrates a primary grade language arts lesson, while "Meg Tipple" illustrates similar teaching skills, but in a secondary classroom. Following these vignettes, in Chapter Three, is a discussion of some of the ways school leaders can provide opportunities for teachers to learn to incorporate these skills in their own classroom practice.

CHAPTER TWO

Identifying Teacher Skills in Practice

IF INSTRUCTIONAL LEADERS ARE TO FOSTER THE TEACHING skills necessary for effective standards-based instruction, it is not enough that they have a list of those skills. They must be able to recognize when teachers are and are not using them effectively and identify gradations of quality in teaching performance. What, for example, do we *really* expect when we say that teachers should "communicate standards to students?" Is it sufficient that a teacher tells students how many pages their essay should be? If we saw a rubric or scoring guide posted on the bulletin board, would that be considered evidence of having met expectations? The Western Assessment Collaborative's (WAC) work argues that the only sufficient evidence that the teacher has adequately communicated the standards to the students is when students themselves can describe and illustrate what is expected of them. Instructional leaders must internalize exemplars of effective classroom practice so that they can make accurate judgments about, and give useful feedback to, the teachers with whom they work.

To help instructional leaders begin the process of internalizing pictures of effective standards-based teaching, this chapter provides two vignettes of classroom practice. The first vignette illustrates the teacher's skills as they play out in a primary grade language arts unit; the second illustrates similar teaching skills in a secondary school setting. Each one illustrates how the teacher conducts a unit of instruction that has been planned backwards from the performance standards

to which students will be held accountable. We see these two teachers over the course of several days, getting a chance to hear what they say to students and what work they ask students to do. In each vignette, we will see how the teacher communicates specific performance expectations to students; plans the lessons in the unit so students learn and practice the skills required of them; assesses student learning in advance of, during, and at the conclusion of the unit; and uses data from those assessments to guide his or her instruction.

In the column to the right of the narrative, under the heading "The teacher...," we have identified the specific skills and practices the teacher is using that exemplify powerful standards-based teaching strategies. We have not attempted to identify everything the teacher does well. Rather, we have focused on identifying examples of the pedagogical knowledge and skills described in the previous chapter. Neither vignette is offered as a model lesson. Because these stories do not capture everything the teacher does, or the work the students produce, it is impossible to judge the effectiveness of the units as a whole. (The Appendix includes versions of these same vignettes that can be used as professional development activities to help teachers and administrators practice identifying and naming these skills.)

Teaching Third Graders to Write a Report of Information

Ben Fryer teaches third grade. His class of 22 students includes 10 native English speakers and 12 whose home language is Spanish. Of those 12 students, 5 are considered fluent in English while the others range from moderately to nearly fluent. All students do their writing in English. Students are assigned seats so that each working group includes some English-only students and others that represent the range of fluency.

The teacher...

Ben's students have just returned from early morning recess and have gone directly to their seats. They know the routine well; it's Writing Time. Today, Ben has asked for the class's attention.

establishes standards of behavior by establishing routines

Today, we are going to begin a new unit in writing. For the last two weeks, during our reading time we have been learning to recognize fiction and nonfiction. As he speaks, Ben points to the words he has written on the board — fiction and nonfiction and, in Spanish, *ficción* and *no ficción*. He mentions how much the Spanish words sound and look like the English words.

connects the new lesson to previous learning

supports English language learners by providing key vocabulary in their first language

We learned that not all writing tells a story. Sometimes authors write to share information. We learned that in fiction, the author tells a story about a set of characters. In nonfiction, the author writes about a subject so that the reader can learn the facts about that topic. We learned that Charlotte's Web *is fiction. It tells a story about a pig named Wilber. We also looked at* All About Pigs. *It is nonfiction. It is about pigs, too. But instead of telling a story about one particular pig, it gives information about many kinds of pigs: where they live, what they eat, how they are alike and different from each other.*

anticipates typical misconceptions

Sometimes the title of a story or book gives us a clue about whether it is fiction or nonfiction. Look at the question I have written on the board and tell me which answer is correct:

checks understanding of prerequisite knowledge

Which of the following books is likely to be an example of nonfiction?

A. Black Beauty
B. My Friend, Flicka
C. The Facts About Horses

introduces students to the ways skills may be assessed on large-scale assessments

As Ben reads the question aloud, he holds up the cover for each of the books. The cover illustrations provide his English learners with additional clues about the nature of each book.

supports English learners with visual clues

Today we are going to begin to learn about writing our own nonfiction. One kind of nonfiction is "a report." Ben writes the word "report" next to the word "nonfiction," first in English and then in Spanish, as he says the words aloud.

repeats key ideas

To write a report, the author collects lots of information about a subject and writes it so that others can learn about that subject by reading his report. Writing a report is a good way to tell others what you know or have learned about something. When we are finished, each of you will be able to write a report about an animal you are interested in. (An example of Ben Fryer's Unit Plan is included at the end of this vignette.)

communicates belief that all students can and will meet expectations

To get started, I brought us some examples of animal reports done by other students. We are going to look at them and think about how they can help us learn about good reports or nonfiction writing. Let's read Paper A together. As we read it, think about how the paper helps you learn about dolphins. (A copy of the two exemplars Ben will use are included at the end of this vignette.)

Ben reads the paper aloud while projecting it on the overhead and asks students to follow along on the copies he has handed out to them. On the handout, under key nouns and verbs in the report, he has written each word in Spanish. *I'd like each of you to think of at least one way that the author of Paper A helps us learn about dolphins.* After pausing, Ben asks Jeff to share the one thing he thought about.

provides both aural and visual access to the content

supports English learners by providing key vocabulary in their first language

"The author tells what dolphins eat."

Ben writes, "tells what the dolphin eats" on a wall chart titled, "What makes a good animal report?"

draws quality criteria from students

Ben then gives students two minutes to underline two other facts in the report they have read and to share those with a partner. This work in pairs allows time for his English learners to practice what Jeff has modeled. Ben then calls on students who want to add to the chart. When possible, as Ben writes on the chart, he draws an icon over a key verb or noun to illustrate its meaning for those students less familiar with English vocabulary.

after providing model, allows students to generate own language, in this case, facts about animals in their own words

provides visuals to support English learners

OK, so there are a couple of things we think make this paper a good report. Now let's look at Paper B. It is a report about horses. I will read this to you as you follow along. As you read the paper, think about what makes this a good report.

provides both aural and visual access to the content

After reviewing the second paper, the children offer the following additional criteria:

- The sentences are facts.
- The author shows that he knows a lot about the animal.
- The author uses good words to help the reader understand.
- The ideas in the report are not all mixed up.
- The writing is neat and the paragraphs are indented.
- Most of the words are spelled correctly.

records criteria in language students can understand

As these criteria are offered, Ben stops to show the students specific examples of each characteristic in the sample papers. Sometimes he contrasts the characteristic with a specific example from the weaker paper.

contrasts exemplars to illustrate when quality criteria have been met and when they have not

When Caleb says that the ***"ideas in the report are not all mixed up,"*** Ben stops to show the class what Caleb means. ***Look at Paper B. Can you see that the author tells three things about what horses eat and puts those three ideas together in the same paragraph?*** As he points out these three sentences, he draws the icon for eating next to each to show they are about the same thing. ***He has another whole paragraph about where horses live.*** As he says this, Ben points to this paragraph on the overhead and reads the sentences

illustrates ideas with specific examples from student work

aloud. *Now, let's look again at Paper A. This author also tells more than one fact about his animal, but notice that he says one thing about where dolphins live. Then he tells something about what dolphins eat. Then he has another sentence about how they can get sick. His ideas are all mixed up instead of being grouped into paragraphs.*

When the students have exhausted their list of quality criteria, Ben points to one or two of his own. *I also liked the fact that the author who wrote Paper B wrote a topic sentence to tell what the paragraph was about. Look at the third paragraph. The first sentence tells us that this will be about what horses eat.*

ensures that all quality criteria are shared

stretches expectations for students beyond what they already know

When we are finished with the unit on writing nonfiction reports, you are going to be able to write your own report that does all of these things. I will leave this chart on the wall so that when you write your own report, you can check to see that it does all these things.

creates resources that help students assess their own learning and develop independence

Today, we are going to take the first step in preparing to write our report. Reports can be about anything an author wants to write about, but the report we are going to write for practice in this unit is a report about an animal. So, today, we want to spend some time thinking about what animal we will write about.

Ben has the students work in trios at their table groups to come up with a list of animals about which they may want to write reports. Students are encouraged to offer their ideas in either Spanish or English.

has students generate language and brainstorm topics as part of prewriting

After five minutes, Ben brings the students together and each group shares its ideas. As they do, he writes the name of the animal, first in English and then in Spanish, under the letter the word begins with. The list of animals is duplicated for each student and the children are assigned to take the list home and talk with their parents about what animal they might want to write about. Ben sends the note below home in both Spanish and English, describing the assignment to the parents or guardians. He also leaves the same message in both languages on his homework voicemail.

"evens the playing field" by offering all students a selection of topics

facilitates parent support by providing messages in home language

Dear Parents and Guardians,

Today, we started a unit on writing reports. When we finish the unit, every student will be able to write a report about an animal showing that he or she:

- knows the difference between reports and stories;
- can organize his or her writing into paragraphs;
- can help the reader understand interesting facts about the topic; and
- can use correct punctuation and spelling so the reader can understand what is written.

communicates expectations to parents

We will also get to practice finding information or facts by talking with others and by using books, magazines, and the Internet.

Tonight, I would like you to help your child choose an animal to write about. I've attached the list of animals we thought of today in class. Help your child choose an animal that he or she is interested in, knows about, or wants to know more about. You might also want to guide your child to write about an animal you know something about so you can help him or her. Please have your child write the name of the animal he or she will be writing about on the line below.

invites parents to support student learning

facilitates students' access to information but does not make students' success dependent on parent support

Thank you for helping your child,

Mr. Fryer

The second day....

Ben begins the writing period by asking the class to brainstorm in small groups what they might like to find out in a report about an animal. He reminds the class that reports should help the reader answer questions he or she might have about the topic. After allowing five minutes for the students to generate their own ideas, he calls on various students and records their thoughts on a wall chart that will hang in the classroom for the duration of the unit. The chart includes questions such as:

helps students imagine an audience and generate ideas about what would interest that audience

provides resources students will need to work independently

- What does the animal eat?
- Where does it live?

When Carlos offers, "I want to know about los colores y size," Ben says, ***Carlos wants to know what the animal looks like,*** and writes, "What color is it?" and "How big is it?" on the chart.

repeats students' questions in the form of a correct English model

Ben then introduces a book on kangaroos and says that this book is a report about kangaroos. He shows everyone the pages that address the various questions they have just asked, with pictures of the kangaroo showing its size and color, what it eats, and where it lives. Having introduced the book with this brief picture walk so that his English learners know what to expect, he then asks the students to listen as he reads aloud so they can identify any other questions about kangaroos the book might help them answer. After hearing the book aloud, students add the following questions to the list of topics to address in their reports:

- How does the animal move?
- What does it look like when it is born?
- Do people use this animal for a pet or for work?

uses a text model of the genre students will be writing

Ben then asks his students what other kinds of information they might want to know about kangaroos. All questions are added to the wall chart.

helps students establish their own purpose for writing

After each student has selected a topic for his or her animal report, Ben provides lessons on finding information. He invites the students to collect facts by interviewing their parents or other adults. He also introduces various text sources, such as encyclopedias, nonfiction text, and magazines at all reading levels, as well as introducing his students to the Internet. Students are told to use these various sources to find facts for their reports. They are reminded to look for information that will help them answer the kinds of questions listed on the wall chart. With each of these sources, Ben demonstrates how to use titles, tables of contents, chapter headings, and indexes to locate informational text.

models actions expected of students

models reading strategies appropriate to the genre: nonfiction

Ben knows that mastering use of these structural features of text is a third-grade standard. He also understands that, because students will be doing their research both in class and outside of class, the report-writing activity will not provide adequate opportunity for him to assess whether all students have mastered this standard. However, he recognizes that the activity offers students an important opportunity to practice using these materials. He makes note that he will need to develop specific assessments of this third-grade standard at another time.

Ben explains that each time students find out a fact about their animal, they are to write it on a sentence strip. Ben models this by drawing from the earlier read-aloud session to make two sentence strips that tell facts about kangaroos. As he writes the model sentences, he reminds students about past lessons on sentence writing.

models actions expected of students

Remember that we said a sentence needs to be a complete thought. So when we write a fact about the kangaroo, we don't write "moves fast." Instead, we want to write, "Kangaroos move very fast."

recalls prerequisite skills previously taught

Ben uses sentence strips so that when his students are ready to organize their writing into paragraphs later in the unit, they will understand that writers often "move ideas around" to make their writing more comprehensible. Students will be asked to physically group the sentences to form paragraphs.

has strong pedagogical content knowledge that facilitates the teaching of critical skills

Students are told that they will be collecting facts for the next four or five days. Ben suggests that students set a goal of finding two facts a day, from any source they can. He makes sure the classroom contains many resources, in both Spanish and English, about different animals. He lets students know that he will be available before and after school to help them use the classroom resources.

sets goals to help students monitor their own progress

provides resources that give all students the opportunity to perform

Ben expects that most of his students will draw on materials in the classroom library or interview a parent to get information for their reports. But he suspects that some students may be ready to explore a variety of other sources. Although he does not plan to hold all students accountable for using

has a system for recording and tracking student progress

multiple sources at this time, he makes note of those students already able to do it. In preparation for learning to build a bibliography, he has those students write the type of source used on the back of their sentence strip.

provides opportunities for students to perform beyond what is expected of all

The next several days....

Throughout the week, Ben sets up a number of opportunities for students to share some of what they are finding out. For example, when dismissing students to lunch he asks for volunteers to tell one fact about "what your animal eats" or "where your animal lives." Students are dismissed when they offer an example. When taking roll, he asks students to hold up the sentence strips they made the day before. It is a quick and easy way to see which students are having difficulty finding and recording facts.

uses routines to reinforce skills

monitors students' work efficiently

Writing time on each of the following days is used to teach a mini lesson on one of the characteristics required in the final report. Ben plans and conducts lessons on:

- organizing sentences dealing with the same topic into paragraphs, writing a topic sentence, and indenting the first line; and
- using descriptive language or the strategy of "showing, not telling" to help the reader better understand.

plans lessons to address all skills required in final assessment

Each of Ben's mini lessons starts with a reminder of the quality criteria and a look at the original exemplars for a reminder of what that skill or characteristic looks like when done correctly and/or how the weaker example might be made better. Students are then given several practice exercises to work on alone or in small groups. Ben models completing one or more of the practice exercises before asking students to work. As they complete the exercises, Ben circulates around the room to clarify instructions, coach individual students, and look at the work they are producing to ensure that each student is being successful.

connects lesson to the expectations for student performance, using exemplars

provides guided practice before asking students to try independently

As homework, students are given a few practice exercises similar to those done in class. To prepare students for how these same skills might be addressed on large-scale assessments, Ben also gives them some multiple-choice problems

addressing the skills. (Classroom practice exercises and homework for the two mini lessons are included at the end of this vignette.)

gives students opportunities to practice various forms of the assessment

Ben uses his observations of student work — both classwork and homework — to decide whether students are ready to use a new skill on their own in their reports and, if not, to diagnose what they do not understand. When necessary, he pulls students having similar difficulties into a small ad hoc group to clear up misconceptions and/or reteach the new skill.

uses student work to diagnose needs

While watching students complete exercises on organizing sentences into paragraphs, Ben notes that although most of his English learners and even some students who are fluent in English understand the concept of organizing around a single topic, they do not include transition phrases between sentences or between paragraphs. He makes a note to pull these students aside for a special lesson on transition phrases.

circles back to students who need additional support

The classroom assessment....

Ben has completed his unit and feels his students are ready to try their hand at writing their animal reports. He gives the class a prompt (see below), reads it over with them, answers questions, and then tells them they will have two class periods to write their first draft.

gives clear directions about what will be expected on the assessment

Assignment

Write a report on the animal you have been learning about. Your report should have at least three paragraphs. You do not need to use all the facts that you found. Pick the ones you think are most interesting to share. Your grade will depend on how well you:

- provide information about your animal and organize it into paragraphs;
- help your reader understand information about your animal by showing, not just telling; and
- help your reader understand what you have to say by using correct spelling, punctuation, and indentation of paragraphs.

shares in advance the criteria on which student work will be judged

holds students accountable only for what they have been taught

The students are told that they should work by themselves as much as possible, but that they can ask for help from a friend or from the teacher if necessary. They are free to use any resources in the room for assistance, including the dictionary or their initial research materials. Ben plans to note the type of assistance requested by students. In each case, he will ask himself whether the request indicates a lack of understanding or confidence, or whether it simply indicates interest in gathering ideas from others.

At the close of the second day, Ben collects the papers from the entire class.

assesses the degree to which students can work independently, but scaffolds so that every student can participate in the assessment

The student work, worksheets, and plans on the following pages illustrate that the teacher also:

- creates long-range and short-range plans that are appropriately sequenced;
- plans unit to address all skills needed in final assessment;
- develops homework tasks that can be done independently;
- makes sure homework exposes students to ways in which the skill will be assessed on tests;
- creates class worksheets that provide models of good responses; and
- ensures that both classwork and homework provide a variety of ways for students to demonstrate the same skill.

Paper A - Bottlenose Dolphins

Its habitat is salt water. Dolphins are found in coastal waters around the world. They eat inshore fish like capelin, anchovy, salmon, and shrimp. Dolphins can eat 6 feet under water and can stay down for 15 minutes. Sometimes dolphins get sick from pollution.

Dolphins can live up to 50 years. Its coat is smooth and like rubber. A dolphin is a mammal. Dolphins eat up to four pound of fish a day.

When dolphins sleep, the female sleeps on top of the water and the male sleeps on the bottom. When the male needs air, it goes up to the top the water to get it and then it goes back down.

Some people let balloon go and they go into the ocean. Dolphins think it is food and eat it and can die. Other pollution like gas and soda cans can hurt dolphins. When a dolphin is sick it cries to get help from other dolphins who try to help it to the top so it can breathe. We can help dolphins by not polluting the ocean.

Paper B - Horses

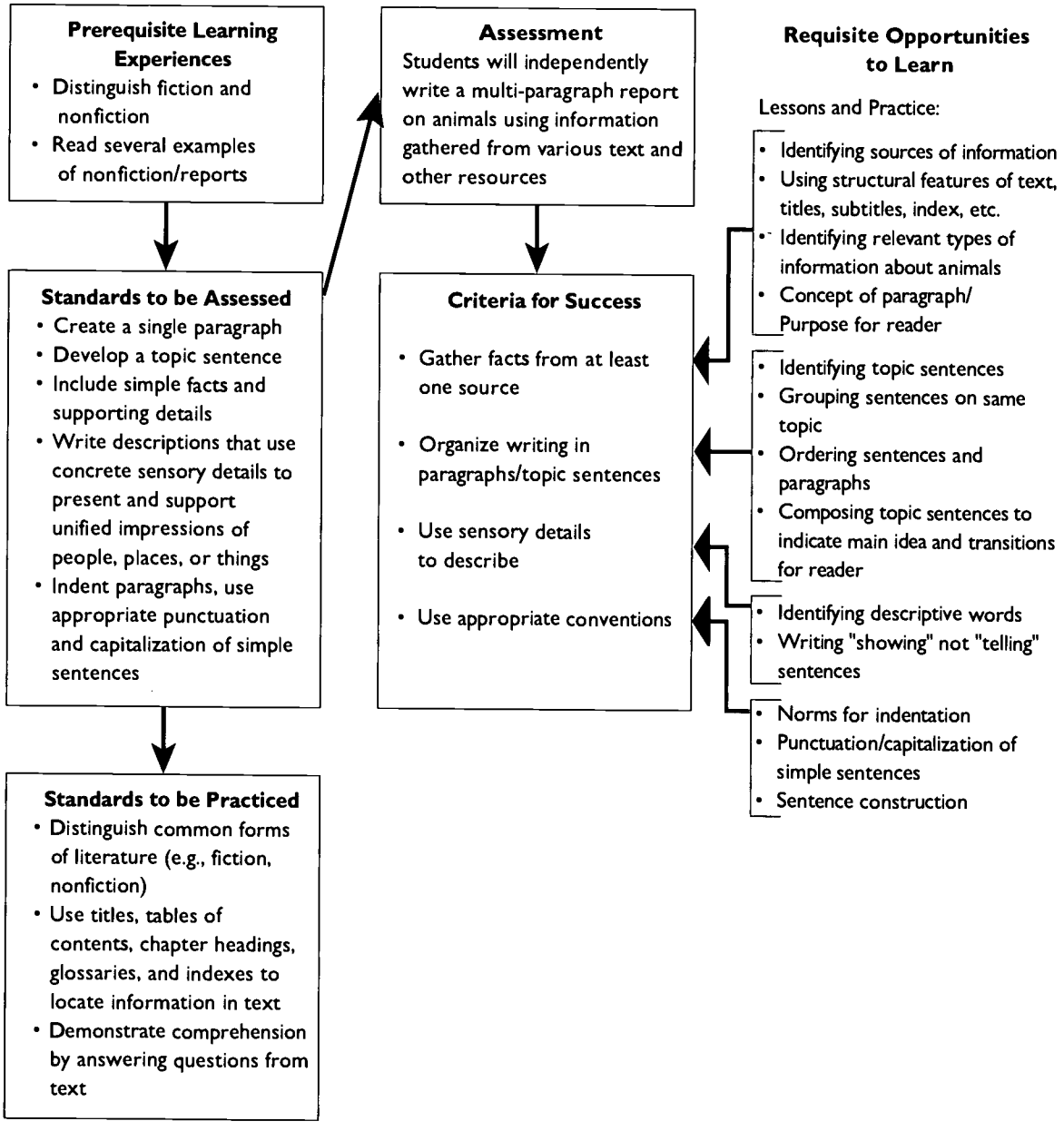
I chose horses because I like to ride them. I also like to pet them. Horses are very nice and they like to be petted too. They have long hair on their neck and tail. The hair down their neck is called a mane. It is fun to brush their mane and tail.

Horses are very fun to ride. At the camp I go to everybody gets to have horse back riding lessons. When you ride a horse you need to put a saddle on its back. Some people ride bare back but only if they are really good. Horses also wear shoes on their feet. People put shoes on their feet so their feet wont get sore when they walk and run.

Horses eat many different things. Horses eat hay, grass, barley and oats. Oatmeal is their favorite food because it gives them a lot of energy. They also love carrots, apples, molasses and sugar cubes. Sometimes their owners will give them a block of salt to make them thirsty so they will drink enough water.

Most horses live on farms or ranches, but some horses are wild. Wild horses live on flat grasslands where they graze and they are able to survive hard weather. There are not very many wild horses anymore because most of them have been trained by people.

Unit Plan — Report of Information



Classroom Practice
Organizing Sentences into Paragraphs and Writing a Topic Sentence

1. Read each of your sentence strips and lay them out so that you can see them all at one time.

2. Put your sentence strips into groups by topic. All facts about what your animal eats, for example, should be in one group. All facts about what your animal looks like should be in another group.

3. Read the sentences in one group. What is the main idea of these sentences? What sentence can you put in front of these sentences to tell what they are all about? Write your main idea sentence on a sentence strip using a red marker. Clip all the sentences on that topic together with the main idea on top or at the end of your set.

4. If you have facts that don't fit in any group, you have a choice to make.
   - Maybe they stand alone as their own paragraph.
   - Maybe you will want to write one or two more facts on that topic to go with them.
   - You might decide not to use them in your report.

5. Take one of the paragraphs you will use in your report and write it on a separate piece of paper. Turn the paper in at the end of the writing period.

Homework
Organizing Sentences into Paragraphs and Writing a Topic Sentence

1. Which of the sentences below tells the main idea of the paragraph?

   Houses can be built with many different types of materials. Some houses are built with bricks and some are built with cement. In the olden days, houses were built with logs. These were called log cabins. Houses can be built with many different types of materials. In some countries, people use mud to make their homes. Igloos, which are only in very cold places, are houses that are made of ice.

   A. In the olden days, houses were built with logs.
   B. Houses can be built with many different types of materials.
   C. Some houses are built with bricks and some are built with cement.

2. Which of the sentences below does not seem to belong in the paragraph? Why?

   The Wright brothers invented the airplane in 1903. Back then, airplanes used propellers. Today, airplanes use jet engines. Airplanes are also much faster today than they used to be. The first thing you may notice about a plane is the wings that stick out on either side of its long body. People can travel around the world in only a few hours. Airplanes have improved a lot since they were first invented.

   A. Airplanes have improved a lot since they were first invented.
   B. The Wright brothers invented the airplane in 1903.
   C. The first thing you may notice about a plane is the wings that stick out on either side of its long body.

Classroom Practice Exercise and Homework
— Showing, Not Telling —

Classroom Practice
Showing, Not Telling

Below you are given three examples of sentences that "show, not just tell" about a topic. Practice writing "show, not just tell" sentences for each of the sentences below. Sometimes when you explain something by "showing" it in words, you will want to write more than one sentence.

Example A:
Tell: Birds can be very noisy.
Show: Sometimes a bird will squawk for hours without taking a break.

Example B:
Tell: The tree was tall.
Show: The top of the tree reached the fourth story window on the building next door.

Example C:
Tell: The witch was ugly.
Show: The witch's face was wrinkled. He had one red eye and warts all over his nose.

Practice A:
Tell: The puppy was cute.
Show:

Practice B:
Tell: Samantha is mean.
Show:

Practice C:
Tell: Cheetahs run very fast.
Show:

Practice D:
Tell: Turtles move very slowly.
Show:

Homework
Showing, Not Telling

Mr. Kelly slammed his fist on the table and screamed until his face got red.

1. The sentence above shows that:
   A. Mr. Kelly was probably bored.
   B. Mr. Kelly was probably angry.
   C. Mr. Kelly was probably telling a joke.

The princess had hundreds of beautiful dresses and lots of jewels.

2. The sentence above shows that:
   A. The princess was probably rich.
   B. The princess was probably young.
   C. The princess was probably good at playing tennis.

Which of the sentences below are the best examples of sentences that show that:

3. Elephants are big animals.
   A. Elephants eat grass and hay.
   B. Elephants walk together in packs.
   C. Elephants stand twelve feet tall and can weigh more than a ton!

4. Sea otters use tools.
   A. Sea otters lie on their backs and crack shells open by pounding a rock against the shell while it rests on their chest.
   B. Sea otters swim in the cool water near the coast.
   C. Sea otters are very playful.

Practice:
Write one of the facts you collected about your animal below.

Underneath that sentence, write another sentence (or more) that helps your reader "see" what you mean using words that paint a better picture of the fact you have chosen.

Teaching Seventh Graders to Use Percentages

As the students in Meg Tipple's seventh-grade math class enter the classroom, they note the "sponge" assignment written on the board, get out their math notebooks, and begin writing to the prompt: "Write down everything you can say about 30%." After quickly taking roll, Meg circulates around the room, noting the terminology students use in their quick-writes, and then she calls for students' attention.

The teacher....

establishes routines and standards for behavior

uses quick-write routine to begin assessing students' prior knowledge

As part of our focus this quarter on being informed consumers, you have compared rates and unit prices to investigate advertising claims, and you have used ratios and proportions to plan a main course and an appetizer for a large dinner celebration. Today, we are beginning a unit on percentages. (A copy of Meg's unit plan is included at the end of this vignette. The vignette covers section 3 of the unit plan.) Meg moves to a chart on the wall labeled, "What math is involved in being an educated consumer?" and adds the word "percents" to the chart.

connects new learning to real-world skills and previous lessons

At the end of this part of the unit, you will show what you have learned by planning an athletic banquet within a set budget. You will have to make decisions about planning a menu, selecting entertainment, and purchasing awards, decorations, and gifts for the coaches. During the unit, you will have lots of opportunities to work together, but each of you will need to plan the awards banquet on your own. So it is important for you to take responsibility for your own learning by asking questions as we go along when there is something you don't understand.

shares up-front how students will be assessed

communicates belief that all students will meet expectations

encourages students to take responsibility for their own learning

She shows students a chart listing the criteria on which their athletic awards banquet project will be judged. *You will need to:*

- *correctly use fractional benchmarks to estimate percents;*
- *use counting and rounding to estimate percents;*
- *accurately analyze data represented in a circle graph;*
- *correctly calculate savings in a percent-off sale;*
- *make a plan that is within your budget; and*
- *precisely construct a circle graph to represent percents.*

shares criteria on which student work will be judged

Next, she begins a class discussion about percents asking:

- *What is a percent?*
- *Where have you seen percents used in everyday situations?*
- *How do percents relate to fractions? Decimals?*
- *How many students would make up 100% of your math class? 50%? 25%?*

checks for understanding of prerequisite skills

Students share their ideas aloud in the large group and, though many of them struggle to make their ideas clear, Meg is confident that they are familiar with the basic concepts they need to proceed with the unit.

She gives the students a worksheet and has students work in pairs to estimate which answer best completes each statement. After giving them time to work together on the seven worksheet problems, she has them answer questions A and B independently.

uses a variety of grouping strategies as well as some individual accountability

Select one of the estimates on the right to fill in each of these sentences: In our math class

1. _____ of the students are left-handed.
2. _____ of the students have brown hair.
3. _____ of the students like pizza.
4. _____ of the students are wearing sneakers today.
5. _____ of the students are 12 years old.
6. _____ of the students have summer birthdays.
7. _____ of the students like football.

-fewer than 10%
-fewer than 50%
-more than 50%
-at least 90%
-about 25%
-about 50%
-about 75%
-100%

A. How did you decide which percentage to use with each statement?

B. How could you check your estimates?

While students work in pairs, Meg circulates, asking students questions about their estimates and the strategies they used to come up with those estimates. During this time, she makes notes on a class list about students' understanding of the meaning of percents, their familiarity with estimating

continues to assess prior knowledge

percents, and their understanding of the relationship among decimals, fractions, and percents.

systematically tracks needs of individual students

Meg notices that as students try to select the percent that makes each statement true, some students make comments like "not very many so let's pick 10%," or "most students so what's the largest percent," or "about half and half" as they estimate the number of students and match it to a percentage statement. Others guess with no apparent strategy.

As a result of these observations, Meg decides to spend a few minutes reviewing with the class the relationship of fractional parts to percents and helping them see how to use familiar benchmarks like 25%, 50%, and 75% to make estimates. She tells students that estimating a percent is much the same as estimating a fractional part of something. She holds up fraction circles representing 1/5, 1/3, 3/8, etc. and asks students to name the fraction and then determine whether the fraction represents a percent nearer to 25%, 50%, 75%, or 100% of the whole. As students offer correct responses, she asks them to explain how they made their estimate and then repeats their explanation in her own words to provide the class with models of good problem solving. In each case, she points out how the students used the familiar benchmarks of 25%, 50%, or 75% to make their estimate.

adjusts instruction based on observations of student understandings and misconceptions

Next, Meg gives each student a few pieces of graph paper. She asks them to outline a 10 x 10 box and shows them how to demonstrate 1/4 = 25 squares or 25% of the 100 squares. She then points to the homework assignment on the board and tells students to copy it into their notebooks.

Homework:

On the graph paper you have been given, fill in the percentages and illustrate the following fraction and percent equivalents: 1/2 = 50%, 3/4 =___%, 1 whole = ___%, and 2/5 = ___%.

Estimate the percentage that would be equivalent to: 7/8, 2/3, and 1/6 and write an explanation of how you made your estimate for each.

designs homework to provide independent practice of skills taught in class

The second day....

Students enter the classroom and begin writing a response to the question written on the board: A store advertised, "Best Sale Ever! 10% discount on all items!" Is this a good sale? Why or why not? While students are writing, Meg looks through the homework that students placed in the basket by the door, quickly eyeballing them to check on the work of a few students who seemed to have had difficulty in yesterday's class.

presents familiar and authentic problems

designs procedures and routines for students that facilitate ongoing assessment of student progress

Meg has students quickly share their answers to the writing prompt with a partner. She then randomly picks two names from the class name container (names written on Popsicle sticks) and asks those two students to share their discussion aloud with the class. She asks the rest of the class to agree, disagree, or add to the comments shared.

uses procedures that require all students to be prepared to share their thinking and justify their answers

Meg begins today's lesson by telling the class that later in the period they will be given some information about a football team and what percent of its $20,000 budget it has spent on certain items. From that information, students will be asked to estimate approximately how much money the team spent on each item. She reminds them that in this case they will not be calculating to get an exact figure, but instead, estimating in their heads.

Today we will continue our work with fractional benchmarks — familiar fractions like 1/2 or 50% and 1/4 or 25% — to estimate percentages that are close to those benchmarks. As she says this, she points to the chart listing the criteria that will be used to judge the final project. *This is one of the skills you will need to know in order to plan your banquet.*

makes connections between lessons and what students will be expected to do

As we do this, you can think about fractional parts and use 25%, 50%, and 75% as benchmarks for checking whether your estimate is reasonable. In your homework, you demonstrated percents using a box divided into 100 squares. Each square represented 1/100 or 1% of the whole. Look at the number line on the board. Let's estimate 23% of 400.

Meg demonstrates thinking aloud. *In this case, 400 is the whole. Which benchmark percent is 23% closest to? (25%) We can use that benchmark, 25% or 1/4, to mentally figure out the amount. What is 1/4 or 25% of 400? One quarter of 400 is 100, so 23% of 400 is a little less than 100. When we estimate, we don't need to say exactly how much less.*

anticipates a common misunderstanding, making sure students are given problems where "a whole" is not "100"

models math strategy and thinking process

After demonstrating how she solved this problem for the whole class, Meg passes out a worksheet that includes the following problems: What is 25% of 200? What is 55% of 400? What is 76% of 400? What is 75% of 200? She encourages the students to work in pairs to figure out the answers. After giving them time to work, she calls on pairs to share their responses with the whole class.

encourages students to work together so they will have to explain their thinking as they work

As answers are shared, a few students seem to be confused or to forget the size of the "whole." For instance, Bill says that 25% of 200 is 25. Meg responds that 25 would be correct if the number or the whole set was 100 as it was when they found 25% of the 100-square graph paper box, but that now the whole set was 200. She prompted with the following questions: How many in the whole? (200) Twenty-five percent is closest to what fraction? (1/4) What is 1/4 of 200? (50) What is 25% of 200? (50) She asks if anyone else thought about this a different way, and one student says she figured that if 25% of 100 is 25, then 2 times 100 is 200, and so 2 times 25 would make 50. Meg has students do a few more examples until confusions like Bill's seem to be cleared up.

checks for understanding and reteaches

encourages multiple strategies to solve the problems

Next, Meg distributes Worksheet A (included at the end of this vignette), and students independently begin work on it. Meg works with two students who seem to have trouble getting started, prompting them with questions to get them going (e.g., what benchmark percent is that closest to: 25%, 50%...?). After students complete the worksheet, Meg has them process what they have learned by asking them to share ideas about these questions:

- What methods did you use to estimate the percentage increase in dollar amounts?
- How did you decide if your estimates are reasonable?

provides students opportunities to process what they have learned

At the end of the class period, Meg collects the worksheet and students copy the homework assignment.

Homework:

There is a picture of an American Flag on page 114 in your math book. Estimate the percentage of the flag that is made of stripes and the percentage that has stars in the blue area. Plan a way to verify your estimates. Be prepared to discuss your answers at the beginning of the period tomorrow.

The third day....

Pairs share homework solutions and strategies with each other.

uses quick-write routine to foreshadow skills to be taught that day

Quick-Write: How would you estimate 3% of 445?

teaches additional problem-solving strategies

After students share ideas, Meg begins: ***Sometimes, like in the problem we just worked on, the percentage we are trying to estimate is not very close to any of the benchmarks we worked on yesterday. To estimate these, you will want to use counting and rounding.*** As she says this, she again points to the chart of criteria for the final project. Meg presents a mini lesson on counting and rounding, and then reviews this strategy by sharing aloud a strategy for solving the problem she gave in the quick-write. As she shares her thinking aloud, she writes these key phrases on the board:

- 3% means $3 for every $100
- And, therefore, $1.50 for every $50
- To find 3% of $445, count the number of $100s that you need: 4
- Then you have $45 left over, which can be rounded to $50
- So 3% of $445 is about 4($3) + $1.50, which equals $13.50

illustrates how thinking is portrayed in written form

Meg asks students to estimate and discuss their strategies for figuring 6% of 625 and then 8% of 650. She has them share their thinking aloud, and, as they do, she writes out the steps on the board so students have a model of how to record their mental math.

repeatedly models what students will be expected to do

Next, she distributes Worksheet B (included at the end of this vignette), and students independently complete the activity. As they do that, Meg circulates, prompting students, asking questions to push their thinking, asking them to describe the strategy they used, clearing up misunderstandings, and looking at the work they are producing to make sure that each student is being successful. As she circulates, she makes notes for use in planning the next day's lesson.

uses student work to plan subsequent lessons

Students who have finished their worksheet copy the homework assignment into their notebooks and begin their homework.

When the rest of the class is finished with the worksheet, Meg has the students share their estimates for expenses, the amount the district will pay, and the amount for which funds must be raised. As students share, Meg asks for alternative responses and then helps students understand why there are discrepancies by asking them to describe the mental math strategies they used for estimating.

Minutes before the dismissal bell rings, Meg says, ***The homework you have tonight will give you a chance to practice the skill of counting and rounding on your own. Don't forget to get the assignment down!*** (The homework is included at the end of this vignette.)

requires individual demonstration of skills after much guided practice

Over the next several days....

Meg teaches lessons on the skills students will need to complete their final project, including (see Meg's unit plan at the end of this vignette):

- converting among fractions, decimals, and percents;
- interpreting data in a circle graph;
- constructing a circle graph;
- finding discounts and resulting sale prices;
- using calculators to find sale prices;
- calculating savings in a percent-off sale;
- determining savings with discount coupons; and
- planning a budget.

provides opportunities to learn all prerequisite skills

Each day Meg begins with a reminder of how the lesson and follow-up work will help students plan the athletic banquet within a set budget, referring to the criteria chart she shared on the first day of the unit. Whenever possible, she points out models of the quality work she will be looking for.

relates skills being learned to larger learning task

shares models of expected quality

After each lesson, students are given practice exercises to work on alone or in small groups. Before asking students to start work, Meg models similar problems by showing examples or thinking aloud as she works through an exercise. As students work, Meg circulates around the room to clarify instructions, coach individual students, clear up misunderstandings, and look at the work they are producing to make sure that each student is being successful. When needed, she stops to reteach a concept or makes notes for use in planning the next day's lesson. As necessary, she pulls together small groups of students having similar difficulties to clear up misconceptions.

monitors the progress of all students and reteaches as necessary

Unit review and self-assessment....

Meg has completed the unit and believes that her students are just about ready for the assessment. She summarizes the major areas of study over the past two to three weeks and tells students that they are now going to get ready to plan the athletic banquet.

When you plan your athletic banquet tomorrow, you are going to be given $2,500 to spend. You will know the number of students and coaches who will attend and the costs for food, entertainment, trophies, and decorations. You are going to have to choose from among lots of different foods, types of awards, decorations, entertainment, and gifts and stay within your budget. When you have decided what you will buy and how much you will spend on each, then you will make a circle graph to illustrate how your money was spent.*

illustrates exactly what students will be required to do so that students can focus their last-minute review

As Meg explains the final project, she shows the prompt on an overhead and explains that students will each get a copy at the start of class the next day. (See Final Unit Assessment at the end of the vignette.)

---

* Based on the curriculum unit, *Buyer Beware,* Math Scape Seeing and Thinking Mathematically, Glencoe/McGraw Hill, 1998.

She points out the criteria chart for a high-level response to this assignment and, again, reviews the criteria. For each criterion, she offers an example or shows a model from a previous lesson (e.g., a good budget plan, circle graph). As she shares the model, she reminds the students of the specific characteristics that she will be looking for in their work. For example, she explains: *When you write up your budget plan, you will need to be sure that you purchase everything required for the banquet and that your purchases add up to a figure close to, but not a penny over, your allotted budget.*

repeats criteria on which student work will be judged

illustrates the performance standard by pointing out specific characteristics in exemplars

So, now before you get the assignment for your final project, I want to give you some time to think about whether you are ready, and if not, what other help you may need. I want you to look back over your portfolio of work from this unit and think about the skills and criteria I have just reviewed. Can you do all these? If not, this is your chance to get yourself ready for the final project.

encourages students to develop independence and to take responsibility for their own learning

You guys know the procedure for convening a study group, how to sign up for a conference with me if you need my help with something, and what is expected if you plan to work on your own.

establishes routines and procedures that make it possible for students to get the kind of help they need

She gives students a few minutes to review their portfolio and then does a rapid roll call, asking each student to report out how he will be using this unit review period.

provides opportunities for students to assess their own work

allows for student choice and different learning styles as they review unit skills

The final project begins....

Meg starts the class by reviewing for the last time the criteria on which the students' work will be judged, and then gives students the assignment, saying, *This project puts together all of the skills we have been working on for the last two weeks.*

chooses to assess multiple related standards applied in a complex task

You will have two class periods to finish this task. When you are finished, I want you to take some time before you turn in your work to complete the self-assessment sheet and attach it to your project. It will ask you to comment on how you think you did in relation to each of the criteria I just went over. Before you go home tonight, I will collect your work in progress. I'll return it to you tomorrow, so that you can continue your work.	requires that students apply the established criteria to their own work through self-assessment offers a realistic time frame to complete the assessment, but makes sure all work is done independently in class
When you get your papers back, I will return them with the "Teacher Comments" page attached. (The teacher comments are included at the end of this vignette.) *It will explain how you did on each of these criteria. Then, you will have a decision to make about whether you want to revise your project for additional credit.*	provides feedback specific to the established criteria so that students know what is needed to improve their work gives students an opportunity to revise and improve their work
Your work this last couple of weeks has shown me you are ready for this project. I know you'll do great work!	communicates belief that all students will meet expectations

The assessment, plans, and worksheets on the following pages illustrate that the teacher also:

- creates long-range and short-term plans that demonstrate knowledge of content and appropriate sequencing;
- plans instructional units based on content standards;
- breaks down standards and articulates instructional goals in terms of what students will be required to know and do;
- designs homework and classwork sheets to provide independent practice of skills practiced in class; and
- designs assessment to provide appropriate evidence of the standards.

Final Unit Assessment
The Informed Consumer: Percentages Unit*

Planning an Athletic Banquet on a Budget

You have been given $2,500 to plan the athletic banquet. The money was donated for the banquet and that's all it can be used for, so you need to spend close to $2,500. You can't spend more than this.

Athletic Banquet Attendance

Sport	Students	Coaches
Field Hockey	20	2
Football	50	3
Soccer	30	2
Tennis	16	2
Basketball	20	2
Volleyball	12	1
Cross-country	12	1
Swimming	8	1
Lacrosse	18	2

1. Use the Athletic Banquet Price List to help you plan your choices for food, entertainment, awards, decorations, and gifts for the coaches.
2. When you have figured out how much you will spend for each category, write your plan for what you will be doing for each of the following: food, entertainment, awards, decorations, and gifts for the coaches.
3. Make a chart to record your total expenses in each category.
4. Write down the total amount you will spend on the banquet. Tell how much money, if any, you will have left over from the $2,500 you were given to spend.

Display Your Budget Data in a Circle Graph

You need to present the information in your banquet plan to the athletic advisory committee. Make a circle graph for the presentation.

- Use the circle on the handout, How To Construct a Circle Graph.
- Use percentages to label each sector of your circle graph.
- Make sure your sectors are clearly labeled and that the graph has a title.

Athletic Banquet Price List

Giordanno's by the Bay Catering Menu

Broiled tenderloin	$5.75
Hot turkey sandwich	$5.25
Spaghetti with meatballs	$5.10
Fried fantail shrimp	$6.25
Baked vegetable lasagna	$5.50
Enchiladas nortenas	$6.50
Guadalajara burrito	$5.40
Vegetable burrito	$6.10

Entertainment

The Rocksters $200 per hour
25% surcharge over 2 hours

Sammy the DJ $100 per hour
50% surcharge per hour for music of your choice

Party Decorations Outlet

Streamers	$1.99 per package
Balloons	$2.99 per package
Confetti	$3.49 per package

15% off on orders over 10 packages

Alan's Awards Shop

Trophies $5.95
25% discount on all orders over 50

Plaques $4.95
1/3 off on all orders over 10

The Coaches' Athletic Gift Shop

Award Plaques $19.95 each
10% off on orders over $100

Desk Plates $24.95 each
25% off on orders over 10

* Based on the curriculum unit, *Buyer Beware,* Math Scape Seeing and Thinking Mathematically, Glencoe/McGraw Hill, 1998.

Unit Plan — Grade Seven
Instructional Theme — The Informed Consumer*

Key Standards

Number Sense

1.0 Students know the properties of, and compute with, rational numbers expressed in a variety of forms:
- 1.3 Convert fractions to decimals and percents and use these representations in estimations, computations, and applications.
- 1.7 Solve problems that involve discounts, markups, commissions, and profit, and compute simple and compound interest.

Mathematical Reasoning

2.0 Students use strategies, skills, and concepts in finding solutions:
- 2.1 Use estimation to verify the reasonableness of calculated results.
- 2.2 Apply strategies and results from simpler problems to more complex problems.
- 2.5 Use a variety of methods, such as words, numbers, symbols, charts, graphs, tables, diagrams, and models, to explain mathematical reasoning.
- 2.6 Express the solution clearly and logically by using the appropriate mathematical notation and terms and clear language; support solutions with evidence in both verbal and symbolic work.

3.0 Students determine a solution is complete and move beyond a particular problem by generalizing to other solutions:
- 3.2 Note the method of deriving the solution and demonstrate a conceptual understanding of the derivation by solving similar problems.
- 3.3 Develop generalizations of the results obtained and the strategies used and apply them to new problem situations.

Assessment:
Students use what they have learned about unit price to take on the role of investigative reporter to research claims made by a sandwich bar about the unit prices of their sandwiches.

SECTION ONE: RATES

Lesson Content and Skills
- Calculate the unit price of an item.
- Determine which package size is the betrer buy.
- Use weight units to compare the price of different items.
- Compare price per ounce to decide the better buy.
- Visualize and calculate unit prices with a price graph.
- Construct a price graph from a list of products.
- Use a price graph to check unit price calculations.
- Use a calculator to find the price per pound.
- Estimate to find the better buy.
- Compare unit prices to find the better buy.
- Solve unit price problems using a calculator.
- Find and compare unit prices.
- Calculate long-term savings with the less expensive product.

Assessment:
Students use what they have learned about ratio and proportion to plan for an international dinner. They set up and solve proportions using equal ratios or cross products to increase a dinner recipe, and they use proportions to decide the costs of appetizers for the buffet.

SECTION TWO: RATIOS AND PROPORTIONS

Lesson Content and Skills
- Set up ratios to compare items.
- Use ratio tables to find equal ratios.
- Write ratios as simplified fractions.
- Decide if two ratios are equivalent.
- Use ratios to compare different products.
- Use cross products and equivalent fractions to compare ratios.
- Use equal ratios to solve a proportion.
- Use cross products to solve a proportion.
- Decide if it is easier to use cross products or equal ratios to solve a proportion.
- Set up and solve a proportion.
- Use cross products and/or equal ratios to solve a proportion.
- Use proportions to increase a recipe.
- Use proportions to decide costs.

Assessment:
Students use what they have learned to plan an athletic banquet. They are given a set amount of money and must keep a budget to keep track of monetary expenditures. They make decisions on planning a menu, selecting entertainment, and purchasing awards, decorations, and gifts for the coaches. They must also display their budget in a circle graph.

SECTION THREE: PERCENTS

Lesson Content and Skills
- Use benchmarks to estimate percents.
- Estimate percents using mental math.
- Use counting and rounding to estimate percents.
- Convert among fractions, decimals, and percents.
- Interpret data in a circle graph.
- Construct a circle graph.
- Find discounts and resulting sale prices.
- Use calculators to find sale prices.
- Calculate savings in a percent-off sale.
- Determine savings with discount coupons.
- Plan a budget.
- Display a budget in a circle graph.
- Construct a circle graph.
- Solve problems involving percents and discounts.

* Based on the curriculum unit, *Buyer Beware,* Math Scape Seeing and Thinking Mathematically, Glencoe/McGraw Hill, 1998.

Worksheet A

Student _____ Period _____ Date _____

Estimate Expenses

Estimating a percent of something is much the same as estimating a fractional part of something.

Last year the Cougars football team's total expenses were $20,000. The table below shows what percent of the budget was spent on each expense. About how much money was spent on each item?

1. Make a table like the one shown below and complete the last column. Estimate the cost of each expense. Use benchmarks and mental math to make your estimates. Do not use paper and pencil.
2. The team spent exactly $800 on one expense. Which was it? Use estimation to figure it out.
3. The Tigers football team, cross-town rivals, spent 26% of its $16,000 budget on uniforms. Which team spent more on uniforms? Use estimation to figure it out.

Football Team Expenses

Items	Percent of Budget	Estimated Cost
Uniforms	23%	
Transportation	6%	
Coach's Salary	48%	
Equipment	11%	
Officials' Fees	4%	
Trainer's Salary	8%	
	Total Expenses:	$20,000

Worksheet B

Student _____ Period _____ Date _____

Counting and Rounding

A girls' field hockey team wants to play in a tournament. The school district will pay only a certain percentage of each expense. The team must raise the amount not paid by the district.

If you can find 50%, 10%, and 1% of a number mentally, you can also estimate some other percents mentally. For example, think of 25% as half of 50% and 5% as half of 10%.

Field Hockey Team Trip Expenses

Expense	Estimated Cost	Percent District Will Pay
Transportation	$700	3%
Meals	$600	12%
Hotel	$925	4%
Tournament Fees	$346	22%
Tournament Uniforms	$473	2.5%

1. Use counting and rounding to estimate the dollar amount the school district will pay for each expense.
2. Estimate the total amount the district will pay for all the expenses.
3. Estimate the total amount of money the team will need to raise.
4. Use your calculator to figure out the exact amount the team will need to raise for each expense.

Write About Your Estimates

Write about the estimates you made for the field hockey team expenses.

- What strategies did you use to estimate the expenses and total cost?
- What are some ways to determine whether your estimate is reasonable?

* Based on the curriculum unit, *Buyer Beware,* Math Scape Seeing and Thinking Mathematically, Glencoe/McGraw Hill, 1998.

Sample Worksheets/Teacher Comments*

Homework A

Student _____ Period _____ Date _____

ESTIMATING PERCENTS

Applying Skills

The field hockey team's total expenses for last year were $10,000. Estimate how much was spent on each of the expenses listed below. Use benchmarks and mental math to make your estimates.

Item	Percent of Budget	Estimated Cost
1. Uniforms	22%	
2. Transportation	4%	
3. Coach's Salary	12%	
4. Equipment	49%	
5. Officials' Fees	6%	
6. Trainer's Salary	7%	

Estimate each number in items 7-10. Then use your calculator to see how close your estimate is.

7. 49% of 179 8. 24% of 319 9. 19% of 354 10. 34% of 175

11. Find 7% of $400. 7% means _____ for every _____

12. Find 12% of $300. 12% means _____ for every _____

Extending Concepts

13. To estimate 24% of 43, LeRon substituted numbers and found 25% of 44. His answer was 11. Using his calculator, he found that the exact answer is 10.32. LeRon concluded that substituting numbers causes you to overestimate. Do you agree? If not, give a counterexample.

14. Nirupa calls home from college at least once a week. A 30-minute phone call costs $10 on weekdays. Nirupa can save 20% if she calls on a weekend. How much money does she save on a 30-minute call made on Saturday?

Making Connections

15. Look through newspapers and magazines to find articles involving percents. Design a collage with the articles. Write out percents from 1 through 100 and their equivalent fractional benchmarks.

Teacher Comments

The Informed Consumer: Percent Unit

Student _____ Period _____ Date _____

Does this work demonstrate:

- Correct use of fractional benchmarks and counting and rounding to estimate percents?
- Accurate analysis of data represented in a circle graph?
- Correct calculation of savings in a percent-off sale?
- Effective use of a budget to plan expenditures?
- Precise construction of a circle graph to represent percents?

* Based on the curriculum unit, *Buyer Beware,* Math Scape Seeing and Thinking Mathematically, Glencoe/McGraw Hill, 1998.

CHAPTER **THREE**

The Work of Instructional Leadership

Supporting Teachers to Build and Sustain Critical Skills

STANDARDS, ULTIMATELY, ARE AN EXPRESSION OF A school's or a district's values. Student standards reflect what the organization believes students can and should learn and do. Performance standards for teaching reflect what teachers are expected to do, and how well, in order to ensure student success. Typically, schools think of standards as lists of desired knowledge or skills, embodied for students in content standards and assessments, and for teachers in the criteria and processes used for teacher evaluation. But, irrespective of what might be printed in any documents, the real standards in a school or district are evident in the quality of work expected and/or tolerated of students and of teachers in their day-to-day work. Instructional leadership entails engaging the school community in processes of identifying and examining these de facto standards, raising hard questions about their rigor and efficacy, and, if need be, negotiating new, more appropriate expectations. By doing so, leaders create opportunities for teachers to learn and build their capacity to provide effective instruction to all students.

To build and sustain the skills necessary for effective standards-based instruction, teachers need opportunities to internalize the standards for student performance and to get feedback on whether their own instructional skills and prac-

tices are calibrated to the expectations for teacher performance. In particular, in order to build the skills defined in Chapter One (page 18), teachers need practice:

- identifying exemplars of student work that meet the performance standards for their students;
- identifying the types of assignments and learning experiences that provide students appropriate intellectual challenge in relation to the standard(s);
- identifying and naming the quality criteria for adequate performance on a given task;
- creating or selecting high-quality classroom assessments;
- making reliable judgments of student work in relation to the school's shared performance standards;
- accurately analyzing student strengths and weaknesses as revealed in their work; and
- identifying effective strategies for circling back to those students who need additional assistance.

Traditional professional development — hit-and-run workshops — will not suffice. If the skills required for effective instruction are to become shared organizational expectations, leaders must foster ongoing opportunities for the collaboration, practice, and feedback that teachers need in order to arrive at common understandings of what they should expect of students and of themselves. This requires that leaders create new structures that facilitate — and new expectations that require — teachers to come together to examine expectations and share expertise. But even as they do that, they must learn to more effectively use time that has already been allocated for staff interactions around instruction.

Structures for Teacher Collaboration and Learning

One way instructional leaders can help staff develop and understand shared standards for student performance is by facilitating group analysis of student work. When structured as examinations of cross-classroom student work samples, these conversations can help teachers negotiate shared performance standards; internalize the qualities of high-quality work; and look for performance patterns that may point to strengths or areas of concern in the instructional program. In this collaborative effort, they begin to identify, understand, and embrace higher expectations for both teaching and learning.

Teachers convene around a set of sample student papers to ask questions, such as: *Which of these papers should we consider good enough (at or above standard) for students at this level? What are the specific characteristics we see in work that is good enough? What is missing in work that is not yet to standard? Taking into consideration the entire sample, what do these papers tell us about patterns of performance among our students? What specific skills are they good at? With which ones are they having trouble?* Critical to the success of these dialogues is a leader who has deep knowledge of the content represented in the work being discussed — or an adequate number of participants who have that knowledge and who are willing to question and challenge their colleagues about the quality of the work under consideration.

Under skilled leadership, collaborative analysis of student work progresses from sorting and analyzing patterns in the work to examining "next-step" questions, such as: *What can we do about those patterns that worry us? What went on in the classrooms of teachers whose student work met or exceeded the standard? How can we share expertise or resources to ensure that all students get those learning experiences?* In collaborating on answers to these questions, teachers deepen their understanding of the relationship between their instructional practices and the quality of the work that students produce. Research suggests that collective reviews of student work play a key role in enabling schools to break the too familiar pattern of low academic performance in high-poverty communities (Reeves, 1997; Education Trust, 1998).

Another promising new collaborative structure through which teachers focus on key issues of instruction is Lesson Study. Patterned on the practices of teachers in Japan, and brought to the attention of teachers in the United States through the work of James Stigler in his book, *The Teaching Gap* (Stigler & Hiebert, 1999), Lesson Study convenes groups of teachers to plan lessons, observe each other teach, and then share feedback on what worked and how a lesson might be revised.

Both collaborative analysis of student work and Lesson Study require leaders to ensure that teachers have adequate time to interact in new ways. While these collaborations provide valuable opportunities for teachers to learn together, they are not the only means of fostering the instructional skills necessary to teach effectively to standards. Administrators and teacher leaders should also look to existing structures within induction programs and the teacher supervision-and-evaluation process as opportunities to stretch teachers' thinking about what gets taught, how it is taught, and how it should be evaluated. The one-on-one planning-and-reflection conferences usually required as part of these processes provide knowledgeable instructional leaders opportunities to model, teach, and give feedback on essential aspects of standards-based instruction.

LOOKING AT STUDENT WORK: RESOURCES FOR INSTRUCTIONAL LEADERS

The following resources may be useful to instructional leaders learning to facilitate analysis of student work in relation to standards:

Collaborating for High Standards: Analyzing Student Work

Produced by the Western Assessment Collaborative at WestEd (2002), this video captures a faculty group using student work to establish performance standards, plan reteaching, and identify student performance patterns that will guide their programmatic planning. Supplemental materials provide student work samples used in the video, along with protocols instructional leaders can use to guide their own faculty through similar analysis.

Standards in Practice

Sponsored by the Education Trust, this project provides professional development to teacher groups, helping them look at student work and assess whether their assignments are rigorously aligned with standards; what instruction their students need to reach standards; and how to change their practice so that all students are successful. More information about the project is available at **www.edtrust.org**.

Exemplars

Exemplars is an online resource that provides classroom-tested, standards-based assessment and instructional materials tied to national standards. Classroom activities include rubrics and annotated benchmark papers. The project also offers professional development support and products covering Mathematics, Science, and Reading/Writing/Research. More information is available at **www.exemplars.com**.

Web Sites of Interest:

Looking At Student Work: A project of the Annenberg Institute for School Reform **www.lasw.org**
Coalition of Essential Schools **www.essentialschools.org**.

Guiding Instructional Planning and Reflection

Included in the Appendix of this publication are several tools that can be used by individual teachers or groups of teachers who are involved in collaborative lesson development, as well as by administrators or teacher leaders as they mentor, coach or supervise individual teachers. Each tool is briefly described below and is included in its entirety in the Appendix.

The first tool, "Teacher's Instructional Lesson/Unit Planning Guide," walks a teacher or a group of teachers through the instructional planning process and provides a list of questions to be considered at each step. The questions are designed to cause teachers, first, to clearly articulate their expectations for student performance in terms of what students will do, then, to define how achievement of those expectations will be assessed, and to anticipate common misunderstandings that may impede student learning. After carefully considering these key issues, the teacher is then guided to develop lessons that will address common misunderstandings and provide students opportunities to learn and practice each of the skills required in a successful performance.

The sequence of key questions in the planning process consists of:

1. What do you want students to know and be able to do as the result ofthis lesson/unit?
2. What will students need to do to demonstrate that they know these things? What specific characteristics do you expect to see in that work?
3. How do you know these expectations are appropriate?

4. How do these expectations fit into longer range expectations for student learning?
5. How do you need to prepare yourself to teach this lesson/unit?
6. What misconceptions do you anticipate that students will bring to this lesson/unit and how will you address these?
7. What lessons will you plan in order to ensure that every student has access to the requisite knowledge and chances for guided and independent practice and feedback on the skills required to succeed?
8. What instructional materials do you have or need to ensure that all students have access to the content?

Each question in the planning guide is followed by a set of more-detailed prompts that teachers should consider in preparing a response to the main question. The guide also provides space for writing planning notes. An excerpt from the guide — Question 1 and its prompts — is included below. This tool can be used simply to guide teachers' thinking, or it can be adapted as a lesson/unit planning form that a teacher might submit to a coach or evaluator in advance of a classroom visitation or reflective interview.

Excerpt from Teacher's Instructional Lesson/Unit Planning Guide

Key Question	Teacher notes:
1. What standard(s) are you addressing in this lesson/unit? What do you want students to know and be able to do as the result of this lesson/unit? A. How large a "chunk" of instruction do you want to take on in this lesson/unit? Do you want to cover one narrow standard, a standard and all of its related elements, or several standards at once? B. Have you considered not only the topic of the standard, but what students will actually be expected to do to demonstrate achievement of this standard? C. What level of "understanding" is required by the standard? Will it be enough for students simply to recall information, or will they be expected to show deeper understanding by using higher level skills?	

The second tool, the "Lesson/Unit Planning Conference Interview Protocol," is organized by a similar set of key questions, but is designed for use by instructional leaders to guide teachers through the instructional planning process

and/or as a diagnostic assessment of the teacher's lesson planning skills. Next to each of the questions in the planning sequence is a list of the knowledge and/or skills the coach or evaluator would listen for in the teacher's response. An excerpt from the Interview Protocol follows.

Excerpt from Lesson/Unit Planning Conference Interview Protocol

Interviewer's Question	Listen for whether the teacher knows and/or does these things:
How do you plan to assess student learning in this lesson? Describe the task(s) and the criteria you will use.	• Uses tasks/questions that are fair and actually assess what they are meant to assess • Assures that data will be available for each student • Plans to conduct both formative and summative assessments • Gathers evidence of student learning efficiently and effectively • Understands the quality of the evidence the assessment will provide and whether more or different evidence will be needed • Articulates criteria for success in terms of specific characteristics of the work, not just its length, its appearance, or the student's level of effort • Establishes performance grading criteria that are appropriately benchmarked to district standards

Focusing on lesson/unit planning gives instructional leaders a unique opportunity to both foster and assess the skills of targeted, standards-based instruction. Some leaders have found the planning conference more valuable than the typical "pre-observation conference," which generally focuses on a lesson the teacher has already planned. The questions in the conference protocol are sequenced in such a way that the leader models effective instructional planning: he or she asks first about the standards for successful student performance and how they will be assessed, and only then about the lessons that are planned to ensure that students achieve the standards. The planning conference yields critical information about a teacher's expectations for student achievement, how those expectations are likely to play out in practice, and how the teacher intends to judge student work. Equally important, the conference yields this information before the teacher introduces students to activities that might not align to appropriate standards.

The third tool, "Framework for Guiding Lesson/Unit Reflections," is a menu of questions instructional leaders can use in helping teachers reflect on the effectiveness of a lesson/unit they recently taught and on the factors that

contributed to or inhibited its success. Post-lesson reflective interviews are another opportunity both to foster and to assess the skills teachers need for effective standards-based instruction. The framework provides a variety of questions that might be explored in a post-lesson conference and indicates the teaching skills that the interviewer would be looking for in the teacher's response. An excerpt from this tool follows.

Excerpt from Framework for Guiding Lesson/Unit Reflections

Reflective questions to be framed by interviewer:	What might we hope to hear in the teacher's response?
Related to the teacher's skills in analyzing results: 1. Given the work the students produced, was your lesson/unit successful? 2. Given the evidence from student work, what will you need to reteach? How will your instruction differ when you reteach this skill(s)? 3. Did your analysis of student work indicate that you were right about what skills you needed to teach in order to prepare students for the assessment you gave? 4. Where are you going next with students who did well on this assessment? Why?	The teacher offers evidence of student learning from student work. The teacher does a careful analysis of student work and uses this information to assess: • his or her assumptions about what is needed or still needs to be taught; • the effectiveness of his or her own teaching; • the specific concepts or skills that may need to be retaught and to which students; and • whether to proceed according to his or her long-range course plans or to adjust these in some way to better meet students' needs.
Related to the teacher's content knowledge: 1. How did you decide whether to teach/assess all of the sub-skills included in the standard(s) or to focus on a narrower set? 2. How, if at all, did you need to prepare yourself to teach the content described in this standard(s)? 3. What prior knowledge did your students have that convinced you that this was appropriate standard(s) to teach to at this time? 4. How did you draw on that prior knowledge in planning or conducting your lesson? 5. What connections did you make for your students between the knowledge or skills required by this standard and other concepts within this content area or in other content areas?	The teacher has chosen a reasonable slice of instruction based on an understanding of the content and of students' needs. When narrow skills were selected, the teacher is able to put them in context and relate them to larger, more complex skills or concepts to be learned later. If the lesson/unit addressed several related standards, the teacher can describe how they fit together and the rationale for sequencing them in this particular way. The teacher's knowledge of the content allows him or her to make connections between the planned lesson and prior knowledge in this discipline and to related concepts in other disciplines. When the teacher is unsure of key concepts or skills to be addressed in the lesson, he or she seeks deeper understanding in preparation for the lesson.

The questions in this framework define the success of a lesson in terms of the quality of what students are able to do or produce as a result of it. Modeling the characteristics of effective standards-based instruction, conference planners should sequence this conference by first asking the teacher to reflect on the lesson's effectiveness as evidenced by the quality of the work students produced. Typically, post-observation conferences held as part of the teacher supervision-and-evaluation process begin with the interviewer asking some form of the question, "So, how do you think the lesson went?" Using this framework, the interviewer begins, instead, with a question that models the definition of effective teaching: "Given the work that the students produced, what evidence do you have about the effectiveness of this lesson?" The teacher would then be asked to consider some of the other questions in relation to that initial analysis.

The framework is designed for use when planning or conducting a reflective lesson study dialogue or when conducting a conference with an individual teacher at the conclusion of a lesson/unit. A fruitful, although limited, interview can be conducted even when the interviewer has not had the opportunity to observe the teacher conducting the lesson/unit. Student work and other artifacts of instruction provide many clues to the effectiveness of the teacher's skills. The framework includes many more questions than can reasonably be explored in one conference. In choosing which questions to use to focus the conference, the interviewer will want to consider either the specific skills an individual teacher needs to work on or those skills that have been identified as necessary for schoolwide instructional improvement.

All three of these tools are designed for use by instructional leaders to focus instructional planning and professional reflections on the relationship between teacher actions and student learning. Each suggests that the effectiveness of instruction can be ascertained not by what teachers do, but by what students understand and can do as the result of what the teacher does. They emphasize the need for teachers to be clear about what is expected of students and to target their teaching accordingly. Used regularly to focus conversations among teachers and between teachers and administrators, these tools help raise issues critical to the quality of teaching and learning in the school and serve as catalysts to teachers' professional growth.

CHAPTER FOUR

Leaders as Teachers

Leaders as Learners

As instructional leaders develop an understanding of the teaching skills required for effective standards-based instruction and begin to foster their use among teachers, they are likely to learn something about what they, too, need to learn. It is likely they will discover the need to become more familiar with appropriate expectations for student performance and with the kinds of instructional strategies necessary to ensure that all students will meet them.

It is not enough that instructional leaders ask good questions about the appropriateness of standards and the alignment and efficacy of instruction. The real leadership challenge comes in learning to recognize appropriate answers and learning to respond in productive ways to those answers that raise concerns. School leaders must find ways to confront the low expectations that may be revealed in conversations with and among teachers, and they must have a ready repertoire of tools and strategies to offer to teachers whose own work may need improvement.

It almost goes without saying that instructional leaders, themselves, need preparation and support in order to contribute to teacher learning. For example, leaders will need to be prepared with a set of criteria upon which they can judge the alignment and rigor of classroom assessments, as well as with models of

classroom assessments that can be used to illustrate key issues and help teachers better design or select their own. They will need the ability to analyze student work themselves in order to detect when the teacher's lesson or unit has not adequately addressed the skills required of students, and they need to have exemplars of student work that illustrate what students can be expected to do when prepared well. They must have the ability to facilitate groups of teachers to use collaborative time productively. Above all, they will need the mettle to confront unproductive practice.

Districts committed to the achievement of high standards by all students will need to invest in building the knowledge and skills of their leaders, and cannot expect that the occasional workshop or professional conference will be sufficient. Administrators and teacher leaders must have regular opportunities to work collaboratively with others to strengthen their instructional leadership skills.

Most likely, as leaders work with others to foster improved instruction, they will uncover missing elements or the need for revision of the district-level system of policies and practices that support high-quality, standards-based instruction. For example, in several of the districts with which WAC works, exercises making use of the classroom vignettes in this book have led to dissatisfaction with the district's standards for teacher performance. Leaders in these districts concluded that the adopted standards for teacher performance do not adequately emphasize assessment skills or the teacher's responsibility for instructional planning in relation to shared performance standards.

Use of the planning-and-reflection conference frameworks are likely to generate awareness of:

- an absence of shared performance standards for students and the lack of opportunity for teachers to negotiate shared understanding of what should be considered "good enough" at a given grade level;
- a lack of resources for conducting high-quality classroom assessments of district or state standards; and
- a mismatch between how teachers and administrators currently use their time and how it needs to be spent to effectively plan, implement, and support high-quality instruction.

The potential of these discoveries argues *for*, not against, the use of the professional development tools included in this book. Used well, they will function as a catalyst for taking up these issues. In the districts with which WAC works, the discussions prompted by these tools have sometimes led to the

development of common grade-level classroom assessments and performance standards; revisions in the procedures used to evaluate teachers and support teacher learning; or the development of standards for administrators.

Perhaps most importantly, in coming to better understand the skills required for effective standards-based instruction, leaders in WAC partner districts are rethinking what it means to commit to the achievement of high standards by all students, and what it means to be an instructional leader. They are beginning to take up the challenge of providing for the ongoing, job-embedded professional development that both administrators and teachers need if all students are to achieve to high standards. They are learning to focus that professional development on the critical issues of what students are learning, how it is evaluated, and what effective instruction entails. Moreover, they are breaking down the walls between classrooms that have kept teachers isolated and unable to learn from and with each other in ways that can result in improved student performance.

Resources

Blythe, T., Allen, D., & Scheiffelin Powell, B. (1999). *Looking together at student work: A companion guide to assessing student learning.* New York: Teachers College Press.

Danielson, C. (1996). *Enhancing professional practice: A framework for teaching.* Alexandria, VA: Association for Supervision and Curriculum Development.

Danielson, C., & McGreal, T. C. (2000). *Teacher evaluation to enhance professional practice.* Alexandria, VA: Association for Supervision and Curriculum Development.

Education Trust. (1998). *Education watch: 1998 state and national data book* (Vol. 2). Washington, DC: Education Trust.

Elmore, R. F. (2000, Winter). *Building a new structure for school leadership.* (Available from The Albert Shanker Institute, 555 New Jersey Avenue, NW, Washington, DC, 20208.)

Elmore, R. F., with the assistance of Burney, D. (1996, March). *Staff development and instructional improvement in Community School District #2.* Philadelphia: Consortium for Policy and Research in Education and National Commission on Teaching & America's Future.

Elmore, R. F., & Burney, D. (1998). *Continuous improvement in Community District #2, New York City.* Pittsburgh, PA: University of Pittsburgh, Learning Research and Development Center, High Performance Learning Community Projects.

Fink, E., & Resnick, L. B. (2001). Developing principals as instructional leaders. *Phi Delta Kappan, 82 (8),* 598-606.

Jamentz, K. (1998). *Standards: From document to dialogue.* San Francisco: WestEd.

Jamentz, K. (2001). *Teaching to quality: The instructional demands of standards-based reform.* (Item No. 39-0186). Washington, DC: American Federation of Teachers.

Maloy, K. (1998, May). *Building a learning community: The story of New York City Community School District #2.* Pittsburgh, PA: University of Pittsburgh, High Performance Learning Communities Project at the Learning Research and Development Center.

McDiarmid, G. W., Ball, D. L., & Anderson, C. W. (1988). *Why staying one chapter ahead doesn't really work: Subject-specific pedagogy.* East Lansing, MI: National Center for Research on Teacher Education.

Murnane, R. J., & Levy, F. (1996). *Teaching the new basic skills: Principles educating children to thrive in a changing economy.* New York: The Free Press.

Platt, A. D., Tripp, C. E., Ogden, W. R., & Fraser, R. G. (2000). *The skillful leader: Confronting mediocre teaching.* Acton, MA: Ready About Press.

Reeves, D. B. (2000). *Accountability in action: A blueprint for learning organizations.* Denver, CO: Advanced Learning Centers.

Reeves, D. B. (1997). *Making standards work: How to implement standards-based assessments in the classroom, school, and district.* Denver, CO: Advanced Learning Centers.

Spillane, J. P. (2000, February). *District leaders' perceptions of teacher learning.* (CPRE Occasional Paper Series, OP-05). Philadelphia: University of Pennsylvania, Consortium for Policy Research in Education.

SRI International. (2001, August). *When theory hits reality: Standards-based reform in urban districts.* (SRI Project P07270). Philadelphia: The Pew Charitable Trusts.

Stiggins, R. J. (1994). *Student-centered classroom assessment.* New York: Macmillan College Publishing Company, Inc.

Stiggins, R. J., & Conklin, N. F. (1992). *In teachers' hands: Investigating the practices of classroom assessment.* Albany, NY: State University of New York Press.

Stigler, J. W., & Hiebert, J. (1999). *The teaching gap: Best ideas from the world's teachers for improving education in the classroom.* New York: Simon & Schuster Trade.

Stigler, J. W., & Stevenson, H. W. (1992). *The learning gap: Why our schools are failing and what we can learn from Japanese and Chinese education.* New York: Simon & Schuster.

Tichey, N. M. (1997). *The leadership engine: How winning companies build leaders at every level.* New York: HarperCollins Publishers.

APPENDIX

Tools for Fostering and Assessing Instructional Skills

Each of the professional development tools referenced in previous chapters is included here in its entirety. Readers are invited to copy and use these tools as we have formatted them or to request online versions that they can customize for use in their own district or school. Requests for online versions should be directed to the Western Assessment Collaborative at WestEd (email: Leader form@WestEd.org). Brief descriptions of each tool with suggestions for use are presented below:

- **Teacher's Instructional Lesson/Unit Planning Guide** — designed for use by individual or groups of teachers in planning lessons or units of instruction. The left-hand column takes the teacher through critical planning steps. There is space for notes in the right-hand column. The guide could be modified for use as a lesson/unit planning form that would be prepared by a teacher and submitted to a coach or supervisor for review.
- **Lesson/Unit Planning Conference Interview Protocol** — designed for use by an administrator or teacher leader in planning and conducting a lesson/unit planning conference with a teacher. The protocol takes the teacher through critical steps in planning a short lesson or a unit of instruction that continues over several days. The right-hand column details the knowledge and skills that the interviewer might hope to see evident in the teacher's response to each question. Teachers might be encouraged to use the "Teacher's Instructional Lesson/Unit Planning Guide" before the conference.
- **Framework for Guiding Lesson/Unit Reflections** — designed for use by an instructional leader in conducting a conference with a teacher after

completion of a lesson or unit; or by groups of teachers involved in lesson study. The document provides a menu of questions from which the interviewer can select to guide the conversation. The right-hand column provides the interviewer with indicators of what to look for in the teacher's response. The indicators are intended to help the leader assess teacher skills and make recommendations for improvement.

- **Ben Fryer: Teaching Third Graders to Write a Report of Information**
- **Meg Tipple: Teaching Seventh Graders to Use Percentages**

The vignettes in Chapter Two were annotated, with teacher skills identified in the right-hand column. Included in this Appendix are unannotated versions, designed to use with administrators and/or teachers in helping them identify some of the teacher skills essential to standards-based instructional practice and to help them "see" these skills in action. Activities designed to use the vignettes in this fashion are detailed below.

A. Provide each member of the group with a copy of the vignette (the version in this section, with the right-hand column left blank) that relates most closely to the grade level or subject they teach or support.

B. Have participants read the vignette once through without interruption.

C. Pair participants and ask them to identify the skills that the teacher in the vignette is using to ensure that all students achieve the student performance standards addressed in the unit. Have them name the skill as specifically as possible and write it in the right-hand column near the point in the narrative where it occurs.

D. Have two or more pairs meet to compare their responses. If your district has adopted a set of teaching standards on which your teacher evaluation system is based, you might ask the groups at this point to share their thoughts about the strengths and weaknesses of the teaching demonstrated in the vignette in relation to these specific standards. What evidence do they have that the teacher has the required knowledge and skills? What more might they want to know or find out in a conference with the teacher or from future lessons?

E. A version of each vignette with the right-hand column already filled in is included in Chapter Two. This version can be used to help participants check their initial responses and to see things they might not have noticed.

F. The version in Chapter Two can also be used to help participants better understand the indicators of effective standards-based instruction detailed on pages 18-19. This can be done by asking them to sort the responses in

the right-hand column under each of the questions below. In what ways does the teacher in this vignette:

- Show that he or she understands the school's expectations for student performance?
- Communicate standards for student performance to parents and students and help students assess their own progress in relation to these?
- Show that he or she knows how to align instruction to standards?
- Show that he or she collects accurate data on student performance?
- Uses data to guide instruction?

G. As an extension of the activities described above, participants can be asked to suggest ways that the lessons in the vignette could be strengthened.

Teacher's Instructional Lesson/Unit Planning Guide

As you plan your lesson/unit, consider the key questions below. For each key question, there is a set of additional considerations that may or may not apply to your planning.	Make notes in the space provided and/or attach artifacts of your lesson/unit to illustrate your plans.
1. What standard(s) are you addressing in this lesson/unit? What do you want students to know and be able to do as the result of this lesson/unit? A. How large a "chunk" of instruction do you want to take on in this lesson/unit? Do you want to cover one narrow standard, a standard and all of its related elements, or several standards? B. Have you considered not only the topic of the standard, but what students will be expected to do to demonstrate achievement of this standard? C. What level of "understanding" is required by the standard? Will it be enough for students to simply recall information, or should they be expected to show deeper understanding by using higher level skills?	
2. How do you plan to assess whether students have learned those things? A. How will you gather formative data that tell you what students do and do not understand so that you know what to reteach and when students are ready to demonstrate what they have learned in a summative assessment? B. How will you structure the summative assessment to get information about every student? C. Although no one assessment task will meet all the criteria listed below, consider how you will address each criterion and what other data you may need to ensure that each student has achieved the standard(s) in question. The assessment: • mirrors real-world use of required knowledge and skills; • gathers data efficiently and effectively; • provides students feedback on specific criteria; and • is well-aligned to all dimensions of the standard. D. What criteria will you use to judge student achievement on this assessment? E. How do you know these are aligned to district/school standards? F. Is the standard you're assessing addressed on large-scale assessments that your students will take? How will you be sure that students are familiar with that other format for assessing these skills?	***Describe the task(s) and the criteria you will use, or attach assessments and scoring guides to this sheet.***

3. Is this standard(s) appropriate for the students with whom you will be working? A. What are students at this grade level expected to know and be able to do? B. How does your plan relate to state or district content and performance standards? C. What do students already know that makes them ready for this lesson/unit? D. How will you make connections to this prior knowledge for your students? E. Do all students have prerequisite knowledge and skills? F. Is this lesson/unit appropriate for all students at this time? G. If not, what plans do you have to prepare those students for whom this is not an appropriate lesson/unit at this time?	
4. If this is a lesson plan, how will this lesson relate to longer-term goals for student performance? A. How does this lesson fit into longer range goals for student learning? Is it part of a larger unit? B. How is it prerequisite to other knowledge and skills? C. How does it follow from previous learning? D. How will it contribute to assessments students will be required to do in the future?	***Describe or attach a lesson/unit plan to this planning guide.***
5. How comfortable do you feel with the content involved in this lesson/unit? What, if anything, will you need to do to prepare yourself to teach this lesson? A. Are there aspects of the content of this lesson/unit with which you are less confident or unsure? B. What strategies might you use to be sure you understand the content well enough to teach and assess this standard?	
6. What are the common misconceptions students have when dealing with this content? A. What student misunderstandings or misconceptions do you anticipate in relation to this standard or your assessment? B. How will you plan to address these within the lesson/unit?	

7. What learning opportunities have you planned to ensure that every student will be prepared to demonstrate achievement of the standard(s)? What will you do to ensure that they have adequate information, as well as opportunities for both guided and independent practice? What will the students do? How do these plans reflect what you know about the various students in this class or group? A. What lessons will you develop to ensure that all students are prepared to demonstrate all of the quality criteria established for your assessment? B. How will you differentiate lessons to meet the needs of individual learners in your group? C. Have you planned to provide adequate guided practice of new skills before requiring students to work on their own?	***Describe or attach lesson plan(s) and student assignments to this planning guide.***
8. What instructional materials do you plan to use? How might these need to be modified to ensure student learning? A. What text or multimedia materials will you draw upon for this lesson? B. How do they align with the standard? C. In what ways might they need to be adapted to better align with your goals for student achievement? D. What materials might you need to devise in order to supplement those you already have? Why?	

Lesson/Unit Planning Conference Interview Protocol

The interviewer will want to walk the teacher through a series of questions that model the process of instructional planning. They would include questions like these:	While working with the teacher in this planning conference, listen for whether the teacher knows and/or does these things:
1. Briefly describe the students for whom this lesson/unit is planned.	• Has considered which students have prerequisite knowledge and skills • Knows individual students and their learning needs • Groups students in relation to their learning needs
2. What standard(s) are being addressed in this lesson/unit? What do you want students to know and be able to do as the result of this lesson/unit?	• Clearly articulates goals in terms of what students will be required to know and do • Begins to articulate the criteria on which student performance will be judged
3. How do you know that these goals are suitable for this group of students at this time?	• Has considered/assessed prior knowledge • Plans and sequences lessons appropriate to content • Knows district/school expectations for student performance
4. How do you plan to assess student learning in this lesson/unit? Describe the task(s) and the criteria you will use.	• Uses tasks/questions that are fair and actually assess what they are meant to assess • Ensures that data will be available for each student • Plans to conduct both formative and summative assessments • Gathers evidence of student learning efficiently and effectively • Understands the quality of the evidence the assessment will provide and whether more or different evidence will be needed • Articulates criteria for success in terms of specific characteristics of the work, not just its length or appearance, or student's effort
5. If this is a lesson plan, how does this lesson relate to broader goals for student performance? For example, is this lesson part of a larger unit? What will students be required to know and do at the conclusion of the unit? How will you assess student learning of those things?	• Establishes performance standards/grading criteria that are appropriately benchmarked to district standards • Does long-range planning; demonstrates knowledge of appropriate sequencing • Has the ability to analyze larger tasks and break them down in order to provide appropriate opportunities to learn • Considers assessment issues in #4

6. How do these goals relate to the district's content and performance standards for students?	• Knows district expectations for student performance • Can articulate requisite quality criteria or appropriate indicators required in student performance • Breaks down standards into specific indicators to guide instructional planning
7. How comfortable do you feel with the content involved in this lesson/unit? What, if anything, will you need to do to prepare yourself to teach this lesson/unit?	• Is aware of own content knowledge strengths and weaknesses • Has strategies for addressing personal gaps in content knowledge
8. What difficulties and/or misconceptions do students typically have with the material/content of this lesson/unit? What will you do to address the difficulties you anticipate?	• Has appropriate content knowledge as demonstrated in articulation of common misconceptions and plans to address them • Teacher's plans to address common misconceptions demonstrate understanding of how students learn
9. What learning opportunities have you planned to ensure that every student will be prepared to demonstrate achievement of the standard(s)? What will you do to ensure that they have adequate information and opportunities for both guided and independent practice? What will the students do? How do these plans reflect what you know about the various students in this class or group?	• Has the ability to make connections to students' prior knowledge in this content area and/or to other disciplines • Has the ability to design lessons that are aligned to outcomes for what students will need to know and do • Has the willingness and ability to differentiate instruction as appropriate • Has the logic and skill in lesson design • Ensures the provision of adequate information and opportunities for guided and independent practice
10. What instructional materials do you plan to use? Why have you chosen these?	• Has the ability to recognize appropriate instructional resources • Has the ability to adapt instructional materials as needed to reach student achievement goals

Framework For Guiding Lesson/Unit Reflections

Reflective questions to be framed by the interviewer	What might we hope to hear in the teacher's responses?
Related to the teacher's skills in analyzing results: 1. Given the work the students produced, was your lesson/unit successful? 2. Given the evidence from student work, what will you need to reteach? How will your instruction differ when you reteach this skill(s)? 3. Did your analysis of student work indicate that you were right about what skills you needed to teach to prepare students for the assessment you gave? 4. Where are you going next with students who did well on this assessment? Why?	The teacher offers evidence of student learning from student work. The teacher does a careful analysis of student work and uses this information to assess: • his or her assumptions about what is needed or still needs to be taught; • the effectiveness of his or her own teaching; • the specific concepts or skills that may need to be retaught and to which students; and • whether to proceed according to his or her long-range course plans or to adjust these in some way to better meet students' needs.
Related to the teacher's content knowledge: 1. How did you decide whether to teach/assess all of the subskills included in the standard(s) or to focus on a narrower set? 2. How, if at all, did you need to prepare yourself to teach the content described in this standard(s)? 3. What prior knowledge did your students have that convinced you this was an appropriate standard or group of standards to teach to at this time? 4. How did you draw on that prior knowledge in planning or conducting your lesson? 5. What connections did you make for your students between the knowledge or skills required by this standard and other concepts within this content area or in other content areas?	The teacher chose a reasonable slice of instruction based on an understanding of the content and of students' needs. When narrow skills were selected, the teacher is able to put them in context and relate them to larger, more complex skills or concepts to be learned later. If the lesson/unit addressed several related standards, the teacher can describe how they fit together and the rationale for sequencing them in this particular way. The teacher's knowledge of the content allows him or her to make connections between the planned lesson/unit and prior knowledge in this discipline and to related concepts in other disciplines. When the teacher is unsure of key concepts or skills to be addressed in the lesson, he or she seeks deeper understanding in preparation for the lesson/unit.
Related to the teacher's ability to design or select appropriate assessments: 1. At what points in the lesson/unit did you collect data on what students were learning and what they may not have understood? What strategies did you use to collect data at these various points? 2. How did you feel about the congruence of your assessment task and the standards you had chosen to teach?	The teacher planned and used both formative and summative assessments. Formative assessments were designed and timed so they could be used to adjust instruction appropriately to students' needs.

3. What trade-offs did you consider in designing this assessment and why did you make the decisions you did? For example: • to allow students to use certain resources or require them to work without using resources; • to allow group work or to require independent efforts so that you could get "clean" data on each student; • to design an authentic real-world task, or to control the information all students received so that you could be sure all students experienced a similar challenge; or • to give one overall score, or to give analytical feedback on several different important criteria. 4. Looking back on the assessment now that you have given it, could you have designed it in any other way to: • improve the quality of the data it provided to you or your students, • improve its alignment to the standards, • improve the authenticity of the task or level of engagement of your students, • improve the clarity of the instructions, or • improve on the number of options students had for showing what they know? 5. What criteria did you use to judge student work? How did you arrive at those criteria? 6. How are these standard(s) assessed on high-stakes assessments? How useful was this lesson in preparing students to demonstrate what they've learned in that format?	The teacher designed or selected assessments that provide appropriate evidence of the standard(s) and can describe the strengths and limitations of the chosen assessment strategy. The teacher accurately describes what can be learned from the assessment he or she gave and what other kinds of assessment information may need to be collected to get other critical information about student achievement of these standards. The teacher uses the results from this assessment to evaluate his or her own assessment strategies. The criteria used to assess student work are rigorous and adequately aligned to the school's/district's expectations for student performance. The teacher is aware of the relationship of this lesson/unit to high-stakes assessments and may have introduced students to that format; but, the teacher has not limited classroom assessment strategies to multiple-choice or short-answer formats if they are not appropriate for assessing deep understanding of the content.
Related to the teacher's skill in planning effective instruction: 1. What evidence did you use to determine which of your students were ready for this lesson/unit? Now that the lesson/unit is complete, were you right? 2. How did you help students understand what they would be expected to know and do as a result of this lesson/unit? 3. What common misconceptions or misunderstandings on the part of students guided your instructional planning in relation to this standard(s)? 4. What opportunities to learn and perform/practice did you plan to help your students prepare for this assessment?	The teacher can produce or cite evidence of students having prerequisite knowledge or skills and/or had a plan for addressing critical missing pieces within the lesson/unit. The teacher taught students the criteria on which their work would be judged, preferably by using models or exemplars of student work. The teacher used his or her knowledge of the content to anticipate misunderstandings students would have and to address them in the lesson/unit.

5. Can you give examples of the ways in which you differentiated instruction to ensure that every student was prepared to do well on the assessment? 6. In what ways did you encourage and support students to assess their own work-in-progress? 7. What evidence did you use to determine when students were ready to take the assessment? Did you allow for any exceptions or special circumstances for students who were not ready?	The teacher thoroughly analyzed what students would need to learn to be prepared to achieve the performance standard, and he or she planned and taught aligned lessons. (Here the teacher will want to offer evidence of lesson/unit planning. If the plans seemed appropriate, but the results of the assessment were not adequate, it may be important to observe the teacher's delivery of these lessons to see what may be getting in the way of student learning.) The teacher provides evidence of having anticipated the need to differentiate instruction for different subgroups of students with special needs, as well as providing lesson plans that show a different approach for students who did not "get it" the first time. The teacher gave students periodic opportunities to assess their own progress against the criteria in the performance standard and gave them feedback on the accuracy of their own self-assessments. The teacher provides evidence of having given both guided and independent practice opportunities to students in preparation for summative assessment tasks.
Related to the teacher's skills in establishing standards and giving feedback to students: 1. What format did you use to score the assessment and why? 2. What do you know about how your performance expectations align with those of other teachers who are teaching to the same content standard(s)? 3. Were all of the "criteria for success" you identified equally weighted in your scoring? Why or why not? 4. How were students provided feedback on the quality of their performance? Looking back on that decision, was the feedback you provided useful in helping students improve their work in relation to this standard(s)? 5. Looking back on what you did, would you have changed these criteria in any way? 6. Will students have an opportunity to revise or improve their work? Why or why not?	The teacher knows there are a variety of formats for scoring student work and uses holistic and more analytical formats as appropriate. The teacher chose a format for scoring the assessment that is efficient and, as much as possible, provides students with information on which criteria they met and which they did not. The teacher has participated in collegial standard-setting processes, drawn on common scoring criteria or exemplars, and/or validated his or her judgments of student work in some other way. The teacher has a rationale for the emphasis given to various criteria, and it aligns with district or school performance standards. The teacher provides evidence that his or her feedback to students is specific and related to agreed-upon district or school performance standards. The teacher provides opportunities for students to improve their work based on the feedback they are given. The teacher does not lower standards based on student work produced, but may have made plans to circle back to address the needs of some students.

INSTRUCTIONAL VIGNETTE: BEN FRYER

Teaching Third Graders to Write a Report of Information

Ben Fryer teaches third grade. His class of 22 students includes 10 native English speakers and 12 whose home language is Spanish. Of those 12 students, 5 are considered fluent in English while the others range from moderately to nearly fluent. All students do their writing in English. Students are assigned seats so that each working group includes some English-only students and others that represent the range of fluency.

Ben's students have just returned from early morning recess and have gone directly to their seats. They know the routine well; it's Writing Time. Today, Ben has asked for the class's attention.

Today, we are going to begin a new unit in writing. For the last two weeks, during our reading time we have been learning to recognize fiction and nonfiction. As he speaks, Ben points to the words he has written on the board — fiction and nonfiction and, in Spanish, *ficción* and *no ficción*. He mentions how much the Spanish words sound and look like the English words.

We learned that not all writing tells a story. Sometimes authors write to share information. We learned that in fiction, the author tells a story about a set of characters. In nonfiction, the author writes about a subject so that the reader can learn the facts about that topic. We learned that Charlotte's Web ***is fiction. It tells a story about a pig named Wilber. We also looked at*** All About Pigs. ***It is nonfiction. It is about pigs, too. But instead of telling a story about one particular pig, it gives information about many kinds of pigs: where they live, what they eat, how they are alike and different from each other.***

Sometimes the title of a story or book gives us a clue about whether it is fiction or nonfiction. Look at the question I have written on the board and tell me which answer is correct:

Which of the following books is likely to be an example of nonfiction?

A. Black Beauty
B. My Friend, Flicka
C. The Facts About Horses

As Ben reads the question aloud, he holds up the cover for each of the books. The cover illustrations provide his English learners with additional clues about the nature of each book.

Today we are going to begin to learn about writing our own nonfiction. One kind of nonfiction is "a report." Ben writes the word "report" next to the word "nonfiction," first in English and then in Spanish, as he says the words aloud.

To write a report, the author collects lots of information about a subject and writes it so that others can learn about that subject by reading his report. Writing a report is a good way to tell others what you know or have learned about something. When we are finished, each of you will be able to write a report about an animal you are interested in. (An example of Ben Fryer's Unit Plan is included at the end of this vignette.)

To get started, I brought us some examples of animal reports done by other students. We are going to look at them and think about how they can help us learn about good reports or nonfiction writing. Let's read Paper A together. As we read it, think about how the paper helps you learn about dolphins. (A copy of the two exemplars Ben will use are included at the end of this vignette.)

Ben reads the paper aloud while projecting it on the overhead and asks students to follow along on the copies he has handed out to them. On the handout, under key nouns and verbs in the report, he has written each word in Spanish. *I'd like each of you to think of at least one way that the author of Paper A helps us learn about dolphins.* After pausing, Ben asks Jeff to share the one thing he thought about.

"The author tells what dolphins eat."

Ben writes, "tells what the dolphin eats" on a wall chart titled, "What makes a good animal report?"

Ben then gives students two minutes to underline two other facts in the report they have read and to share those with a partner. This work in pairs allows time for his English learners to practice what Jeff has modeled. Ben then calls on students who want to add to the chart. When possible, as Ben writes on the chart, he draws an icon over a key verb or noun to illustrate its meaning for those students less familiar with English vocabulary.

OK, so there are a couple of things we think make this paper a good report. Now let's look at Paper B. It is a report about horses. I will read this to you as you follow along. As you read the paper, think about what makes this a good report.

After reviewing the second paper, the children offer the following additional criteria:

- The sentences are facts.
- The author shows that he knows a lot about the animal.
- The author uses good words to help the reader understand.
- The ideas in the report are not all mixed up.
- The writing is neat and the paragraphs are indented.
- Most of the words are spelled correctly.

As these criteria are offered, Ben stops to show the students specific examples of each characteristic in the sample papers. Sometimes he contrasts the characteristic with a specific example from the weaker paper.

When Caleb says that the ***"ideas in the report are not all mixed up,"*** Ben stops to show the class what Caleb means. ***Look at Paper B. Can you see that the author tells three things about what horses eat and puts those three ideas together in the same paragraph?*** As he points out these three sentences, he draws the icon for eating next to each to show they are about the same thing. ***He has another whole paragraph about where horses live.*** As he says this, Ben points to this paragraph on the overhead and reads the sentences

aloud. *Now, let's look again at Paper A. This author also tells more than one fact about his animal, but notice that he says one thing about where dolphins live. Then he tells something about what dolphins eat. Then he has another sentence about how they can get sick. His ideas are all mixed up instead of being grouped into paragraphs.*

When the students have exhausted their list of quality criteria, Ben points to one or two of his own. *I also liked the fact that the author who wrote Paper B wrote a topic sentence to tell what the paragraph was about. Look at the third paragraph. The first sentence tells us that this will be about what horses eat.*

When we are finished with the unit on writing nonfiction reports, you are going to be able to write your own report that does all of these things. I will leave this chart on the wall so that when you write your own report, you can check to see that it does all these things.

Today, we are going to take the first step in preparing to write our report. Reports can be about anything an author wants to write about, but the report we are going to write for practice in this unit is a report about an animal. So, today, we want to spend some time thinking about what animal we will write about.

Ben has the students work in trios at their table groups to come up with a list of animals about which they may want to write reports. Students are encouraged to offer their ideas in either Spanish or English.

After five minutes, Ben brings the students together and each group shares its ideas. As they do, he writes the name of the animal, first in English and then in Spanish under the letter the word begins with. The list of animals is duplicated for each student and the children are assigned to take the list home and talk with their parents about what animal they might want to write about. Ben sends the note below home in both Spanish, and English, describing the assignment to the parents or guardians. He also leaves the same message in both languages on his homework voicemail.

Dear Parents and Guardians,

Today, we started a unit on writing reports. When we finish the unit, every student will be able to write a report about an animal showing that he or she:

- knows the difference between reports and stories;
- can organize his or her writing into paragraphs;
- can help the reader understand interesting facts about the topic; and
- can use correct punctuation and spelling so the reader can understand what is written.

We will also get to practice finding information or facts by talking with others and by using books, magazines, and the Internet.

Tonight, I would like you to help your child choose an animal to write about. I've attached the list of animals we thought of today in class. Help your child choose an animal that he or she is interested in, knows about, or wants to know more about. You might also want to guide your child to write about an animal you know something about so you can help him or her. Please have your child write the name of the animal he or she will be writing about on the line below.

Thank you for helping your child,

Mr. Fryer

The second day....

Ben begins the writing period by asking the class to brainstorm in small groups what they might like to find out in a report about an animal. He reminds the class that reports should help the reader answer questions he or she might have about the topic. After allowing five minutes for the students to generate their own ideas, he calls on various students and records their thoughts on a wall chart that will hang in the classroom for the duration of the unit. The chart includes questions such as:

- What does the animal eat?
- Where does it live?

When Carlos offers, "I want to know about los colores y size," Ben says, ***Carlos wants to know what the animal looks like,*** and writes, "What color is it?" and "How big is it?" on the chart.

Ben then introduces a book on kangaroos and says that this book is a report about kangaroos. He shows everyone the pages that address the various questions they have just asked, with pictures of the kangaroo showing its size and color, what it eats, and where it lives. Having introduced the book with this brief picture walk so that his English learners know what to expect, he then asks the students to listen as he reads aloud so they can identify any other questions about kangaroos the book might help them answer. After hearing the book aloud, students add the following questions to the list of topics to address in their reports:

- How does the animal move?
- What does it look like when it is born?
- Do people use this animal for a pet or for work?

Ben then asks his students what other kinds of information they might want to know about kangaroos. All questions are added to the wall chart.

After each student has selected a topic for his or her animal report, Ben provides lessons on finding information. He invites the students to collect facts by interviewing their parents or other adults. He also introduces various text sources, such as encyclopedias, nonfiction text, and magazines at all reading levels, as well as introducing his students to the Internet. Students are told to use these various sources to find facts for their reports. They are reminded to look for information that will help them answer the kinds of questions listed on the wall chart. With each of these sources, Ben demonstrates how to use titles, tables of contents, chapter headings, and indexes to locate informational text.

Ben knows that mastering use of these structural features of text is a third-grade standard. He also understands that, because students will be doing their research both in class and outside of class, the report-writing activity will not provide adequate opportunity for him to assess whether all students have mastered this standard. However, he recognizes that the activity offers students an important opportunity to practice using these materials. He makes note that he will need to develop specific assessments of this third-grade standard at another time.

Ben explains that each time students find out a fact about their animal, they are to write it on a sentence strip. Ben models this by drawing from the earlier read-aloud session to make two sentence strips that tell facts about kangaroos. As he writes the model sentences, he reminds students about past lessons on sentence writing.

Remember that we said a sentence needs to be a complete thought. So when we write a fact about the kangaroo, we don't write "moves fast." Instead, we want to write, "Kangaroos move very fast."

Ben uses sentence strips so that when his students are ready to organize their writing into paragraphs later in the unit, they will understand that writers often "move ideas around" to make their writing more comprehensible. Students will be asked to physically group the sentences to form paragraphs.

Students are told that they will be collecting facts for the next four or five days. Ben suggests that students set a goal of finding two facts a day, from any source they can. He makes sure the classroom contains many resources, in both Spanish and English, about different animals. He lets students know that he will be available before and after school to help them use the classroom resources.

Ben expects that most of his students will draw on materials in the classroom library or interview a parent to get information for their reports. But he suspects that some students may be ready to explore a variety of other sources. Although he does not plan to hold all students accountable for using

multiple sources at this time, he makes note of those students already able to do it. In preparation for learning to build a bibliography, he has those students write the type of source used on the back of their sentence strip.

The next several days....

Throughout the week, Ben sets up a number of opportunities for students to share some of what they are finding out. For example, when dismissing students to lunch he asks for volunteers to tell one fact about "what your animal eats" or "where your animal lives." Students are dismissed when they offer an example. When taking roll, he asks students to hold up the sentence strips they made the day before. It is a quick and easy way to see which students are having difficulty finding and recording facts.

Writing time on each of the following days is used to teach a mini lesson on one of the characteristics required in the final report. Ben plans and conducts lessons on:

- organizing sentences dealing with the same topic into paragraphs, writing a topic sentence, and indenting the first line; and
- using descriptive language or the strategy of "showing, not telling" to help the reader better understand.

Each of Ben's mini lessons starts with a reminder of the quality criteria and a look at the original exemplars for a reminder of what that skill or characteristic looks like when done correctly and/or how the weaker example might be made better. Students are then given several practice exercises to work on alone or in small groups. Ben models completing one or more of the practice exercises before asking students to work. As they complete the exercises, Ben circulates around the room to clarify instructions, coach individual students, and look at the work they are producing to ensure that each student is being successful.

As homework, students are given a few practice exercises similar to those done in class. To prepare students for how these same skills might be addressed on large-scale assessments, Ben also gives them some multiple-choice problems

addressing the skills. (Classroom practice exercises and homework for the two mini lessons are included at the end of this vignette.)

Ben uses his observations of student work — both classwork and homework — to decide whether students are ready to use a new skill on their own in their reports and, if not, to diagnose what they do not understand. When necessary, he pulls students having similar difficulties into a small ad hoc group to clear up misconceptions and/or reteach the new skill.

While watching students complete exercises on organizing sentences into paragraphs, Ben notes that although most of his English learners and even some students who are fluent in English understand the concept of organizing around a single topic, they do not include transition phrases between sentences or between paragraphs. He makes a note to pull these students aside for a special lesson on transition phrases.

The classroom assessment....

Ben has completed his unit and feels his students are ready to try their hand at writing their animal reports. He gives the class a prompt (see below), reads it over with them, answers questions, and then tells them they will have two class periods to write their first draft.

Assignment

Write a report on the animal you have been learning about. Your report should have at least three paragraphs. You do not need to use all the facts that you found. Pick the ones you think are most interesting to share. Your grade will depend on how well you:

- provide information about your animal and organize it into paragraphs;
- help your reader understand information about your animal by showing, not just telling; and
- help your reader understand what you have to say by using correct spelling, punctuation, and indentation of paragraphs.

The students are told that they should work by themselves as much as possible, but that they can ask for help from a friend or from the teacher if necessary. They are free to use any resources in the room for assistance, including the dictionary or their initial research materials. Ben plans to note the type of assistance requested by students. In each case, he will ask himself whether the request indicates a lack of understanding or confidence, or whether it simply indicates interest in gathering ideas from others.

At the close of the second day, Ben collects the papers from the entire class.

Paper A - Bottlenose Dolphins

Its habitat is salt water. Dolphins are found in coastal waters around the world. They eat inshore fish like capelin, anchovy, salmon, and shrimp. Dolphins can eat 6 feet under water and can stay down for 15 minutes. Sometimes dolphins get sick from pollution.

Dolphins can live up to 50 years. Its coat is smooth and like rubber. A dolphin is a mammal. Dolphins eat up to four pound of fish a day.

When dolphins sleep, the female sleeps on top of the water and the male sleeps on the bottom. When the male needs air, it goes up to the top the water to get it and then it goes back down.

Some people let balloon go and they go into the ocean. Dolphins think it is food and eat it and can die. Other pollution like gas and soda cans can hurt dolphins. When a dolphin is sick it cries to get help from other dolphins who try to help it to the top so it can breathe. We can help dolphins by not polluting the ocean.

Paper B - Horses

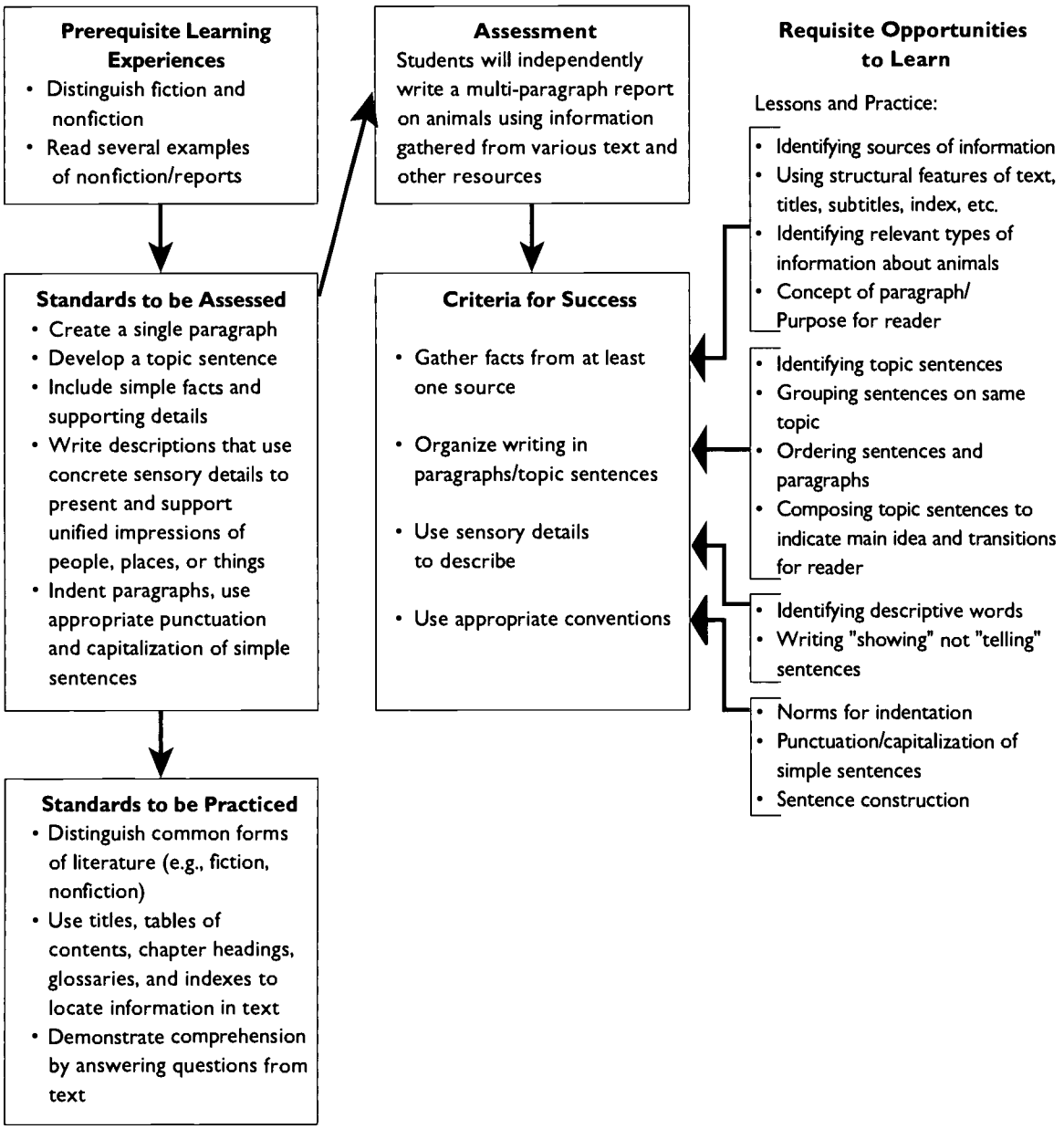
I chose horses because I like to ride them. I also like to pet them. Horses are very nice and they like to be petted too. They have long hair on their neck and tail. The hair down their neck is called a mane. It is fun to brush their mane and tail.

Horses are very fun to ride. At the camp I go to everybody gets to have horse back riding lessons. When you ride a horse you need to put a saddle on its back. Some people ride bare back but only if they are really good. Horses also wear shoes on their feet. People put shoes on their feet so their feet wont get sore when they walk and run.

Horses eat many different things. Horses eat hay, grass, barley and oats. Oatmeal is their favorite food because it gives them a lot of energy. They also love carrots, apples, molasses and sugar cubes. Sometimes their owners will give them a block of salt to make them thirsty so they will drink enough water.

Most horses live on farms or ranches, but some horses are wild. Wild horses live on flat grasslands where they graze and they are able to survive hard weather. There are not very many wild horses anymore because most of them have been trained by people.

Unit Plan — Report of Information



Classroom Practice
Organizing Sentences into Paragraphs and Writing a Topic Sentence

1. Read each of your sentence strips and lay them out so that you can see them all at one time.

2. Put your sentence strips into groups by topic. All facts about what your animal eats, for example, should be in one group. All facts about what your animal looks like should be in another group.

3. Read the sentences in one group. What is the main idea of these sentences? What sentence can you put in front of these sentences to tell what they are all about? Write your main idea sentence on a sentence strip using a red marker. Clip all the sentences on that topic together with the main idea on top or at the end of your set.

4. If you have facts that don't fit in any group, you have a choice to make.
   - Maybe they stand alone as their own paragraph.
   - Maybe you will want to write one or two more facts on that topic to go with them.
   - You might decide not to use them in your report.

5. Take one of the paragraphs you will use in your report and write it on a separate piece of paper. Turn the paper in at the end of the writing period.

Homework
Organizing Sentences into Paragraphs and Writing a Topic Sentence

1. Which of the sentences below tells the main idea of the paragraph?

   Houses can be built with many different types of materials. Some houses are built with bricks and some are built with cement. In the olden days, houses were built with logs. These were called log cabins. Houses can be built with many different types of materials. In some countries, people use mud to make their homes. Igloos, which are only in very cold places, are houses that are made of ice.

   A. In the olden days, houses were built with logs.
   B. Houses can be built with many different types of materials.
   C. Some houses are built with bricks and some are built with cement.

2. Which of the sentences below does not seem to belong in the paragraph? Why?

   The Wright brothers invented the airplane in 1903. Back then, airplanes used propellers. Today, airplanes use jet engines. Airplanes are also much faster today than they used to be. The first thing you may notice about a plane is the wings that stick out on either side of its long body. People can travel around the world in only a few hours. Airplanes have improved a lot since they were first invented.

   A. Airplanes have improved a lot since they were first invented.
   B. The Wright brothers invented the airplane in 1903.
   C. The first thing you may notice about a plane is the wings that stick out on either side of its long body.

Classroom Practice
Showing, Not Telling

Below you are given three examples of sentences that "show, not just tell" about a topic. Practice writing "show, not just tell" sentences for each of the sentences below. Sometimes when you explain something by "showing" it in words, you will want to write more than one sentence.

Example A:
Tell: Birds can be very noisy.
Show: Sometimes a bird will squawk for hours without taking a break.

Example B:
Tell: The tree was tall.
Show: The top of the tree reached the fourth story window on the building next door.

Example C:
Tell: The witch was ugly.
Show: The witch's face was wrinkled. He had one red eye and warts all over his nose.

Practice A:
Tell: The puppy was cute.
Show:

Practice B:
Tell: Samantha is mean.
Show:

Practice C:
Tell: Cheetahs run very fast.
Show:

Practice D:
Tell: Turtles move very slowly.
Show:

Homework
Showing, Not Telling

Mr. Kelly slammed his fist on the table and screamed until his face got red.

1. The sentence above shows that:
   A. Mr. Kelly was probably bored.
   B. Mr. Kelly was probably angry.
   C. Mr. Kelly was probably telling a joke.

The princess had hundreds of beautiful dresses and lots of jewels.

2. The sentence above shows that:
   A. The princess was probably rich.
   B. The princess was probably young.
   C. The princess was probably good at playing tennis.

Which of the sentences below are the best examples of sentences that show that:

3. Elephants are big animals.
   A. Elephants eat grass and hay.
   B. Elephants walk together in packs.
   C. Elephants stand twelve feet tall and can weigh more than a ton!

4. Sea otters use tools.
   A. Sea otters lie on their backs and crack shells open by pounding a rock against the shell while it rests on their chest.
   B. Sea otters swim in the cool water near the coast.
   C. Sea otters are very playful.

Practice:
Write one of the facts you collected about your animal below.

Underneath that sentence, write another sentence (or more) that helps your reader "see" what you mean using words that paint a better picture of the fact you have chosen.

Teaching Seventh Graders to Use Percentages

As the students in Meg Tipple's seventh-grade math class enter the classroom, they note the "sponge" assignment written on the board, get out their math notebooks, and begin writing to the prompt: "Write down everything you can say about 30%." After quickly taking roll, Meg circulates around the room, noting the terminology students use in their quick-writes, and then she calls for students' attention.

As part of our focus this quarter on being informed consumers, you have compared rates and unit prices to investigate advertising claims, and you have used ratios and proportions to plan a main course and an appetizer for a large dinner celebration. Today, we are beginning a unit on percentages. (A copy of Meg's unit plan is included at the end of this vignette. The vignette covers section 3 of the unit plan.) Meg moves to a chart on the wall labeled, "What math is involved in being an educated consumer?" and adds the word "percents" to the chart.

At the end of this part of the unit, you will show what you have learned by planning an athletic banquet within a set budget. You will have to make decisions about planning a menu, selecting entertainment, and purchasing awards, decorations, and gifts for the coaches. During the unit, you will have lots of opportunities to work together, but each of you will need to plan the awards banquet on your own. So it is important for you to take responsibility for your own learning by asking questions as we go along when there is something you don't understand.

She shows students a chart listing the criteria on which their athletic awards banquet project will be judged. *You will need to:*

- *correctly use fractional benchmarks to estimate percents;*
- *use counting and rounding to estimate percents;*
- *accurately analyze data represented in a circle graph;*
- *correctly calculate savings in a percent-off sale;*
- *make a plan that is within your budget; and*
- *precisely construct a circle graph to represent percents.*

Next, she begins a class discussion about percents asking:

- *What is a percent?*
- *Where have you seen percents used in everyday situations?*
- *How do percents relate to fractions? Decimals?*
- *How many students would make up 100% of your math class? 50%? 25%?*

Students share their ideas aloud in the large group and, though many of them struggle to make their ideas clear, Meg is confident that they are familiar with the basic concepts they need to proceed with the unit.

She gives the students a worksheet and has students work in pairs to estimate which answer best completes each statement. After giving them time to work together on the seven worksheet problems, she has them answer questions A and B independently.

Select one of the estimates on the right to fill in each of these sentences: In our math class

1. _____ of the students are left-handed.
2. _____ of the students have brown hair.
3. _____ of the students like pizza.
4. _____ of the students are wearing sneakers today.
5. _____ of the students are 12 years old.
6. _____ of the students have summer birthdays.
7. _____ of the students like football.

-fewer than 10%
-fewer than 50%
-more than 50%
-at least 90%
-about 25%
-about 50%
-about 75%
-100%

A. How did you decide which percentage to use with each statement?

B. How could you check your estimates?

While students work in pairs, Meg circulates, asking students questions about their estimates and the strategies they used to come up with those estimates. During this time, she makes notes on a class list about students' understanding of the meaning of percents, their familiarity with estimating

percents, and their understanding of the relationship among decimals, fractions, and percents.

Meg notices that as students try to select the percent that makes each statement true, some students make comments like "not very many so let's pick 10%," or "most students so what's the largest percent," or "about half and half" as they estimate the number of students and match it to a percentage statement. Others guess with no apparent strategy.

As a result of these observations, Meg decides to spend a few minutes reviewing with the class the relationship of fractional parts to percents and helping them see how to use familiar benchmarks like 25%, 50%, and 75% to make estimates. She tells students that estimating a percent is much the same as estimating a fractional part of something. She holds up fraction circles representing 1/5, 1/3, 3/8, etc. and asks students to name the fraction and then determine whether the fraction represents a percent nearer to 25%, 50%, 75%, or 100% of the whole. As students offer correct responses, she asks them to explain how they made their estimate and then repeats their explanation in her own words to provide the class with models of good problem solving. In each case, she points out how the students used the familiar benchmarks of 25%, 50%, or 75% to make their estimate.

Next, Meg gives each student a few pieces of graph paper. She asks them to outline a 10 x 10 box and shows them how to demonstrate 1/4 = 25 squares or 25% of the 100 squares. She then points to the homework assignment on the board and tells students to copy it into their notebooks.

Homework:

On the graph paper you have been given, fill in the percentages and illustrate the following fraction and percent equivalents: 1/2 = 50%, 3/4 = ___%, 1 whole = ___%, and 2/5 = ___%.

Estimate the percentage that would be equivalent to: 7/8, 2/3, and 1/6 and write an explanation of how you made your estimate for each.

The second day....

Students enter the classroom and begin writing a response to the question written on the board: A store advertised, "Best Sale Ever! 10% discount on all items!" Is this a good sale? Why or why not? While students are writing, Meg looks through the homework that students placed in the basket by the door, quickly eyeballing them to check on the work of a few students who seemed to have had difficulty in yesterday's class.

Meg has students quickly share their answers to the writing prompt with a partner. She then randomly picks two names from the class name container (names written on Popsicle sticks) and asks those two students to share their discussion aloud with the class. She asks the rest of the class to agree, disagree, or add to the comments shared.

Meg begins today's lesson by telling the class that later in the period they will be given some information about a football team and what percent of its $20,000 budget it has spent on certain items. From that information, students will be asked to estimate approximately how much money the team spent on each item. She reminds them that in this case they will not be calculating to get an exact figure, but instead, estimating in their heads.

Today we will continue our work with fractional benchmarks — familiar fractions like 1/2 or 50% and 1/4 or 25% — to estimate percentages that are close to those benchmarks. As she says this, she points to the chart listing the criteria that will be used to judge the final project. *This is one of the skills you will need to know in order to plan your banquet.*

As we do this, you can think about fractional parts and use 25%, 50%, and 75% as benchmarks for checking whether your estimate is reasonable. In your homework, you demonstrated percents using a box divided into 100 squares. Each square represented 1/100 or 1% of the whole. Look at the number line on the board. Let's estimate 23% of 400.

Meg demonstrates thinking aloud. *In this case, 400 is the whole. Which benchmark percent is 23% closest to? (25%) We can use that benchmark, 25% or 1/4, to mentally figure out the amount. What is 1/4 or 25% of 400? One quarter of 400 is 100, so 23% of 400 is a little less than 100. When we estimate, we don't need to say exactly how much less.*

After demonstrating how she solved this problem for the whole class, Meg passes out a worksheet that includes the following problems: What is 25% of 200? What is 55% of 400? What is 76% of 400? What is 75% of 200? She encourages the students to work in pairs to figure out the answers. After giving them time to work, she calls on pairs to share their responses with the whole class.

As answers are shared, a few students seem to be confused or to forget the size of the "whole." For instance, Bill says that 25% of 200 is 25. Meg responds that 25 would be correct if the number or the whole set was 100 as it was when they found 25% of the 100-square graph paper box, but that now the whole set was 200. She prompted with the following questions: How many in the whole? (200) Twenty-five percent is closest to what fraction? (1/4) What is 1/4 of 200? (50) What is 25% of 200? (50) She asks if anyone else thought about this a different way, and one student says she figured that if 25% of 100 is 25, then 2 times 100 is 200, and so 2 times 25 would make 50. Meg has students do a few more examples until confusions like Bill's seem to be cleared up.

Next, Meg distributes Worksheet A (included at the end of this vignette), and students independently begin work on it. Meg works with two students who seem to have trouble getting started, prompting them with questions to get them going (e.g., what benchmark percent is that closest to: 25%, 50%...?). After students complete the worksheet, Meg has them process what they have learned by asking them to share ideas about these questions:

- What methods did you use to estimate the percentage increase in dollar amounts?
- How did you decide if your estimates are reasonable?

At the end of the class period, Meg collects the worksheet and students copy the homework assignment.

Homework:

There is a picture of an American Flag on page 114 in your math book. Estimate the percentage of the flag that is made of stripes and the percentage that has stars in the blue area. Plan a way to verify your estimates. Be prepared to discuss your answers at the beginning of the period tomorrow.

The third day....

Pairs share homework solutions and strategies with each other.

Quick-Write: How would you estimate 3% of 445?

After students share ideas, Meg begins: ***Sometimes, like in the problem we just worked on, the percentage we are trying to estimate is not very close to any of the benchmarks we worked on yesterday. To estimate these, you will want to use counting and rounding.*** As she says this, she again points to the chart of criteria for the final project. Meg presents a mini lesson on counting and rounding, and then reviews this strategy by sharing aloud a strategy for solving the problem she gave in the quick-write. As she shares her thinking aloud, she writes these key phrases on the board:

- 3% means $3 for every $100
- And, therefore, $1.50 for every $50
- To find 3% of $445, count the number of $100s that you need: 4
- Then you have $45 left over, which can be rounded to $50
- So 3% of $445 is about 4($3) + $1.50, which equals $13.50

Meg asks students to estimate and discuss their strategies for figuring 6% of 625 and then 8% of 650. She has them share their thinking aloud, and, as they do, she writes out the steps on the board so students have a model of how to record their mental math.

Next, she distributes Worksheet B (included at the end of this vignette), and students independently complete the activity. As they do that, Meg circulates, prompting students, asking questions to push their thinking, asking them to describe the strategy they used, clearing up misunderstandings, and looking at the work they are producing to make sure that each student is being successful. As she circulates, she makes notes for use in planning the next day's lesson.

Students who have finished their worksheet copy the homework assignment into their notebooks and begin their homework.

When the rest of the class is finished with the worksheet, Meg has the students share their estimates for expenses, the amount the district will pay, and the amount for which funds must be raised. As students share, Meg asks for alternative responses and then helps students understand why there are discrepancies by asking them to describe the mental math strategies they used for estimating.

Minutes before the dismissal bell rings, Meg says, ***The homework you have tonight will give you a chance to practice the skill of counting and rounding on your own. Don't forget to get the assignment down!*** (The homework is included at the end of this vignette.)

Over the next several days....

Meg teaches lessons on the skills students will need to complete their final project, including (see Meg's unit plan at the end of this vignette):

- converting among fractions, decimals, and percents;
- interpreting data in a circle graph;
- constructing a circle graph;
- finding discounts and resulting sale prices;
- using calculators to find sale prices;
- calculating savings in a percent-off sale;
- determining savings with discount coupons; and
- planning a budget.

Each day Meg begins with a reminder of how the lesson and follow-up work will help students plan the athletic banquet within a set budget, referring to the criteria chart she shared on the first day of the unit. Whenever possible, she points out models of the quality work she will be looking for.

After each lesson, students are given practice exercises to work on alone or in small groups. Before asking students to start work, Meg models similar problems by showing examples or thinking aloud as she works through an exercise. As students work, Meg circulates around the room to clarify instructions, coach individual students, clear up misunderstandings, and look at the work they are producing to make sure that each student is being successful. When needed, she stops to reteach a concept or makes notes for use in planning the next day's lesson. As necessary, she pulls together small groups of students having similar difficulties to clear up misconceptions.

Unit review and self-assessment....

Meg has completed the unit and believes that her students are just about ready for the assessment. She summarizes the major areas of study over the past two to three weeks and tells students that they are now going to get ready to plan the athletic banquet.

When you plan your athletic banquet tomorrow, you are going to be given $2,500 to spend. You will know the number of students and coaches who will attend and the costs for food, entertainment, trophies, and decorations. You are going to have to choose from among lots of different foods, types of awards, decorations, entertainment, and gifts and stay within your budget. When you have decided what you will buy and how much you will spend on each, then you will make a circle graph to illustrate how your money was spent.[*] As Meg explains the final project, she shows the prompt on an overhead and explains that students will each get a copy at the start of class the next day. (See Final Unit Assessment at the end of the vignette.)

---

* Based on the curriculum unit, *Buyer Beware,* Math Scape Seeing and Thinking Mathematically, Glencoe/McGraw Hill, 1998.

She points out the criteria chart for a high-level response to this assignment and, again, reviews the criteria. For each criterion, she offers an example or shows a model from a previous lesson (e.g., a good budget plan, circle graph). As she shares the model, she reminds the students of the specific characteristics that she will be looking for in their work. For example, she explains: *When you write up your budget plan, you will need to be sure that you purchase everything required for the banquet and that your purchases add up to a figure close to, but not a penny over, your allotted budget.*

So, now before you get the assignment for your final project, I want to give you some time to think about whether you are ready, and if not, what other help you may need. I want you to look back over your portfolio of work from this unit and think about the skills and criteria I have just reviewed. Can you do all these? If not, this is your chance to get yourself ready for the final project.

You guys know the procedure for convening a study group, how to sign up for a conference with me if you need my help with something, and what is expected if you plan to work on your own.

She gives students a few minutes to review their portfolio and then does a rapid roll call, asking each student to report out how he will be using this unit review period.

The final project begins....

Meg starts the class by reviewing for the last time the criteria on which the students' work will be judged, and then gives students the assignment, saying, *This project puts together all of the skills we have been working on for the last two weeks.*

You will have two class periods to finish this task. When you are finished, I want you to take some time before you turn in your work to complete the self-assessment sheet and attach it to your project. It will ask you to comment on how you think you did in relation to each of the criteria I just went over. Before you go home tonight, I will collect your work in progress. I'll return it to you tomorrow, so that you can continue your work.

When you get your papers back, I will return them with the "Teacher Comments" page attached. (The teacher comments are included at the end of this vignette.) *It will explain how you did on each of these criteria. Then, you will have a decision to make about whether you want to revise your project for additional credit.*

Your work this last couple of weeks has shown me you are ready for this project. I know you'll do great work!

Final Unit Assessment
The Informed Consumer: Percentages Unit*

Planning an Athletic Banquet on a Budget

You have been given $2,500 to plan the athletic banquet. The money was donated for the banquet and that's all it can be used for, so you need to spend close to $2,500. You can't spend more than this.

Athletic Banquet Attendance

Sport	Students	Coaches
Field Hockey	20	2
Football	50	3
Soccer	30	2
Tennis	16	2
Basketball	20	2
Volleyball	12	1
Cross-country	12	1
Swimming	8	1
Lacrosse	18	2

1. Use the Athletic Banquet Price List to help you plan your choices for food, entertainment, awards, decorations, and gifts for the coaches.
2. When you have figured out how much you will spend for each category, write your plan for what you will be doing for each of the following: food, entertainment, awards, decorations, and gifts for the coaches.
3. Make a chart to record your total expenses in each category.
4. Write down the total amount you will spend on the banquet. Tell how much money, if any, you will have left over from the $2,500 you were given to spend.

Display Your Budget Data in a Circle Graph

You need to present the information in your banquet plan to the athletic advisory committee. Make a circle graph for the presentation.

- Use the circle on the handout, How To Construct a Circle Graph.
- Use percentages to label each sector of your circle graph.
- Make sure your sectors are clearly labeled and that the graph has a title.

Athletic Banquet Price List

Giordanno's by the Bay Catering Menu

Broiled tenderloin	$5.75
Hot turkey sandwich	$5.25
Spaghetti with meatballs	$5.10
Fried fantail shrimp	$6.25
Baked vegetable lasagna	$5.50
Enchiladas nortenas	$6.50
Guadalajara burrito	$5.40
Vegetable burrito	$6.10

Entertainment

The Rocksters	$200 per hour
25% surcharge over 2 hours	
Sammy the DJ	$100 per hour
50% surcharge per hour for music of your choice	

Alan's Awards Shop

Trophies	$5.95
25% discount on all orders over 50	
Plaques	$4.95
1/3 off on all orders over 10	

Party Decorations Outlet

Streamers	$1.99 per package
Balloons	$2.99 per package
Confetti	$3.49 per package
15% off on orders over 10 packages	

The Coaches' Athletic Gift Shop

Award Plaques	$19.95 each
10% off on orders over $100	
Desk Plates	$24.95 each
25% off on orders over 10	

* Based on the curriculum unit, *Buyer Beware,* Math Scape Seeing and Thinking Mathematically, Glencoe/McGraw Hill, 1998.

Unit Plan — Grade Seven
Instructional Theme — The Informed Consumer*

Key Standards

Number Sense

1.0 Students know the properties of, and compute with, rational numbers expressed in a variety of forms:
- 1.3 Convert fractions to decimals and percents and use these representations in estimations, computations, and applications.
- 1.7 Solve problems that involve discounts, markups, commissions, and profit, and compute simple and compound interest.

Mathematical Reasoning

2.0 Students use strategies, skills, and concepts in finding solutions:
- 2.1 Use estimation to verify the reasonableness of calculated results.
- 2.2 Apply strategies and results from simpler problems to more complex problems.
- 2.5 Use a variety of methods, such as words, numbers, symbols, charts, graphs, tables, diagrams, and models, to explain mathematical reasoning.
- 2.6 Express the solution clearly and logically by using the appropriate mathematical notation and terms and clear language; support solutions with evidence in both verbal and symbolic work.

3.0 Students determine a solution is complete and move beyond a particular problem by generalizing to other solutions:
- 3.2 Note the method of deriving the solution and demonstrate a conceptual understanding of the derivation by solving similar problems.
- 3.3 Develop generalizations of the results obtained and the strategies used and apply them to new problem situations.

Assessment:
Students use what they have learned about unit price to take on the role of investigative reporter to research claims made by a sandwich bar about the unit prices of their sandwiches.

SECTION ONE: RATES

Lesson Content and Skills
- Calculate the unit price of an item.
- Determine which package size is the better buy.
- Use weight units to compare the price of different items.
- Compare price per ounce to decide the better buy.
- Visualize and calculate unit prices with a price graph.
- Construct a price graph from a list of products.
- Use a price graph to check unit price calculations.
- Use a calculator to find the price per pound.
- Estimate to find the better buy.
- Compare unit prices to find the better buy.
- Solve unit price problems using a calculator.
- Find and compare unit prices.
- Calculate long-term savings with the less expensive product.

Assessment:
Students use what they have learned about ratio and proportion to plan for an international dinner. They set up and solve proportions using equal ratios or cross products to increase a dinner recipe, and they use proportions to decide the costs of appetizers for the buffet.

SECTION TWO: RATIOS AND PROPORTIONS

Lesson Content and Skills
- Set up ratios to compare items.
- Use ratio tables to find equal ratios.
- Write ratios as simplified fractions.
- Decide if two ratios are equivalent.
- Use ratios to compare different products.
- Use cross products and equivalent fractions to compare ratios.
- Use equal ratios to solve a proportion.
- Use cross products to solve a proportion.
- Decide if it is easier to use cross products or equal ratios to solve a proportion.
- Set up and solve a proportion.
- Use cross products and/or equal ratios to solve a proportion.
- Use proportions to increase a recipe.
- Use proportions to decide costs.

Assessment:
Students use what they have learned to plan an athletic banquet. They are given a set amount of money and must keep a budget to keep track of monetary expenditures. They make decisions on planning a menu, selecting entertainment, and purchasing awards, decorations, and gifts for the coaches. They must also display their budget in a circle graph.

SECTION THREE: PERCENTS

Lesson Content and Skills
- Use benchmarks to estimate percents.
- Estimate percents using mental math.
- Use counting and rounding to estimate percents.
- Convert among fractions, decimals, and percents.
- Interpret data in a circle graph.
- Construct a circle graph.
- Find discounts and resulting sale prices.
- Use calculators to find sale prices.
- Calculate savings in a percent-off sale.
- Determine savings with discount coupons.
- Plan a budget.
- Display a budget in a circle graph.
- Construct a circle graph.
- Solve problems involving percents and discounts.

* Based on the curriculum unit, *Buyer Beware,* Math Scape Seeing and Thinking Mathematically, Glencoe/McGraw Hill, 1998.

Sample Worksheets/Teacher Comments*

Worksheet A

Student _____ Period _____ Date _____

Estimate Expenses

Estimating a percent of something is much the same as estimating a fractional part of something.

Last year the Cougars football team's total expenses were $20,000. The table below shows what percent of the budget was spent on each expense. About how much money was spent on each item?

1. Make a table like the one shown below and complete the last column. Estimate the cost of each expense. Use benchmarks and mental math to make your estimates. Do not use paper and pencil.
2. The team spent exactly $800 on one expense. Which was it? Use estimation to figure it out.
3. The Tigers football team, cross-town rivals, spent 26% of its $16,000 budget on uniforms. Which team spent more on uniforms? Use estimation to figure it out.

Football Team Expenses

Items	Percent of Budget	Estimated Cost
Uniforms	23%	
Transportation	6%	
Coach's Salary	48%	
Equipment	11%	
Officials' Fees	4%	
Trainer's Salary	8%	
	Total Expenses:	$20,000

Worksheet B

Student _____ Period _____ Date _____

Counting and Rounding

A girls' field hockey team wants to play in a tournament. The school district will pay only a certain percentage of each expense. The team must raise the amount not paid by the district.

If you can find 50%, 10%, and 1% of a number mentally, you can also estimate some other percents mentally. For example, think of 25% as half of 50% and 5% as half of 10%.

Field Hockey Team Trip Expenses

Expense	Estimated Cost	Percent District Will Pay
Transportation	$700	3%
Meals	$600	12%
Hotel	$925	4%
Tournament Fees	$346	22%
Tournament Uniforms	$473	2.5%

1. Use counting and rounding to estimate the dollar amount the school district will pay for each expense.
2. Estimate the total amount the district will pay for all the expenses.
3. Estimate the total amount of money the team will need to raise.
4. Use your calculator to figure out the exact amount the team will need to raise for each expense.

Write About Your Estimates

Write about the estimates you made for the field hockey team expenses.

- What strategies did you use to estimate the expenses and total cost?
- What are some ways to determine whether your estimate is reasonable?

* Based on the curriculum unit, *Buyer Beware,* Math Scape Seeing and Thinking Mathematically, Glencoe/McGraw Hill, 1998.

Sample Worksheets/Teacher Comments*

Homework A

Student _____ Period _____ Date _____

ESTIMATING PERCENTS

Applying Skills

The field hockey team's total expenses for last year were $10,000. Estimate how much was spent on each of the expenses listed below. Use benchmarks and mental math to make your estimates.

Item	Percent of Budget	Estimated Cost
1. Uniforms	22%	
2. Transportation	4%	
3. Coach's Salary	12%	
4. Equipment	49%	
5. Officials' Fees	6%	
6. Trainer's Salary	7%	

Estimate each number in items 7-10. Then use your calculator to see how close your estimate is.

7. 49% of 179 8. 24% of 319 9. 19% of 354 10. 34% of 175

11. Find 7% of $400. 7% means _____ for every _____

12. Find 12% of $300. 12% means _____ for every _____

Extending Concepts

13. To estimate 24% of 43, LeRon substituted numbers and found 25% of 44. His answer was 11. Using his calculator, he found that the exact answer is 10.32. LeRon concluded that substituting numbers causes you to overestimate. Do you agree? If not, give a counterexample.

14. Nirupa calls home from college at least once a week. A 30-minute phone call costs $10 on weekdays. Nirupa can save 20% if she calls on a weekend. How much money does she save on a 30-minute call made on Saturday?

Making Connections

15. Look through newspapers and magazines to find articles involving percents. Design a collage with the articles. Write out percents from 1 through 100 and their equivalent fractional benchmarks.

Teacher Comments

The Informed Consumer: Percent Unit

Student _____ Period _____ Date _____

Does this work demonstrate:

- Correct use of fractional benchmarks and counting and rounding to estimate percents?
- Accurate analysis of data represented in a circle graph?
- Correct calculation of savings in a percent-off sale?
- Effective use of a budget to plan expenditures?
- Precise construction of a circle graph to represent percents?

* Based on the curriculum unit, *Buyer Beware,* Math Scape Seeing and Thinking Mathematically, Glencoe/McGraw Hill, 1998.

Isolation is the Enemy of Improvement

Instructional Leadership

to Support Standards-Based Practice

If all students are to achieve to high standards, teachers must be prepared to work in new ways, from developing shared expectations for student performance to expanding their repertoire of strategies and skills. For their part, instructional leaders must understand the demands of standards-based instruction and foster the conditions that support it. This new book by Kate Jamentz of WestEd's Western Assessment Collaborative is designed to assist principals and teacher leaders in this all-important effort.

In addition to articulating the specific teaching skills needed for standards-based instruction, the book presents two annotated classroom vignettes illustrating them. It then describes the types of learning experiences teachers need for acquiring or refining these skills and explains how instructional leaders can facilitate such opportunities. The book includes three tools for guiding instructional leaders and teachers as they focus on standards-driven lesson planning or reflect on the effectiveness of those lessons. It also includes an unannotated version of each classroom vignette, for use as an exercise to help participants internalize a vision of effective standards-based instruction.

WestEd
730 Harrison Street
San Francisco, CA 94107-1242
565-3000
Ed.org

ISBN 0-914409-13-1
90000
9 780914 409137

U.S. Department of Education
Office of Educational Research and Improvement (OERI)
National Library of Education (NLE)
Educational Resources Information Center (ERIC)

NOTICE

Reproduction Basis

X	This document is covered by a signed "Reproduction Release (Blanket)" form (on file within the ERIC system), encompassing all or classes of documents from its source organization and, therefore, does not require a "Specific Document" Release form.
	This document is Federally-funded, or carries its own permission to reproduce, or is otherwise in the public domain and, therefore, may be reproduced by ERIC without a signed Reproduction Release form (either "Specific Document" or "Blanket").